

## Residential Real Estate Appraisal and Flood Resilience Measures<sup>1</sup>

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### I. INTRODUCTION

As climate change and sea level rise cause increasingly stronger and more frequent storms, and even sunny day flooding, homes across the United States are suffering more structural damage, particularly when they are not required to comply with any building regulations related to flood resilience.<sup>3</sup> Some states, including Virginia, continue to implement strict building codes at the state or local level. In Virginia, municipalities are authorized to implement stricter building codes than required by the state if enacted in accordance with their participation in the National Flood Insurance Program (NFIP).<sup>4</sup>

Despite this, many states and municipalities are choosing to weaken their building code requirements rather than strengthen them.<sup>5</sup> Three months before Hurricane Irma hit the Florida coast, the Florida legislature passed a sweeping reform bill that took the state's building codes from some of the best in the nation to barely regulated.<sup>6</sup> Across the flood-prone southeast, similar patterns emerge.

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<sup>1</sup> This article, particularly with regards to the appraisal methods section, is based in significant part on an interview with a Virginia real estate appraiser, John A. Dunlap, owner of John A. Dunlap & Associates. It therefore should not be construed as established fact.

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<sup>3</sup> See John Schwartz, *More Floods and More Droughts: Climate Change Delivers Both*, N.Y. TIMES, Dec. 12, 2018, <https://www.nytimes.com/2018/12/12/climate/climate-change-floods-droughts.html> (last visited July 23, 2019).

<sup>4</sup> VA. CODE ANN. § 36-98 (2007).

<sup>5</sup> Christopher Flavelle, *As Storms Get Stronger, Building Codes Are Getting Weaker*, BLOOMBERG, Mar. 19, 2018, <https://www.bloomberg.com/news/articles/2018-03-19/storm-prone-states-ease-off-building-codes-as-climate-risk-grows> (last visited July 23, 2019).

<sup>6</sup> *7th Edition (2020) Florida Building Code- Code Development*, FLA. DEP'T OF BUS. & PROF'L REGULATION, [http://www.floridabuilding.org/fbc/thecode/2020\\_Code\\_Development/2020\\_Code\\_Development\\_Process.htm](http://www.floridabuilding.org/fbc/thecode/2020_Code_Development/2020_Code_Development_Process.htm) (last visited July 23, 2019); Flavelle, *supra* note 5; Jenna Buzzacoco-Foerster, *Rick Scott Signs Bill Updating Building Code*, FLA. POLITICS, June 23, 2017,

South Carolina recently considered a bill that would have decreased the frequency at which the state updates its building codes,<sup>7</sup> a measure that was already taken in North Carolina in 2013.<sup>8</sup> Meanwhile, in Georgia, municipalities may choose not to enforce the statewide code.<sup>9</sup> The danger in such deregulation, besides the increased probability of structural damage from flooding, is that building codes will not keep pace with engineering improvements designed to protect homes from ever-worsening storms.<sup>10</sup>

This incongruous reaction of states to shift toward less rigorous building codes even as the effects of climate change continue to escalate can be at least partially explained by the strong lobbying power of the building industry.<sup>11</sup> Imposing more stringent building code requirements for flood resilience, such as higher freeboard,<sup>12</sup> foundation flood vents, or use of flood-resilient materials,<sup>13</sup> is

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<http://floridapolitics.com/archives/240611-rick-scott-signs-bill-changing-florida-building-code-updated> (last visited July 23, 2019).

<sup>7</sup> S.C. GEN. ASSEMBLY S. BILL 579 (2017); Flavelle, *supra* note 5; Ari Natter, *N.C. May Regret Weakening its Building Codes in 2013*, BLOOMBERG, Sept. 14, 2018, <https://www.gastongazette.com/news/20180914/nc-may-regret-weakening-its-building-codes-in-2013> (last visited July 23, 2019).

<sup>8</sup> North Carolina now revises its building code every six years instead of three. *See Minutes of the North Carolina Building Code Council*, N.C. BUILDING CODE COUNCIL 1, 23 (Dec. 10, 2013), [https://www.ncdoi.com/OSFM/Engineering\\_and\\_Codes/Documents/BCC\\_Minutes/2013%2012%2010~December%2010.%202013\\_.pdf](https://www.ncdoi.com/OSFM/Engineering_and_Codes/Documents/BCC_Minutes/2013%2012%2010~December%2010.%202013_.pdf) (last visited July 23, 2019); Flavelle, *supra* note 5; *North Carolina Will Now Revise its Building Code Every Six Years, Instead of Every Three*, N.C. CONSTRUCTION LAW, POLICY & NEWS (Mar. 17, 2014), <https://nc-construction-law.com/2014/03/17/north-carolina-will-now-revise-its-building-code-every-six-years-not-every-three/> (last visited July 23, 2019).

<sup>9</sup> Flavelle, *supra* note 5; *see also* GA. SEC'Y OF STATE, GA. STATE MINIMUM STANDARD CODES AMENDMENTS TO THE INTERNATIONAL BUILDING CODE (2018), <http://rules.sos.state.ga.us/gac/110-11-1> (last visited July 23, 2019) (“By Georgia law, the *International Existing Building Code* is a permissive or optional State Minimum Standard Code. Consequently, the provisions contained in the *International Existing Building Code* are not mandatory or applicable unless specifically referenced in the adopting ordinance of local governments.”)

<sup>10</sup> Flavelle, *supra* note 5.

<sup>11</sup> *Id.*; *see also* Christopher Flavelle, *Inside the Lobby Against Tougher Homes*, Bloomberg, July 6, 2016, <https://www.bloomberg.com/opinion/articles/2016-07-06/inside-the-lobby-against-tougher-homes> (last visited July 25, 2019) (discussing the building lobby’s opposition to code changes to better protect homes from storms).

<sup>12</sup> “Freeboard” is defined by FEMA as “a factor of safety usually expressed in feet above a flood level for purposes of floodplain management.” *Freeboard*, FED. EMERGENCY MGMT. AGENCY, <https://www.fema.gov/freeboard> (last visited July 23, 2019).

<sup>13</sup> These are three common flood resilience measures. Other measures include elevating air conditioning and utilities units, installing breakaway walls, and ensuring that fuel supply lines

costly to homebuilders, and that added cost is not necessarily being taken into account in the housing market.<sup>14</sup> The market does not necessarily reflect the home repair savings due to increased resilience measures that have been taken,<sup>15</sup> resulting in a loss to the homebuilder, and the motivation to lobby against stricter building codes. One possible solution to this problem is to alter the home appraisal process to take flood resilience measures more directly into account in the appraising of a home's value.

This article will first examine the home appraisal process in Virginia as it exists today, including the requirements that must be met to become a real estate appraiser, a summary of how the appraisal process works, and an analysis of how and to what extent resilience measures are taken into account in the process. This article will next make recommendations for ways to possibly alter this appraisal process to better reflect the increase in home value afforded by resilience measures. However, this article asserts that the appraisal process may not be the issue, and that public awareness of flooding and resilience measures should increase to ensure that the marketplace either begins to value resilience measures or that development trends gradually shift away from flood zones.

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have float-operated automatic shut-off valves. See FED. EMERGENCY MGMT. AGENCY, HIGHLIGHTS OF THE ASCE 24-14 FLOOD RESISTANT DESIGN AND CONSTRUCTION (2015), [https://www.fema.gov/media-library-data/1436288616344-93e90f72a5e4ba75bac2c5bb0c92d251/ASCE24-14\\_Highlights\\_Jan2015\\_revise2.pdf](https://www.fema.gov/media-library-data/1436288616344-93e90f72a5e4ba75bac2c5bb0c92d251/ASCE24-14_Highlights_Jan2015_revise2.pdf) (last visited July 23, 2019) [hereinafter FEMA]. A “breakaway wall” is defined as “[a] wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.” *Breakaway Wall*, FED. EMERGENCY MGMT. AGENCY (2018), <https://www.fema.gov/breakaway-wall> (last visited July 23, 2019).

<sup>14</sup> As one representative from the National Association of Home Builders put it, “[t]here is an increase in housing costs every time a new code or rule is put upon the builder.” Flavelle, *supra* note 5.

<sup>15</sup> See NAT'L INST. OF BLDG. SCIENCES, NATURAL HAZARD MITIGATION SAVES: 2017 INTERIM REPORT (2017), [http://www.wbdg.org/files/pdfs/MS2\\_2017Interim%20Report.pdf](http://www.wbdg.org/files/pdfs/MS2_2017Interim%20Report.pdf) (last visited July 23, 2019); see also Joshua G. Behr & Carol Considine, *Building Resilient Communities Amid Costly Storms*, THE VIRGINIA-PILOT, Sep. 16, 2018, [https://pilotonline.com/opinion/columnist/guest/article\\_849e9e82-b6b6-11e8-9bad-5f49a6eb3423.html](https://pilotonline.com/opinion/columnist/guest/article_849e9e82-b6b6-11e8-9bad-5f49a6eb3423.html) (last visited July 23, 2019).

## II. THE HOME APPRAISAL PROCESS

### A. Requirements for Residential Real Estate Appraisers

Residential real estate appraisers attempt to measure the value of a piece of property prior to the completion of a sale or refinance of the property.<sup>16</sup> Traditionally, regulation of real estate appraisers was left up to the states.<sup>17</sup> The Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (“FIRREA”) created an Appraisal Subcommittee (“ASC”) within the Federal Institutions Examinations Council (“FFIEC”) to oversee state licensing and certification of real estate appraisers.<sup>18</sup> FIRREA required states to establish requirements for licensing and certification, and to coordinate with the Appraisal Foundation, a professional organization authorized by Congress as the source of appraisal standards and appraiser qualifications.<sup>19</sup> The Appraisal Foundation issues specific federal standards that make up the Uniform Standards of Professional Appraisal Practice (“USPAP”).<sup>20</sup> FIRREA requires appraisers to follow the USPAP for all federally related real estate transactions.<sup>21</sup> The USPAP requires use of the appropriate Fannie Mae/Freddie Mac standardized appraisal form for all property related to a Federal Housing Act (“FHA”) mortgage.<sup>22</sup> These forms are discussed further below in Section C.

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<sup>16</sup> EDWARD MURPHY, CONG. RESEARCH SERV., REGULATION OF REAL ESTATE APPRAISERS 1 (2012), <https://fas.org/sgp/crs/misc/RS22953.pdf> (last visited July 23, 2019).

<sup>17</sup> *Id.*

<sup>18</sup> *Id.* The ASC of the FFIEC can be found at 12 U.S.C. § 3301 *et seq.* The ASC reviews approximately half of the states’ appraiser boards each year for compliance with federal regulations. APPRAISAL SUBCOMMITTEE, FED. FIN. INST. EXAMINATION COUNCIL, ANNUAL REPORT 2011, 15 (2012), <https://www.asc.gov/Documents/AnnualReports/2011%20Annual%20Report.pdf> (last visited July 23, 2019).

<sup>19</sup> MURPHY, *supra* note 16, at 1; *About Us*, THE APPRAISAL FOUND., [https://www.appraisalfoundation.org/imis/TAF/About\\_Us/TAF/About\\_Us.aspx?hkey=52dedd0a-de2f-4e2d-9efb-51ec94884a91](https://www.appraisalfoundation.org/imis/TAF/About_Us/TAF/About_Us.aspx?hkey=52dedd0a-de2f-4e2d-9efb-51ec94884a91) (last visited July 23, 2019).

<sup>20</sup> *What is USPAP?*, THE APPRAISAL FOUND. (2019), [https://www.appraisalfoundation.org/imis/TAF/Standards/Appraisal\\_Standards/Uniform\\_Standards\\_of\\_Professional\\_Appraisal\\_Practice/TAF/USPAP.aspx](https://www.appraisalfoundation.org/imis/TAF/Standards/Appraisal_Standards/Uniform_Standards_of_Professional_Appraisal_Practice/TAF/USPAP.aspx) (last visited July 23, 2019).

<sup>21</sup> MURPHY, *supra* note 16, at 4.

<sup>22</sup> OFFICE OF SINGLE FAMILY HOUSING, FED. HOUSING AUTH., U.S. DEP’T OF HOUSING AND URBAN DEV., FHA SINGLE FAMILY HOUSING APPRAISAL REPORT AND DATA DELIVERY GUIDE 2 (2016), [https://www.hud.gov/sites/documents/SFH\\_POLI\\_APPR\\_RPT\\_FIN.PDF](https://www.hud.gov/sites/documents/SFH_POLI_APPR_RPT_FIN.PDF) (last visited July 23, 2019)[hereinafter FHA SINGLE FAMILY HOUSING].

After the housing market crash that began in 2007, the federal government increased its oversight and requirements for real estate appraisers through the Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank Act”).<sup>23</sup> The Dodd-Frank Act established more specific criteria at the federal level for the residential property appraiser profession, and mandated independence for appraisers, preventing undue influence and conflicts of interest, especially for properties with high-risk loans.<sup>24</sup> Additionally, the Housing and Economic Recovery Act (“HERA”) of 2008 also included a provision to increase appraiser independence by prohibiting anyone with an interest in the real estate transaction from influencing any appraisal done in connection with a federally related mortgage.<sup>25</sup>

Despite the increase in federal regulations, states remain the primary authority for implementing the majority of the laws and regulations surrounding appraisers. In Virginia, real estate appraiser regulations are extensive.<sup>26</sup> First, there are general qualifications for licensure, which include good moral character and the ability to pass a public trust security screening, in addition to educational requirements depending on whether the appraiser is considered a licensed residential appraiser, certified residential appraiser, or certified general appraiser.<sup>27</sup>

In addition to these one-time requirements for licensure and/or certification, all real estate appraisers in Virginia must also complete continuing education courses totaling 28 classroom hours during each licensing term.<sup>28</sup> Virginia’s Real Estate Appraiser Board is also tasked with approving appraisal educational offerings for pre-licensure and continuing education credit.<sup>29</sup> Training

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<sup>23</sup> 12 U.S.C. §§ 5301-5641 (2010); FHA SINGLE FAMILY HOUSING, *supra* note 22, at 1.

<sup>24</sup> *Id.*

<sup>25</sup> 12 U.S.C. §§ 5101-5116 (2008); *FHA Single Family Housing*, *supra* note 22, at 12.

<sup>26</sup> See 18 VA. ADMIN. CODE §§ 130-20-10 – 130-20-250 (2018).

<sup>27</sup> *Id.* § 130-20-30. A licensed residential appraiser must complete 150 hours of approved real estate courses, including the USPAP course, and 1,000 hours of appraisal experience. *Id.* A certified residential appraiser, on the other hand, must complete 200 hours of approved real estate courses, including the USPAP course, 1,500 hours of appraisal experience, and hold either a bachelor’s degree in any field or an associate’s degree in a business or real estate-related field, or complete a specified combination of other courses deemed equivalent. *Id.* Lastly, a certified general appraiser must complete 300 hours of approved real estate courses, including the USPAP course, 30 classroom hours of nonresidential property appraisal instruction, 3,000 hours of appraisal experience, and hold a bachelor’s degree or higher. *Id.*

<sup>28</sup> *Id.* § 130-20-100.

<sup>29</sup> *Id.* § 130-200-230.

on recognizing and valuing flood resilience measures, if it exists at all, is not commonly known or used for recertification among appraisers.<sup>30</sup> However, there are trainings on flood zone maps included in the education courses required for initial certification and continuing education.<sup>31</sup> Additionally in the Hampton Roads area of Virginia, appraisers can take a course on sea level rise impact on coastal communities.<sup>32</sup>

## B. Summary of the Appraisal Process

An appraisal is an unbiased report of the fair market value of a piece of property, determined by a licensed and trained real estate appraiser.<sup>33</sup> Appraisers generally must be independent of all parties involved in the real estate transaction.<sup>34</sup> Additional requirements may apply to the appraisal process depending on individual circumstances. For example, property visits are required for residential appraisals involving a high-risk mortgage.<sup>35</sup>

Standardized forms are always used in residential real estate appraisals.<sup>36</sup> Perhaps the most common of these is the Uniform Residential Appraisal Report (“URAR”), or Fannie Mae Form 1004/Freddie Mac Form 70, used for single-

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<sup>30</sup> Telephone Interview with John A. Dunlap, Owner, John A. Dunlap & Associates (Feb. 26, 2019) [hereinafter Dunlap Interview]. Mr. Dunlap is a certified residential appraiser in Virginia, focusing his work in the Virginia Beach, Norfolk, Chesapeake, Suffolk, and Portsmouth areas. Mr. Dunlap has been a real estate appraiser since 2009, and received his certification in 2014. Since 2016 he has owned his own appraisal business, John A. Dunlap & Associates.

<sup>31</sup> *Id.*; see also *Appraisal Institute Education*, APPRAISAL INST., [https://www.myappraisalinstitute.org/education/default.aspx?grp=QE&fcsw=&stcode=&chprid=&\\_ga=2.249262979.567799567.1552582864-1090878231.1552582864](https://www.myappraisalinstitute.org/education/default.aspx?grp=QE&fcsw=&stcode=&chprid=&_ga=2.249262979.567799567.1552582864-1090878231.1552582864) (last visited July 24, 2019).

<sup>32</sup> For example, a training held on April 9, 2019 discussed “the significant impact that sea level rise is having on our coastal communities - their economies, infrastructure, and safety of life. One impact, that will be discussed, is on the value of our coastal property affected by recurring storm surge, tidal flooding and permanent inundation that is becoming more apparent every day.” *Sea Level Rise Impact on Coastal Communities Presentation for Appraisers*, APPRAISAL INST., [http://www.myappraisalinstitute.org/education/more\\_info.aspx?id=48485](http://www.myappraisalinstitute.org/education/more_info.aspx?id=48485) (last visited July 24, 2019).

<sup>33</sup> Kristin Demshki, *Understanding the Home Appraisal Process*, PENNYMAC LOAN SERVICES, LLC, <https://www.pennymacusa.com/blog/understanding-the-home-appraisal-process> (last visited July 25, 2019).

<sup>34</sup> FHA SINGLE FAMILY HOUSING, *supra* note 22, at 2.

<sup>35</sup> Murphy, *supra* note 16, at 1.

<sup>36</sup> Dunlap Interview, *supra* note 30.

family homes.<sup>37</sup> This form includes fields for neighborhood characteristics, market trends, interior and exterior features, foundation, and condition of the home, among other factors.<sup>38</sup> Other standardized forms are used for different property types, such as condominiums or small residential income properties, to reflect the differences inherent in those property types.<sup>39</sup>

The appraisal process begins when a lender requests an appraisal because of a pending sale or refinance of a home.<sup>40</sup> Loan officers are prohibited from communicating directly with appraisers; they must maintain an appraisal roster from which appraisers are selected based on a blind rotation. Once an appraiser is selected for the job, the appraiser goes out to inspect the house in person. The appraiser measures the house, draws a floor plan, and does a visual inspection, noting special features and the condition of the house in general. From these field notes, the appraiser then fills out the home's attributes in the applicable standardized form, as referenced above.

After that, the valuation process begins. The appraiser will typically use at least one of three possible valuation methods: the sales comparison approach, the cost approach, and the income approach. The sales comparison approach relies on the market to inform what the value of the house should be. The appraiser using this method consults the Real Estate Information Network (REIN) Multiple Listing Service (MLS) for professional listings of the sale prices of similar homes in the area, and can also check tax records. The appraiser then determines what a home's value should be based on comparing the home to similar sales and increasing or decreasing the price based on the square footage, features, and condition of the home.

The cost approach method, by contrast, does not consider sale prices of other homes in the area. Instead, it calculates the value of a home by adding the cost of the land to the cost to new-build home, minus depreciation for homes that are not brand new. This approach should lead to approximately the same result as the sales comparison approach, but is subject to more variation based on fluctuations in building material costs. Lastly, the income approach, which is

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<sup>37</sup> FANNIE MAE, UNIFORM RESIDENTIAL APPRAISAL REPORT, FANNIE MAE FORM 1004 (2005), [https://www.fanniemae.com/content/guide\\_form/1004.pdf](https://www.fanniemae.com/content/guide_form/1004.pdf) (last visited July 25, 2019); *see also* FHA SINGLE FAMILY HOUSING, *supra* note 22, at 2.

<sup>38</sup> FANNIE MAE, *supra* note 37.

<sup>39</sup> *See* FHA SINGLE FAMILY HOUSING, *supra* note 22, at 2.

<sup>40</sup> Dunlap Interview, *supra* note 30. The rest of the statements in this section are based on the Dunlap Interview as well.

typically used in commercial real estate appraisal and rarely for residential, attempts to weigh the amount of projected income of the investment property against annual expenses. Many appraisers will use multiple methods when coming up with their appraisal, but the sales comparison approach tends to be the most commonly used and most accurate way of measuring value. It is important to note that while an appraisal may be given deference by lenders, especially when the appraiser is certified, an appraisal is merely the opinion of the appraiser, and as such is not a perfect valuation of a home.<sup>41</sup> For more complex properties, lenders may seek the opinion of more than one appraiser.<sup>42</sup>

### C. Resilience Measures in the Appraisal Process

Flood resilience measures that can be implemented in homes prone to flooding include higher freeboard, flood vents, use of flood-resilient materials (such as stainless steel or other corrosion resistant materials for metal), elevating air conditioning units and other utilities, breakaway walls, and fuel supply lines that have float-operated automatic shut-off valves.<sup>43</sup> While studies have shown that these measures may yield up to a six-dollar return for every dollar spent in terms of flood damage,<sup>44</sup> there is concern that the market does not yet accurately reflect this added value. Indeed, many homes in flood zones are declining in property value due to recurrent flooding issues associated with rising seas and climate change.<sup>45</sup> While some property value decline is likely inevitable for recurrently flooding properties, resilience measures can help abate that problem to an extent. However, it remains to be seen whether the marketplace will in fact assign much value to resilience measures.

Flood resilience measures are currently factored into the appraisal process when the appraiser considers the overall quality of the construction of the home, and compares that quality with sales of homes with similar features in the area.<sup>46</sup> The appraisal process therefore takes resilience measures into account by

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<sup>41</sup> *Id.*; APPRAISAL INSTITUTE, UNDERSTANDING THE APPRAISAL 3 (2013), [http://www.appraisalinstitute.org/assets/1/7/understand\\_appraisal\\_1109\\_\(1\).pdf](http://www.appraisalinstitute.org/assets/1/7/understand_appraisal_1109_(1).pdf) (last visited July 25, 2019).

<sup>42</sup> Dunlap Interview, *supra* note 30.

<sup>43</sup> See FEMA, *supra* note 13.

<sup>44</sup> See NAT'L INST. OF BLDG. SCIENCES, *supra* note 15.

<sup>45</sup> Nicholas Kusnetz, *Coastal Flooding is Erasing Billions in Property Value as Sea Level Rises. That's Bad News for Cities*, INSIDE CLIMATE NEWS, Feb. 28, 2019, <https://insideclimatenews.org/news/28022019/coastal-flooding-home-values-sea-level-rise-climate-change-ocean-city-miami-beach?amp> (last visited July 25, 2019).

<sup>46</sup> Dunlap Interview, *supra* note 30.



determining how much home buyers are willing to pay for them through market interpretation, just as with every other home feature.<sup>47</sup> Features such as the flood resilience measures described above would be listed under the “special features” section of the appraisal form, but do not fit into any other check box on the form.<sup>48</sup>

Adding flood resilience measures, as things stand today, involves a large risk to the builder.<sup>49</sup> In theory, the builder can pass on these added costs to the buyer, but only to the extent that the buyer is willing to pay more for those measures.<sup>50</sup> With the real estate market in the Hampton Roads area as it stands today, buyers are not yet willing to pay much more for a home with flood resilience measures than for a home without them, thus leaving the burden of the added cost to build in accordance with these measures resting on the builder’s shoulders.<sup>51</sup> Because buyers do not value the resilience measures very highly, their added value is not taken into account in the market, and appraisers therefore do not make an adjustment in the home price for the addition of a resilience measure.<sup>52</sup>

#### D. Suggested Improvements to the Appraisal Process

Presumably at some point, if climate change, sea level rise, and flood damage continue to occur with increasing regularity, either the builders or the buyers will have to budge.<sup>53</sup> Either the builders will stop building in flood zones because building code requirements make it too expensive to do so when buyers are not willing to pay the extra cost of flood resilience measures in the market, or the buyers will become increasingly willing to bear that significant extra cost to live in a flood zone.<sup>54</sup>

If the appraisal process is what needs to change to help solve the apparent incongruity between increased flooding events and more lenient building codes, then several suggestions can be implemented. First, an increase in public awareness of the benefits of installing flood resilience measures in recurrently

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<sup>47</sup> *Id.*

<sup>48</sup> *Id.*; FANNIE MAE, *supra* note 37.

<sup>49</sup> Dunlap Interview, *supra* note 30.

<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

flooding homes could help people to see the value in implementing resilience measures in their homes. Increasing accessibility of data on the investment return on implementing these measures, for example, may change people's minds on whether they want their homes built with certain flood protections in place. If people were more aware of the savings these measures can offer in the event of flooding, this may drive market demand for the resilience measures and fill the apparent gap. Public awareness could be promoted by municipalities through their floodplain management programs, or on a statewide level through the Department of Housing and Community Development (DHCD).

Second, the Virginia Real Estate Appraiser Board can attempt to increase the amount of trainings available to real estate appraisers on identifying flood resilience measures in homes, especially those located in flood zones. Perhaps if appraisers were more familiar with the various resilience measures that exist, they may be more likely to notice a difference in market value of the homes with or without the measure that may be tied to it. Lastly, appraisers could attempt to engage with Fannie Mae and Freddie Mac to specifically incorporate flood resilience measures into updated versions of the URARs.<sup>55</sup>

While implementing these changes may help the real estate market better account for flood resilience measures in the appraisal process, this may not be the best answer to the problem. It may be the case that it simply takes time for the market to take resilience measures into account. As we as a society continue to learn and experience more of the effects of climate change and sea level rise, we may value flood resilience measures more than we do at present. On the other hand, it is possible that the opposite will occur, and people will realize that living in a flood-prone area is not worth the added risk and cost. There is a possibility that people will never value these measures at the same cost they take to install because people will simply stop purchasing homes in an area that is flooding, especially given the roads and other infrastructure in the area that would likely also be affected by recurrent flooding. In such case, perhaps we do not want to continue to incentivize development in areas that will continue to flood.

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<sup>55</sup> The URARs were last updated in 2005. See FANNIE MAE, *supra* note 37; Dan Bradley, *Fannie and Freddie to Update Appraisal Forms*, MCKISSOCK LEARNING, May 23, 2018, <https://www.mckissock.com/blog/appraisal/fannie-freddie-update-appraisal-forms/> (last visited July 25, 2019). In May 2018, Fannie Mae and Freddie Mac announced they plan to update the Uniform Appraisal Dataset (UAD), including the URAR forms. Press Release, Unif. Mortg. Data Program, Fannie Mae and Freddie Mac to Update Appraisal Dataset and Forms (May 22, 2018), <https://www.fanniemae.com/content/news/uad-announcement-may-2018.pdf> (last visited July 25, 2019).

### III. CONCLUSION

The appraisal process is a reflection of the housing market itself, and therefore does not reflect a demand for flood resilience measures to an extent beyond that which exists in the current market. While changes to the appraisal process may help to the extent the process does not currently reflect the demand for resilience measures, it is likely that other factors are at play in flood resilience measures not being reflected in housing values. Public education about flooding and resilience measures is needed to influence the market and encourage people to either install flood resilience measures in their homes or consider the possibility of living outside of the flood zones.