

**Resiliency Subworkgroup
May 7, 2019
Chesterfield Community Development Building**

Attendees:

Kenney Payne	AIA
Charles Baker	FEMA
Steven Sites	VDFP/SFMO
Matt Duerksen	DEB
Steve Sunderman	Terrazia PC
George Homewood	City of Norfolk
Whitney Katchmark	Hampton Roads PDC
Michael Redifer	City of Newport News
Kyle Flanders	DHCD
Gina DiCicco	DCR
Kevin Utt	City of Fredericksburg
Annette Osso	Resilient VA

In November 2018, Governor Northam issued Executive Order #24, “Increasing Virginia’s Resilience to Sea Level Rise and Natural Hazards”, part of the ongoing efforts to protect public health and safety, our environment and natural resources, and the economic wellbeing of the Commonwealth. The order directed DHCD to consult with stakeholders and subject matter experts for the purpose of identifying and suggesting resilience-specific improvements to the USBC for inclusion in the 2018 code update. The Resiliency Subworkgroup was formed to accomplish the task.

Welcome & Introductions

At the beginning of the meeting, each participant was given an opportunity to introduce themselves and explain what they hoped to see come from the subworkgroup.

Kevin Utt suggested including conference calls as an option to attend meeting for those that are not able to attend.

Matt Durskin with Virginia DEB conveyed concerns on behalf of Mark Copa (who was not able to attend) who does not agree with a study that came out recommending a 3ft freeboard as it would result in great cost increases to state building construction. He explained that Mr. Copa wants a balance between cost and safety.

George Homewood stated that he believes that a 3 ft freeboard is an absolute minimum and that it is important to think long term regarding building design and construction.

Steve Saunderman indicated that he is a strong proponent of re4siliency and specifically durable resilient concrete construction.

Matt Durskin reiterated that mandating a 3 ft freeboard everywhere would affect someone in the western part of the state.

George Homewood suggested adopting a viewpoint of “total cost of ownership of a building” versus focusing on initial construction costs.

Charles Baker added that there are benefits to reducing insurance premiums over many years and you are lessening risk for the life of the structure, potentially 100 years.

Background & Code Development Overview

After the introductions and initial discussions, Jeff Brown provided the following information:

- An overview of Virginia’s code development process including Virginia’s online code development system (cdpVA) and explanation of the stakeholder workgroups and subworkgroup processes.
- Highlights of information in Executive Order #24 including economic and housing impacts as a result of sea level rise, land subsidence, higher average temperatures and more frequent intense weather events.
- An overview of the USBC and it’s three parts: Virginia Construction Code (Part I) = New Construction; Virginia Existing Building Code (Part II) = Alteration, Change of Occupancy in Existing Buildings; and Virginia Maintenance Code (Part III) = Maintenance of Existing Buildings
- The history and purpose of the Existing Building Code which is now mandatory when working on an existing building. The VEBC does not require full compliance with the VCC, but encourages rehabilitation of existing buildings by allowing alterations while maintaining the current level of safety, sanitation, etc.

The group discussed the difference in code requirements that are applicable when work is being performed and “retrofitting” which is requiring building upgrades when no work is being planned/performed. The USBC does not typically require retrofitting, however there are a few existing retrofitting requirements in the USBC (requiring fire protection features in existing dormitories, hotels, assisted living facilities, etc.) and they are found in VEBC Chapter 11.

It was pointed out that there is an exception in the USBC that allows one & two family dwellings to be “grandfathered”. They are allowed to be reconstructed “like for like”, so the code under which they were originally constructed can be applied when they are repaired or renovated.

Identification of Code Provisions

The group discussed what “resiliency” is and what the group could focus on in the building code. The group agreed that resiliency is a very broad topic; there are many features in structures that can be designed and constructed to increase resiliency; and there are already many requirements in the code that increase resiliency.

Mr. Homewood stated that sea level rise in the City of Norfolk (and most of Hampton) is not “an event”, but an insidious creeping of water. He suggested that as we design buildings and think about resilience, we need to think about how we deal with that stress of impacts that are coming. A hurricane should be the least of our concerns because FEMA helps us address those. When the tide is high and the moon is full (every month) the kayak is the preferred use of transportation in the historic part of our town. We

have to think of Resilience as not only “event driven” and not only “disaster related”. We also need to think about the things that are happening now.

Kenney Payne suggested that the group not get bogged down in attempting to define resiliency. Executive order #24 gave direction of developing code changes to increase resiliency. We just need to decide as a group what we are going to address: hurricanes, wildfires, flooding, severe storms, earthquakes, etc. and to what extent we can address them. We could simply submit code changes to require buildings to meet the same design parameters as other high risk areas such as Florida, California, and Kansas and if the code change proposals are approved, new structures will have increased resiliency.

George Homewood made a suggestion to adopt the Florida hurricane standards either as a requirement or allow Coastal Virginia communities to adopt it optionally. He also stated that although one could say that many hazards are addressed in the code, they may not necessarily be adequately addressed. He also reiterated that it is important to think long term when planning or designing for resiliency.

Annette Osso pointed out that Florida has higher standards for coastal areas and questioned if the group could propose that type of regulation or do requirements have to be uniform/statewide. Some existing provisions that are applicable regionally were discussed (wind zones, snow load zones, earthquake, etc.).

Suggestions were made to develop a list of the hazards faced by each individual locality and to look at regional hazard mitigations plans as a way to focus the groups efforts.

Kenney Payne suggested one option might be to add a list of hazards in the code and allow the jurisdiction to decide which one(s) are applicable and they want to address. Once the local hazards are identified, that would take you to a code section that deals with that particular hazard.

Charles Baker pointed out that leaving it up to the communities to decide could lead to unintended negative impacts. For example, if a locality decided they did not want to adopt the fire or earthquake provisions, that would have an impact on insurance rates for building and home owners.

The group began identifying and listing the various hazards that are currently addressed in the code, including:

- Flooding- rising water, moving water
- Wind- high wind
- Wind driven rains- hurricanes, tornado
- Wildfires- (sometimes considered wind driven)
- Seismic activity
- Terrorism

As the group continued discussing the various hazards currently addressed in the code, they agreed that it would be a good idea to develop a short list of a couple of hazards that they could focus on and research to help identify specific changes that might be discussed at the next meeting. The group agreed to focus on two specific hazards: flooding and high wind events.

The group also decided it will need to identify and understand what the code currently does to address these hazards, determine if there is room for improvement and decide if changes should be proposed.

Prior to the next meeting, the group will work to compile current code requirements and examples of other standards or state regulations that are out there for review.

The group discussed IBHS 2018 "Rating the States" report and the fact that Virginia slipped to second place behind Florida in the 2018 report. One of the key reasons cited in the report was the lack of mandated continuing education for contractors in Virginia. It was suggested that a review of Florida's building code requirements for residential construction in hurricane prone regions might reveal some specific construction provisions that could easily be added to Virginia's code to increase resiliency to high wind storms/events.

The group also discussed identifying/researching above code design standards (FORTIFIED, etc.) that are already out there that might be referenced in the code or made mandatory in certain "high hazard" zones. The high hazard zones could be identified on maps in the code. Developing the maps could take considerable time and resources. Development of this type of code change proposal would likely require outside assistance and might not be achievable this code update cycle. The group agreed to continue discussing this type of proposal at future meetings, but to also try to identify some code changes that could be implemented and result in significant increases to resiliency during the current code update cycle.

Charles Baker (FEMA) then provided the following additional recommendations to help resiliency in the Commonwealth of Virginia:

- Implement provisions in Reducing Flood Losses Through the I-Codes: https://www.fema.gov/media-library-data/1411731781834-d0c7d7f9ff0d195ce3c33901ba73daac/ReducingFloodLosses_4thED_Final_508.pdf
- Take advantage of the financial benefits outlined in the Bi-Partisan Budget Act (BBA) and the Disaster Recovery Reform Act (DRRA) as it provides for code activities pre and post disaster.
- Amend the 2018 IBC to require ICC 500 complainant hurricane shelters in new schools, critical and first responder facilities.
- Implement Insurance Institute for Business and Home Safety Standards (IBHS) Fortified Standards in the UBC.
- Encourage communities to participate in Federal Alliance for Safe Homes (FLASH) Hurricane Strong Communities Program.
- The number one thing Virginia can do is to ensure it adopts the latest codes and that they are adopted to include all flood provisions and not weakened in any manner. Higher Regulatory Standards are implemented in the I-Codes because data shows the benefits of construction practices adhering to the minimums of the I-Codes.

Group Assignments:

- Identify existing provisions in the USBC related to "Flooding" (coastal & riverine) and "High Wind Events" (hurricanes, tornado & other wind events) for review and discussion at the next meeting.
- Identify existing "above code" building standards (FORTIFIED Home, etc.).
- Identify codes or initiatives in other states aimed at increasing building resiliency.
- Identify differences between Virginia's and Florida's building codes (roofing requirements in hurricane prone regions, etc.). A report/comparison may already exist.