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Final Regulation
Agency Background Document

Agency name	Virginia Waste Management Board
Virginia Administrative Code (VAC) Chapter citation(s)	9VAC20-81 et seq.
VAC Chapter title(s)	Solid Waste Management Regulations
Action title	Amendment 9
Date this document prepared	September 6, 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 19 (2022) (EO 19), any instructions or procedures issued by the Office of Regulatory Management (ORM) or the Department of Planning and Budget (DPB) pursuant to EO 19, the Regulations for Filing and Publishing Agency Regulations (1 VAC 7-10), 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.

The Virginia Solid Waste Management Regulations, 9VAC20-81 et seq., 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.

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 limit
CDD- Construction demolition debris
CFR- Code of Federal Regulations
EOX- extractable organic halides
MCL- maximum contaminant levels
NOIRA- Notice of Intended Regulatory Action
PFAS- per- and polyfluoroalkyl substances
RAP- Regulatory Advisory Panel
SWIA- Solid Waste Information and Assessment
TOX- total organic halides
VDH- Virginia Department of Health
VOC- Volatile Organic Compound

Statement of Final Agency Action

Provide a statement of the final action taken by the agency including: 1) the date the action was taken; 2) the name of the agency taking the action; and 3) the title of the regulation.

At the October 28, 2022, Board meeting the Virginia Waste Management Board took final action to adopt a new Solid Waste Management Regulation (9VAC20-81 et seq.). The regulatory action is to be effective as provided in the Administrative Process Act.

Mandate and Impetus

List all changes to the information reported on the Agency Background Document submitted for the previous stage regarding the mandate for this regulatory change, and any other impetus that specifically prompted its initiation. If there are no changes to previously reported information, include a specific statement to that effect.

There are no changes to the mandate for this regulation.

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.

The promulgating agency is the Virginia Waste Management Board.

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 that a permit be obtained to conduct nonhazardous solid waste disposal, treatment or storage activities.

The corresponding federal authority for the criteria for municipal solid waste landfills is located in 40 CFR Parts 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 is 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 addresses issues that have arisen since the regulation was last amended.

Public comments were submitted during the 2019 periodic review of this regulation and during the Notice of Intended Regulatory Action comment period. Many of those comments recommended 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 Ralph Northam's Executive Order 6 (2018). 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 Ralph Northam in response to Executive Order 6 (2018), and to include editorial corrections.

The goal of this amendment is 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.

Public Comments were submitted from February 14, 2022, through May 16, 2022, during the proposed regulatory stage. Comments were received from 40 commenters, and included 126 comments. Many of these comments recommended minor changes to the proposed regulation. These comments have been considered by Agency staff and incorporated, as appropriate, into the proposed regulation.

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 Governor Ralph Northam 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 Governor Ralph Northam 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 properties with occupied structures 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 modified §32.1-169 of the Code of Virginia on January 1, 2022 and directed 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 Governor Ralph Northam 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 Governor Ralph Northam 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 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 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 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

List all changes to the information reported on the Agency Background Document submitted for the previous stage regarding any requirement of the regulatory change which is more restrictive than

applicable federal requirements. If there are no changes to previously reported information, 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 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 includes criteria that is specific to Virginia facilities. The siting setback distances for landfills are 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 included 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 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

List all changes to the information reported on the Agency Background Document submitted for the previous stage regarding any other state agencies, localities, or other entities that are particularly affected by the regulatory change. If there are no changes to previously reported information, 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 nearby 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 nearby 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 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 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 nearby 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, and litter, minimize stormwater infiltration, and prevent 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.

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 EO 19 and the ORM procedures, 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 the 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 the Solid Waste Management Regulations was conducted in 2019. This amendment 9 was initiated in response to the periodic review's recommendation to amend the regulation. 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 Governor Ralph Northam's Executive Order 6 (2018) recommending areas in which this regulation should be amended.

Public Comment

Summarize all comments received during the public comment period following the publication of the previous stage, and provide the agency's 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
Ryan Smith, Virginia Waste Industries Association (VWIA), and LaBella Associates	9VAC20-81-10. There is no term that specifically defines the area within the waste management boundary. Recommendation: Add the term "Waste Management Area" to define that part of the facility located within the waste management boundary and approved in the Part A application for the disposal of solid waste and storage of leachate.	The following areas are defined in 9 VAC20-81-10: facility boundary, waste management boundary and disposal unit boundary. "Facility boundary" means the boundary of the solid waste management facility. For landfills, this boundary encompasses the waste management boundary and all ancillary activities including scales, groundwater monitoring wells, gas monitoring probes, and maintenance facilities as identified in the facility's permit application. For facilities with a permit-by-rule (PBR) the facility boundary is the boundary of the property where the permit-by-rule activity occurs. For unpermitted solid waste management facilities, the facility boundary is the boundary of the property line where the solid waste is located. "Waste management boundary" means the vertical plane located at the boundary line of the area approved in the Part A application for the disposal of solid waste and storage of leachate. This vertical plane extends down into the uppermost aquifer and is within the facility boundary. "Disposal unit boundary" or "DUB" means the vertical plane located at the edge of the waste disposal unit. This vertical plane extends down into the uppermost aquifer. The DUB must be positioned within or coincident to the waste management boundary. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-98.B.4. Clarification is needed on how an "appropriate container" discussed in 9VAC20-81-98 differs from "container" as stated in the definitions (PVAC20-81-10). Appropriate containers are only directly referenced in the regulations when describing activities that are conditionally exempt	The "appropriate container" requirements in 9VAC20-81-98 were added to clarify the conditional exemption for managing solid waste at the site of generation or convenience center (9VAC20-81-95.D.10) and to clarify the conditional exemption for storing solid wastes from an emergency cleanup (9VAC20-81-95.D.20). Both conditional exemptions specifically reference the criteria for appropriate containers under 9VAC20-81-98, whereas the word "container" alone is used as defined by the regulation. The compost requirements under 9VAC20-81-330.B.1.a do not specifically reference the appropriate container criteria under 9VAC20-81-98; however, it is anticipated that non-compostable components would be stored in containers meeting the same criteria.

	from being classified as solid waste, and for facilities that will compost only Class I feedstocks. The statement that appropriate containers should be leak proof will provide a large burden to the waste industry. Specifically, if roll-off boxes are considered an appropriate container, they will not meet this requirement and facilities would be required to modify and or purchase new containers.	The Department agrees with this comment, and the text has been revised to replace “leak-proof” with “leak-resistant” for consistency with industry best practice.
Ryan Smith, VWIA	9VAC20-81-120.J.2. The set back requirement from airports is increased from 5 miles to 6 miles. There does not seem to be much back up for a small increase in setback like this, unless there is a safety provision or study regarding 6 miles we do not see the justification in this change. Recommendation: Keep the previous language of "Owners or operators proposing to site new or expanded waste management boundaries for a sanitary landfill and expansions of an existing landfill within a five-mile radius of any airport runway..."	The setback requirement from airports was increased to 6 miles to comply with the Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Ford Act), Pub. L. 106-181 (49 U.S.C. 44718, which prohibits the “construction or establishment” of new municipal solid waste landfills (MSWLFs) after April 5, 2000, within six miles of certain smaller public airports. This also agrees with the Federal Aviation Administration (FAA) advisory circular AC No. 150/5200-34A which provides guidance on 49 U.S.C. §44718(d). Section 44718(d), as amended, requires a minimum separation distance of six statute miles between a new MSWLF and a public airport. The FAA advisory circular outlines the safety issues of concern and basis for the FAA recommendations. [https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/22095]. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.A. Referring to siting the waste management boundary is vague and not completely accurate. Siting should refer to the area within the waste management boundary - see proposed term above ("Waste Management Area"). Recommendation: 1st sentence to read as follows: "The siting of the	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: “The siting of <u>the waste management boundary for</u> all sanitary, CDD<u>,</u> and industrial landfills shall be governed by the standards set forth in this section.” No change has been made to the regulation in response to this comment.

	waste management area for all sanitary, CDD and industrial landfills shall be governed by the standards set forth in this section."	
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.B. Same comment as above. Recommendation: Revise to read: "Floodplains. No new or expanded waste management area shall be sited in a 100-year floodplain."	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "No new or expanded waste management boundary shall be sited in a 100-year floodplain." No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.C. Same comment as above. Recommendation: Revise to read: "Stable areas. New and expanded waste management areas shall be sited in geologically stable areas…"	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "New and expanded waste management boundaries shall be sited in geologically stable areas…" No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.D.2. Same comment as above. Recommendation: Revise to read: "No new or expanded waste management area shall be sited or constructed..."	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "No new or expanded waste management boundary shall be sited or constructed…" No change has been made to the regulation in response to this comment.
Ryan VWIA, and LaBella Associates	9VAC20-81-120.D.3.a. Same comment as above. Recommendation: Revise to read: "No new or expanded waste management area for a sanitary landfill shall be sited or constructed:"	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "No new or expanded waste management boundary for a sanitary landfill shall be sited or constructed:…" No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.D.3.b. Same comment as above. Recommendation: Revise to read: "No new or expanded waste management area for a sanitary landfill shall be sited or constructed:"	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "No new or expanded waste management boundary for a sanitary landfill shall be sited or constructed:…" No change has been made to the regulation in response to this comment.
Ryan Smith,	9VAC20-81-120.E.1. Same comment as	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "No new or expanded

VWIA, and LaBella Associates	above. Recommendation: Revise to read: "No new or expanded waste management area shall be located in areas where groundwater monitoring…"	waste management boundary shall be located in areas where groundwater monitoring…" No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.F.1.a. Same comment as above. Recommendation: Revise to read: "New and expanded waste management areas for sanitary landfills other than those impacting..."	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "New and expanded waste management boundaries for sanitary landfills, other than those impacting…" No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-120.F.2. Same comment as above. Recommendation: Revise to read: "New and expanded waste management areas for CDD or industrial landfills shall not be located in wetlands..."	As noted, the waste management boundary is clearly defined in 9 VAC 20-81-10. This section states: "New and expanded waste management boundaries for CDD or industrial landfills shall not be located in wetlands…" No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-140.B.1. Sites must be managed by a licensed operator in the state of Virginia. Getting qualified site personnel to become a licensed operator can be difficult and take time, especially for some facilities that may have been recently acquired through acquisitions. Having the facility operate under the supervision or oversight of a licensed operator should be just as protective. Recommendation: Revise to read: "The facility shall operate under the supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators." or "The facility shall operate	The requirement for the facility to operate under the direct supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators is a statutory requirement, and the regulatory language is consistent with the statutory language (§10.1-1408.2 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. In addition, 18VAC155-20-110.A.2 of the Department of Professional and Occupational Regulation's Waste Management Facility Operators Regulations (which is not part of this regulatory amendment) requires an individual operating a facility that is defined in 9VAC20-81-10 as a sanitary landfill, industrial waste landfill, or construction/demolition/debris (CDD) landfill, to hold a Class II license. No change has been made to the regulation in response to this comment.

	under the oversight of a waste management facility operator licensed by the Board for Waste Management Facility Operators."	
Ryan Smith, VWIA	9VAC20-81-140.B.21. The wording could be interpreted to require the survey be completed on the same day every year, or every other year, as applicable. This would be impractical. Recommendation: Revise to read: "Each landfill with a permitted daily disposal limit of more than 300 tons per day shall perform a topographic survey of the active portion of the landfill once each calendar year and within 305 to 425 days from the previous survey. Each landfill with a permitted daily disposal limit of 300 tons per day or less shall perform a topographic survey of the active portion of the landfill on a biennial basis and within 670 and 790 days from the previous survey."	The intent of the regulation is that the survey will be performed annually, at least once every 12 months, or biennially, at least once every 24 months. This verbiage is consistent with language utilized for the operations manual certification and is written to provide some flexibility. The desire is to have the survey performed roughly 12 (or 24) months apart but allow facilities flexibility to use a survey that may be performed for construction if within that timeframe. Note that if a survey is done earlier than 12 months (or 24 months), for example, the deadline for the next survey is calculated from the previous survey date. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA	9VAC20-81-140.B.21.C.(1)(c). Surface water infiltration is now a component for approving alternate daily cover. Again, not a lot of back up and we think this addition should be removed or further justified. Recommendation: Revise to read: "Daily cover consisting of at least six inches of compacted soil or other approved material shall be placed upon and maintained on all exposed solid waste prior to the end of each	The lack of daily cover or improper daily cover can lead to increased infiltration of stormwater within the landfill unit. Infiltration of stormwater can lead to increased leachate generation, leachate seeps and discharges to surface water. Based on observations by DEQ solid waste inspectors at various landfills across the state, the Department has determined it is important to include minimizing infiltration of stormwater in the list of daily cover requirements and associated alternate daily cover requirements. The regulation was changed from "control stormwater infiltration" to "minimize stormwater infiltration".

	operating day, or at more frequent intervals if necessary, to control disease vectors, fires, odors, blowing litter, and scavenging." and "The use of an alternate daily cover shall cease if it is not effective in controlling disease vectors, fires, odors, blowing litter, and scavenging; if the use of the material results in nuisances; or if the material erodes and results in waste being exposed."	
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-200.C.5.b. The language that "probe casings shall be capped or locked to prevent tampering and to protect the probes from exposure to the elements" is left to interpretation. Several facilities have existing probes that are capped by means of a screw cap on PVC pipe or just bolts on flush mount covers. While these are capped, it could be interpreted that it is open to tampering if it is not locked. Recommendation: Revise to read: "The probes shall be capped or locked to discourage tampering..." or "The probes shall be capped to discourage tampering..."	The Department agrees with this comment, and the text has been revised to replace the word "prevent" with "discourage" in order to clarify the requirement.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-200.D.2.d. This states that "Within 10 days of detection, provide written notification of the compliance level exceedance to adjacent property owners and occupants of occupied structures within 500 feet	The Department agrees with this comment, and the text has been revised to remove the word "adjacent." The Department has amended the language of this requirement to the following in order to clarify the requirement: "Within 10 days of detection, provide written notification of the compliance level exceedance to property owners and occupants of occupied structures within 500 feet of the exceeding probe or structure."

	of the exceeding probe or structure." Does this only apply to adjacent properties or all properties within 500 feet of the exceeding probe. For some facilities located in more urban settings, there could be several properties and structures that are located with 500 feet but are not adjacent to the facility. We suggest revising the statement to be clear on which properties and occupants are to be notified. Recommendation: Revise to read: "Within 10 days of detection, provide written notification of the compliance level exceedance to all property owners and occupants of occupied structures within 500 feet of the exceeding probe or structure." or "Within 10 days of detection, provide written notification of the compliance level exceedance to only adjacent property owners and occupants of occupied structures within 500 feet of the exceeding probe or structure."	
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-250.B.2.a.(1).(a). It is not possible to collect eight (or more) independent samples during a semi-annual sampling period. Recommendation: Revise to read: "For facilities that monitor groundwater on a semi-annual basis, a minimum of eight independent samples from each well (background and	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA's 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA's current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility's Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities

	downgradient) shall be collected and analyzed for the Table 3.1 Columns A and C constituents prior to the facility becoming active through the first semi-annual sampling period."	would have to meet based on the highly variable geology of the Commonwealth. All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Landfills located within the Commonwealth are conducting groundwater sampling pursuant to their site specific timeframes. It is best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA's 2009 Unified Statistical Guidance document. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-250.B.2.(1).(b). It is not possible to collect four (or more) independent samples within a quarterly period. Recommendation: Revise to read: "For facilities that monitor groundwater on a quarterly basis as a result of subdivision 1 e of this subsection, a minimum of four independent samples from each well (background and downgradient) shall be collected and analyzed for the Table 3.1 Columns A and C constituents prior to the facility becoming active through the first quarterly sampling period."	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA's 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA's current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility's Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities would have to meet based on the highly variable geology of the Commonwealth. All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Landfills located within the Commonwealth are conducting groundwater sampling pursuant to their site specific timeframes. It is best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA's 2009 Unified Statistical Guidance document.

		No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-250.B.2.a.(1).(a) and 9VAC20-81-250.C.2.b.(2). Regulation does not specify if/when background calculations should be submitted to the department for Sanitary Landfills. 9VAC20-81-250.B.2.a(4) references the recalculation of site background. It is unclear if the initial background calculations and subsequent recalculations should be submitted independently or as part of Groundwater Monitoring Reports.	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA's 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA's current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility's Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities would have to meet based on the highly variable geology of the Commonwealth. All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Landfills located within the Commonwealth are conducting groundwater sampling pursuant to their site specific timeframes. It is best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA's 2009 Unified Statistical Guidance document. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-250.B.2.a.(4). Is there a limitation on the age of the data from background wells that can be included in the recalculation of site background every four years? Is there a limit of the number of data points that can be included? We have received conflicting feedback from reviewers	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA's 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA's current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility's Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities would have to meet based on the highly variable geology of the Commonwealth.

	at the Department on these questions.	All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Landfills located within the Commonwealth are conducting groundwater sampling pursuant to their site specific timeframes. It is best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA's 2009 Unified Statistical Guidance document. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-250.B.3.f and 9VAC20-81-250.C.3.f.(1). The added language of "at all downgradient compliance wells" seems excessive, particularly at sites with large monitoring networks. There is a possibility that one or more wells in Assessment monitoring could show concentrations of all Table 3.1 Columns B and C constituents at or below background values for a long period of time before all of the downgradient compliance wells show similar concentrations. We have had requests approved in the past to move a single well from an Assessment subset of wells to a Detection subset of wells based on all Table 3.1 Columns B (and now C) constituents being detected at or below background values for two consecutive Table 3.1	The comment initially concerns the regulatory clarification language added (e.g., "all") but, additionally discusses the Well Subset allowance which is not part of either 250.B.3.f or C.3.f.(1). The Department is adding the clarifier "at all downgradient compliance wells" to remove any chance of misinterpreting an action already defined by EPA in its Subtitle D program which forms the basis for the VSWMR. None of the monitoring wells on site are allowed to show exceedances over natural site background for two consecutive years if a facility wants to revert to a less intensive phase of groundwater monitoring. The Well Subset allowance, currently contained within the VSWMR, already addresses the hypothetical questions raised in the comment. No change has been made to the regulation in response to this comment.

	Columns B and C sampling events. We request that the Department consider allowing the possibility for a well or wells be moved from an Assessment subset to a Detection subset. A longer period of sampling could be considered, such as four consecutive Table 3.1 Columns B and C sampling events showing constituents at or below background values vs. the current two consecutive events.	
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-340.B.1. Sites must be managed by a licensed operator in the state of Virginia. Getting qualified site personnel to become a licensed operator can be difficult and take time, especially for some facilities that may have been recently acquired through acquisitions. Having the facility operate under the supervision or oversight of a licensed operator should be just as protective. Recommendation: Revise to read: "The facility shall operate under the supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators." or "The facility shall operate under the oversight of a waste management facility operator licensed by the Board for Waste Management Facility Operators."	The requirement for the facility to operate under the direct supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators is a statutory requirement, and the regulatory language is consistent with the statutory language (§10.1-1408.2 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. In addition, 18VAC155-20-110.A.2 of the Department of Professional and Occupational Regulation's Waste Management Facility Operators Regulations (which is not part of this regulatory amendment) requires an individual operating a facility that is defined in 9VAC20-81-10 as a transfer station, a materials recovery facility, an experimental facility, or a composting facility to hold a Class I license, and an individual operating a facility defined in 9VAC5-40-6560 as a municipal waste combustion unit shall hold a Class IV license. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA,	9VAC20-81-350.1. Sites must conduct monthly inspections and	The Department acknowledges the concern, but has determined that the requirements established in the proposed regulations are clear, sufficient, and consistent with other

and LaBella Associates	document each. The inspections must be kept on site for 3 years and made available for review upon request. Currently it seems like the request response is immediate and downloading records may take some time. The time needed to be able to provide documents needs to be clarified.	recordkeeping requirements. If facility staff need time to download records, then that can be coordinated with DEQ staff at the time the request for review is made. No change has been made to the regulation in response to this comment.
Ryan Smith, VWIA, and LaBella Associates	9VAC20-81-350.2 & 9VAC20-81-350.4. Sites must keep a log of all sampling and results that occur. All the information required is generally captured on a typical chain of custody, but this condition requires a log and the record to be kept on site for 3 years subject to review upon request. Currently it seems like the request response is immediate and downloading records may take some time. The time needed to be able to provide documents needs to be clarified.	The requirements in these sections (9VAC20-81-350.2 & 9VAC20-81-350.4) exist in the current regulations and were not revised as part of the proposed regulation. The Department acknowledges the concern, but has determined that the requirements established in the regulations are clear, sufficient, and consistent with other recordkeeping requirements. If facility staff need time to download records, then that can be coordinated with DEQ staff at the time the request for review is made. No change has been made to the regulation in response to this comment.
LaBella Associates	9VAC20-81-140.B.6.b. This states that the facility boundary and the limits of the gas monitoring network are one and the same, which may not be accurate for all facilities. Recommendation: Revise to read: "The concentration of methane gas does not exceed the lower explosive limit for methane (5.0% methane by volume) within the facility gas monitoring network."	The Department agrees that the limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The facility boundary for landfills (as defined by the regulation) “encompasses the waste management boundary and all ancillary activities including, but not limited to…gas monitoring probes...” The gas monitoring network is to be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. To avoid confusion and clarify the requirement, the text has been revised as suggested. This change also requires revision of similar language in the following sections for consistency: 9VAC20-81-200.B.1.b, 9VAC20-81-200.D.1, 9VAC20-81-200.D.2, and 9VAC20-81-530.C.3.e.
LaBella Associates	9VAC20-81-140.B.19. Punctuation needed. Recommendation: Revise to read: "The	The Department agrees with this comment, and the text has been revised to add commas around “if necessary” in order to clarify the requirement. This change also requires revision of similar language in 9VAC20-81-340.B.2 for consistency.

	facility shall operate within the hours of operation specified in the permit. The facility may request a temporary extension of operating hours, if necessary, in order to respond to an emergency or other unusual event."	
LaBella Associates	9VAC20-81-140.B.20. Punctuation needed. Recommendation: Revised to read: "The facility shall not exceed the daily disposal limit or waste storage limits specified in the permit. The facility may request a temporary increase in daily disposal limit or waste storage limits, if necessary, in order to respond to an emergency or other unusual event."	The Department agrees with this comment, and the text has been revised to add commas around “if necessary” in order to clarify the requirement. This change also requires revision of similar language in 9VAC20-81-340.B.3 for consistency.
LaBella Associates	9VAC20-81-250.A.4.F. Is there a technical reason for prohibiting the use for dedicated bailers? Would you be able to provide clarification for this decision?	EPA established the performance standards that all groundwater sampling actions at regulated landfills must achieve under 40 CFR 258.53(a) noting the sampling methods used must ensure the monitoring results are an accurate representation of the groundwater quality at the background and downgradient monitoring wells. This performance standard applies regardless of the sampling method used. This language was originally written in 1991 and there have been significant advancements in the types and accuracy of groundwater sampling methods now available for use which were not available at the time of the promulgation of the Subtitle D rule. The proposed VSWMR amendment allows for bailer use to continue, but adds the requirement that the use of such antiquated technology must be demonstrated as necessary (based on site specific conditions) and the demonstration obtains Director approval. This allowance was presented in the revised VSWMR text because the Department is aware that in some cases, especially at sites where groundwater is found at great depths below the land surface, bailer use may be the only practical method to obtain samples from the aquifer. Therefore, the limitations in the quality/accuracy of the groundwater sample inherent with bailer use will be accepted because no other readily available method can be used to otherwise obtain the sample. However, in most cases, the owner/operator should be using newer sampling technologies that were unavailable when EPA initially promulgated the Subtitle D rule in 1991. Newer sampling technologies reduce the likelihood of

		the collection of groundwater samples being affected by entrained suspended solids which may lead to unrepresentative analytical results (especially for metals) and the need for the owner/operator to pursue costly Alternate Source Demonstrations. To remove any unintended confusion related to the use of the term "*dedicated*" in the proposed regulatory text, that word is herein removed.
The 3M Company	**The rulemaking is premature.** This rulemaking is premature because it is contingent upon critical rules that are not yet finalized, or for some constituents, even proposed. The Proposed Amendment requires all landfills in Virginia to monitor for PFAS and other emerging contaminants after the Virginia Board of Health (Board) sets MCLs at some future time. Given that the Board has not yet implemented MCLs or even determined that MCLs are needed, for some of the listed substances, including PFAS, this rulemaking is premature. The Proposed Amendment requires sampling for six specific PFAS when corresponding MCLs are promulgated. Of those, the enabling statute only directs the Board to consider MCLs for PFOA and PFOS. Other PFAS are considered only "as the Board deems necessary." Given this uncertain state of regulation for PFAS, it is inappropriate and premature to impose monitoring requirements prior to even understanding the	The proposed modification to the groundwater sampling list is a result of requirements within Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. The fact that the Virginia Department of Health may choose to set MCLs for additional PFAS constituents, not specifically named in the House Bills referenced above, based on the results of a surface water and groundwater sampling study completed within the Commonwealth, is not a limitation to adding a VSWMR requirement to begin sampling for the constituents already identified (by name) within the existing passed legislation. The addition of Column C to the proposed regulation does not require sampling and analysis of the proposed constituents to begin prior to the Virginia Department of Health promulgating MCLs. The proposed VSWMR regulation will require the sampling for (and analysis of) the list of constituents identified in the proposed regulation as soon as the Virginia Department of Health completes the MCL promulgation process now required by the Code of Virginia. The added Column C groundwater constituents are found in common commercial and household products which are discarded as municipal solid waste and therefore can become components of landfill leachate. The recognition of, and response to any impacts on human health and the environmental are determined by the sampling and analysis for these constituents as part of a regulated landfill's groundwater monitoring program. The sole intent of the groundwater monitoring program is to determine whether leachate is being released from the landfill. For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become*

	standards that set the basis for this monitoring. Such premature rulemaking cannot meet the stringent standards set forth by the Virginia Administrative Process Act (APA). The APA requires agencies to describe the basis for and purpose of a proposed rule and the impacts on particular sectors. Yet, this Proposed Amendment cannot sufficiently do that as it has not fully evaluated the need for standards in the first instance. The only reference to these six PFAS in the Proposed Amendment is from a study conducted pursuant to HB586. However, this law or resulting study is not referenced in any of the documentation underlying this rulemaking, and the rulemaking and underlying documents do not provide any further scientific basis for selecting certain PFAS for monitoring. In addition, the Economic Impact Analysis (EIA) underlying this rule fails to meet all of these requirements and more as prescribed by the APA. PFAS substances should only be added to the monitoring standards list when DEQ has made a clear showing of whether and how it is necessary to do so. Instead, the Agency Background Document simply states that the monitoring requirements will detect and address	*effective until the Virginia Department of Health has promulgated MCL's*".

	"impacts to groundwater so that risks to human health and the environment can be better understood." This vague rationale does not explain how standards set forth in the rule would help the agency to "understand" risks to human health and the environment, nor how the agency selected the contaminants that it is choosing to monitor. In accordance with the APA, DEQ and DPB must revise and republish the EIA and Background Document to better explain the basis for the proposed rule.	
The 3M Company	**The EIA Does not adequately estimate sampling and monitoring costs or costs of corrective action.** The Economic Impact Analysis (EIA) fails to estimate the costs of monitoring, sampling, and related "reporting recordkeeping and other administrative costs," as required by the Virginia APA. The prospect of corrective action requirements on businesses, including upfront financial assurance requirements, cannot be predicted because an MCL value has not been set. The only cost quantified in the EIA is the cost of testing a single groundwater sample, which is estimated in the range of $349 to $700. Not only does this estimate present an overly wide range of sampling costs, it fails to	While the Department appreciates this comment, the comment pertains to the Department of Planning and Budget's Economic Impact Analysis and is not a comment on the proposed regulations. No change has been made to the regulation in response to this comment.

	take into account ongoing costs, variations in required sampling frequency, and overall costs of testing when all single samples are combined. Furthermore, the proposed Amendment does not identify a preferred test method, and the technological feasibility of monitoring at the required levels will vary significantly depending on the MCL set. The Proposed Rule fails to consider the lack of available sampling methods for certain PFAS, and the fact that the mandated sampling requirements may not be technologically feasible. There are currently very few validated and published analytical methods available for evaluating PFAS in the environment. The available validated methods apply only to a limited subset of certain PFAS compounds. The EIA also fails to contemplate related costs associated with monitoring, including the potential need to drill new monitoring wells and additional administrative, personnel, and reporting costs. DPB's suggestion that it will seek this information as part of the public comment period for the draft EIA does not satisfy the requirements of the APA to provide the "best estimate" of costs "for the purposes of public review and comment." The regulation being amended imposes	

	corrective action requirements for solid waste management facilities that discover listed contaminants exceeding the thresholds set forth by the monitoring requirements. See Proposed Rule at 9 VAC 20-81-25(C); 9VAC20-81-260. The corrective action requirements are extensive, involving initial and ongoing assessment and investigation, financial assurance, notice and public meetings, and the costs of the corrective action itself. Accordingly, the draft EIA is insufficient in that it does not address corrective action and/or remediation costs at all in clear violation of the APA's requirement for EIA's to include the "projected costs [of compliance] to affected businesses."	
The 3M Company	**DPB's Economic Analysis is flawed, should be revised, and put forward for public comment.** The Draft EIA is insufficient under the standards set forth in the Virginia APA, § 2.2-4007.04, because it fails to meaningfully inform affected entities of the initial and ongoing costs of compliance, which will likely vary significantly based on the MCL value set. The EIA's sparse analysis of the costs of sampling and monitoring requirements, necessary infrastructure, administrative and reporting requirements, corrective action requirements, and costs	While the Department appreciates this comment, the comment pertains to the Department of Planning and Budget's Economic Impact Analysis and is not a comment on the proposed regulations. No change has been made to the regulation in response to this comment.

	related to additional PFAS that may be regulated in the future, makes it impossible for regulated entities to prepare to comply with this proposed Amendment or meaningfully participate in the rulemaking process. 3M requests that DPB reassess the economic impacts to regulated entities and re-issue the revised EIA for public comment in accordance with the APA. DPB must re-write its EIA to be consistent with the requirements of the APA, and must put the revised document forward for public comment. Va. Code § 2.2-4007.04(E)(1-2) requires that "The Department shall revise and reissue Its economic impact analysis… if… public comment… indicates significant errors in the economic impact analysis; or there is significant or material difference between the agency's proposed economic impact analysis and the anticipated negative economic impacts to the business community as indicated by public comment…".	
Linda Norris-Waldt, US Composting Council	9VAC20-81-10 DEFINITIONS 1. Correct the Compost Definition: "Compost" means a stabilized organic product produced by a controlled aerobic decomposition process in such a manner that the product can be handled, stored, or applied to the land	The Department agrees with the suggestions and has revised the definitions as follows. "Compost" is a stabilized organic product manufactured through the controlled aerobic, biological decomposition of biodegradable materials. The product has undergone mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds, and stabilizes the carbon such that it is beneficial to plant growth.

	without adversely affecting public health or the environment. Replace with the American Association of Plant and Food Control Officials definition adopted in 2018, reference 75th edition, AAPFCO Official Publication (2022): Compost is the product manufactured through the controlled aerobic, biological decomposition of biodegradable materials. The product has undergone mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds, and stabilizes the carbon such that it is beneficial to plant growth. Compost is typically used as a soil amendment, but may also contribute plant nutrients. 2. Add to definitions: Certified Compostable Products: Any product specifically manufactured to break down in a compost system at the end of its useful life. Examples include containers, films, or foodservice ware such as bowls, plates, cups, cutlery, and bio-plastic liner bags. Products are composed of materials such as vegetable matter, paper, cardboard, and plastics and are certified as conforming to ASTM D6400 or ASTM D6868 standards. A third-party certification body should be required, as approved by the state. These	Compost is typically used as a soil amendment, but may also contribute to plant nutrients. “Certified Compostable Products” means any product specifically manufactured to break down in a compost system at the end of its useful life. Examples include containers, films, or foodservice ware such as bowls, plates, cups, cutlery, and bio-plastic liner bags. Products are composed of materials such as vegetable matter, paper, cardboard, and plastics and are certified as conforming to ASTM D6400 or ASTM D6868 standards, or equivalent.

	products should be labeled in accordance with the state labeling guidelines.	
Linda Norris-Waldt, US Composting Council	9VAC20-81-410 Permits-by-rule and other special permits. new addition (Derived from Maryland regulations): "9VAC20-81-95D. The following activities are conditionally exempt from this chapter provided no open dump, hazard, or public nuisance is created:" #. On-farm composting in an area no more than 5,000 square feet using covered windrowing, invessel systems, and/or aerated static pile (ASP) technology, when used to process offsite waste organic Category I, Category II, or Category III feedstocks in containers designed to prohibit vector attraction and prevent nuisance odor generation. "On-farm" sites would be defined as farming operations as the primary land use on the property. Feedstock piles may not be higher than 9 feet and all other piles are limited to a height of 12 feet. When determining the area used in support of composting, include areas used for feedstock receiving and preparation (such as mixing, shredding, water addition), active composting, curing, and storage (including compost, equipment, and waste). The areas do not need to be contiguous and spaces not used for any of the activities listed	The regulation currently has exemptions for agricultural composting outlined in 9 VAC 20-81-95.D and 9 VAC 20-81-397. The proposed regulations have also been expanded to allow for the receipt of Category I feedstocks to be received from off-site for exempt agricultural composting. No change to the regulations was made in response to this comment.

	above may be omitted, including empty fields and roads. For an area greater than 5,000 square feet, approval from the department will be required prior to composting.	
Linda Norris-Waldt, US Composting Council	9VAC20-81-310 Applicability (4) Compostable or biodegradable food containers and utensils. Please strike the words or biodegradable and replace with Certified Compostable Products as defined in this regulation.	The Department agrees with this suggestion and 9 VAC 20-81-310.A.3.c (4) has been revised to read, "Compostable or certified compostable products as defined in this regulation."
Linda Norris-Waldt, US Composting Council	9VAC20-81-340 Operation requirements Recommend this addition to (B)1: 1. The facility shall operate under the direct supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators and trained and certified by the US Composting Council's Certified Compost Operation's Manager program (https://certificationsuscc.org/Certification/The-Basics)	The Department appreciates the comment; however, 9 VAC 20-81-340.B.1 is applicable to various solid waste management facilities and not just composting operations. The requirements for facilities to operate under an operator licensed by the Board for Waste Management Facility Operators is a statutory requirement, and the regulatory language is consistent with the statutory language (§10.1-1408.2 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. No change to the regulations was made in response to this comment.
Linda Norris-Waldt, US Composting Council	We suggest section C (2) be replaced with this testing from the USCC's Model Rule Template: Tier Two and Three facilities shall meet the following test standards and requirements: 1. Samples and measurements taken for the purpose of product testing shall be representative of the composting activity and shall be conducted in a manner consistent with	The Department appreciates the suggestion. However, the proposed changes would require increased testing frequencies which are beyond the scope of this proposed regulatory amendment. No change to the regulations was made in response to this comment.

	TMECC or other applicable standards pre-approved by [state regulatory agency]. 2. The minimum number of samples that shall be collected and analyzed is shown below. Samples to be analyzed shall be composted prior to the analysis. Compost samples must be collected from ready-to-sell finished compost using TMECC sampling methods. Compost Quantity1 Frequency 1 – 6200 tons/year Must test every three months 6201 – 17500 tons/year Must test every two months 17501 tons/year and above Must test every month 1Either the amount of finished compost applied to the land or prepared for sale or giveaway for application to the land (on an “as is” or “wet tons” (wet weight) basis) 1. All compost shall be tested for stability using one of the methods listed in TMECC 5.08, Respirometry. 1. The stability results must be reported 2. All compost shall be tested for the presence of pathogens using the methods in TMECC 7.00, Pathogens. 1. Either the density of fecal coliform in the finished compost shall be less than 1,000 Most Probable Number (MPN) per gram of total solids (dry weight basis), or the density of Salmonella sp. Bacteria in the finished compost shall be less than three MPN per four	

	grams of total solids (dry weight basis) before the compost may be sold, given away or applied to the land. 2. All composts shall be analyzed for metals listed in 40 CFR, Section 503.13(b)(3), as amended using methods described in TMECC 4.00 Chemical Properties	
Linda Waldt, MD-DC Composting Council Steering Committee; Brenda Platt, MD-DC Composting Council; Ryan Duckett, Virginia Composting Council; Nate B; Kathleen Turk, Virginia Native Plant Society; Sophia Jones, Institute for Local Self-Reliance; Iveta Bakalova, Nature Serve;	9VAC20-81-95D Conditionally Exempt Regulations. The majority of this language was directly pulled from the State of Maryland's on-farm composting exemptions. The purpose of this comment will be to increase community resilience in Virginia and help achieve the recently established 2022 Executive Order 17, #3 Stopping Food Waste. As prices for nutrient amendments sky-rocket, locally & organically-sourced nutrients are essential for our farming communities and local soil health. Promoting decentralized on-farm food scrap composting will help bridge the gap between reducing waste and keeping valuable nutrient-rich material in our ecosystem. I recommend adding the following comment to allow farmers to start small-size food scrap composting with minimal cost as a trial step prior to considering an increase to permitting. Add the following: "9VAC20-81-95D. The following activities are conditionally exempt from this chapter	The existing on-farm composting exemption in 9 VAC 20-81-95.D.4 has been expanded within the regulation to allow for the acceptance of Category I feedstocks from off-site to promote diversion of pre-consumer organic food waste. With DEQ notification, current exemptions in the regulations under 9 VAC 20-81-95.D.3 – composting for educational purposes, and 9 VAC 20-81-397.B.2, can be utilized to allow farmers to try small scale food scrap composting prior to obtaining a permit. No change has been made to the regulation in response to this comment.

Sophia Chapin; Debbie Daughtry; Indoo Desai; Stephanie Danahy; Joanna Ostroot; Jim Osborn; Marco Sanchez; Marisol Mata; Christopher Justin Proctor; Rita Bernert; Rev. Russell Heiland, Unity of Fairfax; Nick Shaw, Apex Compost; Claudette Magume; Juan Pablo Echeverria; Arcadia Center for Sustainable Food and Agriculture; Kristie Blumer, Compo	provided no open dump, hazard, or public nuisance is created:" #. On-farm composting in an area no more than 5,000 square feet using covered windrowing, invessel systems, and/or aerated static pile (ASP) technology, when used to process offsite waste organic Category I, Category II, or Category III feedstocks in containers designed to prohibit vector attraction and prevent nuisance odor generation. "On-farm" sites would be defined as farming operations as the primary land use on the property. Feedstock piles may not be higher than 9 feet and all other piles are limited to a height of 12 feet. When determining the area used in support of composting, include areas used for feedstock receiving and preparation (such as mixing, shredding, water addition), active composting, curing, and storage (including compost, equipment, and waste). The areas do not need to be contiguous and spaces not used for any of the activities listed above may be omitted, including empty fields and roads. For an area greater than 5,000 square feet, approval from the department will be required prior to composting.	

st Crew; FRESH FARM; and Anony mous.		
Karol Akers	**Open Burning of Household Waste on Private Land.** Curious as to the agency's and board's authority to regulate and/or prohibit any homeowner from doing anything with his own waste on his own land. Section 10.1-1400 of the Code of Virginia specifically spells out solid waste the agency and board can regulate. While community activities are to be regulated, private citizens and their activities on their own land with their own waste are not included. Local ordinances would apply via different applications of Code sections, but where is this authority granted to either the agency or the board by the General Assembly? Just because you think it might be a good idea, isn't sufficient. Please cite the statutory authority for regulating household activities by homeowners on their own land.	Section 10.1-1400 of the Code of Virginia defines "Person" as an individual, corporation, partnership, association, governmental body, municipal corporation, or any other legal entity. Section 10.1-1402 of the Code of Virginia authorizes the Virginia Waste Management Board to supervise and control waste management activities in the Commonwealth and to promulgate and enforce regulations, and provide for reasonable variances and exemptions necessary to carry out its powers and duties and the intent of the chapter. 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. Further, Section 10.1-1408.1 states that "G. No person shall dispose of solid waste in an open dump or dispose of or manage solid waste in an unpermitted facility, including by disposing, causing to be disposed, or arranging for the disposal of solid waste upon a property for which the Director has not issued a permit and that is not otherwise exempt from permitting requirements. H. No person shall own, operate or allow to be operated on his property an open dump. I. No person shall allow waste to be disposed of on his property without a permit." No change has been made to the regulation in response to this comment.
Michael Williams, Golder Associates USA Inc.	9VAC20-81-10 Definitions. Concerning the definition of "Accumulated speculatively," in the case of Coal Combustion Residual (CCR) materials, it may be difficult to meet the 75% of accumulated material need to be removed from the facility annual.	The "Accumulated speculatively" definition is for materials that are accumulated or gathered up, and the sections where it applies are clarified in the regulations. CCR material currently residing in permitted/regulated ponds, landfills, lagoons, or compliant storage areas would not be considered as accumulated speculatively, provided storage was compliant with the capacity for the storage unit. No change has been made in response to this comment.

	Golder suggests either a specific carveout addressing CCR materials or a text addition where "…materials can continue to be stored in existing ponds, buildings, or approved solid waste facilities such as landfills, ponds, lagoons, or compliant storage areas until removed from the facility for use, reuse, or reclamation".	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-10 Definitions. Concerning the definition of "Landfill mining," in the case of excavating overfilled wastes, Golder suggests adding "…to facilitate correction of overfills, installation of landfill gas, leachate…"	The Department agrees with this recommendation and text has been changed as recommended.
Michael Williams, Golder Associates USA Inc.	9VAC20-81-98.Concerning the language in subdivision B.4: "– Leak-proof; including sides, seams, and bottoms, and durable enough to withstand anticipated usage without rusting, cracking, or deforming in a manner that would make it a fire health or safety hazard or provide harborage for vectors"; the term "Leak-proof" could be interpreted as an absolute (i.e., waterproof) without further defining the term. Also, as a practical matter, most existing roll-off boxes, front end loader boxes, or other temporary disposal containers may not be able to meet this leak-proof standard and this absolute standard may not be appropriate for every type of waste.	The Department agrees with this comment, and the text has been revised to replace "leak-proof" with "leak-resistant" for consistency with industry best practice.

	Golder suggests using the term “Leak-resistant” instead, since the term “resistant” is commonly used as something that is very good but may not be an absolute.	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-120. Concerning the siting requirement in subdivision D.1.a “500 feet from any residence, school, daycare center, hospital, nursing home, or recreational park area in existence at the time of application”; Golder opposes this new restriction to the use of the available permitted facility boundary area. This new restriction could affect existing public facilities where it could result in a reduction of potential airspace (i.e., planned revenue source) or areas needed for leachate storage. Golder suggests this increased restriction be limited to “new facilities” where it can be planned for a reduction in the permitted facility boundary area.	The requirement as proposed is the distance from the new or expanded waste management boundary, not the facility boundary. Expansion is defined in 9 VAC 20-81-10 as the horizontal expansion of the waste management boundary as identified in Part A. This requirement would not be applicable to already permitted waste management unit boundaries as defined in their existing Part A approval. It would only apply to new facilities or newly expanded waste management boundaries. No change has been made in response to this comment.
Michael Williams, Golder Associates USA Inc.	9VAC20-81-120. Concerning the siting requirement in subdivision D.1.c, “100 feet from the facility boundary;” Golder opposes this new restriction to the use of the available permitted facility boundary area. This new restriction could affect existing public facilities where it could result in a reduction of potential airspace (i.e., planned revenue source) or areas needed for leachate storage. Golder suggests	Expansion is defined in 9 VAC 20-81-10 as the horizontal expansion of the waste management boundary as identified in the Part A. This requirement would not be applicable to already permitted waste management unit boundaries as defined in their existing Part A approval. This requirement would only apply to new facilities or newly expanded waste management boundaries. This requirement aligns with consensus reached by the RAP. No change has been made in response to this comment.

	this increased restriction be limited to “new facilities” where it can be planned for a reduction in the permitted facility boundary area.	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-140. Concerning the operation requirement in subdivision B.14. “Internal roads in the landfill shall be maintained to be passable in all weather by ordinary vehicles. All operation areas and units shall be accessible, including the access roads or paths to monitoring locations;” Golder opposes adding language that requires all weather access for roads or paths to monitoring locations. This could be impracticable for certain monitoring locations.	The current regulations already require the facility to maintain all-weather internal roads, provide access to operational areas and units, control safety hazards to operating personnel, and maintain a health and safety plan describing measures to protect the facility and other personnel from injury. This change is meant to clarify that roads or paths to monitoring locations should remain accessible. This is to ensure that facility staff and other individuals (such as contracted field technicians) can access gas monitoring probes, groundwater monitoring wells, and surface water monitoring points either by vehicle or by foot to sample, inspect, provide maintenance, or make a repair, without encountering downed trees, thick vegetation, significant ponding water, or other obstacles in the road or path which could prevent access, delay monitoring events, maintenance or inspections, contribute to equipment or vehicle damage, or create potential hazards for trips, falls, and injury (e.g. tick or snake bites). No change has been made to the regulation in response to this comment.
Michael Williams, Golder Associates USA Inc.	9VAC20-81-140. Concerning the topographic survey requirements in subdivision B.21, “Each landfill with a permitted daily disposal limit of more than 300 tons per day shall perform a topographic survey of the active portion of the landfill on an annual basis (at least once every 12 months). Each landfill with a permitted daily disposal limit of 300 tons per day or less shall perform a topographic survey of the active portion of the landfill on a biennial basis (at least once every 24 months);” Golder suggests revising the proposed language to be based on the “permitted average daily disposal limit” to avoid	The survey frequency is based on the permitted daily disposal limit since this is a firm value established in the permit. No change has been made to the regulation in response to this comment.

	confusion with facilities that may have a permitted “maximum” daily disposal limit but operate under a permitted “average” daily disposal limit.	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-140.Concerning the requirement in subdivision E.1.b, “Lift heights shall be sized according to the volume of waste received daily and the nature of the industrial waste. A lift height is not required for materials such as fly ash that are not compactable,” Golder suggests deleting the words “such as fly ash” in the last sentence as shown above since fly ash material can be and should be compacted when disposed or stored in a permitted landfill.	The Department agrees with this comment, and the text has been revised to delete the words “such as fly ash” in order to correct the accuracy of the text.
Michael Williams, Golder Associates USA Inc.	9VAC20-81-140.Concerning subdivision E.2, “Incinerator and air pollution control residues containing no free liquids shall be incorporated into the working face and covered at such intervals as necessary to minimize them from becoming airborne. Dust control measures such as surface wetting, crusting agents, or other strategies shall be utilized in a manner and frequency suitable to control dust from other wastes that could become airborne, such as fly ash and bottom ash from burning of fossil fuels;“ Golder suggests deleting the words “such as fly ash and bottom ash from burning of fossil	Similar text exists in the current regulations. The text was reorganized and clarified as part of the proposed regulation. Fly ash and bottom ash are common waste types managed by industrial landfills that could contribute to dust issues if proper control measures are not implemented. This comment does not indicate a problem that is solved by the suggested revision or how the absence of this change would not protect the health, safety and welfare of the public. No change has been made to the regulation in response to this comment.

	fuels“ in the last sentence. It seems inappropriate to single out any one type of waste in this context.	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-250.Concerning the groundwater monitoring program requirement in subdivision B.2.a.(4), “Data from the background wells during each subsequent sampling event shall be added to the previously calculated background data for the recalculation of site background once every four years, unless approval for a longer timeframe is obtained from the department, to maintain the most accurate representation of background groundwater quality for statistical purposes required under subdivision A 4 h of this section”; Golder suggests that this section be revised to indicate that background concentrations should be established with data collected within a rolling window of time to be established based on the site-specific groundwater travel time from the upgradient side of the landfill to the downgradient side of the landfill. This will help prevent false-positive statistically significant detections based on temporal variations in natural groundwater quality.	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA’s 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA’s current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities would have to meet based on the highly variable geology of the Commonwealth. All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Landfills located within the Commonwealth are conducting groundwater sampling pursuant to their site specific timeframes. It is best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA’s 2009 Unified Statistical Guidance document. The rolling window suggested by the commenter may have merit at some landfills based on site specific conditions, and such action would be approvable on a case-by-case basis working with the appropriate Regional Office. Since the proposed VSWMR text already allows for longer timeframes upon approval of the Director, no further regulatory changes are needed. Requests such as these are better handled through the Variance procedure already defined in the VSWMR where site-specific conditions can be taken into account during the request and approval process. No change has been made to the regulation in response to this comment.
Michael Williams,	9VAC20-81-250. Concerning the groundwater monitoring	The requested change has been made to the proposed Regulation.

Golder Associates USA Inc.	program requirement in subdivision E.2(g), “A table listing the constituents identified during the year's sampling events, their concentrations at the respective monitoring well, and if applicable, the related groundwater protection standard in effect during the sampling event;” Golder recommends that the term “identified” in this section be changed to “detected” to clarify the intent of the requirement.	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-450. Golder suggests that the permit application requirements in subdivision C.1 should be revised as indicated per the suggested strikeout/inserted text: 1. The applicant shall complete, sign, and submit ~~three copies~~ one paper copy and one electronic copy of the Part A application containing required information and attachments as specified in 9VAC20-81-460 to the department and shall submit to the department the applicable permit fee under the provisions of 9VAC20-90. The application shall include the following certification signed by the consultant for the applicant "I certify under penalty of law that, based on my knowledge of [what the permit is covering], this document and all attachments were prepared under my direction or supervision, and consistent with a professional standard of care, in accordance with a system designed to	The Department appreciates the suggestion however, the regulation is written so that the applicant (future permittee) certifies the information that is being presented. The intent is such that the permittee will review the consultant’s work prior to submittal. The permittee is responsible for ensuring the information provided in the application is accurate. No change has been made in response to this comment.

	provide ~~ensure~~ that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is in my professional opinion and~~,~~ to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations." As used herein, the word "certification" or "certify" shall mean an expression of the Engineer's professional opinion to the best of his or her information, knowledge, and belief, and does not constitute a warranty or guarantee by the consultant."	
Michael Williams, Golder Associates USA Inc.	9VAC20-81-450. Golder suggests that the permit application requirements in subdivision D.1 should be revised as indicated per the suggested strikeout/inserted text: 1. The applicant, after receiving Part A approval, may submit to the department a Part B application to include the required documentation for the specific solid waste management facility as provided for in 9VAC20-81-470 or 9VAC20-81-480. The Part B application and supporting	The regulation is written so that the applicant (future permittee) certifies the information that is being presented. The intent is such that the permittee will review the consultant's work prior to submittal. The Department does not agree with the proposed revisions which are written so that the consultant certifies the application on behalf of the permittee/applicant. The consultant is responsible for certifying the design and other documents associated with the application, but the permittee/applicant will certify the permit application. No change has been made in response to this comment.

	documentation shall be submitted ~~in three copies~~ as one paper copy and one electronic copy and must include the applicable permit fee under the provisions of 9VAC20-90 and the financial assurance documentation as required by 9VAC20-70. The application shall include the following certification signed by the applicant "I certify under penalty of law that, based on my knowledge of [what the permit is covering], this document and all attachments were prepared under my direction or supervision, and consistent with a professional standard of care, in accordance with a system designed to provide ~~ensure~~ that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is in my professional opinion and~~,~~ to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fines and imprisonment for knowing violations." As used herein, the word "certification" or "certify" shall mean an expression of the Engineer's professional	

	opinion to the best of his or her information, knowledge, and belief, and does not constitute a warranty or guarantee by the consultant."	
Keith Buch, Powhatan, VA	After reviewing the "Opportunity for Public Comment on VA Solid Waste Management Regulations" it became immediately clear that a grave error had been committed. All 12 of the below comments made by myself and received during the 2019 periodic review comment period were not provided to the Regulatory Advisory Panel (RAP) members for review and discussion at their meetings for consideration for inclusion in the regulations. All 11 of my additional comments made during the NOIRA public comment forum from 2/15/2021 through 4/16/2021 were forwarded to the RAP for review/discussion and have been addressed in writing. DEQ acknowledged receipt through e-mails of all 12 of my comments made during the 2019 review period. I believe there are others who commented during the 2019 review period but their comments as well as my 12 were never forwarded to the RAP. The only solution is to reconvene the RAP to consider the comments that were never forwarded to them.	All public comments received on the VSWMR periodic review and NOIRA were distributed to the RAP on May 6, 2021, for their consideration in advance of their May 21, 2021 meeting. No change has been made to the regulation in response to this comment.
Keith Buch,	Comment # 1:	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part

Powhatan, VA	1) The proposed Cumberland County Green Ridge Landfill (Mega Fill) plans to use a HDPE 60 mil synthetic liner underlain by a geosynthetic clay membrane. This liner system is called a composite system. This does not afford adequate protection to the 1000 shallow residential drinking water wells within 3 miles of the Mega Fill. Please refer to the below Landfill Siting Review requirements of the Virginia Solid Waste Management Act. Unfortunately, the Solid Waste Management Act only addresses Public Drinking Water Systems in B 3 and not residential drinking water wells. This is a huge oversight that must be addressed. Residential wells must be afforded the same degree of protection as public drinking water systems. 2) It is recommended that Legislation be introduced to add residential drinking water wells to the Landfill Siting Review section of the Virginia Solid Waste Management Act It is suggested that the following language be added to the Landfill Siting Review: "New Landfills within three miles upgradient of any existing residential drinking water well shall require the installation of at least two synthetic liners under the waste disposal areas and require leachate collection systems to be	of this comment provides suggested changes to the Waste Management Act to include residential drinking water wells in the siting criteria along with public drinking water systems, installation of a double liner system for any landfills located three miles upgradient of any residential drinking water well, and prohibiting construction of a new landfill closer than 2500 feet of an existing residential drinking water well. Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. No change has been made in response to this comment.

	installed above and below the uppermost liner. No new landfill shall shall be constructed closer than 2500 feet of an existing residential drinking water well." 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order. The above described proposed legislation would enable the DEQ to implement corresponding regulations.	
Keith Buch, Powhatan, VA	<u>Comment # 2:</u> It is widely accepted that host counties to a new landfill (i.e. Cumberland County) as well as adjacent counties within 5 miles of a new landfill such as Powhatan County will have to deal with increased heavy truck traffic as well potential ground water contamination, odors, litter, noise, and decreased property values. Even though both the host and the adjacent county will both shoulder the burden of dealing with increased heavy truck traffic as well potential ground water contamination, odors, litter, noise, and decreased property values only the host	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment addresses suggested updates to the statute to include a host fee to adjacent counties within 5 miles of a new landfill. Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. No change has been made in response to this comment.

	community is reimbursed for hosting the new landfill by receiving a receiving a fee from the landfill operator for each ton of waste disposed at the new facility. Cumberland County by hosting the Green Ridge Mega Fill will receive a minimum base fee of $1.50 per ton of trash and can derive upwards of $2,700,000 per year in host disposal fees. Adjacent Powhatan County which is 1300 feet from the Mega Fill will receive nothing. In order to minimize this disparate treatment the following proposed legislation that would amend 10.1-1408.1 (attached below) A county that is not a host to a new landfill receiving municipal solid waste but is within five (5) miles of the new landfill will receive a host fee per ton of waste disposed by the Operator of the new landfill. Beginning with the effective date of this legislation the host fee for adjoining counties to new landfills shall be $1.50 per ton of waste disposed by the Operator of the new landfill. Beginning on the day the new landfill becomes operational, the adjoining county host fee shall be paid on a monthly basis by the 15th of the month based on the tonnage of waste disposed the previous month. On every yearly anniversary of this legislation the host fee in this legislation shall be increased	

	annually thereafter from the initial $1.50 per ton based on the Consumer Price Index. The annual increase shall be not more than 3% but no less than 1%. Daily landfill cover will not be considered as waste disposed. This legislation shall apply to all new landfills that have not received a Certificate to Operate from the DEQ on the effective date of this legislation. Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order. The above described proposed legislation would enable the DEQ to implement corresponding regulations.	
Keith Buch, Powhatan, VA	<u>Comment # 3:</u> 1) The below excerpt from Section 460 Part A Landfill Application only requires the applicant to characterize the upper most most aquifer beneath the proposed site and the presence of significant impermeable zones beneath the waste management boundary. The applicant is not required to determine if there is a hydraulic interconnection between the upper and lower	9 VAC 20-81-460.F.2.c already requires the submission of a "***Hydrogeologic Report"*** that includes, at a minimum, the technical information described within F.2.c.(1-4). The Department also notes that for landfill sites located in the Coastal Plain physiographic province of Virginia, no discussion of bedrock aquifer characteristics would be required. In other physiographic provinces of Virginia, a discussion would be required and if found lacking in the Part A (or B) submission(s), would be required as part of Department-required revisions to the Hydrogeologic Report during the Part A Technical Review process. Lastly, EPA (see 56 FR 196, pg 51066-67) requires that such studies include any "*hydraulic interconnection between the upper and lower aquifers*". No change has been made to the regulation in response to this comment

	aquifers. This potential interconnection is very important because in the case of the proposed Green Ridge Landfill most of the surrounding residential drinking wells are drilled into lower aquifers consisting of fractured bedrock. 2) Section 460 Part A should be amended to require the applicant to characterize the impermeable layer as to if one exists, its areal extent, its thickness, as well as its ability to prevent the migration of contaminants into lower aquifers. The applicant must determine if there is a hydraulic interconnection between the upper aquifer and lower aquifers. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	<u>Comment # 4:</u> 1) Since the proposed Green Ridge landfill is proximate to Western Powhatan County (1300 feet) many who reside there are concerned about potential ground water contamination, odors, noise, light, and other quality of life issues. Also our	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment addresses suggested updates to the Notice of Intent public comment steps in 9 VAC 20-81-450.B.4. The requirements outlined in the regulations are taken from the Waste Management Act (§10.1-1408.1.B.4 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. No change made in response to this comment.

	Powhatan citizens in general are also concerned about the increased heavy truck traffic on Route 60 from refuse trucks going too and from the proposed landfill. Section 450 Permit Application Procedures of The Solid Waste Management Regulations (see below) requires that prior to submitting a NOI Green Ridge is required to solicit input from the Public as follows. 4. If the applicant proposes to operate a new sanitary landfill or transfer station, the notice of intent shall include a statement describing the steps taken by the applicant to seek the comments of the residents of the area where the sanitary landfill or transfer station is proposed to be located regarding the siting and operation of the proposed sanitary landfill or transfer station. The public comment steps shall be taken prior to filing with the department the notice of intent. a. The public comment steps shall include publication of a public notice once a week for two consecutive weeks in a newspaper of general circulation serving the locality where the sanitary landfill or transfer station is proposed to be located and holding at least one public meeting within the locality at a time convenient to the public to identify issues of concern, to facilitate	

	communication, and to establish a dialogue between the applicant and persons who may be affected by the issuance of a permit for the sanitary landfill or transfer station. Green Ridge conducted a public input meeting in Cumberland County on August 28, 2018. Advance notice of the public meeting was published in the Farmville Herald. The Farmville Herald has circulation in the Counties of Cumberland, Buckingham, and Prince Edward as well as as the Town of Farmville. The Farmville Herald has no circulation in the County of Powhatan. The critical wording from the Waste Management Regulations is "to seek the comments of the residents of the area where the sanitary landfill or transfer station is to be located". Clearly, the area where the sanitary landfill is to be located includes Western Powhatan County and therefore no attempt was made to seek the input from Powhatan Residents. 2) It is requested that Section 450 be clarified to clearly require an applicant for a new landfill to conduct a public input meeting in the locality where the facility will be located as well as a separate public input meeting in an adjacent locality if that locality is located less than 5 miles from the proposed landfill.	

	3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	<u>Comment # 5:</u> The regulations must be revised to add the following minimum requirements to a Host Agreement: 1) The Agreement must have a standard "Officials Not to Benefit" clause. Suggested language for the clause should be as follows: High level officials of the County and their relatives shall derive no benefit from the Host Agreement. High Level Officials include present and future members of the Board of Supervisors as well as the County Administrator and Deputy County Administrator plus all County Department Heads inclusive but not limited to County Attorney, Zoning Officer, and Tax Assessor. Benefits include but are not limited too accepting employment, gifts, or gratuities from the landfill, its affiliates and subsidiaries as well as its parent corporations or owning a financing interest in the	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment addresses suggested updates to the minimum requirements for a Host Agreement. The minimum host agreement requirements are outlined in the Waste Management Act (§10.1-1408.1.B.7 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. No change made in response to this comment.

	aforementioned entities.. Benefit shall not mean host payments/reimbursements made to the County. 2) The final height and volume of the proposed landfill must be quantified. 3) Methods of controlling trespassers from entering the landfill property and disposal areas are not discussed. 4) The Landfill Liaison must have the authority to stop an imminent hazard that they observe that could result in substantial property/environmental damage, serious injury, or death. Minimum experience requirements for the Landfill Liaison must be specified. 5) Processes or procedures for settling minor differences that occur between the landfill and the County before they evolve into breaches and default must be specified . The Host Agreement should not rely on litigation to settle breaches and default. In order to avoid protracted litigation the Agreement must rely on Binding Dispute Resolution to settle breaches and default. 6) The DEQ Solid Waste Permit, County Zoning Approvals, DEQ Storm-water Permit, DEQ Air permit, VDOT Approval, and Corps of Engineer Section 404 Permit (if applicable) must be specifically referenced in the Agreement.	
Keith Buch,	<u>Comment # 6:</u>	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part

Powhatan, VA	1) Ground water can flow huge distances over a relatively short period of time in fractured bedrock. Most of the public and private sources of water in the general area of the proposed Green Ridge landfill draw their drinking water from fractured bedrock. The New Jersey Department of Environmental Protection has long recognized this hazard and has adopted the below regulation in response to this hazard. It is recommended that the DEQ also adopt this regulation. 2) A sanitary landfill located in a geologic area in which the bedrock is at or near the surface and that serves as a direct source for a public community water system, shall, at a minimum, have a containment system consisting of a double composite liner system. The primary and secondary geomembrane liners in the double composite liner system shall be in compressive contact with a clay or admixture liner below the geomembrane liner. A leak detection/collection system shall be located between the primary composite liner and the secondary composite liner. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of	of this comment provides suggested changes to require installation of a double liner system in geologic areas in which the bedrock is at or near the surface and that serves as a direct source for a public community water system. The regulations currently require that no new or expanded waste management boundaries shall be closer than three miles upgradient from any existing surface or groundwater public water supply intake or reservoir in existence at the time of application, or if closer distance, no closer than one mile. The proposed landfill would need to meet the requirements of §10.1-1408.4.B.3 of the Code of Virginia, which includes two synthetic liners. No change has been made in response to this comment.

	Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	Comment # 7: The Proposed Green Ridge Landfill which closely borders Muddy Creek, a substantial tributary of the James River, is planning to be open for business in Cumberland County as the third largest landfill on the East Coast as early as 2021. Because of its close proximity to Muddy Creek it has the potential to adversely impact down stream water providers, including Henrico and Richmond, who use the James as a source of drinking water. The 1200 acre site as it exists now is heavily forested and has several streams running through it that feed into Muddy Creek. It is recommended that the below regulation be adopted to protect the James River water users. 2) Any new landfill built within 2500 feet of an up stream surface tributary that feeds a Public Water System surface water intake SHALL have the double liner composite system with primary and secondary leachate systems to absolutely minimize contamination. In addition, new landfill leachate holding tanks	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment suggests that any new landfill built within 2500 feet of an up stream surface tributary that feeds a Public Water System surface water intake shall have the double liner composite system with primary and secondary leachate systems to absolutely minimize contamination. In addition, new landfill leachate holding tanks built within 2500 feet of an up stream surface tributary that feeds a Public Water System surface water intake shall have an impermeable secondary containment system that holds 110% capacity of the tanks. The regulations contain requirements for siting and leachate management. The regulation establishes setback criteria of 100 feet for perennial streams, rivers; or within one mile upgradient of any existing surface or groundwater public water supply intake or reservoir. Sanitary landfills within three miles upgradient of any existing surface or groundwater public water supply intake or reservoir have to meet the provisions of §10.1-1408.4.B.3 of the Code of Virginia, one of which is the installation of at least two synthetic liners under the waste disposal areas and requires leachate collection systems to be installed above and below the uppermost liner. The RAP reviewed the siting criteria and concluded they are protective of human health and the environment. The regulations also require leachate tanks and surface impoundments to have a capacity at least equal to the maximum 7 day leachate production and surface impoundments be equipped with a liner system that provides equal or greater protection of human health and the environment than that provided by the landfill liner. No change has been made in response to this comment.

	built within 2500 feet of an up stream surface tributary that feeds a Public Water System surface water intake SHALL have an impermeable secondary containment system that holds 110% capacity of the tanks. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	Comment #8 1) Most rural Virginians whose homes are located in areas that have underlying bedrock close to the surface (i.e. neighbors of the Proposed Green Ridge Landfill) rely on wells drilled into fractured bedrock as opposed to shallow wells drilled into the overburden above the bedrock. Any landfill ground-water monitoring system must consist of shallow wells in the overburden as well as deeper wells in the bedrock. Current DEQ regulations only require new landfills to develop a shallow aquifer monitoring system and fail to address the deeper bedrock wells. The below recommended regulation	The Department's solid waste groundwater monitoring program and its sampling requirements are based on and remain consistent with requirements set forth by EPA in 40 CFR 258. Please note that EPA has defined the groundwater point of compliance as the uppermost aquifer at the edge of the solid waste management unit. Monitoring wells must be installed as that location to have the ability to detect any release from the unit as soon as possible. The commenter requests setting a point of compliance deeper (into bedrock) and this would conflict with the intent of EPA's Subtitle D monitoring program. DEQ also points out that if it should be recognized that a groundwater release has taken place at the established point of compliance, additional monitoring wells must be installed in order to define the extent (in both the vertical and lateral dimensions) of the release as part of the initial steps in the corrective action process. With respect to the added sampling parameters suggested by the commenter, EPA provided its detailed rationale for setting the Subtitle D landfill sampling list (see discussion at 56 FR 196, pg. 51080-82). The list of constituents presented by the commenter is sourced from another State's regulations, unrelated to EPA's Subtitle D rule which forms the basis for the groundwater monitoring program in the VSWMR. The commenter failed to provide the basis for why the suggested additional constituents would make a groundwater monitoring

	addresses this oversight. The below parameters were extracted from New Jersey's Private Well Testing Act that requires mandatory testing before a residential property with a well is sold. 2) If bedrock residential drinking water wells exist in the vicinity of the new landfill, the landfill shall implement a groundwater monitoring system that draws ground water samples from an appropriate network of bedrock installed monitoring wells. These wells shall be sample semi-annually by an independent certified laboratory for the following parameters: total coliform, nitrate, iron, manganese, pH, VOC's, lead, arsenic, mercury, Gross Alpha Activity, 1,2,3-Trichloropropane, Ethyl Dibromide, and 1,2-Dibromo-3-chloropropane. The corresponding results shall sent to the DEQ and made available on a public website. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	program any more effective than it is using the EPA defined sampling constituent list. No change has been made to the regulation in response to this comment.

Keith Buch, Powhatan, VA	Comment # 9: 1) The proposed Green Ridge Landfill (Mega Fill) will be a large complex industrial facility, complete with methane gas, that if constructed would be the third largest landfill on the East Coast. If adequate resources are not brought to bear quickly on a fire at this Mega Fill it could quickly get out of hand and result in an environmental catastrophe. Nearby Powhatan and Cumberland Fire Departments do not currently have the resources to respond to a fire at the 5000 ton per day Mega Fill. Neither of the departments own a 6000 gallon tractor trailer tanker/pumper and Petersberg, some 40 miles distant, is the nearest department that has such equipment. Powhatan's Deep Creek Fire Station (nearest the landfill) is manned by one full time fire fighter. 2) The regulations must be revised to insure that adequate fire response capabilities exist. In order to receive a Certificate to Operate, the landfill shall employ the services of a Certified Emergency Manager (CEM) to assess the capabilities of Fire Departments in the localities in the vicinity of the proposed new landfill and determine if they can effectuate a safe, timely, and effective response to a fire at the landfill. If adequate local community response	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment provides suggested changes to address landfill fire control. However, the suggested changes, such as employing services to assess local fire response capabilities, or providing additional fire control resources to the local community, are operational decisions or agreements to be made by the facility and the locality. Changes were already incorporated into the proposed regulation to address fire control as recommended by the RAP consensus. For example, language was added to ensure that landfills follow the fire control plan when responding to fires, that landfill fires shall be effectively controlled and extinguished as soon as possible, and to require active landfills to provide 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. The Department has determined that the requirements established in the proposed regulations are sufficient to protect the health, safety and welfare of the public. No change has been made to the regulation in response to this comment.

	resources do not exist the CEM shall recommend an appropriate level of response readiness that can be achieved by furnishing additional resources to the local departments and/or by establishing an internal landfill fire response capability. The landfill shall pay for any additional fire resources required by local communities through written agreements with said communities and shall not receive a Certificate to Operate until the agreements are in place. If the landfill chooses to establish an internal fire response capability the resources required to maintain this capability will become an enforceable permit condition. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	<u>Comment # 10:</u> 1) The proposed Green Ridge Landfill (Mega Fill) will be a large complex industrial facility, complete with methane gas, that if constructed would be the third largest landfill on the East	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment provides suggested changes to address operator licensing. However, the requirement for the facility to operate under the direct supervision of a waste management facility operator licensed by the Board for Waste Management Facility Operators is a statutory requirement, and the regulatory language is consistent with the statutory

	Coast. At the present time all sanitary landfills are required to have a Certified Landfill Operator with a Class II License. A PE license is not required to obtain a Class II License. Green Ridge estimates that the proposed 5000 ton per day operation will employee 35 individuals will cost far in excess of $100,000,000.00 to build. 2) Because of the size and complexity of Mega Fills a highly experienced and credentialed individual is required ensure proper construction and operation. Therefore the regulations must be revised to require new landfills in excess of a 3000 ton per day capacity to employ a Class II Certified Landfill Operator with a Virginia Professional Engineers license in either Civil or Environmental Engineering. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	language (§10.1-1408.2 of the Code of Virginia). Changes to the Code of Virginia can only be accomplished through action by the Virginia General Assembly. In addition, 18VAC155-20-110.A.2 of the Department of Professional and Occupational Regulation's Waste Management Facility Operators Regulations (which is not part of this regulatory amendment) requires an individual operating a facility that is defined in 9VAC20-81-10 as a sanitary landfill, industrial waste landfill, or construction/demolition/debris (CDD) landfill, to hold a Class II license. State law does not provide DEQ or the Virginia Waste Management Board with the authority to revise licensing criteria for waste management facility operators. Under §54.1-2211 of the Code of Virginia, the Board for Waste Management Facility Operators promulgates regulations and standards for the training and licensing of operators. No change has been made to the regulation in response to this comment.
Keith Buch, Powhatan, VA	<u>Comment # 11:</u> 1) The below excerpt from Section 140 wrongly permits landfill	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment.

	operators up to 24 hours to bring in substitute heavy solid waste compaction and earth moving equipment to replace inoperable equipment. This is not acceptable for a 5000 ton per day Mega Fill such as the proposed Green Ridge Landfill that will operate 24/7. A smaller landfill could get by for 24 hours using a slow moving bulldozer that would normally spread cover soil to temporarily spread and compact trash plus spread cover if the much faster compactor was inoperable. This substitution would not keep up with the flow of trash at a large landfill. A mountain of uncompacted and uncovered refuse will be created in 24 hours. Adequate numbers and types of properly maintained equipment shall be available to a landfill for operation. Provision shall be made for substitute equipment to be available or alternate means implemented to achieve compliance with subdivision B 1, C 1, or D 1 of this section, as applicable, within 24 hours should the former become inoperable or unavailable. Operators with training appropriate to the tasks they are expected to perform and in sufficient numbers for the complexity of the site shall be on the site whenever it is in operation.	The other part of this comment provides suggested changes to address backup equipment availability at landfills. The requirement for substitute landfill equipment to be made available within 24 hours (should the former become inoperable or unavailable) exists in the current regulation, and the requirement was not changed as part of the proposed regulation. The commenter suggested requiring specific type of equipment to be used at large landfills. However, that is an operational decision to be made by the facility. In addition, changes were already incorporated into the proposed regulation to require landfill operations manuals to include “procedures to be employed during periods of non-operation or non-processing, including procedures to be employed in the event of equipment breakdown that will require standby equipment, extension of operating hours, or diversion of solid waste to other facilities” (9VAC20-81-485.A.5.e). The Department appreciates the suggestions, but has determined that the requirements established in the proposed regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.

	2) Therefore, for new landfills that will be accepting 3000 tons per day or more, adequate compaction and earth moving equipment shall be immediately available on site if a critical piece of compaction or earth moving equipment becomes inoperable or unavailable due to breakdown or maintenance. The critical equipment that must be immediately available shall include at a minimum a spare steeled wheeled solid waste compactor equivalent to a CAT 826, a spare bulldozer equivalent to a CAT D-8, a spare cover hauling piece of equipment with a minimum of 15 yard capacity, and a spare cover excavator/loader of a minimum of a 3 yard capacity. Spares will not sit idle for weeks at a time as standby equipment but shall be regularly used by rotating them into equipment usage during the week with the net result of each piece of critical equipment sitting idle during certain days of the week. For explanation and clarity of what is meant by spare the following example is given. If two steel wheeled compactors are required to keep up with solid waste flow the landfill operator will be required to have a total of three operational compactors on site with only two in use at any one time. Therefore, the three units would be	

	rotated in and out of use during the week with two operating at any one time. If one were to break down the minimum amount of two compactors will still be immediately available. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	<u>Comment # 12:</u> 1) Because of the unlimited supply of garbage, the Proposed Green Ridge Landfill will attract all manner of scavengers including black bears, coyotes, red foxes, raccoons, opossums, skunks, seagulls, crows, turkey buzzards, vultures, wild dogs, feral cats, and rats. These animals will pose a nuisance and a public health/safety hazard to nearby residents as well as to their pets and farm animals. Daily cover and the proposed 24/7 operation will provide some mitigation but will but will not be completely effective. 2) The Solid Waste Management Regulations must require that all new landfills develop and implement an effective scavenger	Part of this comment addresses concerns with a specific facility and is outside of the scope of this amendment. The other part of this comment provides suggested changes to address scavenger control at landfills. The commenter suggested requiring landfills to develop and implement a scavenger control strategy with specific control measures. However, the current regulations already require all landfills to effectively control vectors (living animals, insects, or other arthropods that transmit infectious disease from one organism to another) so that they do not constitute nuisances or hazards, (9VAC20-81-140) and for each landfill to describe methods for vector control in their operations manual (9VAC20-81-485). The exact methods the landfill uses to control scavenging and vectors is an operational decision to be made by the facility. The Department appreciates the suggestions, but has determined that the requirements established in the regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.

	control strategy including exclusionary fencing, trapping, depredation, harassment, and professional pest controllers. Said strategy shall be memorialized and made a condition of the Landfill's Solid Waste Permit. 3) Pursuant to Executive Order 14 (as amended July 16, 2018) and §§ 2.2-4007.1 and 2.2-4017 of the Code of Virginia, the Department of Environmental Quality is conducting a periodic review and small business impact review of 9VAC20-81, Solid Waste Management Regulations. These comments are being submitted pursuant to the above Executive Order.	
Keith Buch, Powhatan, VA	The attached document indicates all of the individuals who made "citizen" comments during the 2019 review period and for some unexplained reason their comments were not addressed. There were no pro landfill or solid waste industry comments made during the 2019 review period. 1) Keith Buch 2) Michael Serato 3) Ralph Mullins 4) Kevin Halligan 5) Laurie Halligan 6) Francis Ronnau 7) Victoria Ronnau 8) Artour Saakian 9) Christal Schools 10) Timothy Kennel 11) Keith Oulie	All public comments received on the VSWMR periodic review and NOIRA were distributed to the RAP on May 6, 2021, for their consideration in advance of their May 21, 2021 meeting. No change has been made to the regulation in response to this comment.
Keith Buch, Powhatan, VA	Now that it is abundantly clear that substantial comments made by private citizens during	Per 9VAC20-11-70 B of the Public Participation Guidelines regulation, the agency shall determine when a regulatory advisory panel (RAP) shall be appointed and the composition of the RAP. The agency director determines who is appointed

	the 2019 comment period were not addressed by the RAP, I would like to take this opportunity to focus on the RAP itself. Please refer to the below attachment regarding the six RAP appointments that were made. 1) There were five (5) categories of individuals that composed the RAP. Solid Waste Industry, Citizen, Local Government, Landfill Consultants, and Environmental Organizations. There should have been at least two additional categories that included Academia (Colleges and Universities) as well as Environmental Health (Industrial Hygienists and Public Health Specialists). 2) Only one Citizen appointment was made and yet two appointments were made under the Landfill Consultant category. Why were not two citizen appointments made to balance the two Landfill Consultant appointments? 3) Of the six appointments that were made one was a Solid Waste Industry appointment, one was a county landfill manager under the Local Government appointment category, and two appointments were made under the Landfill Consultant category for a total of four appointments. The end result was that two thirds of the	to the RAP based on professional specialization or technical assistance per 9VAC20-11-70 A. Anyone may ask to be appointed to the RAP, but appointment is not guaranteed and is at the discretion of the agency director. All public comments received on the VSWMR periodic review and NOIRA were distributed to the RAP on May 6, 2021, for their consideration in advance of their May 21, 2021 meeting. No change has been made to the regulation in response to this comment.

	appointments either operated landfills or provided consulting engineering services to landfills. This was hardly a balanced RAP. 4) What were the selection criteria that were used to make the appointments? 5) Were any of the appointments minorities? 6) Who was the selection official who made the appointments? Based on the above, in order to avoid future legal challenges it is recommended that a new RAP be appointed to address the dozens of comments that were not addressed by the first RAP.	
Craig Coker, Coker Composting & Consulting	9VAC20-81-320 Siting Requirements. The proposed Amendment 9 to the VSWMR would prohibit locating a composting facility (except for those only composting vegetative waste and yard waste) less than 1,200 feet from any airport's air operations area. The U.S. Department of Transportation, Federal Aviation Administration (FAA), in its Advisory Circular, "Hazardous Wildlife Attractants On or Near Airports" (#150/5200-33, 1997) notes the following setbacks for wildlife attractants (Sec. 1-3): a. Airports serving piston-powered aircraft. A distance of 5,000 feet is recommended. b. Airports serving turbine-powered aircraft. A distance of 10,000 feet is	The Department appreciates the suggestion and has revised the regulation to clarify the requirements based on composting feedstock. G.3. Composting facilities are prohibited on airport property. Off-airport composting facilities shall be located no closer than the greater of the following distances as defined by the FAA: a. 1,200 feet from any airport operations area for compost facilities accepting only yard waste and similar material which are not wildlife attractants; or b. The distance called for by airport design requirements for compost facilities accepting Category I – IV feedstocks which are wildlife attractants.

	recommended. c. Approach or Departure airspace. A distance of 5 statute miles is recommended, if the wildlife attractant may cause hazardous wildlife movement into or across the approach or departure airspace. Sec. 3-4 of that same document states: "composting operations should not be located closer than the greater of the following distances: 1,200 feet from any aircraft movement area, loading ramp, or aircraft parking space; or the distance called for by airport design requirements." The FAA notes that yard waste is "generally not considered a wildlife attractant", but I recommend you modify the proposed language at 9VAC20-81-320 to require Category I-IV composting facilities and composting facilities handling only vegetative and yard waste (and not other Category 1 feedstocks) not be located closer to airports than the recommended FAA Siting Criteria in Sec. 1-3 as noted above.	
Andrea Wortzel, Troutman Pepper Hamilton Sanders LLP (Troutman Pepper)	Industrial landfills are distinct from other types of landfills (municipal solid waste and construction demolition debris) because they are not accessible by the public, but are instead dedicated to waste generated during a specific manufacturing process. The waste does not decompose in the same way as municipal	This comment does not address a specific section of the proposed regulation; instead, it appears to address the sum of the changes to the regulation which affect industrial landfills. The proposed regulations were not intended to employ a “one-size-fits-all approach” to industrial landfills. The differences between industrial landfills and other types of landfills were considered during development of the regulatory amendment and discussed with the Regulatory Advisory Panel (RAP). For example, 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 performance standards for cover. The department has observed an increase

	solid waste. Thus, industrial waste does not settle nor generate odors, leachate, or methane gas in the same manner as municipal solid waste. Additionally, the operation of industrial landfills can vary significantly from industry to industry. As such, it is not practical to employ a one-size-fits-all approach to industrial landfills because the waste generated is so unique to the manufacturing process involved. These important distinctions are recognized in the existing regulations. VMA is concerned that these differences were not fully considered or factored in when the proposed regulatory changes were developed. During the RAP process, VMA suggested that a subgroup could be formed to discuss the impact of the proposed changes on industrial landfills. As noted in the Virginia Department of Planning and Budget's Economic Impact Analysis, the proposed changes will impact 20 active industrial landfills, and will have an adverse impact by increasing the net costs to companies operating those landfills. While VMA recognizes that there are always regulatory costs associated with managing solid waste, as discussed in more detail below, the additional measures proposed in this regulation do not have a corresponding	in the number and severity of occurrences of fires, odors, blowing litter, excess leachate generation, surface and subsurface erosion of waste, and releases of waste and leachate at industrial landfills. The new requirements are proposed in order to reduce the frequency of these conditions in order to be more protective of human health and the environment. No change has been made to the regulation in response to this comment.

	environmental benefit. Thus, given the practical and financial impacts associated with the proposed changes, they should not be adopted.	
Andrea Wortzel, Troutman Pepper	VMA has been an active participant in the regulatory advisory panel for the proposed revisions to the Solid Waste Management Regulations.[1] [1] VMA also reviewed and commented on Proposed Guidance Memo No. LPR-SW-2021-01, which was ultimately withdrawn. That proposed guidance memo touched on several provisions of the Solid Waste Management Regulations. To the extent any changes are made to the proposed regulation to incorporate the provisions of the proposed guidance, this regulatory package should be subject to additional public notice and comment.	No changes were made to the proposed regulation to incorporate the provisions of the proposed guidance (LPR-SW-2021-01 – Guidance on the Director's Determination for New Solid Waste Management Facility Permits and Modifications for Expansions & Increases in Capacity) referenced by the commenter, which was withdrawn by the Department. No change has been made to the regulation in response to this comment.
Andrea Wortzel, Troutman Pepper	**9VAC20-81-98.C.** (Use of Plastic Bags) The provisions of 9 VAC 20-81-98 relate to the use of appropriate containers for management of solid waste. However, Subsection C of this provision relates to single use plastic and paper bags. It is unclear who this provision applies to, and under what circumstances. It is residential households that typically use plastic garbage bags to store waste. That material is then collected and transported to municipal solid waste landfills.	The "appropriate container" requirements in 9VAC20-81-98 were added to clarify the conditional exemption under 9VAC20-81-95.D.10 which applies to the management of solid waste at the site of generation and convenience centers, and to clarify the conditional exemption under 9VAC20-81-95.D.20 which applies to the storage of solid wastes from an emergency cleanup. Language regarding single use plastic and paper bags is consistent with existing Departmental guidance (LPR-SW-2018-01 Frequently Asked Questions About Convenience Centers). No change has been made to the regulation in response to this comment.

	Thus, it is difficult to tell how or when this provision applies.	
Andrea Wortzel, Troutman Pepper	9VAC20-81-140.B.21 (Annual Topographic Survey) Section 9 VAC 20-81-140.B.21 adds a requirement that all landfills that accept greater than 300 tons per day of waste must perform an annual topographic survey. Landfills that accept 300 tons per day or less must perform such survey on a biennial basis. Industrial landfills should be exempt from this requirement for the following reasons: • Overfilling/exceeding the waste boundary is more likely to occur in a MSW landfill because overfilling regularly occurs in order to account for the settling of the waste that takes place. Also, it is more common for MSW landfills to be allowed to place waste outside the permitted boundary on a temporary basis while new cells are being constructed. • Many industrial landfills have such low throughputs that an annual or even biennial survey requirement is unnecessary and would not serve an actual policy objective. • As reflected in DPB's Economic Impact Analysis, such surveys can cost as much as $16,000 per year. No clear explanation has been provided by DEQ as to why such a requirement is needed for industrial landfills. If	The annual survey requirement is being added for multiple reasons: to determine areas of overfill or exceeding the waste boundary; to provide more accurate landfill disposal capacity information in the state to assist with the Director's Determination of Need; and to achieve more accurate reporting for the Solid Waste Information & Assessment (SWIA) reporting. In order to obtain the landfill disposal capacity within the state all landfills, including captive landfills, need to be included. The Department recognized that an annual survey may not be needed for smaller facilities and incorporated two survey frequencies based on the permitted daily intake rate of the facility. The potential for overfilling/exceeding the waste boundary is possible at all landfills. Routine surveys while the facility is operating will lead to early detection of overfilling or exceeding the waste boundary when repairs should be easier and less costly as opposed to later on at closure when it may be harder or more costly to make repairs. No change has been made to the regulation in response to this comment.

	DEQ's concern is that such facilities are overfilled, or if DEQ wants industrial facilities to be more aware of when a landfill is coming close to reaching its final elevation, industrial landfills could be required to prepare a topographic survey when they are two years out from the predicted end of life, or when they are 80% full. There are more efficient and less costly ways to address this issue for industrial landfills.	
Andrea Wortzel, Troutman Pepper	**9VAC20-81-140.E** (Cover Requirements) Practical Considerations. The change that VMA is most concerned about is the requirement for industrial landfills to apply at least 6 inches of compacted soil on the waste at least once per week. Although the proposed regulation allows industrial facilities to seek approval for an alternate method of cover, it still requires cover to be applied on a weekly basis. DEQ indicates in the Background Document the following: "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." DEQ does not provide enough detail in this statement to justify a wide sweeping	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 larger quantities of waste material being exposed to the environment for longer periods of time. DEQ has observed various types of issues (odors, litter, surface and subsurface erosion of waste, fires, and releases of waste and leachate) at different types of industrial landfills, including both captive and non-captive, single-stream and mixed waste. Issues do not seem to be relegated to landfills of a certain size or waste type. DEQ has also received complaints from the public regarding industrial landfills (particularly regarding odors and fires) as development of residential and commercial properties continues to expand closer to existing landfills. Application of soil cover is a standard practice to control fires, odors, litter, minimize stormwater infiltration, and prevent erosion and displacement of waste. The Department considered all of the feedback from the Regulatory Advisory Panel meetings when developing this provision of the proposed regulation, which requires weekly cover at industrial landfills unless alternate methods (in lieu of weekly cover) are approved. The regulation contains the language "alternate methods" rather than just "alternate cover" in order to provide more flexibility to industrial landfills to use strategies and techniques that work best for the waste type, nature, and quantity unique to the specific landfill. While alternate methods may include an alternate weekly cover or alternate cover frequency (which could potentially be less frequent than weekly), this provision was also intended to allow industrial landfills the option to demonstrate that site-specific strategies other than cover can meet the same performance standards. The Department has determined that the requirements established in the proposed regulations are sufficient to protect the health, safety, and welfare of the public.

	regulatory change for this class of landfill. This does not allow the regulated community to understand if this is occurring at all industrial landfills or a smaller subset of these landfills, or industrial landfills that manage a certain type of industrial waste. VMA is concerned that the proposed "one-size-fits-all" solution will introduce significant costs without necessarily resolving the underlying concerns stated. Currently, industrial landfills are not required to apply cover on a daily or weekly basis. Instead, cover must be applied periodically. This was incorporated into the existing regulations in recognition of the uniqueness of industrial landfills and their operation. Such landfills are typically more isolated from the public, are smaller, handle less waste and have waste that tends to be more inert with almost no odor or vermin issues. Additionally, the waste materials disposed of at an industrial landfill tend to be sludges or other materials that are not typically impacted by wind. Industrial facilities, instead of having a blanket requirement for cover material, must implement measures through operations and maintenance plans that address these concerns. This approach allows facilities to establish cost-effective means to manage the issues DEQ	In addition, the comment states that there is no requirement to divert runoff from intermediate cover; however, the proposed regulations do require that intermediate cover be graded to prevent ponding and promote surface runoff in order to minimize infiltration of water into solid waste cells. No change has been made to this regulation in response to this comment.

	has noted while recognizing the individual nature of the waste streams and landfills. Further, the regulations already require that one foot of compacted soil be placed as intermediate cover in areas left idle and not used for material disposal within 30 days to address concerns of erosion, fugitive dust, contact water and leachate generation, and structural integrity of the unit. The regulations also already identify particular industrial wastes, such as asbestos and fossil fuel combustion fly and bottom ash, that need additional or unique management requirements. If DEQ determines that additional cover is needed based on the specific type of waste handled at the landfill or operational impacts associated with a given industrial landfill, DEQ has the authority to require a facility to change its operations and maintenance manual to address the frequency and method of cover application for that particular landfill or waste material. Moreover, adding new cover material on a weekly basis may not address the issues identified by DEQ (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). For example, there is no requirement to divert runoff from intermediate cover to stormwater, so increasing the cover frequency doesn't guarantee leachate will be reduced. Leachate generation is not necessarily a problem for captive industrial landfills because their leachate is not as concentrated and they often have an onsite wastewater treatment system or access to a publicly-owned treatment works. VMA believes that each of the stated concerns can be adequately addressed on a case-by-case basis with the authority DEQ already has in the existing regulation. For all of these reasons, it is inappropriate to impose a blanket requirement of this natureon industrial landfills. It is also unlikely that this requirement will have any meaningful benefit for the vast majority of industrial landfills. It will, however, have a significant impact on the industries and the costs for managing these landfills.	
Andrea Wortzel, Troutman Pepper	**9VAC20-81-140.E** (Cover Requirements) Direct Cost. The costs associated with this proposed additional soil cover requirement are significant. One member, who operates two facilities with industrial landfills, estimates the cost associated with complying with this new soil cover requirement at $2.7 million. (This estimate was calculated	The Department considered all of the feedback from the Regulatory Advisory Panel meetings when developing this provision of the proposed regulation. The Regulatory Advisory Panel agreed that costs are not the first priority for consideration and that the proposal was based on protection to human health and the environment. The requirement as written is for industrial landfills to meet certain performance standards – to control fires, odors, blowing litter, to minimize stormwater infiltration, and to prevent erosion and displacement of waste. The regulations specify that the default or standard acceptable method to comply with this requirement is to apply six inches of compacted soil cover on a weekly basis. However, landfills may demonstrate to the

	assuming $22/yd3 for soil cover material, with placement cost estimated at $5/yd^3.) Neither the economic impact analysis nor the background document include estimates of costs for the 20 affected landfills mentioned in this action. Suitable cover soil is not readily available on all sites or in all geographic areas of the state. Soil is both expensive and creates logistical challenges depending on the location of the facility within Virginia. Given the potential operational and cost impacts associated with imposing such a requirement, greater consideration should be given to what problem is being addressed and whether a one-size-fits-all approach is appropriate. The proposal does allow for the use of alternative cover materials. While VMA appreciates this additional flexibility, as drafted there are extra layers of administration for operators and DEQ staff to obtain this flexibility. In the existing regulations, DEQ has the ability and authority to require additional measures from an operator if the periodic cover is not sufficiently addressing the concern on a case-by-case basis, requiring submission of whatever information is needed to secure the use of a new approach. In the proposed regulation, the new soil cover requirement	Department that other methods (which may be less costly than weekly soil cover) can meet the same performance standards. The commenter notes that the proposed regulation allows for the use of alternate cover materials, which could lower the cost of complying with the requirement. In addition to allowing alternate cover materials, the regulation also allows landfills the flexibility to demonstrate that alternate cover frequency (which may be less frequent than weekly) and/or site-specific strategies other than cover (which may be less costly than soil or alternate covers) can meet the same performance standards. The allowance for other options to comply with the requirement was intended to provide more flexibility to industrial landfills to use strategies and techniques that work best for the waste type, nature, and quantity unique to the specific landfill. No change has been made to the regulation in response to this comment.

	applies unilaterally, and DEQ must evaluate and approve any alternative cover proposal. This will likely result in DEQ staff needing to manage a sudden and immediate influx of requests to evaluate alternative covers for multiple industrial landfills, rather than working directly with a select few landfills to address specific cover concerns. Additionally, adding in the option to use alternative materials does not address the fundamental concerns of industrial landfill owners regarding the significant impact of this requirement on the fill rate and operational costs.	
Andrea Wortzel, Troutman Pepper	**9VAC20-81-140.E** (Cover Requirements**)** Landfill Life/Efficient Management of Resources. Frequently adding cover soil consumes an important natural resource (clean soil) for no clear environmental gain. Moreover, applying this additional soil cover will significantly impact air space within the landfill, shortening the life of these assets. Just using back of the envelope calculations, adding an additional 6 inches of fill per week translates to 26 feet per year across the active face of the landfill. For low run rate industrial landfills, adding weekly soil may actually result in the landfill containing more soil than industrial waste. The result of filling landfills more quickly through	The Department continues to recommend that any cover, including daily or weekly cover, be stripped back from the waste prior to filling with an additional lift of waste. The regulation has also been written to allow the use of alternative cover materials, alternate cover frequency, and alternate methods (other than cover) to meet the same performance standards. The use of soil cover is not intended to result in landfills using additional airspace, but to control fires, odors, blowing liter, and minimize infiltration of water into the solid waste cells to prevent erosion and displacement of waste, when other methods are not effective in meeting these performance standards. No change has been made to this regulation in response to this comment.

	adding this soil material is that new landfills (or an expansion of existing landfills) will be needed earlier. One VMA member has estimated that adding this amount of fill will result in a reduction of nearly 30% of its landfill life. Such reductions in available landfill life will require these industries to site and build new landfills sooner than expected – an outcome that is fraught with regulatory uncertainty, both for the landfill owners and the communities in which these new landfills may need to be sited. Thus, this requirement is an inefficient and potentially wasteful use of natural resources, and it will detrimentally impact the environment by resulting in the creation/expansion of landfills that is only necessary as the result of the loss of landfill capacity from this new requirement. This result runs counter to the goals of the waste management program and should not be adopted.	
Andrea Wortzel, Troutman Pepper	**9VAC20-81-250** (Groundwater Monitoring – Table 3.1). The proposed changes add a new Column C to Table 3.1, which outlines the constituents for which groundwater monitoring must be conducted. Column C represents constituents that do not yet have a regulatory standard. It includes per- and polyfluoroalkyl substances (PFAS and related constituents).	The proposed modification to the groundwater sampling list is a result of requirements within Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. The fact that the Virginia Department of Health may choose to set MCLs for additional PFAS constituents, not specifically named in the House Bills referenced above, based on the results of a surface water and groundwater sampling study completed within the Commonwealth, is not a limitation to adding a VSWMR requirement to begin sampling for the

	There is no need for this change, and it is likely to create confusion. DEQ has the authority to require sampling where there is cause for a site specific evaluation, and also where there is a need to gather data to determine whether to establish a standard. Moreover, if a standard is promulgated in the future, sampling is automatically required. But adding a monitoring requirement now, when there is no standard and there are other processes underway to identify the sources, presence and need for a standard, is premature. Including this provision now is likely to create confusion because it is unclear what action or implication results from this sampling data, given that there is no applicable regulatory standard or requirement associated with it.	constituents already identified (by name) within the existing passed legislation. The addition of Column C to the proposed regulation does not require sampling and analysis of the proposed constituents to begin prior to the Virginia Department of Health promulgating MCLs. The proposed VSWMR regulation will require the sampling for (and analysis of) the list of constituents identified in the proposed regulation as soon as the Virginia Department of Health completes the MCL promulgation process now required by the Code of Virginia. The added Column C groundwater constituents are found in common commercial and household products which are discarded as municipal solid waste and therefore can become components of landfill leachate. The recognition of, and response to any impacts on human health and the environmental are determined by the sampling and analysis for these constituents as part of a regulated landfill's groundwater monitoring program. The sole intent of the groundwater monitoring program is to determine whether leachate is being released from the landfill. For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*".
Andrea Wortzel, Troutman Pepper	**Implementation.** It is unclear when the new regulatory requirements will take effect for existing facilities. If the new cover requirements take effect, industrial facilities will likely need to find sources for the soil cover material, reconfigure operations at their facilities, and train staff on the new requirements. Additionally, facilities will need time to prepare requests for alternative cover requirements and DEQ will need adequate time to evaluate those requests to allow for efficient transition and	This regulatory action is to be effective as provided in the Administrative Process Act. After the final regulation is approved by the Waste Management Board, the regulation undergoes Executive Branch Review by the Office of the Attorney General, Department of Planning and Budget, Secretary of Natural and Historic Resources, the Office of Regulatory Management, and the Governor's office. After receiving the Governor's approval, the final regulation is submitted to the *Virginia Register of Regulations* to be published for a thirty day final adoption period, after which the regulation becomes effective. The Department has already been providing training on the proposed regulation and intends to provide compliance assistance to the regulated community to help facilities understand the final regulation. No change has been made to the regulation in response to this comment.

	implementation time. Clarification about when these requirements, if adopted, will take effect would be helpful.	
Andrea Wortzel, Troutman Pepper	As indicated above, VMA is concerned about the cost and operational impacts the proposed changes will have on industrial landfills. Of greatest concern are the changes to the cover requirement. VMA believes that the concerns DEQ has stated it is trying to address occur rarely and can be addressed on a case-by-case basis under DEQ's existing authority and regulations. VMA requests that DEQ reconsider its approach in these sections. If DEQ still believes that these additional requirements should be adopted, then VMA recommends that, instead of adopting the changes as part of the current regulatory process, DEQ form a new regulatory advisory panel focused on industrial landfills.	See responses to above comments regarding industrial landfill cover requirements. The Department has determined that the requirements established in the proposed regulations are sufficient to protect the health, safety, and welfare of the public while also affording landfills the flexibility to demonstrate that the use of site-specific methods and strategies may be able to meet the same performance standards as weekly cover. No change has been made to this regulation in response to this comment.
Carroll Courtenay, Southern Environmental Law Center; Phillip Musegaass, Potomac Riverkeeper Network; Anna Killius,	As we noted in our comments on the notice of intended regulatory action (NOIRA) for this amendment (Attachment A to this letter), landfills are a documented source of per- and polyfluoroalkyl substances (PFAS) and 1,4-dioxane pollution. This pollution can concentrate in landfill leachate and contaminate surrounding groundwater, so we asked the Board and DEQ to amend the solid waste management	The Department notes that it reviewed both "timing" options during regulatory development, but chose the latter option because prior to the promulgation of an MCL by the Virginia Department of Health (or under the federal Clean Drinking Water Act), owner/operators would be required to compare the sampling results against natural site background, or risk-based Alternate Concentration Limits (ACLs). These benchmarks would only remain in place until an MCL is promulgated (which would then supersede ACL use). This would mean owner/operators would be faced with changing groundwater benchmarks, which may trigger potential corrective actions defined under 9 VAC 20-81-260. To avert this uncertainty, the requirement to sample and analyze and respond to the constituents listed in Column C is proposed to commence upon the promulgation date of the Virginia Department of Health MCLs. Because the Virginia Department of Health MCL promulgation is required by Statute, and is currently under way, the Department does not believe

James River Association; Chris Leyen, Virginia League of Conservation Voters, and Patrick Calvert, Virginia Conservation Network (C. Courtenay, SELC; P. Musegass, PRN; A. Killius, JRA; C. Leyen, VLCV; P. Calvert, VCN)	regulations to account for the potential for PFAS and 1,4-dioxane contamination. We are disappointed to see that under its proposed amendment, DEQ would not require groundwater monitoring of PFAS and 1,4-dioxane until federal or state drinking water maximum contaminant levels (MCLs) for these contaminants are adopted and would not require monitoring of PFAS and 1,4-dioxane in landfill leachate at all. MCLs and other regulatory actions outside of DEQ's solid waste management program are not necessarily prerequisites to monitoring for these contaminants under the solid waste management regulations. Importantly, requiring monitoring for PFAS and 1,4-dioxane in groundwater and landfill leachate would provide information about the occurrence of these chemicals in Virginia's landfills and environment and help to inform regulatory actions in the future.	there is an additional risk to human health and the environment during this interim timeframe, noting that many of the regulated landfills in the Commonwealth are already in groundwater corrective action for exceedances of volatile organic compounds commonly found in landfill leachate, regardless of whether proposed Column C constituents are additionally present, but not yet sampled for. The Department does not concur with the statement that there is "*value in monitoring alone*" in the absence of MCLs, noting the General Assembly specifically required the Virginia Department of Health (HB 586) to collect sampling data as a means of determining the occurrence (and concentrations) of the chemicals referenced by the commenter in Virginia's surface and groundwater. This was not the Department of Environmental Quality's role. Additionally, MCLs promulgated by the Virginia Department of Health will be done so based on the data collected during the study reference above, and the Department of Environmental Quality will apply those standards once promulgated. Groundwater data collected from landfills, after MCL promulgation, will be used to determine whether landfill sites need to initiate groundwater corrective actions. No additional data (i.e., sampling for the sake of sampling) is needed to *"inform DEQ's future regulatory actions to protect human health and the environment*". For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*".
C. Courtenay, SELC; P. Musegass, PRN; A. Killius, JRA; C. Leyen, VLCV; P. Calvert, VCN	As discussed in our comments on the NOIRA, PFAS and 1,4-dioxane are man-made chemicals that have significant human health and environmental impacts. Two of the most commonly studied PFAS, perfluorooctanoic acid (PFOA) and perfluorooctyl sulfonate (PFOS), have been found to cause developmental effects in	See relevant response above pertaining to PFAS. No change has been made to the regulation in response to this comment.

	fetuses and infants, kidney and testicular cancer, liver malfunction, hypothyroidism, high cholesterol, ulcerative colitis, lower birth weight and size, obesity, decreased immune response to vaccines, reduced hormone levels and delayed puberty and studies show that many of these same health outcomes result from exposure to other types of PFAS. PFAS are extremely resistant to breaking down in the environment, can travel long distances, and bioaccumulate. 1,4-dioxane is classified as likely to be carcinogenic by the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Health and Human Services, and 1,4-dioxane's unique attributes means it can spread quickly once it is released into the environment. Due to the widespread use and subsequent disposal of products and byproducts containing PFAS and 1,4-dioxane, landfills can be significant sources of PFAS and 1,4-dioxane pollution through a number of pathways, including groundwater contamination, landfill leachate, and landfill air emissions.	
C. Courtenay, SELC; P. Musegass,	DEQ proposes to require PFAS and 1,4-dioxane groundwater monitoring only after federal or state MCLs are established for the contaminants. The groundwater monitoring	See relevant response above pertaining to PFAS. No change has been made to the regulation in response to this comment.

PRN; A. Killius, JRA; C. Leyen, VLCV; P. Calvert, VCN	provisions, however, explicitly provide other mechanisms for establishing groundwater protection standards that are not reliant on MCLs. For constituents "for which no MCL has been promulgated," where the landfill owner finds a statistically significant increase over background during certain monitoring, the landfill owner or operator "shall" submit a proposed groundwater protection standard, and DEQ "shall" establish such a standard, based on site-specific background concentration values or risk-based alternate concentration levels.6 This indicates that the establishment of federal or state MCLs need not be a prerequisite to requiring monitoring or developing groundwater protection standards for PFAS and 1,4-dioxane. To be clear, while establishing groundwater protection standards for PFAS and 1,4- dioxane is important, there is also value in monitoring alone. Regulatory agencies, including DEQ, have pointed to a lack of occurrence data as an impediment to developing regulations to control this type of contamination. Requiring landfills to sample for PFAS and 1,4-dioxane would provide DEQ with important information about the occurrence of these chemicals in groundwater surrounding landfills, helping to inform DEQ's future	

	regulatory actions to protect human health and the environment.	
C. Courtenay, SELC; P. Musegass, PRN; A. Killius, JRA; C. Leyen, VLCV; P. Calvert, VCN	We are disappointed to see that DEQ and the Regulatory Advisory Panel (RAP) convened to review the regulations only took up the issue of PFAS and 1,4-dioxane groundwater contamination. Narrowing the scope of the review to this sole pollution pathway means DEQ and the RAP failed to consider the need for broader regulation of PFAS and 1,4-dioxane contamination in the solid waste management process, including in landfill leachate. As we noted in our comments on the NOIRA, by their terms, the solid waste management regulations already regulate the discharge of PFAS and 1,4-dioxane through landfill leachate disposal because landfills are prohibited from "caus[ing] a discharge of pollutants into waters of the United States, including wetlands, that violates any requirements of the Clean Water Act (33 U.S.C. § 1251 et seq.), including, but not limited to, the VPDES requirements and the Virginia Water Quality Standards (9 VAC 25-260)." In practice, however, the discharge of these contaminants remains uncontrolled. Establishing an explicit landfill leachate monitoring requirement would generate information about the	The Department acknowledges the concerns related to PFAS and 1,4-dioxane in landfill leachate. However, as the commenter noted, the current regulation already prohibits landfill discharges that violate any requirements of the Clean Water Act, including, but not limited to, the Virginia Pollutant Discharge Elimination System (VPDES) requirements and Virginia Water Quality Standards. The acceptance and treatment of leachate by wastewater treatment plants, and any discharges to state waters from surface water or stormwater runoff, would be regulated by water related regulations, not the Solid Waste Management Regulations. Current work is being done by VDH and EPA regarding the establishment of Maximum Contaminant Levels (MCLs) for PFAS and 1,4-dioxane, which may result in amendments to related regulations outside of the DEQ solid waste management program. No change has been made to the regulation in response to this comment.

	occurrence of these chemicals in landfill leachate, promote the disclosure of these chemicals in discharges (as the Clean Water Act requires before granting a VPDES permit), and give landfill operators and DEQ more information about how best to manage landfill leachate in the future.	
C. Courtenay, SELC; P. Musegass, PRN; A. Killius, JRA; C. Leyen, VLCV; P. Calvert, VCN	It is important to note that the absence of analytical methods is not a limiting factor to requiring PFAS and 1,4-dioxane monitoring for groundwater and landfill leachate. For PFAS, the EPA has developed draft method 1633 which is a laboratory validated method that tests for "40 PFAS compounds in wastewater, surface water, groundwater, soil, biosolids, sediment, landfill leachate, and fish tissue." Although it is currently a draft method, EPA has already recommended that this method be used in the National Pollutant Discharge Elimination System program. For 1,4-dioxane there are multiple methods— including EPA SW-846 methods— available for testing for this contaminant in groundwater and landfill leachate	The current absence of EPA approved analytical methods played no role in the Department's decision to trigger the initiation of sampling requirements to the promulgation of MCLs by the Virginia Department of Health. The DEQ also notes that EPA is making progress in assessing and approving analytical methods with the necessary accuracy to detect PFAS in groundwater samples. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	It appears VADEQ is proposing that the proposed Column C constituents (1,4-dioxane and PFAS (6 parameters)) be required to be analyzed during every Initial/ Detection/ Assessment Monitoring	The commenter asserts that 1,4-dioxane and PFAS are not appropriate "*indicator parameters*" during Detection monitoring but provided no supporting evidence. This claim also conflicts with EPA's previously stated intent behind the list of constituents found within the Subtitle D Detection monitoring program (see discussion at 56 FR 196, pg. 51075-77). Specifically, EPA defined the parameters included on that Detection monitoring list as "*those parameters that the Agency*

	event. We strongly believe that rather than adding these parameters to the rules, VADEQ should manage investigation of these parameters like other States have done. The parameters are not listed in USEPA Subtitle D regulations which are the basis for State Municipal Solid Waste (MSW) programs. As such, some other States have required MSW Landfills to conduct screening sampling for these parameters for their presence and concentrations. Additional monitoring and responses then depend on the results of the screening sampling. This approach has been effective in identifying issues that require follow up and avoiding the burden and complications of long-term, routine sampling where it is unwarranted. If VADEQ can appropriately justify that the Column C parameters need to be added to the rules, they should not be required in detection monitoring. Given the nature of these parameters, they are not appropriate or needed as indicator parameters during detection monitoring. They should only be required as screening sampling for presence during initial assessment monitoring, similar to the current Column B constituents. The need for continued, repeated monitoring during assessment	*believed provided a reliable means of detecting the possible presence of releases from MSWLFs*". The constituents found in proposed Column C meet this technical criteria because they are expected components of municipal solid waste. PFAS resist breaking down in the environment and therefore make excellent tracer constituents if released from the landfill. 1,4-dioxane is classified as a likely carcinogen by EPA and the U.S. Department of Health and Human Services, and displays chemical characteristics that permit quick migration once it is released into the subsurface environment. Past and present commercial and home use (and subsequent disposal) of products and containing PFAS and 1,4-dioxane make them likely to be present in MSWLF leachate. The sole purpose of implementing a Detection monitoring sampling program is to identify whether leachate has been released to the environment. As such, the constituents proposed for Column C meet the criteria to be included on the Detection monitoring sampling list. The Department disagrees with the assertion that the Department must justify the need for adding additional sampling constituents to the landfill groundwater monitoring program. The proposed modification to the groundwater sampling list is a result of requirements within the Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. No change has been made to the regulation in response to this comment.

	should depend on initial assessment screening results.	
Joseph Montello, Republic Services, Inc.	Regulation 210 G: Leachate control - sampling and analysis. Requirements for facilities to conduct sampling and analysis to characterize and demonstrate the presence or absence of leachate in a surface water or stormwater collection system or other receptor if a release or discharge of leachate is suspected should be reasonable and scientifically based depending on the specific circumstances.	The Department acknowledges and agrees with the commenter's statement. A specific regulatory change was not requested. The Department has determined that the language in the proposed regulations is sufficient and clear. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 A 3 c: Groundwater Monitoring - Well construction. We generally agree that the site-specific methods for monitoring well installation and construction should be described within the groundwater monitoring plan; however, revisions to the existing groundwater monitoring plans to attain compliance with the rule should be required at the time of permit renewal and/or within a reasonable timeframe (e.g., 180 days) of rule adoption for existing facilities.	Proposed language changes in 250.A.3.c reorganize existing requirements and do not address or establish the specific timing of updating a groundwater monitoring plan. That timing is typically set in the facility Permit. Additionally, the Department notes that the proposed language changes in 250.A.4.a include adding a formal title to the document to be submitted, it does not address the specific timing of updating a groundwater monitoring plan. That timing is typically set in the facility Permit. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 A 4 a: Groundwater Monitoring - Quality Assurance and Control. We generally agree that quality assurance and control should be described within the groundwater monitoring plan; however, revisions to the existing groundwater	See relevant response pertaining to groundwater monitoring plan above.

	monitoring plan to attain compliance with the rule should be required at the time of permit renewal and/or within a reasonable timeframe (e.g., 180 days) of rule adoption for existing facilities.	
Joseph Montello, Republic Services, Inc.	Regulation 250 A 4 b (1), (2), (3): Groundwater Monitoring-Analytical Methods. 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. We disagree with solely using EPA SW-846 methods for existing facilities where non-EPA SW-846 methods have historically been in use to establish statistical background at defined reporting limits. Facilities have made a concerted effort to keep previously accepted analytical methods in place for existing facilities to avoid the possibility that changes in analytical methods will result in statistically different data simply because the method was changed.	The comment pertains to the current requirement to use SW-846 analytical methods for all constituents found in Column A and B. This requirement exists as written in the current regulation and is not revised in the proposed regulation. The proposed language allows Column C constituents to be analyzed by non SW-846 methods since these constituents are not identified in EPA's Subtitle D rule (40 CFR 258). No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 A 4 f: Groundwater Monitoring - Sampling and statistics - collection of groundwater samples by bailers. The proposed rule revision states - *The collection of groundwater samples via dedicated bailers is prohibited unless the department has issued written approval to a site-specific request demonstrating a geotechnical need,*	To remove any unintended confusion related to the use of the term "*dedicated*" in the proposed regulatory text, that word has been removed from the text of the proposed regulation.

	certified by a qualified groundwater scientist, submitted by the owner or operator. We request clarification on the term "dedicated bailers" and believe that no written approval should be needed to use disposable, single-use bailers for the collection of samples where appropriate (example - sampling wells with minimal water column height or low yield).	
Joseph Montello, Republic Services, Inc.	Regulation 250 B 2 a: Groundwater Monitoring - Detection monitoring sampling requirements. The proposed rule states facilities in detection monitoring would be required to sample for constituents in Column A and Column C of Table 3.1. It appears the proposed rules state the proposed Column C constituents (1,4-dioxane and PFAS (6 parameters)) must be analyzed during background sampling and during every detection monitoring event. As discussed in our first/global comment, screening sampling for these parameters rather than adding them to the rules for routine sampling is a more appropriate approach. If VADEQ can justify the need to add these parameters to the rules, Column C sampling should only be required when assessment monitoring is needed, in alignment with the current requirements for sampling Column B constituents.	The commenter asserts that 1,4-dioxane and PFAS are not appropriate "*indicator parameters*" during Detection monitoring but provided no supporting evidence. This claim also conflicts with EPA's previously stated intent behind the list of constituents found within the Subtitle D Detection monitoring program (see discussion at 56 FR 196, pg. 51075-77). Specifically, EPA defined the parameters included on that Detection monitoring list as "*those parameters that the Agency believed provided a reliable means of detecting the possible presence of releases from MSWLFs*". The constituents found in proposed Column C clearly meet this technical criteria because they are expected components of municipal solid waste. PFAS resist breaking down in the environment and therefore make excellent tracer constituents if released from the landfill. 1,4-dioxane is classified as a likely carcinogen by EPA and the U.S. Department of Health and Human Services, and displays chemical characteristics that permit quick migration once it is released into the subsurface environment. Past and present commercial and home use (and subsequent disposal) of products and containing PFAS and 1,4-dioxane make them likely to be present in MSWLF leachate. The sole purpose of implementing a Detection monitoring sampling program is to identify whether leachate has been released to the environment. As such, the constituents proposed for Column C meet the criteria to be included on the Detection monitoring sampling list. The Department disagrees with the assertion that the Department must justify the need for adding additional sampling constituents to the landfill groundwater monitoring program. The proposed modification to the groundwater sampling list is a result of requirements within Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory

		change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 B 1 e: Monitoring for sanitary landfills. Proximity to wetlands. Facilities should be allowed to propose and demonstrate the effectiveness of semi-annual groundwater sampling, rather than a blanket requirement of quarterly sampling, at facilities located within or near resource protection areas (e.g., wetlands).	The current referenced applicable requirements are sourced from §10.1-1408.5 of the Code of Virginia and thus cannot be changed in the regulation. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 B 2 a (1) (a): Groundwater Monitoring - Detection monitoring program sampling requirements-initial sampling. The proposed regulation allows facilities to collect eight independent background samples. We generally agree with the collection of eight independent samples; however, request that facilities be allowed to collect the samples over a timeframe of two years to provide for seasonal and temporal variation in the background data.	This suggestion may have merit at some landfills based on site specific conditions, and such action would be approvable on a case-by-case basis working with the appropriate Regional Office. Since the proposed VSWMR text already allows for longer timeframes upon approval of the Director, no further regulatory changes are needed. Requests such as these are better handled through the Variance procedure already defined in the VSWMR where site-specific conditions can be taken into account during the request and approval process. No change has been made to the regulation in response to this comment.
Joseph Montello, Republic Services, Inc.	Regulation 250 B 3 b (1) & f (1): Groundwater Monitoring-Assessment monitoring program-well subsets; Evaluation and response-revaluation to return to detection monitoring. 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	The allowance to reduce or eliminate sampling constituents is already available in the VSWMR. This option is sourced from 40 CFR 258.55.(b) and approvals of such requests are contingent on an owner/operator proving the requested constituents are not *"reasonably expected to be in or derived from waste contained in the unit*". DEQ notes that the results of past groundwater sampling events are not proof of an absence of a chemical in the waste mass. No change has been made to the regulation in response to this comment.

	wells are in assessment monitoring. We agree with the allowance of a subset of wells to remain in detection monitoring when analytical results indicate the lack of Column B (and Column C, if applicable) constituent detections; however, encourage DEQ to allow facilities to propose a reduced list of assessment constituents (i.e., based on lack of detection after sampling for a certain number of events). Additionally, we request that the DEQ further clarify the proposed rule language for facilities to have a clear path to obtaining an approved subset of wells to remain in detection monitoring.	
Mike Lawless, Draper Aden Associates	**9VAC20-81- 95.D.16.** It is unclear on the choice of the limit of 5 days per quarter. Suggest elimination of the limit. This language appears in other references in these Draft regulations and the same comment would apply.	The commenter suggested eliminating the 5-day per quarter open burning limit but did not provide a basis for eliminating the requirement. Section 10.1-1410.3 of the Code of Virginia requires the Department to develop policies and procedures to allow for the infrequent burning of vegetative waste at permitted landfills in post-closure care, and requires the Department to specify the frequency of the burning allowed. Policies and procedures were developed and implemented beginning in 2007 through Departmental Guidance (LPR-SW-01-2007 Vegetative Waste Burning at Closed Landfills) to include a 5-day per quarter limit. The proposed regulation incorporates the 5-day per quarter limit at both active and closed permitted landfills for consistency with existing agency guidance. The open burning exemptions were also 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 and to be more protective of human health and the environment. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden	**9VAC20-81-98.A–C.** Appropriate containers. This regulation is obviously aimed at waste collection systems and	The intent of the changes in the proposed regulations was not to take the place of localities in managing or overseeing convenience centers but rather to specify and clarify the conditional exemption for management of solid waste at convenience centers. Because the regulations do not require

Associates	collection sites specifically. Language is very subjective - using terms like "appropriate" and "adequate". Is it the intent of DEQ to begin enforcement using these regulations on convenience/ collection sites or will this continue to be a function of local government? Unclear on the need for language relative to single use plastic or paper bags. What is the context for this regulation? Again, enforcement by DEQ or by local governments? Relationship of this language to local ordinances? Would recommend deleting this language and, if needed, reference local ordinances.	convenience centers to obtain a solid waste permit, DEQ does not routinely inspect convenience centers or provide regulatory oversight of operations at those sites. The primary responsibility to manage and oversee activities at convenience centers lies within the purview of the locality or entity that owns and operates the site. The current regulation (under 9VAC20-81-95.D.10) also states that management of solid waste in appropriate containers in certain scenarios is exempt; however, the VSWMR does not indicate what constitutes an appropriate container. The “appropriate container” requirements in 9VAC20-81-98 were added to clarify the conditional exemption criteria under 9VAC20-81-95.D.10 that applies to solid waste at convenience centers and at the site of generation. Language regarding single use plastic and paper bags is consistent with existing Departmental guidance (LPR-SW-2018-01 Frequently Asked Questions About Convenience Centers). No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-120.A–F.** Siting requirements. The upfront documents (under estimated benefits and costs) to the draft regulations (page 1706) state the following: "The proposed setback requirements are prospective in that the current landfills would be grandfathered from the revised setback distances." However, by using the term "all", DEQ in the regulations is not recognizing these current landfills which were permitted under approved Part As and which may or may not meet the requirements of this section for setbacks for waste management boundaries. Is there a mechanism for grandfathering older facilities or are they	Section 9 VAC 20-81-120.A clarifies that all landfills will be governed by the standards set forth in the section. The following requirements outlined in B thru F clarify the applicability of the specific criteria. These sections clarify the applicability to new and/or expanded waste management unit boundaries. Expansion is clearly defined in Section 9 VAC 20-81-10 as the horizontal expansion of the waste management boundary as identified in the Part A. These requirements would not be applicable to already permitted waste management unit boundaries as defined in their existing Part A approval. It would only apply to new facilities or newly expanded waste management boundaries. No change has been made in response to this comment.

	going to be mandated to modify their permits?	
Mike Lawless, Draper Aden Associates	**9VAC20-81-120.J.** Airport safety. Change from 5 mile to 6 mile seems to be in keeping with FAA requirements but may not match EPA Subtitle D regulations. Has the consensus between regulations been verified?	The Wendell H. Ford Aviation Investment and Reform Act for the 21st Century (Ford Act), Pub. L. 106-181 (49 U.S.C. 44718), prohibits the "construction or establishment" of new MSWLFs after April 5, 2000, within six miles of certain smaller public airports. This information is reflected on-line at the EPA website and Code of Federal Regulations. (https://www.ecfr.gov/current/title-40/chapter-I/subchapter-I/part-258/subpart-B/section-258.10) No change has been made in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-130.H.** […survey benchmarks]. While it is appropriate for landfills to be on a recognized and consistent datum, there are still older facilities working off of site specific datum. Is it the intent of DEQ to require any landfills not on the cited datum to go to the expense to update their datum and survey information or can these sites petition for a variance to this regulation? What does "latest industry standard" mean – which industry? A specific citation for this should be provided.	The goal is to have landfill facilities use a standard survey coordinate system. The latest industry standard would be those procedures and practices utilized by licensed land surveyors or geographic information systems. Section 9 VAC 20-81-130.H has been updated to clarify the industry standards per the recommendation.
Mike Lawless, Draper Aden Associates	**9VAC20-81-130.I.** Surface water runoff. What does "current available rainfall intensity data" mean and published by whom? Clarification needed.	Atlas 14 data for Virginia and Predictive Rainfall Intensity – Density Frequency curves are maintained by the National Oceanic and Atmospheric Administration (NOAA). The intent is that the most recent available information should be used for stormwater management planning. The sources for this data have not been specified to allow for flexibility since reliable data may be available from multiple sources. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-130.I.4.** [Erosion and sediment control.] What does "minimum standards and specifications" mean? Is this meant to reference specifically 9VAC25-840-40.	The Department did not intend to reference a specific section of the Erosion and Sediment Control Regulations or to reference the Erosion and Sediment Control Handbook. These measures are not part of the solid waste permit but are addressed through another agency program. The intent of the language in the proposed regulations was to highlight that the Erosion and Sediment Control Regulations may be applicable to construction of new landfill cells.

	Minimum Standards or the Virginia Erosion and Sediment Control Handbook?	In consideration of this comment, and to avoid confusion, the text has been revised to delete “and the minimum standards and specifications” from the end of the statement found in 9VAC20-81-130.I.4.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.B.5.b.** It is unclear on the choice of the limit of 5 days per quarter. Suggest elimination of the limit.	The commenter suggested eliminating the 5-day per quarter open burning limit but does not provide a basis for eliminating the requirement. Section 10.1-1410.3 of the Code of Virginia requires the Department to develop policies and procedures to allow for the infrequent burning of vegetative waste at permitted landfills in post-closure care, and requires the Department to specify the frequency of the burning allowed. Policies and procedures were developed and implemented beginning in 2007 through Departmental Guidance (LPR-SW-01-2007 Vegetative Waste Burning at Closed Landfills) to include a 5-day per quarter limit. The proposed regulation incorporates the 5-day per quarter limit at both active and closed permitted landfills for consistency with existing agency guidance. The open burning exemptions were also 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 and to be more protective of human health and the environment. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.B.7.e.** It is not unusual for MSW landfills to periodically exceed their "vertical design capacity" on a temporary basis. This may not be noticed until the now required DEQ survey or other operational survey. It typically happens when the owner/operator knows the landfill will settle (operational consideration) or while waiting for a new cell to be constructed (DEQ notification). It can be mitigated when needed. It in and of itself, is not a threat to human health or the environment. By this statement it is unclear on the specific intent of DEQ. Should a permit holder within 24 hours of identifying the height	The Department does expect to be notified if solid waste is outside the constructed disposal unit boundary or above the vertical design capacity and the annual survey requirement will assist in that notification. The intent is that DEQ will have the ability to allow temporary storage when needed for exigent or emergency situation but does not intend for this to be allowed as part of routine operation or for settling prior to closure. No change has been made to the regulation in response to this comment.

	exceedance notify DEQ of the exceedance (followed by written notification in 5 days)? Delete the terms "exigent or emergency" situations. DEQ should have the flexibility to approve in writing whether a situation is exigent or an emergency if there is no threat to human health or the environment.	
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.B.21.**While it is believed that the reasoning behind this regulation is aimed at more accurate SWIA reporting specifically in determining 20 years of remaining capacity in Virginia (needed to demonstrate need), an annual survey and the subsequent evaluation is expensive (noted in the support documentation as $16,000 per year) and likely to trigger enforcement actions without regard to the true impact to human health or the environment. e.g. is a one-foot exceedance the equivalent of a 5-foot exceedance; is a 2.8 to 1 slope that much different than a 3.0 to 1 slope. There is also some subjectivity in comparison of surveys over time based on methodology, vegetative cover and operations. We believe that while an annual survey is helpful, it is not necessarily needed and hence should be at the discretion of the owner/operator to be completed for their inhouse purposes and not a formal submittal to	The annual survey requirement is being added for multiple reasons: to determine areas of overfill or exceeding the waste boundary; to provide more accurate landfill disposal capacity information in the state to assist with the Director's Determination of Need; and to achieve more accurate reporting for the Solid Waste Information & Assessment (SWIA) reporting. Compliance with this requirement and the results of the survey will be determined based on the severity level as outlined in the Compliance Inspectors Manual. No change has been made to the regulation in response to this comment.

	DEQ. Prior to implementing this regulation, DEQ should provide further guidance on how they will review and handle the information	
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.C.1.a.** The term "tipping demand" is not defined in the regulations. Is there a clearer way to state this. Is this not just a function of operations?	The language regarding “tipping demand” exists in the current regulation and was relocated within the subsection for clarity as part of the proposed regulation. The requirement to confine the working face to the smallest area practicable was not changed as part of the proposed regulation. The phrase “tipping demand” is used to indicate that the landfill’s working face size is a function of the amount of waste being received and smallest area practicably needed to tip, spread, and compact the waste at the working face. The Department appreciates the suggestion, but has determined that the requirements established in the regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.C.1.c.** Storm water infiltration is not defined in the regulations. What is the metric to determine "control of stormwater infiltration"? How will DEQ assess whether or not alternate covers control stormwater infiltration in an equivalent manner to 6" of compacted soil? Because of the ambiguity and subjectivity of this term, we recommend deleting it or being more specific in its definition.	The lack of daily cover or improper daily cover can lead to increased infiltration or percolation of stormwater into the waste cells, which can generate additional leachate. Excess leachate can lead or contribute to increased side slope seeps and erosion, leachate releases, discharges to surface water, buildup of leachate head on the bottom liner, and slope instability. When these types of issues are occurring at a landfill, the cover type, application and frequency are just a few of many underlying factors to consider when determining what could be contributing to the issues as well as possible resolutions. The Department acknowledges the concern with the proposed language and has revised the text in 9VAC20-81-140.C.1.c to require daily cover and alternate daily cover at a sanitary landfill to “minimize” (rather than “control”) stormwater infiltration in order to clarify the intent of the requirement. This change also requires revisions to similar language in the following sections for consistency: 9VAC20-81-140.D.1.b (CDD landfill cover) and 9VAC20-81-140.E.1.c (industrial landfill cover).
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.C.1.f.** Delete phrase "accelerate surface runoff" or replace with" promote surface runoff."	The phrase “accelerate surface runoff” was included in this section of the proposed regulations for consistency with the use of the phase in other sections of the current regulations. However, the department has considered the use of the word “accelerate” versus the use of the word “promote” and agrees with this comment. The word “accelerate” has been replaced with the word “promote” in order to clarify the requirement. This change also

		requires revision of similar language in the following sections for consistency: 9VAC20-81-140.D.1.d and 9VAC20-81-140.E.1.f.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.C.1.f.** Question on need for weekly inspections. Would suggest changing to periodic.	This language exists in the current regulation, and the requirement for weekly inspections of intermediate cover at sanitary landfills was not changed as part of the proposed regulation. Weekly inspections of intermediate cover are needed in order to ensure that cover integrity is being maintained. Frequent inspections reveal cracks, erosion, uneven areas, ponding water, animal burrows, leachate seeps, exposed waste, and other issues, and are intended to prompt repair soon after occurrence to prevent problems from becoming worse. This requirement is also consistent with industry best practice. The Department appreciates the suggestion, but has determined that the requirements established in the regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.D.1.b.** Storm water infiltration is not defined in the regulations. What is the metric to determine "control of stormwater infiltration"? How will DEQ assess whether or not alternate covers control stormwater infiltration in an equivalent manner to 6" of compacted soil? Because of the ambiguity and subjectivity of this term, we recommend deleting it or being more specific in its definition.	The regulations do not specify an allowance for alternate progressive cover at CDD landfills. Progressive soil cover is required to be one-foot thick, compacted to reduce permeability, and maintained weekly such that the top of the lift is fully covered at the end of the work week. Compacted soil cover is also required to be applied as necessary to control fires, odors, blowing litter, and minimize stormwater infiltration. The lack of cover or improper cover can lead to increased infiltration or percolation of stormwater into the waste cells, which can generate additional leachate. Excess leachate can lead or contribute to increased side slope seeps and erosion, leachate releases, discharges to surface water, buildup of leachate head on the bottom liner, and slope instability. When these types of issues are occurring at a landfill, the cover type, application and frequency are just a few of many underlying factors to consider when determining what could be contributing to the issues as well as possible resolutions. The Department acknowledges the concern with the proposed language and has revised the text in 9VAC20-81-140.D.1.b to require progressive cover at a CDD landfill to “minimize” (rather than “control”) stormwater infiltration in order to clarify the intent of the requirement. This change also requires revisions to similar language in the following sections for consistency: 9VAC20-81-140.C.1.c (sanitary landfill cover) and 9VAC20-81-140.E.1.c (industrial landfill cover).
Mike Lawless, Draper Aden	**9VAC20-81-140.D.1.d.** Change "accelerate" to "promote".	The word “accelerate” (to accelerate surface runoff) is used in this section of the current regulations and was not changed as part of the proposed regulation. However, the department has considered the use of the word “accelerate” versus the use of the word “promote” and agrees with this comment. The word “accelerate” has been replaced with the word “promote” in

Associates		order to clarify the requirement. This change also requires revision of similar language in the following sections for consistency: 9VAC20-81-140.C.1.f and 9VAC20-81-140.E.1.f.
Mike Lawless, Draper Aden Associates	**9VAC20-81-140.D.1.d.** Unclear on the need for "weekly" inspections. Would suggest changing to "periodic" inspections allowing flexibility for the Owner/Operator.	The requirement for weekly inspections of intermediate cover already exists in the current regulations for sanitary and industrial landfills and was added for construction/demolition/debris landfills in the proposed regulations for consistency. Weekly inspections of intermediate cover are needed at all landfills in order to ensure that cover integrity is being maintained. Frequent inspections reveal cracks, erosion, uneven areas, ponding water, animal burrows, leachate seeps, exposed waste, and other issues, and are intended to prompt repair soon after occurrence to prevent problems from becoming worse. This requirement is also consistent with industry best practice. The Department appreciates the suggestion, but has determined that the requirements established in the regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-170.D.3–5.**In review of the upfront documentation to the draft regulations, no discussion was found addressing the need or purpose for the notifications and public comment period or the procedures for requesting a public meeting. This seems like an onerous burden to place on the permit holder. Notification to the locality makes some sense but not to all adjacent property owners and occupants. Public comment is directed to the technical and "regulatory" aspects of the proposal. DEQ should stand behind their decision that the documentation submitted is technically adequate and meets the requirements of the regulations. Opening it up to public participation may trigger significant	The regulation follows the procedures outlined in Waste Guidance Memo No. 01-2007 – Post-Closure Care Termination which has been used for processing post-closure care termination requests since 2007. The Department has determined it is important that adjacent property owners be notified of the discontinuation of monitoring activities at a site and have the opportunity to provide comment or express concern. This notification follows similar requirements outlined for the Part A (9 VAC 20-81-460.l) when a facility is first being established or when it is being expanded. The permittee is tasked with this process to foster communication and cooperation between the permittee and surrounding community. No change has been made to the regulation in response to this comment.

	interest without technical merit. If DEQ believes public involvement is needed to support their decision, DEQ should be tasked with notifications, advertisements, review and response to comments, and holding a public meeting if needed. The burden should not be placed on the permit holder.	
Mike Lawless, Draper Aden Associates	**9VAC20-81-200.C.5.a–d.** Change the word "prevent" to "discourage".	There are 2 uses of the word “prevent” under this new section of the proposed regulations. The Department agrees with this comment as it applies to section 200.C.5.b (to prevent tampering of probes), and the text has been revised to replace the word “prevent” with “discourage” in order to clarify the requirement. The Department does not agree with the comment as it applies to section 200.C.5.c (to prevent venting of probes to the atmosphere) as ambient/external air should not be allowed to enter the probe prior to or during gas sampling to avoid inaccurate results during methane gas monitoring of the perimeter gas monitoring network. No change was made to the regulation in response to this comment as it applies to section 200.C.5.c.
Mike Lawless, Draper Aden Associates	**9VAC20-81-200.2.a–d.**The upfront documents to the draft regulations (Pages 1706 and 1707) indicate that the purpose of the notification of adjacent property owners and occupants is to incentivize landfill owners to maintain compliance because the cost of this notification and requirement to offer monitoring inside nearby offsite structures would impact them. However, this section goes on to state "DEQ does not expect the costs of additional offsite monitoring to be significant because the majority of landfills do not have occupied structures within 500 feet	The notification to nearby property owners of exceedances to the lower explosive limit for methane is being included in the regulation to protect public safety. Owners and occupants of properties in close proximity 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 subsurface and collect in offsite structures. The goal of notification and monitoring is to keep those on neighboring properties informed concerning the potential for the subsurface migration of methane and safety risks related to explosive gases. The Regulatory Advisory Panel achieved consensus on adding these requirements to the regulation. The Department has determined that the requirements established in the proposed regulations are sufficient to protect the health, safety and welfare of the public. No change has been made to the regulation in response to this comment.

	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." These two statements do not correlate. Notification to adjacent property owners for a small exceedance could result in stirring up concerns that are unfounded. 500' is a significant distance and could involve multiple parties. Since DEQ does not justify this based on protection of human health or the environment but instead as an "incentive" to maintain compliance, we would suggest that 2.d be dropped.	
Mike Lawless, Draper Aden Associates	**9VAC20-81-200.E.1.** Odor management. Suggest: "When a facility receives an odor complaint *in writing*, either directly….	The Department has determined that odor complaints, whether received verbally or in writing, need to be documented, promptly investigated, and remediated as appropriate. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-200.E.2.** "Citizens beyond the facility boundaries" is a pretty broad category. It is understood that citizens not immediately adjacent to the site can be impacted. But would suggest that this state:" ….to address odors that have impacted citizens beyond the facility boundaries, with said citizens providing in writing proof of such impact."	This language exists in the current regulation, and the requirement was not changed as part of the proposed regulation. The sentence containing the phrase referred to by the commenter was relocated within the subsection for clarity as part of the proposed regulation. The Department appreciates the suggestion, but has determined that the requirements established in the regulations are sufficient to protect the health, safety, and welfare of the public. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden	**9VAC20-81-200.F.3.** Delete the last sentence. Factory calibration in accordance with the manufacture has never been required for gas	While the Department agrees that field calibration is necessary to demonstrate proper operation of landfill gas monitoring equipment, the Department's understanding is that factory calibration of equipment in accordance with the manufacturer's recommendations is an industry standard practice and also necessary in order to ensure that the equipment is operating as

Associates	migration sampling. Field calibration is sufficient to demonstrate proper operation of the meter.	designed and intended to obtain accurate landfill gas readings. DEQ's position on this subject has been documented in the Department's 2017 Guidance Document LPR-SW-SI-13 (Submission Instruction 13 – Landfill Gas Management, Remediation, and Odor Plans for Solid Waste Disposal Facilities), which states "Records of factory calibration, performed at a frequency as indicated by the manufacturer, should also be maintained with gas monitoring records." No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-250.6.a**. [Establishment of groundwater protection standards.] The proposed changes add a new Column C to Table 3.1, which outlines the constituents for which groundwater monitoring must be conducted. Column represents constituents that do not yet have a regulatory standard. Column C includes per- and polyfluoroalkyl substances (PFAS and related constituents). There is no need for this change, and it is likely to create confusion. DEQ has the authority to require sampling where there is cause for a sites specific evaluation, and also where there is a need to gather data to determine whether to establish a standard. Moreover, if a standard is promulgated in the future, sampling is automatically required. But adding a monitoring requirement now, when there is no standard and there are other processes underway to identify sources, presence and need for a standard, is premature. Including this provision now is likely to create	The proposed modification to the groundwater sampling list is a result of requirements within Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. The fact that the Virginia Department of Health may choose to set MCLs for additional PFAS constituents, not specifically named in the House Bills referenced above, based on the results of a surface water and groundwater sampling study completed within the Commonwealth, is not any limitation to adding a VSWMR requirement to begin sampling for the constituents already identified (by name) within the existing passed legislation. The proposed VSWMR regulation will require the sampling for (and analysis of) the list of constituents identified in the proposed regulation as soon as the Virginia Department of Health completes the MCL promulgation process now required by the Code of Virginia. The proposed regulation is clear that until these standards are promulgated by the Virginia Department of Health, no sampling or analysis is required. To further demonstrate that intent, an additional footnote will be added to the sampling constituent table addressing that. The assertion that the Department is responsible for evaluating the need for standards is erroneous. By Statute, this responsibility has already been placed on the Virginia Department of Health, and such standards, once promulgated, will apply across the Commonwealth. The Virginia Department of Environmental Quality does not have regulatory authority to promulgate its own MCLs, nor does it have authority to ignore such Commonwealth-wide standards once promulgated by the Virginia Department of Health. The Department disagrees with the comment that the Agency Background document is unclear on why it is necessary to include the additional constituents within a regulated landfill's monitoring plan. The added Column C groundwater constituents are found in common commercial and household

	confusion because it is unclear what action or implication results from this sampling data, given that there is no applicable regulatory standard or requirement associated with it.	products which are discarded as municipal solid waste and therefore can become components of landfill leachate. The recognition of, and response to any impacts on human health and the environmental are determined by the sampling and analysis for these constituents as part of a regulated landfill's groundwater monitoring program. The sole intent of the groundwater monitoring program is to determine whether leachate is being released from the landfill. For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*".
Mike Lawless, Draper Aden Associates	**9VAC20-81-250.2.(4).** **"**Data from the background wells during each subsequent sampling event shall be added to the previously calculated background data for the recalculation of site background once every four years, unless approval for a longer timeframe is obtained from the department, to maintain the most accurate representation of background groundwater quality for statistical purposes required under subdivision A 4 h of this section." Clarification needed.	The amended VSWMR language increases the number of independent background sampling events required for the calculation of site background to be consistent with EPA's 2009 Unified Statistical guidance. Eight samples will now be required instead of the four currently required. For new landfills or new expansion cells at existing landfills, such data must be collected before the initial groundwater sampling event is undertaken to maintain consistency with EPA's current language under 40 CFR 258.54.(b). The specific timeframe within which to collect this data will be based on site specific conditions and set by the Regional Office and/or within the facility Solid Waste Permit. It would be inappropriate for the regulatory text to mandate a specific timeframe that all facilities would have to meet based on the highly variable geology of the Commonwealth. All site background calculations must be submitted to the Department for review and approval prior to use in any statistical determinations. Because landfills are all conducting groundwater sampling on their site specific timeframes, It best that a facility has the flexibility to submit any data for review based on their own site specific timing constraints. While the proposed VSWMR text change modified the number of sampling events required to establish site background, it did not elaborate on what data may be used in future updates to the calculated background. Determining what data is appropriate for background calculation is best determined through contact with the Department and adherence to the technical criteria discussed within EPA's 2009 Unified Statistical Guidance document. No change has been made to the regulation in response to this comment.
Mike Lawless,	**9VAC20-81-250.2.b.(1).** "A statistically significant increase over	Typo noted by the commenter fixed as requested. While the commenter correctly notes that no limits (i.e., Virginia Department of Health promulgated MCLs) currently exist for the

Draper Aden Associates	background as determined by a method meeting the requirements of subsection D of this section, for one or more of the constituents listed in Table 3.1 ~~Column~~ Columns A and C at any of the monitoring wells at the disposal unit boundary during any detection monitoring sampling event, the owner or operator shall: …" There are no limits set for Column C. What would a SSI look like?	proposed constituents in Column C, this is irrelevant since the proposed regulation does not require sampling prior to the promulgation of Virginia Department of Health MCL's.
Mike Lawless, Draper Aden Associates	**9VAC20-81-250.3.a.** The proposed changes add a new Column C to Table 3.1, which outlines the constituents for which groundwater monitoring must be conducted. Column represents constituents that do not yet have a regulatory standard. Column C includes per- and polyfluoroalkyl substances (PFAS and related constituents). There is no need for this change, and it is likely to create confusion. DEQ has the authority to require sampling where there is cause for a sitespecific evaluation, and also where there is a need to gather data to determine whether to establish a standard. Moreover, if a standard is promulgated in the future, sampling is automatically required. But adding a monitoring requirement now, when there is no standard and there are other processes underway to identify sources,	The proposed modification to the groundwater sampling list is a result of requirements within Code of Virginia § 32.1-169 (adding subsection B), which requires the Board of Health to adopt regulations establishing MCLs for PFAS, chromium (VI), and 1,4-dioxane. These requirements are effective January 1, 2022. The proposed VSWMR regulatory change has been made consistent with the statutory requirement that the Virginia Department of Health set MCL's (HB 1257 and HB 586) for a certain list of constituents. The fact that the Virginia Department of Health may choose to set MCLs for additional PFAS constituents, not specifically named in the House Bills referenced above, based on the results of a surface water and groundwater sampling study completed within the Commonwealth, is not any limitation to adding a VSWMR requirement to begin sampling for the constituents already identified (by name) within the existing passed legislation. The proposed VSWMR regulation will require the sampling for (and analysis of) the list of constituents identified in the proposed regulation as soon as the Virginia Department of Health completes the MCL promulgation process now required by the Code of Virginia. The proposed regulation is clear that until these standards are promulgated by the Virginia Department of Health, no sampling or analysis is required. To further demonstrate that intent, an additional footnote will be added to the sampling constituent table addressing that. The assertion that the Department is responsible for evaluating the need for standards is erroneous. By Statute, this responsibility has already been placed on the Virginia Department of Health, and such standards, once promulgated, will apply across the Commonwealth. The Virginia Department of Environmental Quality does not have regulatory authority to promulgate its own MCLs, nor does it have authority to ignore

	presence and need for a standard, is premature. Including this provision now is likely to create confusion because it is unclear what action or implication results from this sampling data, given that there is no applicable regulatory standard or requirement associated with it.	such Commonwealth-wide standards once promulgated by the Virginia Department of Health. The Department disagrees with the comment that the Agency Background document is unclear on why it is necessary to include the additional constituents within a regulated landfill's monitoring plan. The added Column C groundwater constituents are found in common commercial and household products which are discarded as municipal solid waste and therefore can become components of landfill leachate. The recognition of, and response to any impacts on human health and the environmental are determined by the sampling and analysis for these constituents as part of a regulated landfill's groundwater monitoring program. The sole intent of the groundwater monitoring program is to determine whether leachate is being released from the landfill. For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*".
Mike Lawless, Draper Aden Associates	**9VAC20-81-450. (Part A Application) 1.** In the last sentence, add "intentionally" before submitting.	The Department appreciates the comment but has determined inserting "intentionally" is duplicative since the sentence already states this is for knowing violations. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-450. (Part B Application) 1.** In the last sentence, add "intentionally" before submitting.	The Department appreciates the comment but has determined inserting "intentionally" is duplicative since the sentence already states this is for knowing violations. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-485.A.1.d(1)** "Daily operations including a discussion of …" Typically "schedules for waste delivery vehicle flow and enforcement of traffic flow plans," are out of the hands of the permit holder. Recommend deletion of these two references.	The proposed regulation included updates to the requirements of the landfill operations plan for consistency with operations plan requirements for other solid waste management facilities (e.g. transfer stations, materials recovery facilities, incinerators, and waste-to-energy facilities). Other solid waste management facilities have already been providing this information in their operations manuals. The Department understands that landfills do have control over aspects of schedules for waste delivery vehicle flow and enforcement of traffic flow plans. In regards to "schedules for waste delivery vehicle flow," the Department anticipates that landfills would describe how waste delivery vehicles enter and exit the site, and navigate to the scales, landfill working face, and any other areas. While the exact arrival times of waste delivery vehicles may be unknown, the landfill may have special hours of operation that are reserved for certain types of waste delivery vehicles (e.g. commercial v. residential). Methods of enforcing traffic flow plans may include

		traffic control signs, designated lanes, traffic lights, spotters, radio control, or other strategies. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-485.A.5** (Emergency Contingency Plan), new subdivision f. Recommend changing f. to *"An attached fire control plan for active landfills that generally includes as applicable:"*	The Department has determined that all information under subdivision f is applicable to all active landfills and required to be addressed in the fire control plans except for item 5 (isolation or shutdown of gas remediation systems) which already includes the phrase "as applicable." The Regulatory Advisory Panel also achieved consensus on adding these requirements to fire control plans. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-485.B.1.b** (Operations Plan), subdivision b. Typically "schedules for waste delivery vehicle flow and enforcement of traffic flow plans," are out of the hands of the permit holder. Recommend deletion of these two references.	The requirement for solid waste management facilities (e.g. transfer stations, materials recovery facilities, incinerators, and waste-to-energy facilities) to include schedules for waste delivery vehicle flow and methods of enforcement of traffic flow plans for the waste delivery vehicles in operations plans already exists in the current regulation under 9VAC20-81-340 and was relocated and consolidated with other operations manual requirements under another section (9VAC20-81-485) as part of the proposed regulation. In regards to "schedules for waste delivery vehicle flow," facilities describe how waste delivery vehicles enter and exit the site, and navigate to the scales, tipping area, and any other areas. While the exact arrival times of waste delivery vehicles may be unknown, the facility may have special hours of operation that are reserved for certain types of waste delivery vehicles (e.g. commercial v. residential). Methods of enforcing traffic flow plans may include traffic control signs, designated lanes, traffic lights, spotters, radio control, or other strategies. No change has been made to the regulation in response to this comment.
Mike Lawless, Draper Aden Associates	**9VAC20-81-485.** (Operations Plan), new subdivision g (1). What would a method to "determine usefulness of the recovered material" be? Testing frequencies?	This requirement already exists in the current regulations under 9VAC20-81-340.D.3.b and was not revised as part of the proposed regulation. The language was relocated to another section (9VAC20-81-485) as part of the proposed regulation for consolidation with other Operations Manual requirements. Materials recovery facilities are already required to include a description of methods to determine the usefulness of the recovered material and frequency of testing in their operating plans. Methods and frequency are site-specific and dependent upon the type of material being recovered by the facility. Testing may not be required for all material types. No change has been made to the regulation in response to this comment.

Detail of Changes Made Since the Previous Stage

*List all changes made to the text since the previous stage was published in the Virginia Register of Regulations and the rationale for the changes. 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. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. * Put an asterisk next to any substantive changes.*

Current chapter-section number	New chapter-section number, if applicable	New requirement from previous stage	Updated new requirement since previous stage	Change, intent, rationale, and likely impact of updated requirements
10			Added definition of Certified Compostable products	Definition has been added for "Certified compostable products." Definition per the US Compost Council's Model Compost Rule. This definition is being added to clarify a type of feedstock for composting. No impact is expected as a result of this change.
10		Defines the term compost	Revises the definition of compost to match that of the American Association of Plant and Food Control Officials definitions adopted in 2018.	This update ensures that these regulations are more consistent with recommendations of the US Compost Council. No impact is expected as a result of this change.
10			Added "correction of overfills" to the list of activities which do not constitute landfill mining.	This change is being made in response to a comment made during the proposed regulatory stage. The change is being made to clarify the definition. No impact is expected as a result of this change.
98.B.4			Requires appropriate containers to be leak-resistant	The criteria for appropriate containers has been updated to require containers to be "leak-resistant" instead of "leak-proof." This change was necessary to make the requirement more

				practicable and consistent with the current, accepted waste industry practice. No impact is expected as a result of this change.
120.D.2			The regulatory text has been updated to for consistency with the Chesapeake Bay Preservation Area Designation and Management Regulations (9VAC25-830)	The verbiage was updated to incorporate exceptions consistent with the Chesapeake Bay Preservation Area Designation and Management Regulations. No impact is expected as a result of this change.
130.H			The relevant regulatory text has been amended to include industry standards.	The relevant regulatory text has been amended to include industry standards. The change has been made in response to a comment received during the proposed regulatory stage. The change is being made to clarify industry standards. No impact is expected as a result of the change.
130.I.4			Requires consistency with the Erosion and Sediment Control Regulations (9VAC25-840).	The text has been revised to remove the reference to “the minimum standards and specifications” as the Department did not intend to reference a specific section of the Erosion and Sediment Control Regulations or to reference the Erosion and Sediment Control Handbook. These measures are not part of the solid waste permit but are addressed through another agency program. This change is necessary to clarify that the intent of the language is to highlight that the Erosion and Sediment Control Regulations may be applicable to

				construction of new landfill cells. No impact is expected as a result of the change.
140.B.6.b			Prohibits methane gas exceedances	The text has been revised to remove the word “boundary” in order to clarify that the limits for methane gas concentrations at landfills are applicable to the facility’s gas monitoring network. The limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The gas monitoring network is to be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. This change is necessary to clarify the original intent of the requirement and for consistency with the existing interpretation by both the agency and the regulated community. No impact is expected as a result of this change.
140.B.19			Specifies the option for the facility to request a temporary extension of operating hours to respond to an emergency or other event.	The text has been revised to add punctuation (commas) around the phrase “if necessary” to clarify that a facility may or may not need to request a temporary extension of operating hours to respond to an emergency or unusual event. The need will be based on site-specific circumstances and the facility’s existing permit

				conditions. This change is necessary in order to properly interpret the requirement. No impact is expected as a result of this change.
140.B.20		The text has been revised to add punctuation (commas) around the phrase “if necessary”	Specifies the option for the facility to request a temporary increase in daily disposal limit or waste storage limits to respond to an emergency or other event.	The text has been revised to add punctuation (commas) around the phrase “if necessary” to clarify that a facility may or may not need to request a temporary increase in daily disposal limit or waste storage limits to respond to an emergency or unusual event. The need will be based on site-specific circumstances and the facility’s existing permit conditions. This change is necessary in order to properly interpret the requirement. No impact is expected as a result of this change.
140.C.1.f 140.D.1.d			Requires that intermediate cover at a sanitary landfill promote surface runoff. Requires that intermediate cover at a CDD landfill	The text has been revised to specify that intermediate cover shall be graded to prevent ponding and “promote” (rather than “accelerate”) surface runoff in order to clarify that the intent of the original requirement is to minimize infiltration of water into solid waste cells. The change is being proposed in response to a comment received during the proposed regulatory stage. No impact is expected as a result of this change. The text has been revised to specify that intermediate cover shall be graded to prevent

			promote surface runoff.	ponding and “promote” (rather than “accelerate”) surface runoff in order to clarify that the intent of the original requirement is to minimize infiltration of water into solid waste cells. This change is necessary for consistency with revisions to similar language in 140.C.1.f. No impact is expected as a result of this change.
140.E.1.f			Requires that intermediate cover at an industrial landfill promote surface runoff.	The text has been revised to specify that intermediate cover shall be graded to prevent ponding and “promote” (rather than “accelerate”) surface runoff in order to clarify that the intent of the original requirement is to minimize infiltration of water into solid waste cells. This change is necessary for consistency with revisions to similar language in 140.C.1.f. No impact is expected as a result of this change.
140.E.1.b.		The reference to fly ash as an example of non-compactable waste has been removed from the regulation in order to correct the accuracy of the text.	Specifies that a lift height is not required for materials that are not compactable.	The reference to fly ash as an example of non-compactable waste has been removed from the regulation in order to correct the accuracy of the text, since fly ash is a compactable waste type. This change is not anticipated to affect industrial landfills that accept fly ash for disposal as the requirement for lift height size remains site-specific based on the volume and nature of the waste received.

				No impact is expected as a result of this change.
200.B.1.b			Prohibits methane gas exceedances within the facility gas monitoring network.	The text has been revised to remove the word “boundary” in order to clarify that the limits for methane gas concentrations at landfills are applicable to the facility’s gas monitoring network. The limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The gas monitoring network is to be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. This change is necessary to clarify the original intent of the requirement and for consistency with the existing interpretation by both the agency and the regulated community. No impact is expected as a result of this change.
200.D.1			Specifies the facility’s required response to methane gas exceedances within the facility gas monitoring network.	The text has been revised to remove the word “boundary” to clarify that the limits for methane gas concentrations at landfills are applicable to the facility’s gas monitoring network. The limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The gas monitoring network is to

				be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. This change is necessary to clarify the original intent of the requirement and for consistency with the existing interpretation by both the agency and the regulated community. No impact is expected as a result of this change.
200.D.2			Specifies the facility's required response to methane gas exceedances within the facility gas monitoring network.	The text has been revised to remove the word "boundary" to clarify that the limits for methane gas concentrations at landfills are applicable to the facility's gas monitoring network. The limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The gas monitoring network is to be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. This change is necessary to clarify the original intent of the requirement and for consistency with the existing interpretation by both the agency and the regulated community. No impact is expected as a result of this change.

200.D.2.d			Requires written notification and an offer to provide methane monitoring to property owners and occupants of all occupied structures within 500 feet of a landfill gas monitoring point that has exceeded the compliance level (lower explosive limit) for methane.	Two occurrences of the word “adjacent” have been removed from the text to clarify that facility’s notification and offer to provide monitoring is required for all occupied structures within 500 feet of a monitoring point with a methane compliance level exceedance, not just those occupied structures on property adjacent or contiguous to the facility. The change is necessary to more clearly specify which property owners and occupants must be notified of methane exceedances in order to protect public safety and human health. For some facilities in urban areas, there may be multiple properties with occupied structures within 500 feet of a monitoring point, some of which may not necessarily be adjacent or contiguous to the facility property, but still require notification and the offer to monitor. No impact is expected as a result of this change.
250.A.4.d.			Revisions to text made to be consistent with EPA’s 2009 Unified Statistical Guidance	A sentence has been added to the end of the section stating, “After the initial calculation of site background, background values shall be updated in a manner consistent with EPA’s 2009 Unified Statistical Guidance (as updated), the site’s geologic and hydrologic characteristics, or as requested by the Department.”

250.A.4.f			The relevant regulatory text has been revised to remove “dedicated.”	The relevant regulatory text has been revised to remove “dedicated.” The change is being proposed in response to a comment received during the proposed regulatory stage. The change has been made to eliminate any unintended confusion related to the use of the term “*dedicated*.” No impact is expected as a result of this change.
250.B.2.a.(1).(b).			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 which provides more flexibility to the operational requirement for the facility.	The number of required samples has been changed from four to eight, prior to or within the first quarterly period of sampling. This change is being made to be consistent with EPA’s statistical guidance.
250.B.2.a.(4).			Regulatory language has been removed to be consistent with EPA’s 2009 Statistical Guidance	The following regulatory language has been removed from the regulation, “Data from the background wells during each subsequent sampling event shall be added to the previously calculated background data for the recalculation of site background once every four years, unless approval for a longer timeframe is obtained from the department, to

				maintain the most accurate representation of background groundwater quality for statistical purposes required under subdivision A.4.h. of this section." 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.E.2.g			The term "identified is being replaced with "detected"	The term "identified is being replaced with "detected in the following relevant regulatory text: "A table listing the constituents identified during the year's sampling events, their concentrations at the respective monitoring well, and if applicable, the related groundwater protection standard in effect during the sampling event." This change is being made in response to a comment received during the proposed regulatory stage. The change is being made to clarify the intent of the requirement. No

				impact is expected as a result of this change.
Table 3.1 of the Groundwater Monitoring Constituents			Addition of footnote to Column C of Groundwater Monitoring Constituents	The following footnote is being added to Column C, Table 3.1 of the Groundwater Monitoring Constituents: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*". The change has been made in response to a comment received during the proposed regulatory stage. The change has been made to clarify when PFAS constituent sampling will be required, after VDH establishes MCLs. No impact is expected as a result of this change.
310.A.3.c.(4)		Clarifies materials acceptable for composting.	This acknowledges certified compostable products as acceptable for composting.	This update clarifies materials acceptable for composting without limiting compostable materials that have not gone through official certification process. No impact is expected as a result of this change.
320.G.3			Additional clarification has been added for distance based on compost feedstock	The U.S. Department of Transportation, Federal Aviation Administration (FAA), in its Advisory Circular, "Hazardous Wildlife Attractants On or Near Airports" (#150/5200-33, 1997) notes that yard waste is "generally not considered a wildlife attractant" and that the compost should never include food waste. Larger separation

				distances are required for activities which are wildlife attractants such as composting of Category I-IV that include any type of food waste. No impact is expected as a result of this change.
340.B.2			Specifies the option for the facility to request a temporary extension of operating hours to respond to an emergency or other event.	The text has been revised to add punctuation (commas) around the phrase “if necessary” to clarify that a facility may or may not need to request a temporary extension of operating hours to respond to an emergency or unusual event. The need will be based on site-specific circumstances and the facility’s existing permit-by-rule. This change is necessary in order to properly interpret the requirement and for consistency with revisions to similar language in 140.B.19.
340.B.3		The text has been revised to add punctuation (commas) around the phrase “if necessary”	Specifies the option for the facility to request a temporary increase in daily processing rate or waste storage limits to respond to an emergency or other event.	The text has been revised to add punctuation (commas) around the phrase “if necessary” to clarify that a facility may or may not need to request a temporary increase in daily processing rate or waste storage limits to respond to an emergency or unusual event. The need will be based on site-specific circumstances and the facility’s existing permit-by-rule. This change is necessary in order to properly interpret the requirement and for consistency with revisions to similar language in 140.B.20.

397.B.2.e			"Yard Waste has been replaced by "Category 1 Feedstocks"	This change was made to be consistent with earlier changes in 9VAC20-81-397.B.2.
530.C.3.e			Specifies the facility's required response to methane gas exceedances within the facility gas monitoring network.	The text has been revised to remove the word "boundary" to clarify that the limits for methane gas concentrations at landfills are applicable to the facility's gas monitoring network. The limits of the gas monitoring network and the limits of the facility boundary may not necessarily be the same. The gas monitoring network is to be designed to detect gas migrating beyond the landfill facility boundary, and the monitored locations are considered points of compliance for lateral migration of landfill gas. This change is necessary to clarify the original intent of the requirement and for consistency with the existing interpretation by both the agency and the regulated community. No impact is expected as a result of this change.

Detail of All Changes Proposed in this Regulatory Action

*List all changes proposed in this action and the rationale for the changes. 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. Explain the new requirements and what they mean rather than merely quoting the text of the regulation. * Put an asterisk next to any substantive changes.*

Table 1: Changes to Existing VAC Chapter(s)

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 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 “certified compostable products” is being defined in the regulation to clarify a type of feedstock for composting. The term “compost” is being revised for consistency with the definition adopted by the American Association of Plant and Food Control Officials in 2018. 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.
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).
95 D 15 e and 95 D 15 f.		Conditionally exempt activities- open burning of household waste and vegetative waste	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.
95 D 15 g.	95 D 15 f.	Conditionally exempt activities- open burning of clean wood waste and debris waste	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.
	95 D 15 g.	Conditionally exempt activities- open burning for destruction of debris waste	Open burning for the destruction of debris waste from clean-up operations related to a Governor's declaration of a

		from clean-up operations during state of emergency	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.
95 D 16.		Conditionally exempt activities- open burning of vegetative waste at closed landfills not yet released from post-closure care	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 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. Appropriate containers are to be "leak-resistant"
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.	120 A 120 B 120 C 120 D 120 E 120 F 120 J	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 "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.
120 C 1 a.	120 D 1 a	Landfill siting restrictions-setback distance from any residence, school, daycare center, hospital, nursing home or recreational park	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.
120 C 1 c.	120 D 1 c	Landfill siting restrictions-setback distance facility boundary	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.
120 C 2.	120 D 2	No landfill siting in Resource Protection Areas	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 unless it has been approved by the locality pursuant to the requirements of 9VAC25-830-10 et seq. including 9VAC25-830-150. The RAP reached consensus on this topic and agreed to require Resource Protection Areas designated by localities on the near vicinity maps for landfills.
120 I 2.	120 J 2	Notification required to Federal Aviation 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	49 USC § 44718(d), restricts the establishment of landfills within six miles 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.	130 H	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.	130 I	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 I 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. The intent is to highlight that the Erosion and Sediment Control Regulations may be applicable to construction of new landfill cells.
130 J 1 b.	130.K.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).	130.K.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).	130.K.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 $1x10^{-9}$ cm/sec to $5x10^{-9}$ cm/sec to be consistent with industry standards.
140.	140.A	Operation requirements for landfills	Duplicative language concerning the content of Operations Manuals has been removed as it is already addressed in section 485.
	140.B.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.B.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.B.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.B.5.b	Landfill- No open burning on disposal areas	This language has been removed since it is already stated in another subdivision of this section.
	140.B.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 B.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 B.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 B.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.B.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.B.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.B.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 and allows for facilities to request a temporary increase in daily disposal limit or waste storage limits, if needed, to respond to emergencies. 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.B.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.	140.C.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.	140.C.1.c	Sanitary landfill- Daily cover	Revised language clarifies that the purpose of daily cover material also includes minimizing stormwater infiltration into the waste cell in addition to controlling disease vectors, fires, odors, blowing litter, and scavenging 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.C.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.C.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.C.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.C.1.g	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.		Sanitary landfill- Active working face area	Language consolidated with 1 a of this subsection.
140 C 1 b.	140.D.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 minimize 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.D.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 d.	140.D.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, and to minimize stormwater infiltration and excess generation of leachate. This requirement is consistent with industry best practice.
140 C 1 e.	140 D 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 b	140.E.1.b	Industrial landfill- Lift height	The reference to fly ash as an example of non-compactable waste has been removed.
140 D 1 c.	140.E.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, minimizing stormwater infiltration and 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. 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.
140 D 1 c.	140 E 1 d.	Industrial landfill- Cover requirements for asbestos-containing waste	This language clarifies that industrial landfills shall comply with asbestos disposal requirements for all landfills in section 620.C.
140 D 1 c.	140 E 1 e.	Industrial landfill- 3 day cover material stockpile	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.
140 D 1 d.	140 E 1 f.	Industrial landfill- Intermediate cover maintenance	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 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.
140 D 1 f.	140 E. 1 h.	Industrial 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 2.	140.E.2	Industrial landfill- Dust control	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.
160 B f.	160.C.f	Closure requirements- landfill closure cost estimates	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.
160 D 2 d (3).	160.E.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).	160.E.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).	160.E.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.	160.E.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.	170.B.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 B 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.	170.C.3.a 170.C.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.	170.D.1.a 170.D.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	170 D 3, 170 D 4, 170 D 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.	200.A	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.	200.B.1.a 200.B.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.	200.B.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.	200.C.3	Control of decomposition gases- additional monitoring required by air regulations	References to applicable air regulations are being updated.
200 B 4.	200.C.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	200 C 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	200 D 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.	200 D 2 a. 200 D 2 b. 200 D 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	200.D.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 other 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 other nearby 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 other nearby 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.	200.D.2.e	Control of decomposition gases- compliance level	The regulation has been revised to specify that probe spacing in the gas

		exceedance- assessment of gas probe spacing	monitoring network shall be assessed 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 nearby 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.	200.D.4	Control of decomposition gases- Gas remediation system	References to applicable air regulations are being updated.
200 C 5.	200.D.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	200 E 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 E 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.	200.E.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.	200.F.1 200.F.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.	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	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. For further clarification, the Department will add a footnote to Table 3.1 stating: "*The requirement to sample for the constituents listed in Column C above shall not become effective until the Virginia Department of Health has promulgated MCL's*".
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. To remove any unintended confusion related to the use of the term "*dedicated*" in the proposed regulatory text, that word is herein removed.

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).	250.B.2.a.1.b.	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 – revaluation 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-revaluation 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 monitoring program-establishment 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.
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 – revaluation 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- revaluation 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 detected 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 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.
260 A.	260 B.	Corrective Action program-Interim measures	Language in this subsection concerning interim measures has been removed and moved to subsection B to improve the clarity of the regulation.
260 B.	260 B 1 and 260 B 2.	Corrective action – Actions that may occur at any time	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.
260 C 1 b.		Corrective action-Notification of landowners over the release	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.
260 C 1 d.		Corrective action- Financial assurance	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).
260 C 2 d (1).		Corrective action- Submission requirements- assessment of risks	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.
260 C 2 d (2).		Corrective action- Submission requirements- groundwater trends	Language has been added to include information on the site's groundwater background data in addition to the 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 and certified compostable products	Compostable and certified compostable products (such as 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, and allows for facilities to request a temporary increase in daily processing rate or waste storage limits, if needed, to respond to emergencies.. 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. 340 C 6.	Transfer stations- operational requirements	This language clarifies the operational requirements for transfer stations 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 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. 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.
340 F 2. 340 F 3.		Waste piles- 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.
350 1.		Recordkeeping requirements applicable to non-landfill facilities	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.

360 2.		Closure requirements-closure cost estimates	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 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 clarify activities which do not constitute landfill mining and 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 Code of Virginia).
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.	470.B.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.		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 disposal of asbestos-containing materials	Minor editorial corrections have been made.
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.

Regulatory Flexibility Analysis

Pursuant to § 2.2-4007.1B of the Code of Virginia, please 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 received 300 tons 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 requirements provides smaller facilities with a less stringent schedule for complying with a regulatory requirement.

Flexibility has also been provided in the regulation to allow the department to evaluate alternate methods proposed by active industrial landfills to control fire, odor, litter, minimize stormwater infiltration, and prevent 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.

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.