

Office of Regulatory Management
Economic Review Form

Agency name	Board of Housing and Community Development
Virginia Administrative Code (VAC) Chapter citation(s)	13 VAC 5 – 63
VAC Chapter title(s)	Uniform Statewide Building Code
Action title	Update the Uniform Statewide Building Code
Date this document prepared	September, 2023 (Updated October 2023)
Regulatory Stage (including Issuance of Guidance Documents)	Final

Cost Benefit Analysis

Complete Tables 1a and 1b for all regulatory actions. You do not need to complete Table 1c if the regulatory action is required by state statute or federal statute or regulation and leaves no discretion in its implementation.

Table 1a should provide analysis for the regulatory approach you are taking. Table 1b should provide analysis for the approach of leaving the current regulations intact (i.e., no further change is implemented). Table 1c should provide analysis for at least one alternative approach. You should not limit yourself to one alternative, however, and can add additional charts as needed.

Report both direct and indirect costs and benefits that can be monetized in Boxes 1 and 2. Report direct and indirect costs and benefits that cannot be monetized in Box 4. See the ORM Regulatory Economic Analysis Manual for additional guidance.

Agency Note: Changes between proposed and final regulations were editorial in nature. The table at the end of the document titled *FINAL PHASE Editorial corrections that are not expected to have cost impact* identifies these changes.

The Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations are based on national model codes and standards. These codes and standards are incorporated by reference except where Virginia makes specific amendments in compliance with state law or via its extensive stakeholder development process.

National Model Codes – Development Overview

The International Code Council (ICC) develops construction and public safety codes through a governmental consensus process. The Code Council governmental consensus process meets the principles defined by the National Standards Strategy of 2000, and the OMB Circular A-119, Federal Participation in the Development and Use of Voluntary Consensus Standards and in Conformity Assessment Activities (1998). It complies with Public Law 104-113 National Technology Transfer and Advancement Act of 1995.

Openness

- Participation in the development of the codes, including code hearings, is open to all at no cost.
- Anyone can submit a code change proposal or make a public comment.
- Code committees must consider all views before voting.

Transparency

- Evidence of committee vote, with reason, must be documented.
- Final decisions are made in an open hearing by public safety officials.

Balance of Interests

- Committee members represent general interests, user interests, producer interests, or multiple interests. One-third of the committee's members must be public safety officials.
- Committee members cannot vote on issues that are a conflict of interest.
- ICC membership is not a condition of committee membership.

Due Process

- A code change proponent has the opportunity to rebut opponents and vice versa.
- Anyone who attends the hearing can testify.
- Committees are required to consider all views, objections and the cost impact of all code change proposals.

Appeals

- Anyone can appeal an action or inaction of the code committee.
- ICC renders its decision on the appeal based on whether due process was served.

Consensus

- Committee members vote to approve the code change, make modifications to it, or vote against it.
- A simple majority from the committee decides the action of the proposed code change.

A link to the national process is here: <https://www.iccsafe.org/products-and-services/i-codes/code-development/current-code-development-cycle-archive-2018-2019/>

Other Standards Incorporated – In addition to the ICC Model Codes, the Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations incorporate other national standards. The process for each standard is governed by the promulgating

organization, but all generally follow the American National Standards Institute (ANSI) accredited process of balanced committees, openness and appeals, etc. and are subject to regular review.

This document identifies state amendments to the model codes. A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. The tables included at the end identifies proposals that are not believed to have a cost impact. As described in detail below, this action is not believed to have a cost impact for local governments (Table 2). The items included related to tables 1, 3, and 4 are changes in this action believed to have a cost impact as determined by the proponent of the code change. For many, the impact is based on the scope of the work being completed. Generally, cost impact and benefit information is as provided by a proposal’s proponents and where proponents have provided specific scenarios, this information is included. Detailed code change proposal information is available at - <https://www.dhcd.virginia.gov/board-housing-and-community-development-bhcd> under 2021 Code Development Cycle.

Table 1a: Costs and Benefits of the Proposed Changes (Primary Option)

(1) Direct & Indirect Costs & Benefits (Monetized)	See Table 1 Supplement Below	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		
(4) Other Costs & Benefits (Non-Monetized)		
(5) Information Sources	Code change proposals as submitted in the proposed phase.	

Table 1b: Costs and Benefits under the Status Quo (No change to the regulation)

Agency Note: A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. For these changes, maintaining the regulation without change may result in confusion or implementation challenges.

(1) Direct & Indirect Costs & Benefits (Monetized)	See Table 1 Supplement Below	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		
(4) Other Costs & Benefits (Non-Monetized)		
(5) Information Sources	Code change proposals as submitted in proposed phase.	

Table 1c: Costs and Benefits under Alternative Approach(es)

Agency Note: In general, the Uniform Statewide Building Code, Statewide Fire Prevention Code, Industrialized Building Safety Regulations, and the Virginia Amusement Device Regulations are performance-based codes. Outside of general administrative requirements, the codes typically offer various compliance paths to achieve the desired construction outcome. As the codes are performance based, the ability to provide alternative approaches is part of the framework of the codes.

Virginia is required by code to consider national model codes and standards in the development of its construction codes and as such, it is important to stay current with the latest updates of these standards. The alternative is to continue to utilize older editions of the model codes. Updates are beneficial to consumers and regulants in considering the newest technologies and safety considerations as well as staying current for insurance rating agencies, FEMA, and other entities.

Virginia’s code updates process offers all affected stakeholders significant opportunity to propose amendments to the national model codes that work best for Virginia. There is an open and transparent stakeholder process prior to the adoption of the codes.

A majority of the changes included in this action are clarifications/editorial in nature. For example, they correct references to other codes, clarify existing language, or remove duplicative provisions. For these changes, the alternative would be maintaining the regulation without change, which may result in confusion or implementation challenges.

(1) Direct & Indirect Costs & Benefits (Monetized)	See Agency Note	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Net Monetized Benefit		
(4) Other Costs & Benefits (Non-Monetized)		
(5) Information Sources	Code change proposals as submitted in the proposed phase.	

Table 1 Supplement (Proposals Submitted in Proposed Phase)

Proposal ID	VAC Section Number (13VAC5-63-...)	Description	Cost Impact Statement Submitted by Proponent	Impact/Benefit from Reason Statement	Status Quo
B102.3(1)-21	20	Clarifies that children's play structures installed inside buildings are subject to the children's play structures section in Chapter 4 of the VCC". Reason: The proposal is really an intent to clarify common practice/code application across the commonwealth.	This code change will increase cost in cases where equipment that does not meet the materials flammability and combustibility specifications of VCC 424.2 would be installed if exempted from code.	The provisions of VCC chapter 4 regarding children's play structures regulate the fuel loading limitations and fire protection requirements associated with having these structures inside of buildings. Fire protection provisions related to installation of play structures in buildings should remain applicable.	If incorrectly interpreted, children's play structures installed inside buildings might be exempted from the applicable USBC requirements.
B108.3-21	80	Allows for jurisdictions to not be forced to accept applications by mail when an online permit application option exists.	Allowing for an online option instead of a mail-in (paper) option reduces the cost to local jurisdictions that want to move to all digital permitting services. It also reduces costs for architects and builders to submit digitally, rather than via mail/paper. Ultimately, reducing the cost of construction.	Jurisdictions should not be required to accept applications by mail if an online option is available. If customers are mailing an application, then they already have the ability to go online to download the application to mail it in. This does not prevent in-person services, it only allows for greater flexibility for jurisdictions that have moved towards online systems since COVID.	Jurisdictions must continue to accept mailed applications.
B706.1-21	230	Makes it clear that fire walls create separate buildings for application of Chapter 9 of the VCC and other provisions beyond allowable height and area	This code change proposal will reduce the cost of construction though I don't know how to give a number. As an example: in prior code editions you could build a 30,000 sf warehouse without installing a sprinkler system by use of a fire barrier at 10,000 sf and a fire wall at 20,000 sf. With the 2015 amendment that same building would require a	This code change makes it clear that fire walls create separate buildings for application of chapter 9 and other provisions beyond allowable height and area as was always intended. To address the issue of shared systems, the last line was added.	Certain buildings separated from adjacent buildings via fire walls, could be required to be protected by an automatic fire sprinkler system.

			sprinkler system, even if fire walls were used at both 10,000 and 20,000 square foot area limits.		
B1602-21	200; 270; 360	Incorporates provisions and design parameters for buildings in tornado prone regions.	This proposal may increase the cost of construction for Risk Category III and IV buildings and other structures located in the tornado-prone region where tornado loads govern the design.	This proposal is a coordination proposal to bring the 2024 IBC up to date with the provisions of the 2022 edition of ASCE/SEI 7 Minimum Design Loads and Associated Criteria for Buildings and Other Structures (ASCE/SEI 7-22).	Buildings do not have to be designed for tornado loads.
EC-C503.3.2-21	433.3	Requires new heating and cooling equipment that are part of a commercial alteration to be sized in accordance with Section C403.1.1 of the VECC.	As “wrong-sized” equipment is generally oversized, this proposal will generally decrease the cost of installation. Smaller, right-sized equipment will generally be less costly to install. Savings will vary based on the amount that existing equipment is oversized. “Right-sizing” has been found to result in about 0.2% energy savings for every 1% reduction in oversizing.	This proposal provides additional assurances with explicit language to ensure equipment is sized based on current building characteristics and loads, using current sizing standards. The resulting installations will be more efficient and more effective and many will be less costly to install as owners stop paying for more equipment than they need.	Requirements could be missed leading to incorrectly sized equipment.
M410.2-21	310	Expands the list of acceptable pressure test ports beyond a simple tee fitting by recognizing integral test ports in devices that meet the intent of the code	This proposal would decrease the cost of construction by eliminating unnecessary fittings and joints in the gas piping system.	This proposal eliminates unnecessary fittings, joints, and potential leak paths in the gas piping system.	More fittings than may be necessary could be required.
P1003.3.2-21	320	Allows food waste grinders to connect to grease interceptors if the discharge passes through a solid interceptor first	Having to add a solids separator within the series will increase the costs when compared to being able to bypass a grease interceptor.	The use of food waste grinders also become a dumping sink for all food wastes and the grinders break up the food into small particles that heavily contribute to Fats, Oils and Grease production. Grease interceptors are not designed to handle solids loading so a solids interceptor is needed before a grease interceptor. If food waste grinder drains are allowed to bypass a grease interceptor, then the grease is passed through to the sewer collection system.	Continued passage of grease into sewer systems.
RB202-21	210	Correlates definitions in the IRC with the NFIP.	This proposal may have a marginal increase in the cost of construction when garages and carports are constructed in flood hazard areas.	The definition for FLOOD HAZARD AREA is being added to the residential code to correlate with the commercial code.	IRC definitions would not correlate with those in the National Flood Insurance Program.

RB330.1-21	210	Exempts accessory dwelling units from the sound transmission requirements between dwelling units.	By providing an exception for ADUs it will decrease the cost of construction.	Accessory dwelling units are designed to provide an affordable housing alternative. Making ADUs meet the sound transmission requirements can become costly, especially when converting an existing structure, which we feel does not meet the purpose of ADUs.	Continue to require ADUs to meet costly sound transmission requirements.
RE2701.1.1-21	300	Deletes the GFCI protection requirements in Section 210.8(F) of NFPA 70.	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.	Currently, separate standards for the tripping current of GFCI devices and the allowable leakage current of air conditioner condenser units creates an incompatibility issue.	Require GFCI protection for outdoor HVAC units which could trigger repeated and costly call-backs for contractors.
RE3902.17-21	210	Deletes the GFCI protection requirements for outdoor outlets (other than the receptacles covered in 3902.3).	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.	Currently, separate standards for the tripping current of GFCI devices and the allowable leakage current of air conditioner condenser units creates an incompatibility issue.	Require GFCI protection for outdoor HVAC units which could trigger repeated and costly call-backs for contractors
REC-R403.1.2-21	264, 210	Restricts the installation of electric resistance heating and of heat pumps that are designed to activate resistance back-up when outdoor temperatures are above 40°F.	This proposal may, but will not necessarily, increase the cost of construction. However, it will substantially reduce total costs occupancy and lifecycle to residents.	Electric resistance heat is a highly inefficient form of space heating when compared to electric heat pumps. Heat pumps are roughly 300% more efficient than resistance heat (and more so compared to combustion heat). https://mygreenmontgomery.org/2021/environmental-and-economic-advantages-of-switching-to-an-electric-heat-pump/ Baseboard electric heating also distributes heat poorly compared to ducted systems or ductless mini-splits. Reliance on electric resistance heat for a primary heat source (as opposed to a supplemental resistance element in a heat pump for especially cold conditions) raises heating costs for residents compared to electric heat pumps. Electric resistance heating also imposes substantial seasonal and peak-period cost burdens on electric utilities, which get passed on to other utility customers.	Continue to permit use of electric resistance heat when heat pump might be feasible.
REC-R403.3.3-21	264, 210	Updates the code provisions related to duct testing to be consistent with the 2021 IECC.	For homes that would not have been required to test ducts (because they are located inside conditioned space), this proposal will result in a construction cost increase of about \$200 for a duct test. However, the proposal substantially reduces homeowner risk, because the test will objectively verify that the	The purpose of this code change proposal is to help ensure long-term energy savings, occupant comfort and promote good building quality by establishing a maximum level of duct leakage permitted as a trade-off backstop for duct tightness. We propose a backstop that would still permit substantial flexibility – double the allowable leakage rate as the prescriptive requirement -- but that would establish a “worst case scenario” for all tested homes in all compliance paths.	Continue to exempt HVAC ducts located within the building thermal envelope, from the testing requirements.

			heating and cooling systems are operating as intended, and will provide an opportunity for the builder to correct any mistakes. The test will also reduce the likelihood of a builder callback.		
REC-R503.1.2-21	433.3	Requires new heating and cooling equipment that are part of a residential alteration to be sized in accordance with the IECC.	As “wrong-sized” equipment is generally oversized, this proposal will generally decrease the cost of installation. Smaller, right-sized equipment will generally be less costly to install. Savings will vary based on the amount that existing equipment is oversized. “Right-sizing” has been found to result in about 0.2% energy savings for every 1% reduction in oversizing.	Historically, HVAC equipment has been routinely oversized. Studies have found very high rates of equipment oversizing; for example, 60% of RTU units in CA were found to be oversized. Oversized equipment results in increased energy use, decreased occupant comfort and increased wear-and-tear on equipment. Oversized equipment is also less effective at dehumidification. Like-for-like equipment replacement are particularly vulnerable to oversizing.	Requirements could be missed leading to incorrectly sized equipment.
EB102.2.2-21	410	Correlates the repair or replacement of smoke alarms in the VEBC with the VRC	The cheapest smoke alarm I could find on Amazon was an \$8.27 9V only alarm that would not meet this code provision. The cheapest smoke alarm I could find on Amazon that meets the requirement is \$15.99.	This code change brings application of the VRC to R-5 consistent with use of the VEBC for R-5.	Smoke alarms in rehabs will use outdated technology
EB502.1.1-21	433; 439	Adds a new referenced standard for assessing, designing, and repairing structural concrete: ACI 562.	The use of this referenced standard should in many cases reduce the cost of repair.	This proposal amendment adds ACI CODE 562-21: Assessment, Repair and Rehabilitation of Existing Concrete Structures, to establish minimum requirements for the evaluation, design, construction, repair, and rehabilitation of concrete structural elements in buildings for various levels of desired performance as deemed appropriate for the project.	Requirements for the repair of existing concrete structures would continue to be unclear, without defined objectives and anticipated performance for code officials, owners, designers, contractors, and installers
EC-Appendix CB-21	264	Adds Appendix CB to be used as an alternative to the building thermal envelope provisions	The recent update to the International Energy Conservation Code causes undue hardship on building owners, developers, and contractors while they do not	The systems required to meet the current energy code are complicated and time consuming. These systems have other drawbacks such a liner system that cover up the purlins and girts affecting other trades such as plumbing, HVAC, electrical, and sprinkler. (The added cost to the electrical and mechanical trades are in addition to the cost shown in the examples above.) The	Apply current commercial energy code to all buildings in use groups, F, S, and U.

		of the IECC for Groups F, S, and U.	reap the full benefits of the standards.	trims on overhead doors and window on the new required systems are deep. These trims make the wall accessories look recessed and some would say less attractive. The current energy code makes some architectural features more difficult to design and build around. For example, just adding a masonry wainscot becomes a challenge.	
B903.2.3-21	240	Deletes the new IBC occupant load threshold for requiring an automatic sprinkler Group E fire area, maintaining the state amended fire area threshold.	This will remove the requirement for the structure to be sprinklered if the occupant load is greater than 300, but still under the 20,000 square foot requirement that currently exists.	During the 2018 ICC code change a change was put into place and it was not reviewed for consistency with current Virginia changes and now during the code update training it was questioned about its possible inconsistency. Virginia has consistently modified the model code square footage related to Educational Use and Occupancy with regards to requiring sprinklers from model code 12,000 to Virginia's 20,000.	Certain smaller school buildings may be required to sprinkler certain portions of the building.

Impact on Local Partners

Use this chart to describe impacts on local partners. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Agency Note: The Uniform Statewide Building Code is enforced by local building departments. While any changes to the building code must be carried out via the local building department, DHCD and the Virginia Building Code Academy provide training to impacted building departments. Additionally, many code change proposals are submitted by local government officials. Local government officials have an active part in the code development process and a local government code official is a member of the Board.

Table 2: Impact on Local Partners

(1) Direct & Indirect Costs & Benefits (Monetized)	\$0	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a) \$0	(b) \$0
(3) Other Costs & Benefits (Non-Monetized)		
(4) Assistance	The Department of Housing and Community Development provides training to all local government code officials on code changes at no cost in many cases. Training is conducted via the nationally recognized Virginia Building Code Academy.	
(5) Information Sources	Code change proposals as submitted in the proposed phase.	

Impacts on Families

Use this chart to describe impacts on families. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 3: Impact on Families

(1) Direct & Indirect Costs & Benefits (Monetized)	See Table 3 and 4 Supplement Below
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(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Other Costs & Benefits (Non-Monetized)		
(4) Information Sources	Code change proposals as submitted in the proposed phase.	

Impacts on Small Businesses

Use this chart to describe impacts on small businesses. See Part 8 of the ORM Cost Impact Analysis Guidance for additional guidance.

Table 4: Impact on Small Businesses

(1) Direct & Indirect Costs & Benefits (Monetized)	See Table 3 and 4 Supplement Below	
(2) Present Monetized Values	Direct & Indirect Costs	Direct & Indirect Benefits
	(a)	(b)
(3) Other Costs & Benefits (Non-Monetized)		
(4) Alternatives	<p>Virginia is required by code to consider national model codes and standards in the development of its construction codes and as such, it is important to stay current with the latest updates of these standards. As such, the alternative is to continue to utilize older editions of the model codes. Maintaining up to date codes is beneficial to consumers and regulants in considering the newest technologies and safety considerations as well as staying current for insurance rating agencies, FEMA, and other entities.</p> <p>Virginia’s code updates process offers all affected stakeholders significant opportunity to propose amendments to the national model codes that work best for Virginia. There is an open and transparent stakeholder process prior to the ultimate adoption of the codes.</p>	

(5) Information Sources	Code change proposals as submitted in the proposed phase.
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Table 3 and 4 Supplement (Proposals Submitted in Proposed Phase)

Proposal ID	VAC Section Number (13VAC5-63-...)	Description	Family Impact	Small Business Impact
B102.3(1)-21	20	Requires children's play structures installed inside buildings to be subject to the children's play structures section in Chapter 4 of the VCC.	None expected.	If existing regulations have been incorrectly applied thus far, the change may increase construction cost for new small businesses with indoor children's play structures (fast food, some entertainment venues).
B108.3-21	80	Allows for jurisdictions to not be forced to accept applications by mail when an online permit application option exists.	None expected.	May decrease cost for design professionals and builders due to allowing digital submission of documents.
B706.1-21	230	Makes it clear that fire walls create separate buildings for application of Chapter 9 of the VCC and other provisions beyond allowable height and area.	None expected.	May decrease the construction cost for certain structures where firewalls create "separate" buildings.
B1602-21	200; 270; 360	Incorporates provisions and design parameters for buildings in tornado prone regions.	None expected.	Unlikely as business/small business building would not be class III or IV.
EC-C503.3.2-21	433.3	Requires new heating and cooling equipment that are part of a commercial alteration to be sized in accordance with Section C403.1.1 of the VECC.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.
M410.2-21	310	Expands the list of acceptable pressure test ports beyond a simple tee fitting by recognizing integral test ports in devices that meet the intent of the code.	Potential cost savings for families living in certain R-2 (i.e. condo settings).	Potential cost savings for small businesses with construction involving gas fittings.
P1003.3.2-21	320	Allows food waste grinders to connect to grease interceptors if the discharge passes through a solid interceptor first.	None expected.	Some small businesses in food industry may need to install food grinders during new construction.
RB202-21	210	Correlates definitions in the IRC with the NFIP	There may be marginal cost increases for those locating carports or garages in flood areas.	None expected.

RB330.1-21	210	Exempts accessory dwelling units from the sound transmission requirements between dwelling units	May make more housing options available in certain areas.	None expected.
RE2701.1.1-21	300	Deletes the GFCI (ground fault circuit interrupter) protection requirements in Section 210.8(F) of NFPA 70	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors.”.	(1) Certain GFCI manufacturers may not be able to sell as many GFCI. (2) May reduce contractor callbacks on certain HVAC installations
RE3902.17-21	210	Deletes the GFCI protection requirements for outdoor outlets (other than the receptacles covered in 3902.3)	This change will reduce the cost of construction by not requiring GFCIs for outdoor outlets and by reducing the number of call-backs for HVAC contractors	1) Certain GFCI manufacturers may not be able to sell as many GFCI. (2) May reduces contractor callbacks on certain HVAC installations.
REC-R403.1.2-21	264, 210	Restricts the installation of electric resistance heating and of heat pumps that are designed to activate resistance back-up when outdoor temperatures are above 40°F.	(1) Reduces options of allowed heat systems (2) Potential utility cost savings over the life of the systems.	(1) Reduces options of allowed heat systems (which could take certain manufacturers/suppliers out of market); (2) May be beneficial for manufacturer’s/suppliers/installer of the allowed type of systems.
REC-R403.3.3-21	264, 210	Updates the code provisions related to duct testing to be consistent with the 2021 IECC.	(1) Cost increase when purchasing/remodeling homes due to increase scope of work for testing; (2) Potential utility cost savings.	1) May be beneficial for those specialized in this type of testing (2) There may be a construction cost increase for developers due to increase scope of work for testing. (3) Could reduce builder callbacks
REC-R503.1.2-21	433.3	Requires new heating and cooling equipment that are part of a residential alteration to be sized in accordance with the IECC.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment.	Explicit language will help ensure compliance potentially leading to correctly sized, more efficient HVAC equipment
EB102.2.2-21	410	Correlates the repair or replacement of smoke alarms in the VEBC with the VRC	May cause a small cost increase (\$8-10 per alarm) for some rehabs that involve smoke alarms but will provide better technology	May cause a small cost increase (\$8-10 per alarm) for some rehabs that involve smoke alarms but will provide better technology.
EB502.1.1-21	433; 439	Adds a new referenced standard for assessing, designing, and repairing structural concrete: ACI 562.	None expected.	May provide additional concrete repair options for businesses.
EC-Appendix CB-21	264	Adds Appendix CB to be used as an alternative to the building thermal	None expected.	(1) Reduced construction costs for building developers/owners (2) Potential

		envelope provisions of the IECC for Groups F, S, and U.		impact on insulation manufacturers/distributors/installers.
B903.2.3-21	240	Deletes the new IBC occupant load threshold for requiring an automatic sprinkler Group E fire area, maintaining the state amended fire area threshold.	This could benefit new smaller private schools (small business) that would otherwise require sprinklers.	This could benefit new smaller private schools (small business) that would otherwise require sprinklers.

Changes to Number of Regulatory Requirements

Table 5: Regulatory Reduction

For each individual action, please fill out the appropriate chart to reflect any change in regulatory requirements, costs, regulatory stringency, or the overall length of any guidance documents.

Agency Note: Included are the changes in regulatory counts between the 2018 and 2021 model codes. These are based on the *Significant Changes* documents provided by the International Code Council (ICC) and they are an estimate of model code changes.

2021 I-Code Book	Discretionary Regulant Total Increase or Decrease in 2021 I-Code Book	Public Health Safety & Welfare (PHS&W)	Discretionary Regulant Total Increase or Decrease in 2021 I-Code (Minus Critical PHS&W)
International Building Code	361	358	3
International Residential Code	240	240	0
International Mechanical Code	55	55	0
International Plumbing Code	59	59	0
National Electric Code (NFPA 70)	252	252	0
International Fuel Gas Code	17	17	0
International Energy Conservation Code (Comm)	94	0	94
International Energy Conservation Code (Res)	82	0	82
TOTALS	1160	981	179

Proposed Phase Proposals that are not expected to have a cost impact		
Proposal ID	VAC Section Number (13VAC5-63-...)	Description

FP1207 (USBC Portion)	220	SFPC Sub-Workgroup proposal to address Energy Storage Systems (USBC Portion of Proposal Only)
B918.1(2)-21	240; 300	Provides a reference to the IFC for the technical provisions and installation requirements for in-building emergency communication systems.
B102.3(2)-21	20	Clarifies that playground equipment that you typically see in a backyard, at a school, in a public park, etc., are not USBC regulated structures.
B107.1-21	70	Updates the VCC with the current law by stating that, with the exception of the levy collected pursuant to Section 107.2, fees levied pursuant to this section shall be used only to support the functions of the local building department
B108.2-21	80	Deletes the qualifier for pools to not exceed 5,000 gallons to be exempt from permitting since there is no combination of sizes under this exemption that would allow a pool to be greater than 5,000 gallons.
B110.9-21	70; 100	Provides a mechanism to allow for the proactive cancellation or discontinuance of building permits by the permit holder or the owner.
B118-21	180; 200	Cleans up the Unsafe Buildings or Structures section of the VCC and removes confusion between buildings that are a threat to public safety and unsafe buildings or structures.
B202-21	200	Correlates definitions in the IBC with the NFIP.
B310.6-21	30; 210	Provides clarification to the scoping provisions of the Virginia Residential Code.
B313.3-21	210	Oversight for Family Day Homes has been transferred from the Department of Social Services to the Department of Education. The proposal updates the code provisions with the appropriate licensing authority for these facilities.
B407.4-21	220	Removes a broken link to Section 1002.2 in the VCC.
B432-21	220	Provides the connection between the VCC and the IFC for Plant Processing or Extraction Facilities (IFC Chapter 39)
B706.1.1-21	230	Deletes the exception that states party walls and fire walls on lot lines dividing certain buildings for ownership purposes are not required.
B907.5.2.3.2- 21	240	Editorial change that adds the words "or dwelling units" to the table so that it can be properly utilized as charged by the section.
B918.1.1-21	240	Removes the antiquated language of "radiating cable" and replaces it with the term "cabling".
B1020.1-21	245	Separates I-1 and I-3 occupancies in the Corridor Fire-Resistance Rating Table and provides specific ratings for each occupancy based on the presence of a sprinkler system.
B1026.2-21	245	Corrects an incorrect reference in the VCC from Section 1019.3, Item 4 to 712.1.13.
B1103.2.15-21	250	Language clean-up with revised wording to make it a complete sentence.

B1112.1-21	250	Deletes an exception that does not require accessible parking spaces to be identified when there are four or fewer parking spaces.
B3005.4-21	330	Correlates the VA exceptions with the IBC requirements for fire service access elevators and occupant evacuation elevators.
B3006.1-21	330	Fixes several broken links to the requirements for elevator lobbies, in other parts of the code, by reinstating Section 3006.
B3008.1-21	330	Maintains the VA amendment limiting the applicability of occupant evacuation elevator (OEE) requirements to buildings over 420 feet in building height.
B3302.4-21	340	Clean up of Chapter 33, Fire Safety During Construction, to relocate construction provisions from the SFPC and correlate better with the SFPC and VEBC.
EC-C402.4-21	264	Removes the Virginia amendments to solar heat gain coefficients.
EC-C403.7.7-21	264	Corrects language to prohibit the use of dampers where grease ducts serving a Type 1 hood are installed.
M403.3.1.1-21	310	Corrects a 2018 error related to ventilation rates for general doctor or dentist offices and brings forward the original intent.
M1101.2-21	310	Removes refrigeration fittings from table 1101.2, which is included in Section 1107.5
M1101.2(2)-21	310	Removes refrigeration fittings from table 1101.2, which is included in Section 1107.5 and adds referenced standards refrigeration equipment.
M1101.2.1-21	310	Incorporates new reference standards for Group A2L, A2, A3, and B1 refrigerants.
M1101.7-21	310	Provides provisions for the changing of refrigerant from one safety class to another.
M1103.1-21	310	Updates the refrigerant table with new refrigerants added to ASHRAE Standard 34.
M1104.3.1-21	310	Requires high probability systems used for human comfort to use Group A1 or A2L refrigerant and restricts group A3 and B3 refrigerants to laboratories and industrial occupancies.
M1104.3.1(2)-21	310	Provides exceptions to the prohibition of group A2, A3, B2, and B3 refrigerants in high probability systems
M1106.3-21	310	Revises the section from "flammable refrigerants" to specific classes of refrigerant: "Class 2 and 3 refrigerants"
M1106.4-21 PT 1	310	Correlates the machinery room requirements in the International Mechanical Code with the 2019 edition of ASHRAE 15.
M1106.4-21 PT 2	310	Deletes the ventilation system activation provisions for machinery rooms using Group A2L refrigerant.
M-Chapter 15-21	310	Updates UL 60335-2-89 to the most recent version which was published in October of 2021.
P605.15.2-21	320, 210	Revises P2906.9.1.2 IRC and 605.15.2 IPC to include one-step solvent cement in the color green, which has already been approved in the 2024 IPC.

RB324.6.2-21	210	Clarifies the access requirements where PV systems are installed on roofs.
RM1404.1-21	210	Requires refrigeration cooling equipment to comply with applicable UL standards.
RM1411-21	210	Mandates a UL listing for any equipment using A2L refrigerant and field installed items to be installed per the manufacturer's installation instructions.
EB102.2.1-21	410; 420	Clarifies when to bypass the VEBC and when to use the VEBC when an I-2 or I-3 is involved.
EB103.9-21	420	Requires elevation certificates to be prepared by a certified land surveyor or registered professional engineer licensed in Virginia.
EB202-21	430	Removes accessibility as a trigger to determine change of occupancy since there is no change of occupancy driven accessibility requirements.
EB304.3.1-21	431	Provides a pointer to the VRC requirements for operational constraints of emergency escape and rescue openings.
EB404.3-21	432.5	Clarifies how to apply the accessibility provisions to existing toilet facilities and drinking fountains.
EB603.6-21	433.3	Deletes Section 603.6 to remove the potential for conflicts with the exception to Section 710.1.
EB701.1-21	433.5; 440	Continuation of the clean-up editorial work that has been done each cycle to Chapter 14.
EB707.2-21	433.5	Removes the exception to 707.2 of the VEBC as it would never be applicable.
EB1201.7-21	438	Deletes Section 1201.7 to be congruent with the VPC.
EB1209.1-21	438	Clean up of the construction safeguards provisions to better correlate with the VCC and SFPC.
PM101.1-21	450	Revises the short title of the Virginia Maintenance Code (VMC) to the Virginia Property Maintenance Code (VPMC) to resolve the historical and practical issue of confusion with the Virginia Mechanical Code (VMC).
PM103.2.3-21	470	Clarifies that a tenant's responsibility is limited and protected under the Virginia Residential Landlord and Tenant Act.
PM505.3-21	530	Deletes construction and construction inspection provisions as they are not within the scope of the Virginia Maintenance Code.
PM606.1-21	540	Clarifies the applicability of Appendix N of ASME A17.1.
PM703.2-21	545	Deletes invalid provisions in Section 703.2 and 703.7 and revises 703.3 and 703.8 to remove invalid retrofit provisions.
PM704.1.1-21	545	Revises Section 704.1.1 to reference the applicable building code regarding how existing fire protection systems are to be maintained; deletes the alteration provisions of 704.1.
PM704.2-21	545	Removes the inspection, testing and maintenance of fire protection systems from the VMC since they are already in the SFPC.

PM704.3-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC.
PM704.4-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC
PM704.5-21	545	Removes provisions from the IPMC and VMC that fall under the jurisdiction of the fire official and belong in the SFPC
PM705.1-21	545	Removes invalid retrofit provisions in the IPMC
B1020.2.1-21	245	Removes an invalid reference to deleted elevator hoistway provisions.
B1010.2.8-21 (USBC Portion)	80; 100; 200; 245; 250	Intends to comply with SB 333 and HB 670 by adding "public buildings" to the list of uses/occupancies already allowed to be provided with ESH.
RB326-21	210	Removes the habitable attic technical provisions from the definition of Habitable Attic and places the requirements in the body of the code, with the intent of maintaining the existing Virginia technical amendments.
PM103.2-21	470; 485; 490; 510	Simplifies the unsafe building provisions of the VMC

FINAL PHASE Editorial Corrections that are not expected to have a cost impact	
VAC Section Number (13VAC5-63-...)	Description
200	VCC Chapter 2, Laboratory Suite definition: replace reference to Section 430.3 with the correct section number - 428.3
200	Correlate the VCC "Industrialized building" definition with that in the IBSR.
200	VCC – Chapter 2 “existing building” (ICC) definition doesn’t align with the state amendment definition in the VEBC.
200	VCC – Chapter 2 “tenable environmental” needs to be revised to “tenable environment”.
210	VCC Section 310.1, remove reference to 310.4.1
210	VCC (VRC) Section R312.2.1, charging statement indicates that "exceptions remain", however, the section has no exceptions. Revise charging statement to read: "Change Section R312.2.1 to read (items 1 and 2 remain):"
210	VCC (energy) – Section N1106.3.2 (406.3.2) need to update table references.
220	VCC Section 407.4, reorder referenced sections and chapter (Chapter 10 at the end).
245	VCC Chapter 10: Charging statement "Add Item 6 to Section 1010.2.5 of the IBC to read:". The word "Item" should be replaced with "exception".

245	VCC Chapter 10: Charging statement "Q. Add Item 5 to Section 1010.1.9.6 1010.2.1 of the IBC to read:". The word "Item" should be replaced with "exception".
245	VCC Chapter 10, Table 1020.2, column "With sprinkler system": strike through subscript "b".
245	VCC Chapter 10: Charging statement "HH. Change Section 1026.2 of the IBC to read:" The exception to this section is not amended by Virginia. The charging statement should be revised accordingly and the exception should be stricken.
245	VCC Chapter 10, Table 1106.2(1): footnote "a" incorrectly refers to table 1106.1(2). Correct table number to be referenced is 1106.2(2).
250	VCC Chapter 11, Section 1110.2, 2nd sentence: the word "not" must be inserted between "shall" and "be", to read: "...the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor..."
264	VCC Chapter 13, Charging Statement 23: "N1103.3.7 (R403.3.7)" should be replaced with "R403.3.7" for consistency with other instances where the equivalent IRC/VRC section number is not listed.
264	VCC, Chapter 13, item 30 (Section R502.1): incorrectly references Section 811 of the VEBC, It should be Section 805.
264	VCC, Chapter 13, item 32 (Section R504.1): incorrectly references Section 510 of the VEBC, It should be Section 507.
264	VCC, Chapter 13, update to "C402.4.2 of the 2012 IECC".
264	VCC, Chapter 13, remove "1.0 inch".
268	VCC Chapter 15: references to Section 1511 and 1511.1 must be updated to 1512 and 1512.1 respectively. The section number was updated in the 2021 IBC from 1511 to 1512.
280	VCC – Section 1709.5.2 the VA amendment should be deleted as it matches the 2021 IBC text.
310	VCC Chapter 28, charging statement D5: relocate to the IFGC list of changes later in the chapter and replace the "IMC" (in the statement) with the "IFGC".
310	VCC – Chapter 28 charging statement D7, 504.10 should be 504.11.
310	VCC – Chapter 28 charging statement D11, amendment to VMC/IMC Section 506.5 is no longer needed as the text now matches the 2021 IMC.
310	VCC Chapter 28, charging statement 29: add "UL" in front of "109-97" and "207-2009".
320	VCC – Chapter 29 Charging statement 44 for two ASTM standards is no longer needed and should be deleted in RIS. They are now part of the 2021 IPC.
320	VCC – Chapter 29 Table 1106.2(2) footnotes: "For SI: 1 inch=m" should be "For SI: 1 inch=25.4 mm".
320	VCC Chapter 29, Section 1301.17.2: delete "the" (from between "with" and "Section").
320	VPC – Table 403.1, footnote "f" vs. "g". No reference to footnote g (state amendment) in table. Replace footnote f with footnote g.
371	Appendix F, remove unamended sections.
380	Appendix H, update so that H115 is included in the state amendment.

431	VEBC – Section 304.3, reference to Section R310.2.2 should be deleted to conform with its deletion in the VRC (broken reference).
433.3	VEBC – Section 601.2.1, "of" needs to be inserted in the last sentence between "provisions" and "Section", to read: "...applicable provisions of Section 602".
433.3	VEBC – Section 601.2.2, item 2, the first occurrence of the word "of" is supposed to be an "or".
440	VEBC Section 1403.7: Item 5 should be positive 5 (not negative)
440	VEBC Section 1403.7.1, item 2, incorrectly refers to VCC Section 1018.5 for air movement in egress elements. The correct section number is 1020.6.
440	VEBC Section 1403.10.1, item 6, incorrectly refers to VCC Section 1023.11 for smokeproof enclosures. The correct section number is 1023.12.
440	VEBC Section 1403.11: Superscript a should only be for category a as shown in the Errata posted on November 25, 2019 for the same IEBC Table. Table 1301.6.11. (https://www.iccsafe.org/wp-content/uploads/errata_central/2018-IEBC-Errata-Chapter-13.pdf)
440	VEBC Section 1403.11.1, item 1, incorrectly refers to Section 405 for fire escapes. The correct section number is 303.
440	VEBC Section 1403.12.1, item 2, incorrectly refers to VCC Section 1020.4 (Exception 2) for dead end corridors. The correct section number is 1020.5 (Exception 2).
440	VEBC Section 1403.18: reverse the order of "... a making..." to "... making a..." in the first sentence.
440	VEBC Table 1403.18: add footnote a. "a. This option cannot be taken if Category a or Category b in Section 1403.17 is used."
440	VEBC Table 1404.1: delete line item for Section 1403.20 (smoke compartmentation) since the section was deleted in the base docs and no longer applicable.
510	VPMC – Unsafe structure definition. Under item 3, the word "vacant" is missing so it gives the impression that any unsecured or open structure would fall under this definition. The change is based on proposal PM103.2-21. The proponent notified staff after the proposed regulations were approved that they inadvertently omitted the word from their proposal.
530	VPMC – Several Chapter 5 sections are listed twice, with either different text and/or conflicting charging statements (i.e., 505.3, 505.3.1, 505.3.2).
545	VPMC – Chapter 7, RIS charging statements should be revised accordingly to make it clear that 704.5.2 became 704.5.1.
DIBR	Documents Incorporated by Reference: add NFPA 704 to the list.