Virginia Community Flood Preparedness Fund Application

## Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach

September 3, 2021





## Appendix A: Application Form for Grant Requests for All Categories

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program

Name of Local Government:				
City of Hampton				
Category of Grant Being Applied for (check one):				
Capacity Building/Planning				
X Project				
Study				
NFIP/DCR Community Identification Number (CID) 515527				
If a state or federally recognized Indian tribe, Name of tribe				
Name of Authorized Official:  Brian DeProfio, Assistant City Manager				
Signature of Authorized Official:				
Mailing Address (1): 22 Lincoln Street				
Mailing Address (2):				
City: Hampton State: Virginia Zip: 23669				
Telephone Number: (, Cell Phone Number: ()				
Email Address:				

Cor	ntact Person (If different from a	authorized (	official):	Carolyn He	eaps		
Ma	iling Address (1): 22 Lincoln S	treet					
Ma	iling Address (2):						
City	y:Hampton	State:	VA		Zip:	3669	
Tel	ephone Number: ()		_ Cell Pho	one Numbe	r: ()		
Em	ail Address:						
ls t	he proposal in this application i	ntended to	benefit	a low-incon	ne geogr	aphic area as d	efined
in t	he Part 1 Definitions? Yes _	X No	_				
Cat	egories (select applicable proje	ect):					
Pro	ject Grants (Check All that App	ly)					
	Acquisition of property (or inte floodwater inundation, strategi flooding; the conservation or e acquisition of structures, provid from further development.	ic retreat of enhanceme	f existing nt of nat	land uses fr ural flood re	om area	s vulnerable to resources; or	
<b>X X X X Y</b>	Wetland restoration. Floodplain restoration. Construction of swales and sett Living shorelines and vegetated Structural floodwalls, levees, be Storm water system upgrades. Medium and large scale Low Im Permanent conservation of und Conserve Virginia Floodplain and tool.	d buffers. erms, flood npact Devel developed l	gates, st opment ands ide	(LID) in urba	an areas.	od resilience val	
	Dam restoration or removal.						
	Stream bank restoration or stal						
	Restoration of floodplains to no Developing flood warning and a notify residents of potential em	response sy	stems, w	hich may in	clude ga	uge installation	, to

#### Study Grants (Check All that Apply)

Studies to aid in updating floodplain ordinances to maintain compliance with the NFIP or to incorporate higher standards that may reduce the risk of flood damage. This must include establishing processes for implementing the ordinance, including but not limited to, permitting, record retention, violations, and variances. This may include revising a floodplain ordinance when the community is getting new Flood Insurance Rate Maps (FIRMs), updating a floodplain ordinance to include floodplain setbacks or freeboard, or correcting issues identified in a Corrective Action Plan.

Revising other land use ordinances to incorporate flood protection and mitigation goals, standards and practices.

Conducting hydrologic and hydraulic studies of floodplains. Applicants who create new maps must apply for a Letter of Map Revision or a Physical Map Revision through the Federal Emergency Management Agency (FEMA). For example, a local government might conduct a hydrologic and hydraulic study for an area that had not been studied because the watershed is less than one square mile. Modeling the floodplain in an area that has numerous letters of map change that suggest the current map might not be fully accurate or doing a detailed flood study for an A Zone is another example.

Studies and Data Collection of Statewide and Regional Significance.

Revisions to existing resilience plans and modifications to existing comprehensive and hazard.

Other relevant flood prevention and protection project or study.

#### **Capacity Building and Planning Grants**

Floodplain Staff Capacity.

Resilience Plan Development

Revisions to existing resilience plans and modifications to existing comprehensive and hazard mitigation plans.

Resource assessments, planning, strategies and development.

- Policy management and/or development.
- Stakeholder engagement and strategies.

Location of Project (Include Maps): _	Downtown Hampton, Phoebus, and Buckroe Beach
NFIP Community Identification Num	ber (CID#):(See appendix
F_ 515527	_

Is Project Located in an NFIP Participating Community?
Is Project Located in a Special Flood Hazard Area?
Flood Zone(s) (If Applicable): AE, VE, X
5155270020H, 5155270026H, 5155270025H Flood Insurance Rate Map Number(s) (If Applicable): 5155270018H, 5155270019H,
Total Cost of Project: \$244,125
Total Amount Requested \$154,635

Virginia Community Flood Preparedness Fund Application

### **Attachment 1: Scope of Work Narrative**







# Virginia Community Flood Preparedness Fund Application **Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach**Attachment 1 – Scope of Work Narrative

#### **Part I: Project Information**

#### Introduction

Hampton, Virginia is a cultural treasure of state, national, and international significance. Our modern relationship to the water was developed and shaped over centuries by our connection to the Chesapeake Bay, Hampton Roads Harbor, and Back River. Here there are more than 124 miles of navigable waterfront. The draw to the coast and the livelihoods this natural feature supports have led Hampton to develop a culture centered around water, illustrated by the fishing, tourism, boating, and military industries that thrive in our city today.

Anecdotal and empirical evidence tells us that our relationship to water is changing. Climate change is rapidly fueling an increase in extreme heat days, rising seas, and storms that are more powerful and more frequent than we have known in the past. These changes mean that Hampton's residents, businesses, and government must adapt to more successfully live with the water that is intrinsic to our economy, culture and identity. In 2017, Hampton publicly embraced this challenge and released the plan Living with Water Hampton: A Holistic Approach to Addressing Sea Level Rise and Resiliency. This was our first step in launching Hampton's resiliency initiative, Resilient Hampton. Since then, we have begun an ambitious journey to analyze the challenges posed by flooding in a changing climate in each of our watersheds. This began with Newmarket Creek, where the City worked collaboratively with residents and consultants to identify projects appearing in the Resilient Hampton Newmarket Creek Pilot Project Area Water Plan. Three of those projects are now under design, and their construction will begin in spring 2022. These projects are financed by an innovative Environmental Impact Bond, which is the first of its kind in the Commonwealth, and one of few of its kind operational in the country. Each project is designed to slow, store, and redirect water as a strategy to mitigate negative impacts of flooding, while treating Newmarket Creek as a valuable environmental and cultural asset for the City.

Hampton is now poised to take the next step to pursue resilience in three economically, culturally, and historically significant areas of the city: Downtown Hampton, Phoebus and Buckroe Beach. A diverse and unique set of assets central to the Hampton community are located in each of these neighborhoods: from the locally-owned restaurants and shops lining the walkable and historic Mellen Street in Phoebus, to critical city-owned facilities that serve Hampton residents Downtown, to the sandy expanse of public beach at Buckroe Beach Park that draws locals and tourists alike. These areas are also closely tied to Fort Monroe, Hampton University, and the Hampton VA Medical Center, each of which have unique relationships to the City, and contribute greatly to the



economic and cultural conditions that make Hampton a special and desirable place to live, work and visit.

This proposal seeks funding to forward Resilient Hampton's vision and goals by completing the initial concept development and conceptual design of nature-based or hybrid projects in the urban cores of these three study areas: Downtown Hampton, Downtown Phoebus, and Buckroe Beach. Funding would finance remaining tasks by consulting group Waggonner & Ball Architecture/Environment to complete the *Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach Water Plan*. The water plan is already underway, but significant work remains to reach these initial project designs.

The initial project conceptual designs generated by this work will align with the values and guiding principles outlined in the Resilient Hampton *Living with Water* plan, and will slow, store and redirect water, and adapt neighborhoods to changing water conditions. In mitigating flooding, each project will prioritize the use of nature-based solutions, and will contribute to economic vitality and social equity in Hampton's communities.

#### Project area

The project area is located in the southeast corner of the City of Hampton, where the Hampton Roads Harbor meets the Chesapeake Bay (see Figure 1). Focus for project concepts will center on urban cores within three of Hampton's neighborhoods: Downtown Hampton, Phoebus, and Buckroe. The urban cores of these neighborhoods have mixed-use development patterns home to both residential and commercial density, as well as public open space. Envisioned projects will give intentional consideration to the connections – hydraulic, environmental, infrastructural, cultural, social, and economic – between these urban cores and their surroundings. Although Fort Monroe and the VA Medical Center are not within the City's jurisdiction, we have and will continue to collaborate with each entity to explore opportunities to align our projects with their planned development and flooding challenges. Hampton University, also adjacent to the project area, is a critical partner for collaboration. Each of these nearby institutions are crucial to the wellbeing of the City, but also the region, the Commonwealth, and the nation.

Downtown Hampton, Downtown Phoebus, and Buckroe Beach – while geographically close in proximity – have distinct characteristics and identities, each tied to the water in unique ways. The history of these places tells a story of resilience in the face of change over multiple centuries. Each is home to places of national historic significance, economic centers for the City, and a mix of residents from a variety of socioeconomic backgrounds. The identity and prosperity of each is worth preserving through adaptive approaches in the face of imminent threat fueled by climate change.

**Downtown Hampton.** The Downtown Hampton project area includes residential neighborhoods, City offices and critical facilities, locally-owned restaruants, shops, and breweries, one of the

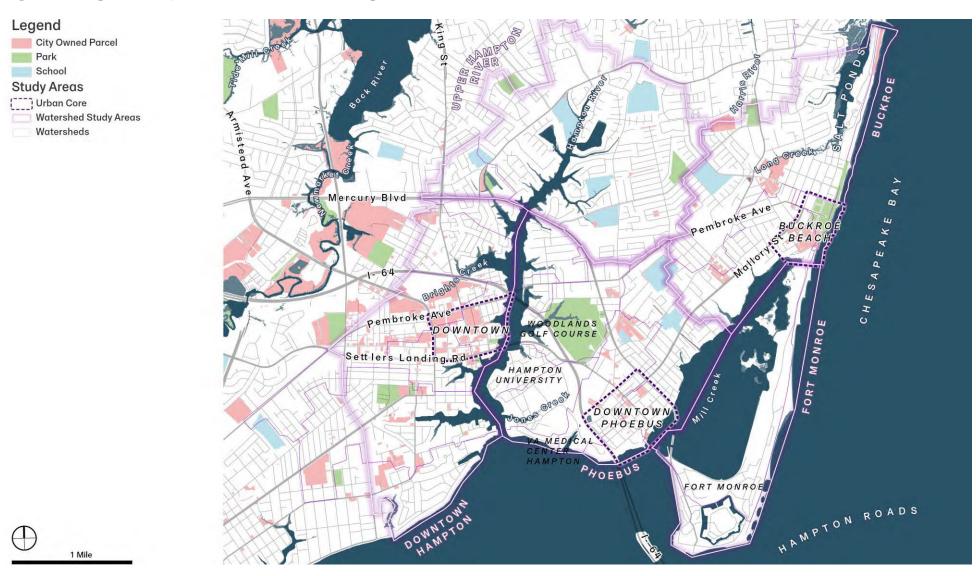


nation's oldest churches, and destinations for recreation and leisure, including historic sites. It also includes notable opportunities for redevelopment, and in some areas redevelopment is currently underway. A detailed map of the project area is shown in Figure 2.

**Downtown Phoebus.** The Downtown Phoebus project area is characterized by gridded blocks housing a mix of residential and commercial properties, centered around East Mellen Street, home to numerous locally-owned restaurants, bars, and shops. Small neighborhood park facilities are also present. The area has direct connections to both the Veterans' Affairs Medical Center and the Fort Monroe National Monument, and therefore serves as a critical connection between the City and these institutions. A detailed map of the project area is shown in Figure 3.

**Buckroe Beach.** The Buckroe Beach project area is characterized by a large portion of City-owned parcels and public park space, including a three-quarter mile public beach and two piers. Single-family residential developments exist inland of these amenities, and to the north of the project area. A detailed map of the project area is shown in Figure 4.

Figure 1. Proposed Project Areas: Downtown Hampton, Downtown Phoebus, and Buckroe Beach



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Figure 2. Proposed Project Area: Downtown Hampton

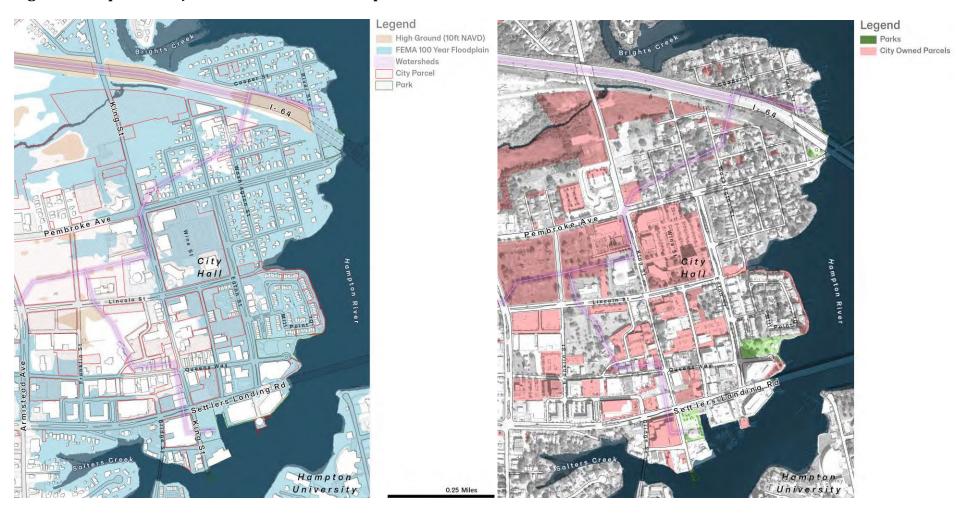


Figure 3. Proposed Project Area: Downtown Phoebus



Figure 4. Proposed Project Area: Buckroe Beach



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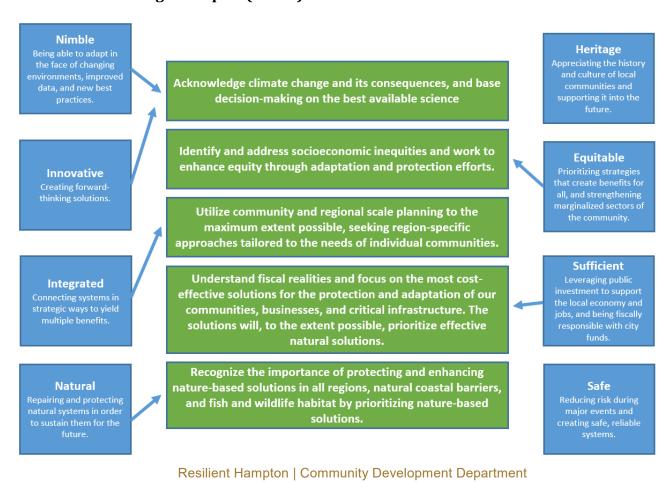


#### Alignment with Hampton's Resilience Plan

Implementation of flood resiliency projects in the Downtown, Phoebus, and Buckroe watersheds is in direct alignment with the next steps and vision identified in Resilient Hampton's primary planning document: *Living With Water Hampton: A Holistic Approach to Addressing Sea Level Rise and Resiliency.* The plan identified the need to identify two geographic focus areas for detailed analysis, planning, and project implementation, in which the City would apply the strategies for resilience outlined in the original plan. The first of these geographic focus areas was the Newmarket Creek watershed, where implementation of projects is beginning. This proposed work in Downtown, Phoebus and Buckroe represents the second geographic focus area for implementation.

The City of Hampton's values for resiliency are closely matched with the guiding principles embraced by the Commonwealth of Virginia in its Coastal Resilience Master Planning Framework. Figure 5 illustrates this alignment.

Figure 5. Resilient Hampton Values (Blue) and VA Coastal Resilience Master Planning Framework Guiding Principles (Green)



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#### **Population**

According to data from the 2020 census, the City of Hampton's total population is 137,148. Data from the 2019 5-year ACS estimates suggest that more than eight percent of Hampton's residents (11,483 individuals) reside in the approximate Downtown, Phoebus, and Buckroe Beach project areas, and therefore would directly benefit from project interventions to mitigate flood risk. The proposed projects in each of the project areas, however, will benefit more than those residents alone. Individuals who regularly work in and travel to these neighborhoods – as well as tourists drawn to the area for their cultural, historical, and natural attractions –will also benefit directly and indirectly from efforts to reduce flooding impacts to critical infrastructure, commercial properties, parks and recreational facilities.

The Downtown Hampton and Phoebus project areas are considered low-income based on local median household income data. The Downtown Hampton project area has a median household income of \$40,237 according to 2019 ACS 5-year estimates. It also overlaps significantly with a Qualified Opportunity Zone established by the Commonwealth of Virginia. The Phoebus project area encompasses two census tracts, which – when averaged – result in a median household income of \$40,598.¹ Each of these median household income rates is less than 80 percent of the median household income for both the Metropolitan Area and City of Hampton (see Table 1). The Buckroe Beach project area's median household income of \$65,750 exceeds 80 percent of the median income rates for the City, metropolitan area, and state geography levels.

Table 1. 2019 ACS 5-Year Estimates for Median Household Income by Geography

Geography	Median HH Income	80% Median HH Income
Commonwealth of Virginia	\$74,222	\$59,378
Virginia Beach-Norfolk-Newport News, VA- NC Metro Area	\$66,759	\$53,407
City of Hampton	\$56,287	\$45,030

#### Historic flooding data and hydrologic studies projecting flood frequency

Downtown Hampton, Downtown Phoebus, and Buckroe Beach are each in a mapped floodplain and subject to recurrent flooding powered by environmental factors, and complicated by patterns of human development. A FEMA-generated FIRM panel or FIRMette for each project area may be found in Attachment 5 of this proposal.

 $<sup>^{1}</sup>$  Taken individually, median household incomes for these tracts are \$46,000 and \$35,195.



Downtown Hampton. The Downtown Hampton project area is located near the mouth of the Hampton River. As shown in the attached FIRMettes effective May 16, 2016, much of this project area is located in the Special Flood Hazard Area (SFHA) zone AE, with base flood elevations of seven to eight feet. Of the remaining project area outside of the SFHA, the majority is within the 0.2% annual chance flood hazard zone. Tidal flooding and sea level rise are key challenges for this low-lying land. Here, coastal homes and businesses already experience challenges with tidal flooding, including preventing safe egress routes to neighborhoods such as Pasture Point. Clusters of repetitive loss properties exist along the Hampton River. As sea levels rise, buildings and infrastructure fronting on the Hampton River will experience ever more frequent tidal flooding events. By 2080, all of Downtown Hampton will be located in the floodplain, with 80 or more existing structures expected to be located on ground which will have become permanently inundated.

Further, this highly developed area has significant amounts of impervious surface, particularly south of Lincoln Street and around City-owned facilities. As a result, runoff levels are high during rainfall events, and flash flooding can occur during heavy rains. Stormwater runoff currently flows into the Hampton River via drainage pipes that will cease functioning as sea levels rise. These same pipes may contribute to localized flooding in the future, if reverse flow occurs during high tides and storm surge events. If impacted by a category 3 hurricane, NOAA's Sea, Lake and Overland Surges Maximum of Maximums (SLOSHMOM) model predicts much of Downtown Hampton would experience six to nine feet of storm surge. As extreme weather events become more powerful and more frequent, it is imperative that the City ensure the continued operation of critical facilities located in this area to respond and support the City of Hampton at large.

**Downtown Phoebus.** This project area is located where Mill Creek meets the Hampton Roads water body, across from the Fort Monroe peninsula. The majority of land here is relatively high compared to the City as a whole, with two low-lying areas at the south and northeast corners. The attached FIRM panel (map number 5155270026H), effective May 16, 2016, shows these areas in the SFHA zones AE and VE, with base flood elevations of seven to eight feet. There are known clusters of repetitive loss properties in these areas.

Presently, NOAA's SLOSHMOM modeling places Phoebus at lower risk for storm surge impacts than other nearby waterfront neighbrhoods. However, as sea levels rise, these zones are expected to expand significantly. Sea level rise models predict that between the years 2040 and 2080, virtually all of the project area's land will become located within the 100-year floodplain. During this period, the low-lying, water adjacent stretch of the project area's southern boundary is expected to transition to permanent inundation. There are currently approximately 25 existing structures in this area.

Downtown Phoebus is experiencing tidal flooding with increasing frequency, exacerbated by water backflow through stormwater drainage infrastructure during high tides. As a result, reports of flooding have been document in land which is outside of the mapped floodplain, at higher



elevations. Aging and undersized infrastructure in this growing area contribute to localized challenges. This condition may exacerbate local preparedness and recovery from hurricanes and other extreme weather events, which we know to be occurring with increasing frequency and severity.

**Buckroe Beach.** This project area is located at the juncture of Hampton with the Fort Monroe peninsula, at the northern end of Mill Creek. The majority of this project area fronts directly on the Chesapeake Bay. Buckroe Beach is exposed to storm surge and wind damage from storm events. In 2016, Hurricane Matthew resulted in extensive shoreline damage.

The attached FIRM panel (map number 5155270020H), effective May 16, 2016, shows that approximately half of the project area is already located within the SFHA and 100-year floodplain, zones AE and VE. Base flood elevations in this area range between seven and nine feet. Ouside of these zones, most of the remaining land is within the 0.2 percent annual flood risk area. Unlike Downtown Hampton and Downtown Phoebus, a significant portion of the Buckroe Beach 100-year floodplain is currently without structures, featuring both beaches and grassy parks. Where structures do exist in these zones, there are documented pockets of repetitive loss and reports of flooding to the City.

By 2080, predictions indicate that all of this project area will be located in the floodplain, with areas along Mill Creek becoming permanently indudated, and the land connection to Fort Monroe beginning to disappear under rising waters. SLOSHMOM modeling places much of the project area in the three to six foot modeled depth during a category three storm in present conditions. With sea level rise and widening floodplains, storm surge zones and depths are likewise expected to expand.

#### The ability of the local government to provide its share of the cost

The total cost to complete the water plan for Downtown, Phoebus and Buckroe is \$244,125. Of this, the City of Hampton has already allocated funding for Task 1 of the plan, including data collection, analysis, and developing broad watershed concepts. The cost of completing Task 1 is \$89,500 and will be paid by the City of Hampton in full. The remaining two tasks of the plan, which will refine watershed concepts into specific project concepts and develop initial project concept designs, will cost \$154,625. This represents approximately 63.3 percent of the total project cost. Funding already committed by the City to fund Task 1 of the work (36.7 percent) meets the match requirement stipulated by the grant manual. This project will serve low-income geographic areas, and will result in hybrid solutions for flood mitigation. Therefore, the match required is 35 percent.

A signed pledge agreement certifying the City's commitment to providing \$89,500 to fund Task 1 of the project can be found in Attachment 6.



#### Administration of local floodplain management regulations

A copy of the City of Hampton's current floodplain ordinance can be found in Attachment 7. This ordinance is also accessible online via municode at <a href="https://library.municode.com/va/hampton/codes/zoning?nodeId=CH9OVDI\_ARTIVDILOZOOV">https://library.municode.com/va/hampton/codes/zoning?nodeId=CH9OVDI\_ARTIVDILOZOOV</a>.

#### Other necessary information to establish project or study priority

**Repetitive Loss and Severe Loss Properties.** The most recent data available to the City from 2018 indicates that there were a total of 25 repetitive loss properties and five severe repetitive loss properties in the proposed project area. A breakdown of this data by type and location is shown below in Table 2. We know, however, that this data does not reflect current conditions in the project areas. Further, we know that the older age of structures in these areas and risk of sea level rise is increasingly threatening properties and structures.

The City of Hampton has requested updated loss data from state agencies and the Federal Emergency Management Agency in the recent past, but has not yet received that information.

Table 2. Repetitive Loss and Severe Repetitive Loss Properties by Project Area

	No. of Repetitive Loss	No. of Severe Repetitive Loss		
	Properties	Properties		
Downtown Urban Core	11	4		
Phoebus Urban Core	11	1		
Buckroe Beach Urban Core	3	0		

**Residential and Commercial Structures.** Hampton is the oldest continually settled, English-speaking community in the United States, and as such is rich in historic and cultural significance. This is especially true in the three project areas, which include the longest settled portions of the City.

The **Downtown Hampton** project area is a mixed-use neighborhood containing numerous historical structures. The entire Hampton Downtown Historic District is listed in the National Register. Here stands the oldest continuous English-speaking parish in the United States, St. John's Episcopal Church. Within the project area there are 119 non-residential and 241 residential structures. These numbers reflect that this area houses significant governmental and commercial activity, especially when compared to the rest of Hampton's development patterns.

The **Phoebus project area** is another historically significant, mixed use portion of Hampton. The Phoebus Historic District is completely within the Phoebus downtown project area addressed by this project. This district was added to the Commonwealth's Landmarks Register and the National Park Service's National Register of Historic Places in 2006. Sixty percent of all buildings in Phoebus are eligible for tax credits for preservation and rehabilitation. In this area, there are 86



non-residential and 409 residential structures. Additionally, Phoebus is the gateway neighborhood to Fort Monroe, the newly established National Monument.

The **Buckroe Beach** project area centers on beloved public facilities, including a three-quarter mile public beach, public open park space, two public piers, and various other recreational amenities. Weekends and holidays bring community events to this expansive public space, including a weekly seasonal farmers market. Buckroe Beach houses a small stretch of commercial properties, but today is primarily a family-oriented, residential community. It is the only true beach community on the Hampton Roads peninsula. There are eight non-residential and 195 residential structures in the project area.

**Critical Facilities.** There are eleven critical facilities located in the proposed project area which are listed below in Table 3. Of these, seven are located in Downtown Hampton, which houses a significant portion of the City of Hampton's facilities, including City Hall and other administrative offices, as well as the police department, court, and correctional facilities. Of critical importance to identifying projects for resiliency in this project area is ensuring the continued operation of the essential services and functions by the City of Hampton. These services are crucial to meet residents' needs in the face of flooding and expected impacts of climate change.

Table 3. Critical Facilities by Project Area

Project Area	Facility Name
Downtown Hampton	Hampton City Hall
Downtown Hampton	Hampton Police Department
Downtown Hampton	Hampton 311 Citizen Contact Center
Downtown Hampton	Hampton Community Corrections Center
Downtown Hampton	Hampton Correctional Facility
Downtown Hampton	Ruppert Sargent Building – City offices
Downtown Hampton	Hampton Redevelopment and Housing Authority
Downtown Hampton	Verizon Communications Tower
Downtown Phoebus	Pump Station #4
Downtown Phoebus	Hampton Division of Fire and Rescue Station #2
Downtown Phoebus	Hampton Roads Bridge Tunnel North Entrance
Buckroe Beach	Pump Station #203



#### Part II: Need for Assistance

#### Local government financial and staff resources

The City of Hampton's Resiliency work is supported by a highly trained group of professionals, in addition to external consulting support. Staff engaged in Resilient Hampton and other flood mitigation efforts include:

- Resiliency Officer
- Community Development Department Director
- Senior City Planner
- City Planner
- Zoning Administrator
- Building Official
- Neighborhood Development Associate II
- Emergency Management Coordinator
- Emergency Management Planner
- Water Resources Engineer
- Senior Civil Engineer
- Senior Civil Engineer / Stormwater
- Parks, Recreation & Leisure Services Department Director
- Clean City Coordinator
- Deputy City Attorney
- Assistant City Attorney II

The City of Hampton has five certified floodplain managers on staff.

The City of Hampton has access to the following software which is relevant to the execution of flood mitigation and resiliency work:

- ArcGIS Desktop and Online
- Adobe Suite
- AutoCAD
- HURREVAC HV-X
- SLOSH
- HAZUS
- BasicGov
- 311 Communications



#### Social vulnerability of the study area

**Low-income geographic areas.** Both the Downtown Hampton and Phoebus portions of the project area are low-income geographies. The Downtown Hampton project area also aligns with a designated opportunity zone. According to 2019 5-year ACS data, both project areas have local median household incomes that are less than 80 percent of both the City of Hampton's median household income, and the greater metropolitan area's median household income.

**Social Vulnerability Index Score.** The census tracts that most closely align with the project areas and their social vulnerability index score as provided by the AdaptVA viewer are shown in Table 4 below. The average score for all project areas is 0.8, indicating moderate social vulnerability.

Table 4: Social Vulnerability Classification and Index Scores by Project Area

Project Area	Social Vulnerability Classification	Social Vulnerability Index Score
Downtown Hampton (census tract 106.01)	High	1.3
Downtown Phoebus (census tract 113)	Moderate	0.7
Buckroe Beach (census tract 110)	Moderate	0.5
Average	Moderate	0.8

#### **Alternatives**

The project concepts designed with this funding will prioritize use of nature-based solutions wherever feasible, and where infeasible, will pursue hybrid solutions for flood mitigation. The total project cost is less than \$3 million. Therefore, we do not present alternative options in this proposal to address the level of current and forecasted flood risk in the three project areas. To do nothing in the face of the accelerating climate crisis is not an option for Hampton. Inaction runs counter to the City's vision and mission. Each project area already experiences significant flooding impacts, and faces imminent risks from rising seas and worsening storms. For the health and prosperity of our city, it is crucial that Hampton invest in supporting residents to adapt to flooding, and in identifying innovative and functional solutions to maintain its critical functions, economy, and culture.



#### Part III: Goals and Objectives

The purpose of this project is to increase resilience to flooding in the City of Hampton by bolstering our community's inherent strengths, alleviating chronic stresses, and enabling recovery from extreme events and shocks in ways that make our community even stronger than before. In pursuit of these ends, this phase of the Resilient Hampton Initiative will create preliminary concept designs for specific projects in three geographic areas. The projects will be designed to slow, store, and redirect water, while embracing opportunities to adapt to changing environmental conditions driven by climate change. The projects will each provide community-scale benefits for these urban areas, and will focus on creating mitigation benefits and other cobenefits for the surrounding communities. For example, revitalized streetscapes with green infrastructure capture and store stormwater runoff, reducing pollutant loads before reaching our waterways, and creating space for comfortable, enjoyable walking space to benefit residents and visitors.

### Goal 1 – Develop projects which will mitigate existing impacts of flooding on public lands while prioritizing nature-based solutions to live with water.

- Objective 1.1 Design projects to detain and clean stormwater runoff before it overwhelms infrastructure and reaches our waterways, using best management practices wherever possible.
- Objective 1.2 Design projects to restore native floodways and create additional space in their floodplains to allow flooding to occur.
- Objective 1.3 Design projects to create multi-purpose, hybrid infrastructural solutions to prevent tidal backflow and reduce storm surge impacts.

## Goal 2 – Establish innovative, nimble, nature-based designs for coastal areas expected to be permanently inundated within the next 30-50 years.

- Objective 2.1 Design projects to ensure continued operation or relocation of key public infrastructure and amenities in harm's way.
- Objective 2.2 Design projects to restore natural habitats in low-lying areas, and connect them to other green spaces.
- Objective 2.3 Design projects to utilize public park spaces as flexible amenities in the short- and long-term.

## Goal 3 – Plan for project benefits to be equitably distributed, and to meet the needs of those who will be most impacted by climate change.

- Objective 3.1 Create project concept designs in collaboration with the local communities that prioritize maintaining the heritage, culture, and assets with which those communities identify.
- Objective 3.2 Share knowledge and information transparently with affected populations on a continual basis.



• Objective 3.3 – Prioritize flood mitigation project ideas that direct benefits to low-income, underserved and under-resourced communities.

Goal 4 – Identify opportunities to invest in maintaining Hampton's coastal heritage by reconnecting people with water as an asset, allowing people and nature to flourish side-by-side.

- Objective 4.1 Prioritize projects that will ensure the public has continued and expanded access to the water for recreational enjoyment.
- Objective 4.2 Avoid pursuing projects that will undermine water-dependent industries in the project areas.
- Objective 4.3 Explore creative opportunities for sustainable water-based transportation as a means of adapting to climate impacts.

#### **Expected Results and Benefits**

Successful completion of this work will result in a water plan for the Downtown, Phoebus and Buckroe areas that identifies, prioritizes, and recommends project design concepts aligned with Resilient Hampton's values, goals, and guiding principles.

**Goal 1 Expected Result** – The City of Hampton has a concept design for flood impact mitigation projects in each project area, and is prepared to begin pursuing funding and detailed designs for the projects. The benefits of this result include near-term reductions in risk to both human life and economic assets.

**Goal 2 Expected Result** – The City of Hampton has a concept design for coastal adaptation projects in each geographic area, and is prepared to begin pursuing funding and detailed designs for the projects. Mitigating medium-term risk by planning ahead for climate impacts will prepare the City to transition more smoothly to new urban and economic forms. Demonstrating action to create liveable neighborhoods into the future can also help drive investment in Hampton, in turn supporting economic opportunity in the community more broadly.

**Goal 3 Expected Result** – Groups that are low-income, underserved and/or under-resourced are engaged and plan to support and/or partner with the City on specific projects to mitigate and adapt to flooding. Achieving procedural justice is a key step toward climate equity. In addition to increased awareness of flooding challenges, an engaged and informed citizenry can identify the barriers to individual adaptation, as well as opportunities for City-led co-investment in environmental, social, and economic resilience.

**Goal 4 Expected Result** – A clear vision for treating water as an asset is established. Such a vision can produce both social and economic benefits in the community when it is shared with the public to generate identity and community around living with water. A strong vision for



how development will continue and thrive can spur reinvestment in Hampton's historically vital waterfront neighborhoods.



#### Part IV: Approach, Milestones, and Deliverables

#### **Approach**

Award of the funds requested by this proposal would support Tasks 2 and 3 of the City of Hampton's work with consultants Waggonner & Ball to create the *Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach Water Plan*. Task 1 of this water plan is already underway, and its result will be a detailed analysis of local conditions in the three study areas. This analysis will include current and projected flood risk, urban heat and vegetative density, land use and ownership, building conditions, socioeconomic conditions, historic patterns of development, anticipated and planned development, and infrastructure vulnerability. During the completion of Task 1, these factors will be used to envision broad concepts for resiliency projects in each of the three study areas.

Under Tasks 2 and 3 of this work, we will generate more specific concept designs for individual projects based on prior analysis conducted. Task 2 will refine strategies and identify projects. This will include consulting support from Waggonner & Ball and bi-weekly coordination meetings between their firm and the City of Hampton's staff, including the Resiliency Officer, a City Planner, and a Stormwater Engineer. The purpose of these meetings will be to review progress on project concepts and provide regular feedback. Additionally, Waggonner & Ball and City staff will meet with the local communities impacted by the water plan in a Design Workshop to share high-level concepts and collaborate on appropriate directions, local assets, and challenges. Under Task 3 of the project, Waggonner & Ball will work with the City to refine and prioritize concepts and feedback received from neighborhoods into resiliency and flood mitigation projects, including specific locations, typologies, schedules, and cost estimates for each of the three project areas. Once developed, these project ideas will be brought back to the community for feedback in a set of community outreach meetings. Regular bi-weekly meetings between City staff and consultants will continue through this time.

To ensure projects are grounded in the best available science, consultants will collaborate with engineering firm Moffat & Nichol, who are subcontractors to Waggonner & Ball for this project work. Both Waggonner & Ball and Moffat & Nichol have been deeply engaged in Hampton's completed and ongoing work to develop resiliency projects in the Newmarket Creek watershed, and thus project concepts and designs will replicate those successes and learn from those challenges.

#### Milestones, Deliverables and Timeline

Remaining work under Task 1 of the project is expected to conclude by the end of the 2021 calendar year. Implementation of Tasks 2 and 3 will proceed over a period of approximately 19 weeks, beginning on or about January 3, 2022 and continuing through on or about May 16, 2022. Progress will be measured by reaching milestones and completing deliverables outlined below.



Community engagement is a critical portion of the project's goals, objectives, and expected results, and the changing nature of COVID-19 pandemic may produce unforeseen challenges in reaching the public. We will create outreach plans with consideration for social distancing requirements, but recognize that achieving levels of engagement that meet our goals may require adaptive management and flexible approaches to adjust project timelines.

#### Remaining Milestones and Deliverables for Task 1 September 6, 2021 - December 31, 2021

**Milestone 1:** Watershed-level concepts are developed for each project area.

• **Deliverable 1:** Notes from a series of online design sessions between City staff and consultants.

**Milestone 2:** Feedback from local communities on concepts and resilience themes in each project area is documented.

• **Deliverable 2:** Documented notes from the first set of community meetings.

#### Milestones and Deliverables for Task 2 January – April, 2022

**Milestone 3:** Draft watershed-level intervention strategies to slow, store, redirect and adapt to water are identified for each project area.

• **Deliverable 3:** A set of workshop table maps and presentation boards explaining the strategies, concepts, and expected storage or mitigation capacity and potential.

**Milestone 4:** Feedback from local communities is documented for each project area.

• **Deliverable 4:** Documented notes from design workshops in each study area.

**Milestone 5:** Final watershed-level intervention strategies to slow, store, redirect and adapt to water are elaborated for each project area.

• **Deliverable 5:** A report describing a package of intervention strategies and, generated using Concept Board software and Adobe Suite.

#### Milestones and Deliverables for Task 3 April – May, 2022

**Milestone 6:** Draft flood mitigation and adaptation project concepts are identified for each project area.

• **Deliverable 6:** A set of workshop table maps, presentation boards, and a draft ArcGIS Online Storymap explaining the project concepts and their expected impacts (storage and other mitigation capacity and potential).



**Milestone 7:** Feedback on draft project concepts is documented from each project area.

• **Deliverable 7:** Documented notes from community meetings in each project area.

**Milestone 8:** A complete set of initial project concept designs, including locations, typologies, schedules, and cost estimates is produced for each of the three project areas.

• **Final project deliverables:** *Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach Water Plan* and a corresponding ArcGIS Online StoryMap.

#### **Potential Project Partners**

Beyond partnering with Waggonner & Ball and their subcontractor Moffat & Nichol, we will explore opportunities to partner with local community organizations and neighborhood groups to conduct outreach activities. These groups can be key in broadening the scope of individuals who receive requests for feedback on proposed intervention strategies and projects. The City of Hampton has a long history of conducting meaningful community outreach on its Community Plans, Master Plans, and other projects led by the Community Development Department. We will draw from this experience and our networks, in coordination with the Housing and Neighborhood Services team, to identify key leaders in the communities to spread the word and generate interest about the water plan. For example, Phoebus Community Enhancement is a group of engaged citizens passionate about improving the Phoebus neighborhood park. This group is currently partnered with the American Flood Coalition to develop a plan to revitalize the living shoreline at the local park, which is within the Downtown Phoebus study area. We can leverage our working relationship with this group and their experience and interests to support engagement on a broader scale within the Phoebus neighborhood.



#### **Part V: Relationships to Other Projects**

#### Past and Current Resilience Projects

The City of Hampton has implemented numerous past resilience projects under the Resilient Hampton Initiative's earlier phases. Most notably, the City is currently implementing three flood mitigation projects based on the primary Living with Water resilience plan, as well as the subsequent Newmarket Creek Water Plan. These three projects – Big Bethel Blueway, Lake Hampton, and North Armistead Road Raising and Green Infrastructure – have all reached the 65 percent design threshold. Construction is planned to begin in 2022.

The next phase of work directly builds off of these previous and ongoing efforts. The water plan for the Downtown, Phoebus, and Buckroe watershed follows the intent of the Living with Water plan by continuing detailed watershed level studies across the City. The projects identified and designed will draw from lessons learned in implementing the three resiliency projects currently underway in the Newmarket Creek watershed, expanding flood mitigation and resiliency efforts to another highly vulnerable area of the City.

#### **Future Resilience Projects**

Two separate proposals have been submitted by the City of Hampton to the Community Flood Preparedness Fund for this funding round: (1) Honor Park Resilience Park; and (2) Mill Point Living Shoreline. Both of these nature-based flood mitigation and water quality projects are located in the Downtown Hampton study area. The concepts for each are being integrated into the water plan for this watershed, and are aligned with the overall vision to slow, store, redirect, and adapt to water in this project area. Careful consideration will be given to identify how these projects can be aligned with other means of protecting and adapting critical infrastructure in the Downtown Hampton project area, including whether they can be tied into larger networks of green infrastructure to multiply benefits.

#### Demonstrated Experience Managing Grants and Loans for Resilience

Hampton has a demonstrated track record of pursuing and implementing both traditional and non-traditional financial mechanisms for resilience work. Most notably, in 2020, the City pursued an innovative Environmental Impact Bond (EIB) financing model. EIBs support investment in environmentally and socially beneficial projects, and ensure delivery on these goals through transparent outcome evaluation and disclosure. Hampton's EIB is the first of its kind in the Commonwealth of Virginia, and one of only a few similar bond structures in the county. The bond, now operational, provides \$12 million in financing for three Resilient Hampton projects implemented in the Newmarket Creek watershed, which are evaluated for delivery against a goal to add 8.6 million gallons of storage capacity for stormwater. These projects are using nature-



based approaches to accomplish this target, including bioswales, stormwater retention terraces, stream widening, and bioretention cells.

The City of Hampton aims replicate the experience and success of this first EIB offering in future Resilient Hampton projects, including those conceptualized by this proposed plan for Downtown, Phoebus, and Buckroe.

The City of Hampton has not applied for any other grants or loans to support this project.



#### Part VI: Maintenance Plan

A maintenance plan is not included with this request. Although maintenance of projects will be required, development of this plan will not be possible until after preliminary project designs have been generated.



#### Part VII: Criteria

Please see Attachment 3: Appendix B for information on how the project meets the scoring criteria for projects under the 2021 Community Flood Preparedness Fund Grant Manual guidelines.

#### **Additional Supporting Documentation**

The Hampton Roads Hazard Mitigation Plan (2017) may be found online at <a href="https://www.hrpdcva.gov/uploads/docs/2017%20Hampton%20Roads%20Hazard%20Mitigation%20Plan%20Update%20FINAL.pdf">https://www.hrpdcva.gov/uploads/docs/2017%20Hampton%20Roads%20Hazard%20Mitigation%20Plan%20Update%20FINAL.pdf</a>.

Appendices for the 2017 Hazard Mitigation Plan may be found at: <a href="https://www.hrpdcva.gov/uploads/docs/2017%20Hampton%20Roads%20Hazard%20Mitigation%20Plan%20Update%20Appendices%20FINAL.pdf">https://www.hrpdcva.gov/uploads/docs/2017%20Hampton%20Roads%20Hazard%20Mitigation%20Plan%20Update%20Appendices%20FINAL.pdf</a>. This plan and its appendices were adopted by the City of Hampton on February 22, 2017.

The City of Hampton's current Community Plan (comprehensive plan) may be found online at <a href="https://hampton.gov/DocumentCenter/View/574/final-plan-2006?bidId">https://hampton.gov/DocumentCenter/View/574/final-plan-2006?bidId</a>=.

Virginia Community Flood Preparedness Fund Application

## **Attachment 2: Budget Narrative**







## Virginia Community Flood Preparedness Fund Application **Resilient Hampton: Downtown Hampton, Phoebus & Buckroe Beach**Attachment 2 – Budget Narrative

#### **Estimated Total Project Cost**

The estimated total project cost is \$244,125. A summary budget is shown below in Table 1.

This amount represents the total cost for consultant support from Waggonner & Ball Architecture/Environment. Costs do not include City staff's work to oversee the contract, direct data collection and analysis, guide watershed concepts, and facilitate community outreach. Although not enumerated in this proposal, those personnel costs will be funded by the City of Hampton's budgeted personnel expenses.

**Table 1: Summary Budget** 

Task 1	
Task 1.1: Data Collection, Analysis and Watershed Concepts	\$77,550
Task 1.2: Kick-off and Coordination Meetings	\$2,150
Task 1.3: Virtual Community Outreach (2 Meetings and Preparation)	\$9,800
Task 1 Total	\$89,500

Task 2	
Task 2.1: Strategies and Projects	\$63,520
Task 2.2: Coordination Meetings	\$1,550
Task 2.3: Design Workshop (Preparation, Travel, and Participation)	\$32,520
Task 2 Total	\$97,590

Task 3	
Task 3.1: Project Identification, Schedule and Cost	\$36,260
Task 3.2: Coordination Meetings	\$925
Task 3.3: Hybrid Community Outreach (2 Meetings, Preparation and	\$19,850
Travel)	
Task 3 Total	\$57,035

#### **Amount of Funds Requested from the Fund**

Funds requested from the Fund are \$154,625. A detailed budget is shown below in Table 2.



These funds will be allocated to carry out Tasks 2 and 3 of the Downtwon Hampton, Phoebus, and Buckroe Beach water plan to refine watershed flood mitigation and resiliency concepts into specific projects and develop initial project designs.

Waggonner & Ball Architecture/Environment will dedicate staff including the Principal Architect, Senior Project Designer, Architect, and Landscape Designer to carry out project tasks. Additionally, they will subcontract to the firm Moffat & Nichol to facilitate engineering design and stormwater modeling needs.

Table 2: Detailed Budget for Requested Funds

Task 2		
Sub-Task	Description	Cost
2.1: Waggonner & Ball	392 hours	\$60,520
Consultant Fee	(5 staff)	
2.1: Moffat & Nichol	-	\$3,000
Subcontractor		
2.2: Waggonner & Ball	8 hours	\$1,550
Consultant Fee	(3 staff)	
2.3: Waggonner & Ball	128 hours	\$24,720
Consultant Fee	(4 staff)	
2.3: Moffat & Nichol	-	\$2,000
Subcontractor		
2.3: Travel and Printing	Flights, hotels, M&IE - 3 day trip for 4	\$5,800
Expenses	staff'; Tablemaps, presentation boards	
Task 2 Total		\$97,590

Task 3		
Sub-Task	Description	Cost
3.1: Waggonner & Ball	204 hours	\$31,260
Consultant Fee	(5 staff)	
3.1: Moffat & Nichol	-	\$5,000
Subcontractor		
3.2: Waggonner & Ball	5 hours	\$925
Consultant Fee	(3 staff)	
3.3: Waggonner & Ball	72 hours	\$15,000
Consultant Fee	(3 staff)	
Task 3.3: Travel and Printing	Flights, hotels, M&IE – 2 day trip for 3	\$4,850
Expenses	staff; Tablemaps, presentation boards	
Task 3 Total		\$57,035



#### **Amount of Cash Funds Available**

The amount of cash funds available to the City of Hampton to meet the match requirement is **\$89,500.** This amount represents approximately 36.7 percent of the total project cost. A detailed budget for the costs being funded by the City of Hampton is detailed in Table 3, below. Cash funds are being sourced from existing funding streams allocated by the City of Hampton for resiliency work, funded with a general obligation bond for capital projects.

A signed pledge agreement certifying the City's commitment to providing \$89,500 to fund Task 1 of the project can be found in Attachment 6.

Table 3: Detailed Budget for Cash Funds Available

Task 1		
Sub-Task	Description	Cost
1.1: Waggonner & Ball	499 hours	\$77,550
Consultant Fee	(4 staff)	
1.1: Moffat & Nichol	-	\$3,000
Subcontractor		
1.2: Waggonner & Ball	12 hours	\$2,150
Consultant Fee	(3 staff)	
1.3: Waggonner & Ball	56 hours	\$9,800
Consultant Fee	(3 staff)	
Task 1 Total		\$89,500

#### **Authorization to Request for Funding**

A signed letter authorizing the request for funding by City Manager Mary Bunting may be found in Attachment 6.

Virginia Community Flood Preparedness Fund Application

# Attachment 3: Appendix B – Scoring Criteria for Projects





# Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund Grant Program

Applicant Name:		me:				
Eligibility Information						
Criterion			Description			
<ol> <li>Is the applicant a local government (including counties, cities, towns, municipal corporations, authorities, districts, commissions, or political subdivisions created by the General Assembly or pursuant to the Constitution or laws of the Commonwealth, or any combination of these)?</li> </ol>						
	Yes	Eligible	Eligible for consideration			
	No	Not elig	Not eligible for consideration			
2.	Does the local government have an approved resilience plan and has provided a copy or link to the plan with this application?					
	Yes	Eligible for consideration under all categories		X		
	No	Eligible	Eligible for consideration for studies, capacity building, and planning only			
3.	3. If the applicant is <u>not a town, city, or county</u> , are letters of support from all affected local governments included in this application?					
	Yes	Eligible for consideration				
	No	Not elig	gible for consideration			
4. Has this or any portion of this project been included in any application or program previously funded by the Department?						
	Yes	Not elig	gible for consideration			
	No	Eligible	for consideration	X		
5.	5. Has the applicant provided evidence of an ability to provide the required matching funds?					
	Yes	Eligible	for consideration	Х		
	No	Not elig	gible for consideration			
	N/A	Match	not required			

Project Eligible for Consideration			Ξ Yes No		
Applicant Name:					
	Scoring Information				
Criterion			Points Awarded		
6. Eligible Projects (Sele	ect all that apply)				
	onents of both 1.a. and 1.b. below; however, only one categ st be the primary project in the application.	gory may	be chosen.		
1.a. Acquisition of property consistent with an overall comprehensive local or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.					
Wetland restoration, floodplain restoration Living shorelines and vegetated buffers. Permanent conservation of undeveloped lands identified as having flood resilience value by ConserveVirginia Floodplain and Flooding Resilience layer or a similar data driven analytic tool Dam removal Stream bank restoration or stabilization. Restoration of floodplains to natural and beneficial function. Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.					
1.b. any other nature-bas	sed approach	40			
All hybrid approaches wh	nose end result is a nature-based solution	35	35		
All other projects		25			
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)					
Very High Social Vulneral	bility (More than 1.5)	15			
High Social Vulnerability	(1.0 to 1.5)	12			
Moderate Social Vulnerability (0.0 to 1.0)			8		
Low Social Vulnerability (-1.0 to 0.0)					
Very Low Social Vulnerability (Less than -1.0)					
8. Is the proposed project part of an effort to join or remedy the community's probation or suspension from the NFIP?					

Yes	10				
No	0	0			
9. Is the proposed project in a low-income geographic area as defined in this manual?					
Yes		10			
No					
10. Projects eligible for funding may also reduce nutrient and sediment pollution to local waters and the Chesapeake Bay and assist the Commonwealth in achieving local and/or Chesapeake Bay TMDLs. Does the proposed project include implementation of one or more best management practices with a nitrogen, phosphorus, or sediment reduction efficiency established by the Virginia Department of Environmental Quality or the Chesapeake Bay Program Partnership in support of the Chesapeake Bay TMDL Phase III Watershed Implementation Plan?					
Yes	5	5			
No					
11. Does this project provide "community scale" benefits?					
Yes		20			
No					
Total Points					

Virginia Community Flood Preparedness Fund Application

# Attachment 4: Appendix D – Checklist for all Categories





## **Appendix D: Checklist All Categories**

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

Scope of Work Narrative				
Supporting Documentation	Included			
Detailed map of the project area(s) (Projects/Studies)	x Yes □ No □ N/A			
FIRMette of the project area(s) (Projects/Studies)	⊠ Yes □ No □ N/A			
Historic flood damage data and/or images (Projects/Studies)	⊠ Yes □ No □ N/A			
A link to or a copy of the current floodplain ordinance	⊠(Yes □ No □ N/A			
Non-Fund financed maintenance and management plan for project extending a minimum of 5 years from project close	□Yes □No 対N/A			
A link to or a copy of the current hazard mitigation plan	ĭX Yes □ No □ N/A			
A link to or a copy of the current comprehensive plan	¤, Yes □ No □ N/A			
Social vulnerability index score(s) for the project area from ADAPT VA's Virginia Vulnerability Viewer	⊠Yes □No □N/A			
If applicant is not a town, city, or county, letters of support from affected communities	□Yes □No ⊠N/A			
Completed Scoring Criteria Sheet in Appendix B, C, or D	X Yes □ No □ N/A			
Budget Narrative				
Supporting Documentation	Included			
Authorization to request funding from the Fund from governing body or chief executive of the local government	XiYes □ No □ N/A			
Signed pledge agreement from each contributing organization	□Yes □No ⋈N/A			

Virginia Community Flood Preparedness Fund Application

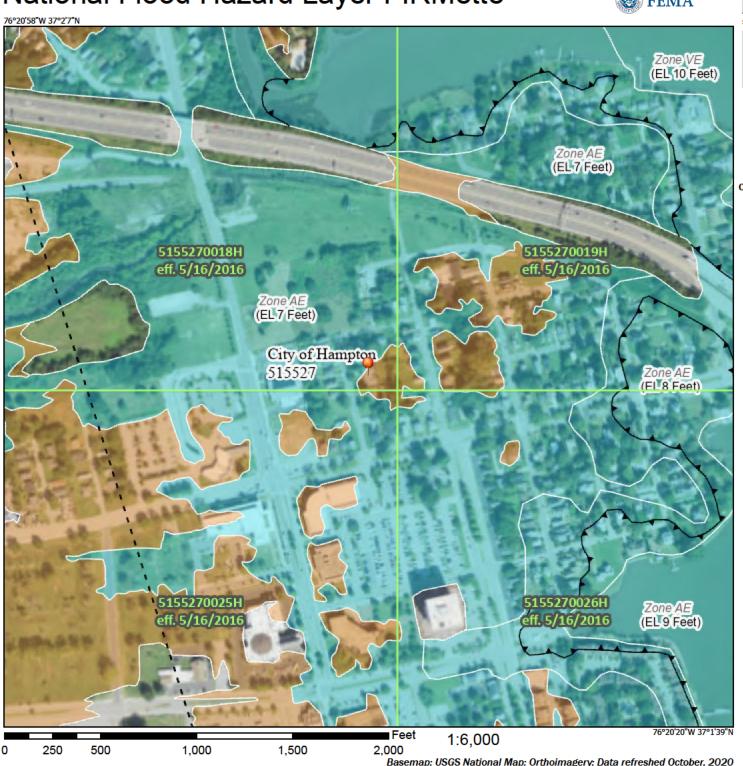
# Attachment 5: FIRM Panels or FIRMettes for Project Areas





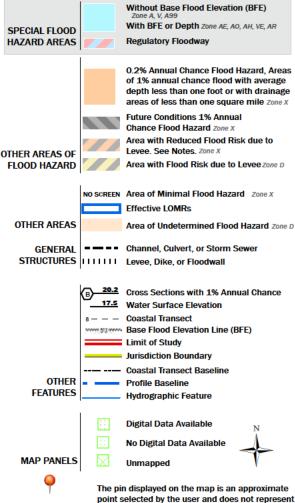
## National Flood Hazard Layer FIRMette





#### Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

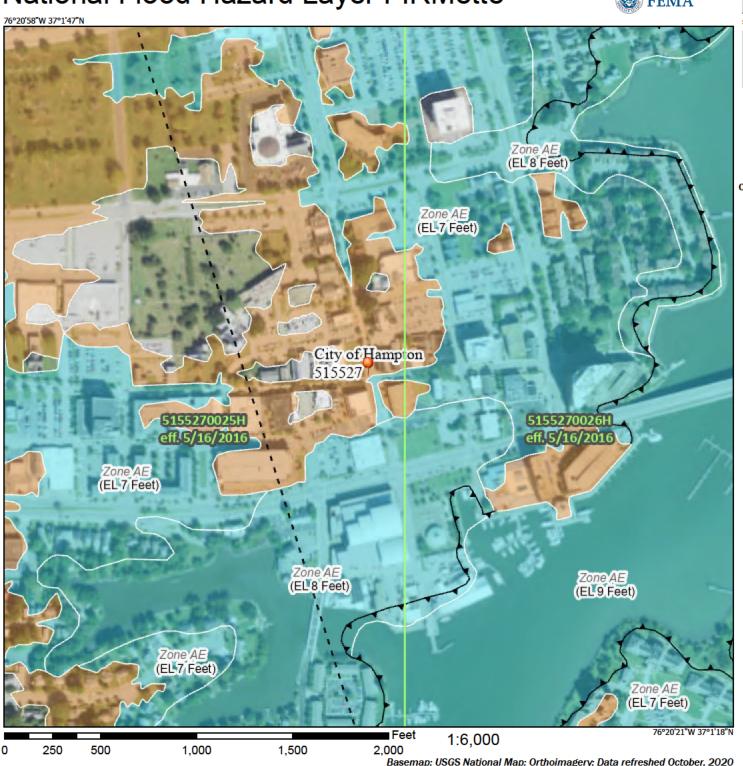
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/27/2021 at 11:17 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

an authoritative property location.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

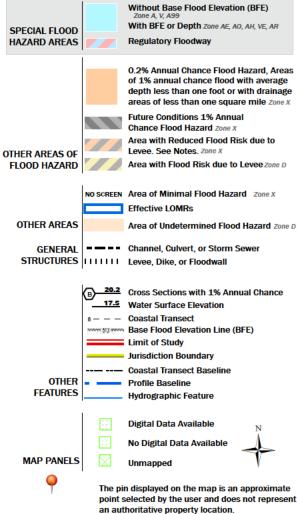
# National Flood Hazard Layer FIRMette





#### Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/27/2021 at 11:01 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

### NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations** (BFEs) and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this jurisdiction

The **projection** used in the preparation of this map was the Virginia State Plane South zone (FIPSZONE 4502). The **horizontal datum** was the North American Datum of 1983 (NAD 83) High Accuracy Reference Network (HARN), Geodetic Reference System 1980 (GRS80) spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <a href="http://www.ngs.noaa.gov">http://www.ngs.noaa.gov</a> or contact the National Geodetic Survey at the following address:

NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <a href="http://www.ngs.noaa.gov.">http://www.ngs.noaa.gov.</a>

**Base map** information shown on this FIRM was provided by the Commonwealth of Virginia through the Virginia Base Mapping Program (VBMP). The orthophotos were flown in 2009 at scales of 1" = 100' and 1" = 200'.

Based on updated topographic information, this map reflects more detailed and up-to-date **stream channel configurations and floodplain delineations** than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

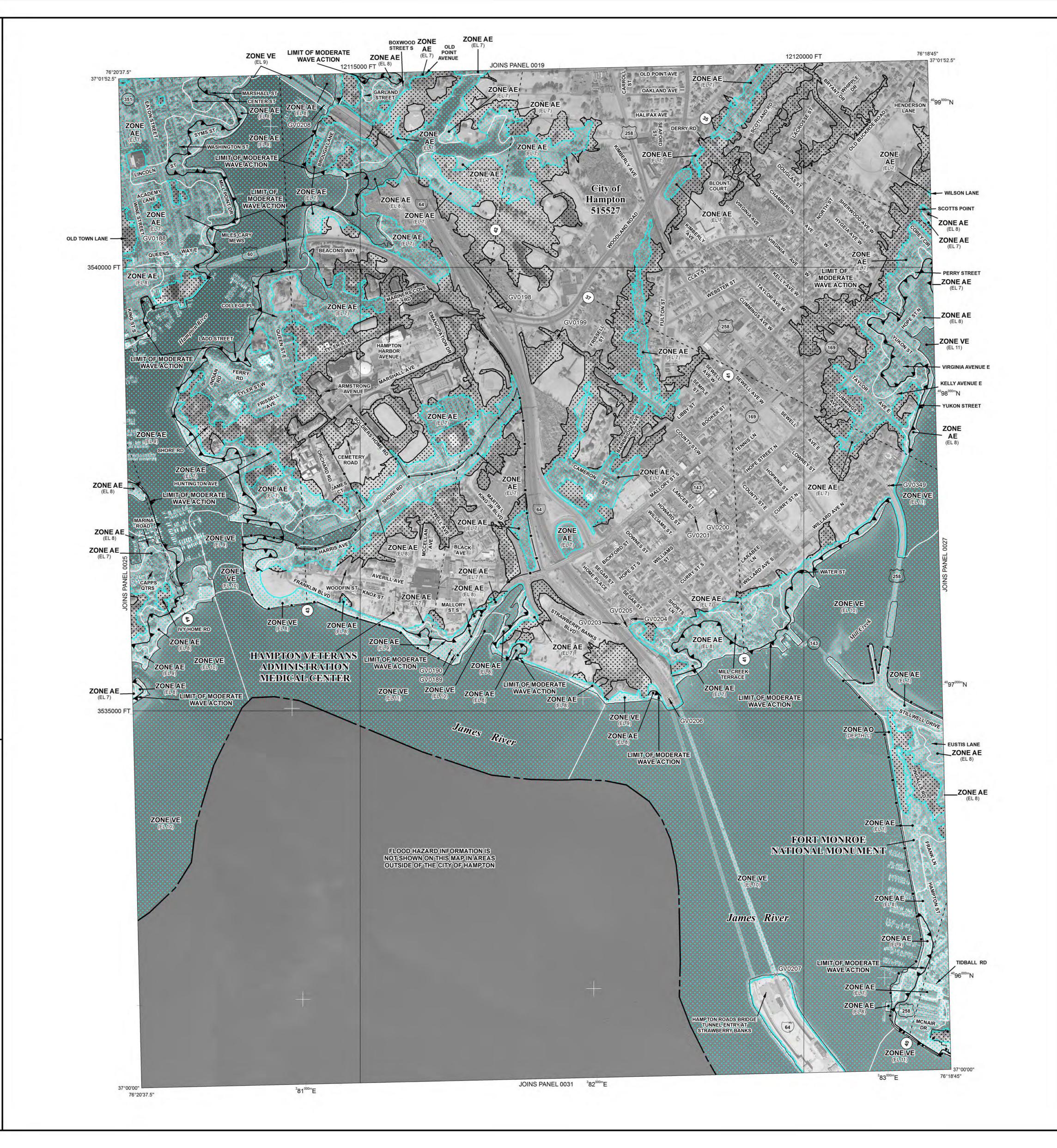
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels for this jurisdiction.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LiMWA)**. The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <a href="http://msc.fema.gov">http://msc.fema.gov</a>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at **1-877-FEMA-MAP** (1-877-336-2627) or visit the FEMA

website at <a href="http://www.fema.gov/national-flood-insurance-program">http://www.fema.gov/national-flood-insurance-program</a>.



## LEGEND

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

ZONE A No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average

depths determined. For areas of alluvial fan flooding, velocities also determined.

Special Flood Hazard Area formerly protected from the 1% annual chance

flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.

Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
 Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONEX

ZONEX

ZONE D

\_ \_ \_ \_ \_

......

Areas determined to be outside the 0.2% annual chance floodplain.

Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary

0.2% annual chance floodplain boundary

Floodway boundary

Zone D boundary CBRS and OPA boundary

boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Limit of Moderate Wave Action

Boundary dividing Special Flood Hazard Area Zones and

Base Flood Elevation line and value; elevation in feet\*

(FI 987)

Base Flood Elevation value where uniform within zone; elevation

(EL 987)

Base Flood Elevation value where uniform in feet\*

\* Referenced to the North American Vertical Datum of 1988

A Cross section line

Transect line

Quivert, Flume, Penstock or

Culvert, Flume, Penstock or Aqueduct Road or Railroad Bridge

Footbridge

87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

<sup>24</sup>**7**6<sup>000m</sup>**N** 1000-meter Universal Transverse Mercator grid values, zone 18N

600000 FT

5000-foot grid values: Virginia State Plane coordinate system, South zone (FIPSZONE 4502), Lambert Conformal Conic projection

DX5510 
Bench mark (see explanation in Notes to Users section of this

• M1.5 FIRM panel)

MAP REPOSITORY
Refer to Map Repository on Map Index
INITIAL NFIP MAP DATE
March 24, 1970

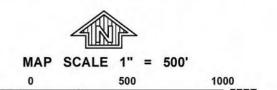
FLOOD HAZARD BOUNDARY MAP REVISIONS None

FLOOD INSURANCE RATE MAP EFFECTIVE May 28, 1971

FLOOD INSURANCE RATE MAP REVISIONS

See NOTICE TO FLOOD INSURANCE STUDY USERS page of the Flood Insurance Study report for map revision dates.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



MAP SCALE 1" = 500'

250 0 500 1000
FEET

150 0 150 300

# PANEL 0026H

# FIRM FLOOD INSURANCE RATE MAP

HAMPTON, VIRGINIA INDEPENDENT CITY

**PANEL 26 OF 32** 

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(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

(SEE MAP INDEX FO

 COMMUNITY
 NUMBER
 PANEL
 SUFFIX

 HAMPTON, CITY OF
 515527
 0026
 H

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the



subject community.

MAP NUMBER 5155270026H

MAP REVISED MAY 16, 2016

Federal Emergency Management Agency

## **NOTES TO USERS**

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The community map repository should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where Base Flood Elevations (BFEs) and/or floodways have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations tables in the Flood Insurance Study report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations tables should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study report for this jurisdiction.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study report for information on flood control structures for this

The projection used in the preparation of this map was the Virginia State Plane South zone (FIPSZONE 4502). The horizontal datum was the North American Datum of 1983 (NAD 83) High Accuracy Reference Network (HARN), Geodetic Reference System 1980 (GRS80) spheroid. Differences in datum, spheroid, projection or State Plane zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same vertical datum. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <a href="http://www.ngs.noaa.gov">http://www.ngs.noaa.gov</a> or contact the National Geodetic Survey at the following address:

NGS Information Services NOAA, N/NGS12 National Geodetic Survey SSMC-3, #9202 1315 East-West Highway Silver Spring, Maryland 20910-3282 (301) 713-3242

To obtain current elevation, description, and/or location information for bench marks shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at http://www.ngs.noaa.gov.

Base map information shown on this FIRM was provided by the Commonwealth of Virginia through the Virginia Base Mapping Program (VBMP). The orthophotos were flown in 2009 at scales of 1" = 100' and 1" = 200'.

Based on updated topographic information, this map reflects more detailed and up-to-date stream channel configurations and floodplain delineations than those shown on the previous FIRM for this jurisdiction. As a result, the Flood Profiles and Floodway Data tables in the Flood Insurance Study Report (which contains authoritative hydraulic data) may reflect stream channel distances that differ from what is shown on this map. Also, the road to floodplain relationships for unrevised streams may differ from what is shown on previous maps.

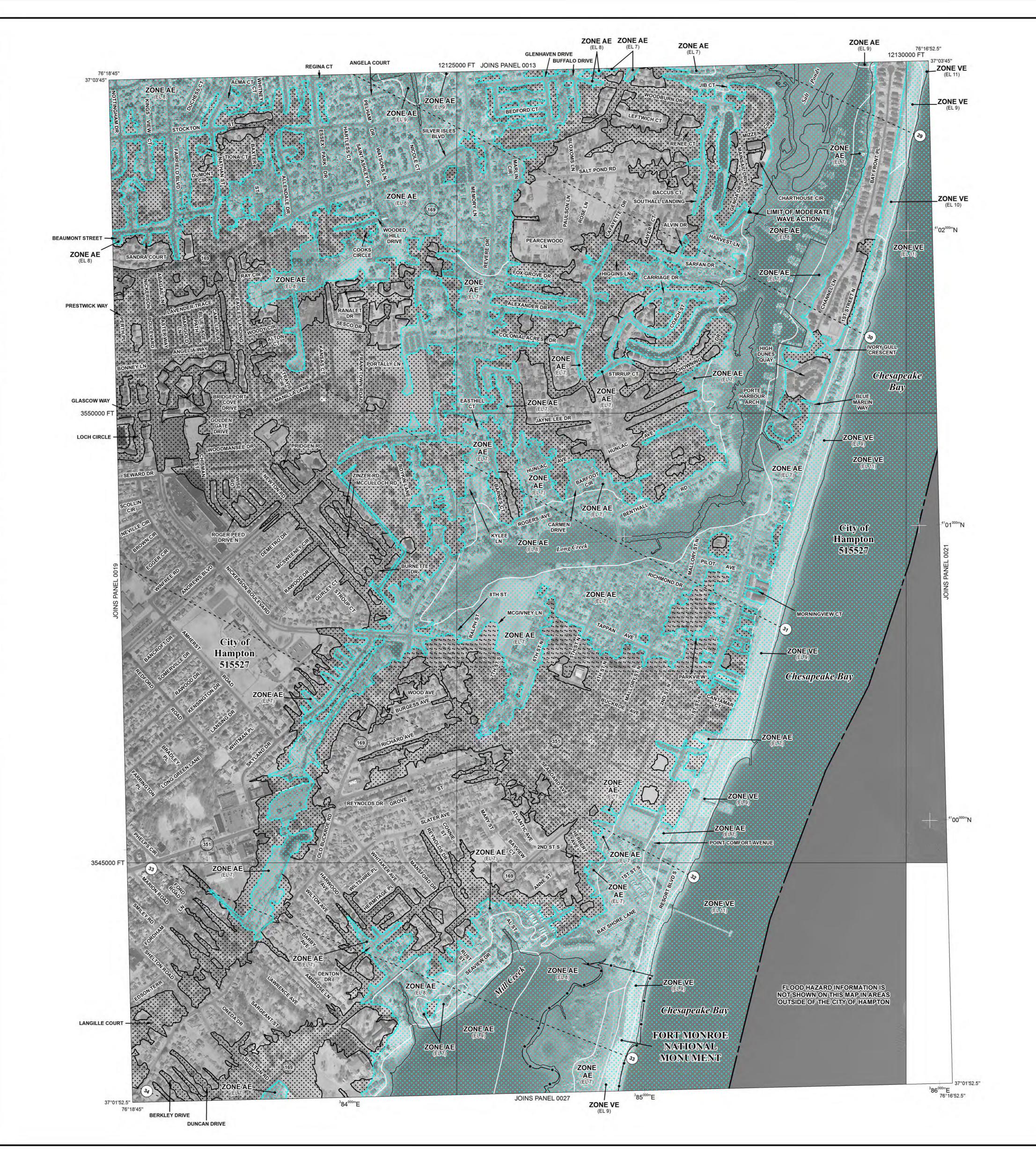
Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

Please refer to the separately printed Map Index for an overview map of the county showing the layout of map panels for this jurisdiction.

The AE Zone category has been divided by a Limit of Moderate Wave Action (LiMWA). The LiMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LiMWA (or between the shoreline and the LiMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

For information on available products associated with this FIRM visit the Map Service Center (MSC) website at http://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have questions about this map, how to order products or the National Flood Insurance Program in general, please call the FEMA Map Information eXchange (FMIX) at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at http://www.fema.gov/national-flood-insurance-program.



## **LEGEND**

SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

No Base Flood Elevations determined.

ZONE AE Base Flood Elevations determined.

Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined. Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average

depths determined. For areas of alluvial fan flooding, velocities also Special Flood Hazard Area formerly protected from the 1% annual chance

flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.

Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations

Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined. Coastal flood zone with velocity hazard (wave action); Base Flood

Elevations determined. FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

ZONE X

ZONE D

......

2476000m N

Areas determined to be outside the 0.2% annual chance floodplain.

Areas in which flood hazards are undetermined, but possible. COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

1% annual chance floodplain boundary 0.2% annual chance floodplain boundary

Floodway boundary \_\_\_\_ Zone D boundary

CBRS and OPA boundary

Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths or flood velocities.

Limit of Moderate Wave Action ~~~ 513 ~~~~ Base Flood Elevation line and value; elevation in feet\*

Base Flood Elevation value where uniform within zone; elevation

Referenced to the North American Vertical Datum of 1988 Cross section line

Transect ine (23)-----(23) Culvert, Flume, Penstock or Aqueduct ----

Road or Railroad Bridge

87°07'45", 32°22'30" Geographic coordinates referenced to the North American Datum of 1983 (NAD 83), Western Hemisphere

1000-meter Universal Transverse Mercator grid values, zone 18N

5000-foot grid values: Virginia State Plane coordinate 600000 FT system, South zone (FIPSZONE 4502), Lambert Conformal Conic

Bench mark (see explanation in Notes to Users section of this DX5510 x

• M1.5

MAP REPOSITORY Refer to Map Repository on Map Index INITIAL NFIP MAP DATE March 24, 1970

FLOOD HAZARD BOUNDARY MAP REVISIONS

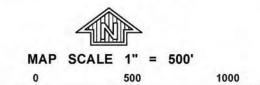
FLOOD INSURANCE RATE MAP EFFECTIVE

May 28, 1971 FLOOD INSURANCE RATE MAP REVISIONS

See NOTICE TO FLOOD INSURANCE STUDY USERS page of the Flood Insurance Study report for map revision dates.

To determine if flood insurance is available in this community, contact your Insurance

agent or call the National Flood Insurance Program at 1-800-638-6620.



CHHE



HAMPTON, **VIRGINIA** INDEPENDENT CITY

**PANEL 20 OF 32** 

CITY OF

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(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY NUMBER PANEL SUFFIX HAMPTON, CITY OF 515527 0020 H

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the



subject community.

MAP NUMBER 5155270020H

MAP REVISED MAY 16, 2016

Federal Emergency Management Agency

Virginia Community Flood Preparedness Fund Application

# **Attachment 6: Letter from the City Manager**







September 3, 2021

Virginia Department of Conservation and Recreation Attention: Virginia Community Flood Preparedness Fund Division of Dam Safety and Floodplain Management 600 East Main Street, 24th Floor Richmond, Virginia 23219

To whom it may concern:

On behalf of the City of Hampton, I authorize the request for funding for three grant proposal submissions to the Virginia Community Flood Preparedness Fund: Honor Park Resilience Project; Mill Point Living Shoreline; and Downtown Hampton, Phoebus, and Buckroe Beach Water Plan.

If awarded, and subject to execution of a grant agreement, the City of Hampton pledges its commitment to provide funding to meet the match requirement established by the 2021 Grant Manual for the fund. City funds have been budgeted and appropriated for Fiscal Year 2022 ending June 30, 2022. As the City's grant application provides, such matching fund will be provided for each project in the following amounts:

- Honor Park Resilience Project: The City of Hampton will provide \$36,998.60, a 20% match based on the project total cost of \$184,993.00.
- Mill Point Living Shoreline: The City of Hampton will provide \$31,700, a 20% match based on the project total cost of \$158,500.
- Downtown Hampton, Phoebus and Buckroe Beach Water Plan: The City of Hampton
  has already allocated funding for this plan in the amount of \$89,500, which is approximately
  a 36.7% match based on the total project cost of \$244,125.

We appreciate this opportunity to seek funding in support of our ongoing efforts to increase Hampton's resilience and preparedness for flooding impacts.

Sincerely,

Mary B Bunting

City Manager, City of Hampton

Virginia Community Flood Preparedness Fund Application

# **Attachment 7: City of Hampton Floodplain Ordinance**





#### Footnotes:

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**Editor's note—** Ord. No. <u>Z16-03</u>, adopted April 13, 2016, repealed former art. IV., §§ 9-31—9-36, and enacted a new art. IV., §§ 9-31—9-37. Former art. IV. pertained to similar subject matter and derived from the original Code and Ord. No. Z15-15, adopted August 12, 2015.

#### Sec. 9-31. - General provisions.

- (1) Statutory authorization and purpose. This article is adopted pursuant to the authority granted to localities by section 15.2-2280 of the Code of Virginia. The purpose of these provisions is to prevent: the loss of life and property, the creation of health and safety hazards, the disruption of commerce and governmental services, the extraordinary and unnecessary expenditure of public funds for flood protection and relief, and the impairment of the tax base by:
  - (a) Regulating uses, activities, and development which, alone or in combination with other existing or future uses, activities, and development, will cause unacceptable increases in flood heights, velocities, and frequencies;
  - (b) Restricting or prohibiting certain uses, activities, and development from locating within districts subject to flooding;
  - (c) Requiring all those uses, activities, and developments that do occur in flood-prone districts to be protected and/or flood-proofed against flooding and flood damage; and
  - (d) Protecting individuals from buying land and structures which are unsuited for intended purposes because of flood hazards.
- (2) Applicability. These provisions shall apply to all privately and publicly owned lands within the jurisdiction of the City of Hampton (city) and identified as special flood hazard areas (SFHA) or other flood areas or shown on the flood insurance rate map (FIRM) or included in the flood insurance study (FIS) that are provided to the city by FEMA.
- (3) Compliance and liability.
  - (a) No land shall hereafter be developed and no structure shall be located, relocated, constructed, reconstructed, enlarged, or structurally altered except in full compliance with the terms and provisions of this article.
  - (b) The degree of flood protection sought by the provisions of this article is considered reasonable for regulatory purposes and is based on acceptable engineering methods of study, but does not imply total flood protection. Larger floods may occur on rare occasions. Flood heights may be increased by man-made or natural causes, such as ice jams and bridge openings restricted by debris. This article does not imply that districts outside the floodplain district or land uses permitted within such district will be free from flooding or flood damages.
  - (c) This article shall not create liability on the part of the city or any officer or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made thereunder.
- (4) Records. Records of actions associated with administering this ordinance shall be kept on file and maintained by or under the direction of the floodplain administrator in perpetuity.
- (5) Abrogation and greater restrictions. To the extent that the provisions are more restrictive, this article supersedes any article or ordinance currently in effect in flood-prone districts, however, any such

- existing article or ordinance shall remain in full force and effect to the extent that its provisions are more restrictive than this article or do not conflict.
- (6) Severability. If any section, subsection, paragraph, sentence, clause, or phrase of this ordinance shall be declared invalid for any reason whatever, such decision shall not affect the remaining portions of this article. The remaining portions shall remain in full force and effect; and for this purpose, the provisions of this ordinance are hereby declared to be severable.
- (7) Administration and enforcement. The provisions of this article shall be enforced in accordance with chapter 1 of the zoning ordinance. In addition to the above penalties, all other actions are hereby reserved, including an action in equity for the proper enforcement of this article. The imposition of a fine or penalty for any violation of, or noncompliance with, this article shall not excuse the violation or noncompliance or permit it to continue; and all such persons shall be required to correct or remedy such violations within a reasonable time. Any structure constructed, reconstructed, enlarged, altered or relocated in noncompliance with this article may be declared by the city to be a public nuisance and abatable as such. Flood insurance may be withheld from structures constructed in violation of this article.

(Ord. No. **Z16-03**, 4-13-2016)

Sec. 9-32. - Administration.

- (1) Designation of the floodplain administrator. The zoning administrator or his designee shall act as floodplain administrator to administer and implement the flood plain regulations. The floodplain administrator may delegate duties and responsibilities to qualified technical personnel, plan examiners, inspectors, and other employees and enter into a written agreements with other communities and private sector entities to administer specific provisions of these regulations.
- (2) Duties and responsibilities of the floodplain administrator. The duties and responsibilities of the floodplain administrator shall include those set forth in the code of federal regulations, including but not limited to:
  - (a) Review applications for permits to determine whether proposed activities will be located in the Special Flood Hazard Area (SFHA).
  - (b) Interpret floodplain boundaries and provide available base flood elevation and flood hazard information.
  - (c) Review applications to determine whether proposed activities will be reasonably safe from flooding and require new construction and substantial improvements to meet the requirements of these regulations.
  - (d) Review applications to determine whether all necessary permits have been obtained from the federal, state or local agencies from which prior or concurrent approval is required; in particular, permits from state agencies for any construction, reconstruction, repair, or alteration of a dam, reservoir, or waterway obstruction (including bridges, culverts, structures), any alteration of a watercourse, or any change of the course, current, or cross section of a stream or body of water, including any change to the 100-year frequency floodplain of free-flowing non-tidal waters of the State.
  - (e) Require applicants proposing an alteration of a watercourse to provide proof that they have notified adjacent communities, the Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management), and other appropriate agencies (VADEQ, USACE) and have submitted copies of such notifications to FEMA.
  - (f) Advise applicants for new construction or substantial improvement of structures regarding whether or not the proposed development is within an area of the Coastal Barrier Resources System established by the Coastal Barrier Resources Act where Federal flood insurance is not

- available; areas subject to this limitation are shown on Flood Insurance Rate Maps as Coastal Barrier Resource System Areas (CBRS) or Otherwise Protected Areas (OPA).
- (g) Review applications to develop in flood hazard areas for compliance with this article.
- (h) In accordance with chapter 1, administer and enforce the terms of this article, including but not limited to inspections of buildings, structures, and other development subject to this article.
- (i) Review elevation certificates and require incomplete or deficient certificates to be corrected.
- (j) Submit to FEMA, or require applicants to submit to FEMA, data and information necessary to maintain FIRMs, including hydrologic and hydraulic engineering analyses prepared by or for the city, within six months after such data and information becomes available if the analyses indicate changes in base flood elevations.
- (k) Maintain and permanently keep records that are necessary for the administration of these regulations, including:
  - (i) Flood insurance studies, flood insurance rate maps (including historic studies and maps and current effective studies and maps) and Letters of Map Change; and
  - (ii) Documentation supporting issuance and denial of permits, elevation certificates, documentation of the elevation (in relation to the datum on the FIRM) to which structures have been floodproofed, inspection records, other required design certifications, variances, and records of enforcement actions taken to correct violations of these regulations.
- (I) In accordance with chapter 1, administer and enforce the terms of this article.
- (m) Upon application for a variance from this article, prepare a staff report to the board of zoning appeals containing an analysis of the variance requirements applicable to this article.
- (n) Administer the requirements related to proposed work on existing buildings:
  - (i) Make determinations as to whether buildings and structures that are located in flood hazard areas and that are damaged by any cause have been substantially damaged.
  - (ii) Make reasonable efforts to notify owners of substantially damaged structures of the need to obtain a permit to repair, rehabilitate, or reconstruct. Prohibit the non-compliant repair of substantially damaged buildings except for temporary emergency protective measures necessary to secure a property or stabilize a building or structure to prevent additional damage.
- (o) Undertake, as determined appropriate by the floodplain administrator due to the circumstances, other actions which may include but are not limited to: issuing press releases, public service announcements, and other public information materials related to permit requests and repair of damaged structures; coordinating with other federal, state, and local agencies to assist with substantial damage determinations; providing owners of damaged structures information related to the proper repair of damaged structures in special flood hazard areas; and assisting property owners with documentation necessary to file claims for increased cost of compliance coverage under NFIP flood insurance policies.
- (p) Notify the Federal Emergency Management Agency when the corporate boundaries of the city have been modified and:
  - (i) Provide a map that clearly delineates the new corporate boundaries or the new area for which the authority to regulate pursuant to these regulations has either been assumed or relinquished through annexation; and
  - (ii) If the FIRM for any annexed area includes special flood hazard areas that have flood zones that have regulatory requirements that are not set forth in these regulations, prepare amendments to these regulations to adopt the FIRM and appropriate requirements, and submit the amendments to the governing body for adoption; such adoption shall take place at the same time as or prior to the date of annexation and a copy of the amended regulations

- shall be provided to Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management) and FEMA.
- (q) Upon the request of FEMA, complete and submit a report concerning participation in the NFIP which may request information regarding the number of buildings in the SFHA, number of permits issued for development in the SFHA, and number of variances issued for development in the SFHA.
- (3) Use and interpretation of FIRMs. The floodplain administrator shall make interpretations, where needed, as to the exact location of special flood hazard areas, floodplain boundaries, and floodway boundaries based upon the applicable FIRM. Should a dispute arise concerning the boundaries of any of the districts, the floodplain administrator's interpretation may be appealed to the board of zoning appeals in accordance with the provisions of chapter 13 of the zoning ordinance. The following shall apply to the use and interpretation of FIRMs and data:
  - (a) Where field surveyed topography indicates that adjacent ground elevations are:
    - Below the base flood elevation, even in areas not delineated as a special flood hazard area on a FIRM, the area shall be considered as special flood hazard area and subject to the requirements of these regulations;
    - (ii) Above the base flood elevation, the area shall be regulated as special flood hazard area unless the applicant obtains a letter of map change that removes the area from the SFHA.
  - (b) In FEMA-identified special flood hazard areas where base flood elevation and floodway data have not been identified and in areas where FEMA has not identified SFHAs, any other flood hazard data available from a Federal, State, or other source shall be reviewed and reasonably used.
  - (c) Base flood elevations and designated floodway boundaries on FIRMs and in FISs shall take precedence over base flood elevations and floodway boundaries by any other sources if such sources show reduced floodway widths and/or lower base flood elevations.
  - (d) Other sources of data shall be reasonably used if such sources show increased base flood elevations and/or larger floodway areas than are shown on FIRMs and in FISs.
  - (e) If a Preliminary Flood Insurance Rate Map and/or a Preliminary Flood Insurance Study has been provided by FEMA, the City will advise applicants for proposed development in a SFHA of the impact of the preliminary map changes.
    - (i) Upon the issuance of a letter of final determination by FEMA, the city will prepare a statement, under FEMA's direction, which will be signed by all parties confirming flood insurance implications regarding any decision to proceed with development based on the current FIRM and FIS. The statement will be used until adoption of the new FIRM and FIS.
- (4) District boundary changes. The delineation of any of the floodplain districts may be revised by the city where natural or man-made changes have occurred and/or where more detailed studies have been conducted or undertaken by the U.S. Army Corps of Engineers or other qualified agency, or an individual documents the need for such change. However, prior to any such change, approval must be obtained from the Federal Emergency Management Agency as evidenced by a completed LOMR.
- (5) Submitting model backed technical data. A community's base flood elevations may increase or decrease resulting from physical changes affecting flooding conditions. As soon as practicable, but not later than six months after the date such information becomes available, a community shall notify the Federal Emergency Management Agency of the changes by submitting technical or scientific data. The community may submit data via a LOMR. Such a submission is necessary so that upon confirmation of those physical changes affecting flooding conditions, risk premium rates and flood plain management requirements will be based upon current data.
- (6) Letters of map revision. When development in the floodplain will cause or causes a change in the base flood elevation, the applicant, including state agencies, must notify FEMA by applying for a Conditional Letter of Map Revision (CLOMR) and then a Letter of Map Revision (LOMR).

#### Example cases:

- (a) Any development that causes a rise in the base flood elevations within the floodway.
- (b) Any development occurring in Zones A1-30 and AE without a designated floodway, which will cause a rise of more than one foot in the base flood elevation.
- (c) Alteration or relocation of a stream (including but not limited to installing culverts and bridges) 44 Code of Federal Regulations §65.3 and §65.6(a)(12).

(Ord. No. **Z16-03**, 4-13-2016)

Sec. 9-33. - Establishment of zoning districts.

- (1) Description of special flood hazard districts.
  - (a) Basis of districts.
    - (i) The various special flood hazard districts shall include the special flood hazard areas and other flood areas. The basis for the delineation of these districts shall be the FIS and the FIRM for the city prepared by the Federal Emergency Management Agency, Federal Insurance Administration, dated May 16, 2016, and any subsequent revisions or amendments thereto.
    - (ii) The city may identify and regulate local flood hazard or ponding areas that are not delineated on the FIRM. These areas may be delineated on a "Local Flood Hazard Map" using best available topographic data and locally derived information such as flood of record, historic high water marks or approximate study methodologies.
    - (iii) The boundaries of the SFHA Districts are established as shown on the FIRM which is declared to be a part of this ordinance and which shall be kept on file at the office of the floodplain administrator.
  - (b) The floodway district is in an AE Zone and is delineated, for purposes of this article, using the criterion that certain areas within the floodplain must be capable of carrying the waters of the one percent annual chance flood without increasing the water surface elevation of that flood more than one (1) foot at any point. The areas included in this district are specifically defined in Table 5 of the above-referenced FIS and shown on the accompanying FIRM. The following provisions shall apply within the floodway district of an AE zone:
    - (i) Within any floodway area, no encroachments, including fill, new construction, substantial improvements, or other development shall be permitted unless it has been demonstrated through hydrologic and hydraulic analysis performed in accordance with standard engineering practice that the proposed encroachment will not result in any increase in flood levels within the community during the occurrence of the base flood discharge. Hydrologic and hydraulic analyses shall be undertaken only by professional engineers or others of demonstrated qualifications, who shall certify that the technical methods used correctly reflect currently-accepted technical concepts. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the floodplain administrator.
      - (aa) Development activities which increase the water surface elevation of the base flood may be allowed, provided that the applicant first applies—with the city's endorsement—for a Conditional Letter of Map Revision (CLOMR), and receives the approval of the Federal Emergency Management Agency.
      - (bb) If Section 9-33(1)(b)(i) is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of Section 9-34.
    - (ii) The placement of manufactured homes (mobile homes) is prohibited, except when replacing an existing manufactured home in an existing manufactured home park or subdivision. A

replacement manufactured home may be placed on a lot in an existing manufactured home park or subdivision provided the anchoring, elevation, and encroachment standards are met.

- (c) The AE, or AH Zones on the FIRM accompanying the FIS shall be those areas for which one-percent annual chance flood elevations have been provided and the floodway has not been delineated. The following provisions shall apply within an AE or AH zone where FEMA has provided base flood elevations.
  - (i) Until a regulatory floodway is designated, no new construction, substantial improvements, or other development (including fill) shall be permitted within the areas of special flood hazard, designated as Zones A1-30, AE, or AH on the FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the city.
    - (aa) Development activities in Zones Al-30, AE, or AH on the city's FIRM which increase the water surface elevation of the base flood by more than one foot may be allowed, provided that the applicant first applies—with the city's endorsement—for a Conditional Letter of Map Revision, and receives the approval of the Federal Emergency Management Agency.
- (d) The A Zone on the FIRM accompanying the FIS shall be those areas for which no detailed flood profiles or elevations are provided, but the one percent annual chance floodplain boundary has been approximated. For these areas, the following provisions shall apply:
  - (i) The approximated floodplain district shall be that floodplain area for which no detailed flood profiles or elevations are provided, but where a one percent annual chance floodplain boundary has been approximated. Such areas are shown as Zone A on the maps accompanying the FIS. For these areas, the base flood elevations and floodway information from federal, state, and other acceptable sources shall be used, when available. Where the specific one percent annual chance flood elevation cannot be determined for this area using other sources of data, such as the U. S. Army Corps of Engineers Floodplain Information Reports, U. S. Geological Survey Flood—Prone Quadrangles, etc., then the applicant for the proposed use, development and/or activity shall determine this base flood elevation. For development proposed in the approximate floodplain the applicant must use technical methods that correctly reflect currently accepted practices, such as point on boundary, high water marks, or detailed methodologies hydrologic and hydraulic analyses. Studies, analyses, computations, etc., shall be submitted in sufficient detail to allow a thorough review by the floodplain administrator.
    - (aa) The floodplain administrator reserves the right to require a hydrologic and hydraulic analysis for any development. When such base flood elevation data is utilized, the lowest floor shall be elevated to or above the base flood level plus eighteen inches.
    - (bb) During the permitting process, the floodplain administrator shall obtain:
      - The elevation of the lowest floor (in relation to the datum specified on the effective FIRM), including the basement, of all new and substantially improved structures; and,
      - If the structure has been flood-proofed in accordance with the requirements of this
        article, the elevation (in relation to the datum specified on the effective FIRM) to
        which the structure has been flood-proofed.
- (e) The AO Zone on the FIRM accompanying the FIS shall be those areas of shallow flooding identified as AO on the FIRM. For these areas, the following provisions shall apply:
  - (i) All new construction and substantial improvements of residential structures shall have the lowest floor, including basement, elevated to or above the flood depth specified on the FIRM, above the highest adjacent grade at least as high as the depth number specified in feet on

the FIRM. If no flood depth number is specified, the lowest floor, including basement, shall be elevated no less than two feet above the highest adjacent grade.

- (ii) All new construction and substantial improvements of non-residential structures shall:
  - (aa) Have the lowest floor, including basement, elevated to or above the flood depth specified on the FIRM, above the highest adjacent grade at least as high as the depth number specified in feet on the FIRM. If no flood depth number is specified, the lowest floor, including basement, shall be elevated at least two feet above the highest adjacent grade; or,
  - (bb) Together with attendant utility and sanitary facilities be completely flood-proofed to the specified flood level so that any space below that level is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy.
- (iii) Adequate drainage paths around structures on slopes shall be provided to guide floodwaters around and away from proposed structures.
- (f) The Coastal A Zone is labelled as AE on the FIRM; it is those areas that are shoreward of the limit of moderate wave action (LiMWA) line. As defined by the VA USBC, these areas are subject to wave heights between 1.5 feet and 3 feet. For these areas, the following provisions shall apply:
  - (i) Buildings and structures within this zone shall have the lowest floor elevated to or above the design flood elevation, and must comply with the provisions in sections 9-33(1)(c), 9-34(2) and 9-34(3).
- (g) The VE or V Zones on FIRMs accompanying the FIS shall be those areas that are known as Coastal High Hazard areas, extending from offshore to the inland limit of a primary frontal dune along an open coast or other areas subject to high velocity waves. For these areas, the following provisions shall apply:
  - (i) All new construction and substantial improvements in Zones V and VE shall be elevated on pilings or columns so that:
    - (aa) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to or above the design flood elevation.
    - (bb) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse, and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equaled or exceeded in any given year (onepercent annual chance).
  - (ii) A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of Section 9-33(1)(g)(i).
  - (iii) The floodplain administrator shall obtain an elevation certificate, which shall identify the bottom of the lowest horizontal structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures in Zones V and VE.
  - (iv) All new construction shall be located landward of the reach of mean high tide.
  - (v) All new construction and substantial improvements shall have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood-lattice work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading

resistance of 20 pounds per square foot (either by design or when so required by local codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

- (aa) Breakaway wall collapse shall result from water load less than that which would occur during the base flood; and
- (bb) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equaled or exceeded in any give year.
- (vi) The enclosed space below the lowest floor shall be used solely for parking of vehicles, building access, or storage. Such space shall not be partitioned into multiple rooms, temperature-controlled, or used for human habitation. The enclosed space shall be no more than 299 square feet.
- (vii) The use of fill for structural support of buildings is prohibited. When non-structural fill is proposed in a coastal high hazard area, appropriate engineering analyses shall be conducted to evaluate the impacts of the fill prior to issuance of a development permit.
- (viii) The man-made alteration of sand dunes, which would increase potential flood damage, is prohibited.
- (ix) New, replacement, or substantially improved manufactured homes are prohibited within Zones V1—V30, V and VE on the city's Flood Insurance Rate Map.
- (x) Recreational vehicles to be placed within Zones V1—V30, V, and VE on the city's Flood Insurance Rate Map on sites must meet the standards of section 9-34(3)(d) and sections 9-33(1)(g)(i) through 9-33(1)(g)(ix).
- (h) Other flood areas shall be those areas identified as X (Shaded) or X500 on the FIRM for which there is a one-fifth percent (0.2%) annual chance of flooding.
  - (i) All new construction as of September 10, 2014 shall have the lowest floor, including basement, elevated or flood-proofed to one and one-half (1.5) feet above the highest grade immediately adjacent to the structure except as described below:
    - (aa) When fill is placed to raise a structure at least one and one-half (1.5) feet above the highest existing grade immediately adjacent to the structure, as shown on a development plan prepared and stamped by a certified land surveyor or professional engineer.
- (2) Overlay Concept. The floodplain districts described above shall be overlays to the existing underlying districts as shown on the official zoning ordinance map, and as such, the provisions for the floodplain districts shall serve as a supplement to the underlying district provisions. If there is any conflict between the provisions or requirements of the Floodplain Districts and those of any underlying district, the more restrictive provisions and/or those pertaining to the floodplain districts shall apply. In the event any provision concerning a floodplain district is declared inapplicable as a result of any legislative or administrative actions or judicial decision, the basic underlying provisions shall remain applicable.

(Ord. No. **Z16-03**, 4-13-2016)

Sec. 9-34. - District provisions.

- (1) Permit and application requirements.
  - (a) Permit requirement. All uses, activities, and development occurring within any special flood hazard area and other flood areas, including placement of manufactured homes, shall be undertaken only upon the issuance of a zoning permit, land disturbance permit, or building permit

when such a permit is required. Such development shall be undertaken only in strict compliance with the provisions of this article, all other applicable codes and ordinances, as amended, such as the Virginia Uniform Statewide Building Code (VA USBC). Prior to the issuance of any such permit, the floodplain administrator shall require all applications to include compliance with all applicable state and federal laws.

- (b) Site plans and building permit applications. All site plan and building permit applications within any special flood hazard area or other flood areas shall incorporate the following information:
  - (i) The elevation of the base flood at the site, or the elevation of the highest adjacent grade in other flood areas where no base flood elevation is provided.
  - (ii) The elevation of the lowest floor (including basement) or, in V zones, the lowest horizontal structural member.
  - (iii) For structures to be flood-proofed (non-residential only), the elevation to which the structure will be flood-proofed.
  - (iv) Topographic information showing existing and proposed ground elevations.
- (c) Small projects considered compliant with flood zone requirements.
  - (i) Individual permits shall not be required for activities, uses, and development (collectively "Small Projects") which have been reviewed, assessed, and documented by the City of Hampton and approved by FEMA in accordance with federal regulations as having low-to-no impact on the flood plain. A list of Small Projects meeting this criteria entitled, "City Review of Development in Flood Zones Permit Requirements," is hereby adopted by reference as part of this article as if fully set forth herein, shall be kept on file in the office of the department of community development, and may be administratively amended as deemed necessary by the floodplain administrator in accordance with all federal requirements.
  - (ii) Notwithstanding the foregoing section 9-34(c)(i), Small Projects which constitute a substantial improvement as defined in this article shall require submission of a zoning permit or building permit, as applicable, prior to commencement of construction or land disturbance. The floodplain administrator may require submittal of all plans, documents, and information deemed necessary to determine whether the Small Project is a substantial improvement and otherwise complies with this article.
- (2) General standards. In all special flood hazard areas the following provisions shall apply:
  - (a) The freeboard shall be three (3) feet. The freeboard, in addition to the base flood elevation, shall constitute the design flood elevation.
  - (b) New construction and substantial improvements shall be built according to this ordinance and the VA USBC, and anchored to prevent flotation, collapse or lateral movement of the structure.
  - (c) Manufactured homes shall be anchored to prevent flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This standard shall be in addition to and consistent with applicable state anchoring requirements for resisting wind forces.
  - (d) New construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
  - (e) New construction or substantial improvements shall be constructed by methods and practices that minimize flood damage.
  - (f) Electrical, heating, ventilation, plumbing, air conditioning equipment and other service facilities, including duct work, shall be:
    - (i) Elevated and installed at or above the design flood elevation; or
    - (ii) Designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

- (g) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system.
- (h) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters.
- (i) On-site waste disposal systems shall be located and constructed to avoid impairment to them or contamination from them during flooding.
- (j) Any alteration, repair, reconstruction or improvements to a building that is in compliance with the provisions of this article shall meet the requirements of "new construction" as contained in this article.
- (k) Any alteration, repair, reconstruction or improvements to a building that is not in compliance with the provisions of this article, shall be undertaken only if said non-conformity is not furthered, extended, or replaced.
- (I) Prior to any proposed alteration or relocation of any channels or of any watercourse, stream, etc., within this jurisdiction a permit shall be obtained from the U. S. Corps of Engineers, the Virginia Department of Environmental Quality, and the Virginia Marine Resources Commission (a joint permit application is available from any of these organizations). Furthermore, in riverine areas, notification of the proposal shall be given by the applicant to all affected adjacent jurisdictions, the Department of Conservation and Recreation (Division of Dam Safety and Floodplain Management), other required agencies, and the Federal Emergency Management Agency.
- (m) The flood carrying capacity within an altered or relocated portion of any watercourse shall be maintained.
- (n) For residential construction, the lowest floor shall not be below grade on all sides.
- (3) Elevation and construction standards. In all special flood hazard areas where base flood elevations have been provided in the FIS or generated by a certified professional in accordance with Section 9-33(1)(d), the following provisions shall apply:
  - (a) Residential construction.
    - (i) New construction or substantial improvement of any residential structure (including manufactured homes) in Zones A1-30, AE, AH and A with detailed base flood elevations shall have the lowest floor, including basement, elevated to or above the design flood elevation. See sections 9-33(1)(f) and 9-33(1)(g) for requirements in the Coastal A and VE zones.
  - (b) Non-residential construction.
    - (i) New construction or substantial improvement of any commercial, industrial, or non-residential building (or manufactured home) shall have the lowest floor, including basement, elevated to or above the design flood elevation. See sections 9-33(1)(f) and 9-33(1)(g) for requirements in the Coastal A and VE zones.
    - (ii) Non-residential buildings located in all A1-30, AE, and AH zones may be flood-proofed in lieu of being elevated provided that all areas of the building components below the design flood elevation are water tight with walls substantially impermeable to the passage of water, and use structural components having the capability of resisting hydrostatic and hydrodynamic loads and the effect of buoyancy. A registered professional engineer or architect shall certify that the standards of this subsection are satisfied. Such certification, including the specific elevation (in relation to the datum specified on the effective FIRM) to which such structures are floodproofed, shall be maintained by the Floodplain Administrator.
  - (c) Space below the lowest floor. In zones A, AE, AH, AO, and A1-A30, fully enclosed areas, of new construction or substantially improved structures, which are below the regulatory flood protection elevation shall:

- (i) Not be designed or used for human habitation, but shall be used solely for parking of vehicles, building access, or limited storage of maintenance equipment used in connection with the premises. Access to the enclosed area shall be the minimum necessary to allow for parking of vehicles (garage door) or limited storage of maintenance equipment (standard exterior door), or entry to the living area (stairway or elevator).
- (ii) Be constructed entirely of flood resistant materials below the design flood elevation;
- (iii) Include measures to automatically equalize hydrostatic flood forces on walls by allowing for the entry and exit of floodwaters. To meet this requirement, the openings must either be certified by a professional engineer or architect or meet the following minimum design criteria:
  - (aa) Provide a minimum of two (2) openings on different sides of each enclosed area subject to flooding.
  - (bb) The total net area of all openings must be at least one (1) square inch for each square foot of enclosed area subject to flooding or the flood openings shall be engineered flood openings that are designed and certified by a licensed professional engineer to automatically allow entry and exit of floodwaters; the certification requirement may be satisfied by an individual certification or issuance of an evaluation report by the ICC Evaluation Service, Inc.
  - (cc) If a building has more than one (1) enclosed area, each area must have openings to allow floodwaters to automatically enter and exit.
  - (dd) The bottom of all required openings shall be no higher than one (1) foot above the adjacent grade.
  - (ee) Openings may be equipped with screens, louvers, or other opening coverings or devices, provided they permit the automatic flow of floodwaters in both directions.
  - (ff) Foundation enclosures made of flexible skirting are not considered enclosures for regulatory purposes, and, therefore, do not require openings. Masonry or wood underpinning, regardless of structural status, is considered an enclosure and requires openings as outlined above.
- (d) Standards for manufactured homes and recreational vehicles.
  - (i) In zones A, AE, AH, and AO, all manufactured homes placed, or substantially improved, on individual lots or parcels, in expansions to existing manufactured home parks or subdivisions, in a new manufactured home park or subdivision, or in an existing manufactured home park or subdivision on which a manufactured home has incurred substantial damage as the result of a flood, must meet all the requirements for new construction, including the elevation and anchoring requirements in sections 9-34(2) and 9-34(3).
  - (ii) All manufactured homes placed or substantially improved in an existing manufactured home park or subdivision in which a manufactured home has not incurred substantial damage as the result of a flood shall be elevated so that:
    - (aa) The lowest floor of the manufactured home is elevated no lower than design flood elevation; and
    - (bb) The manufactured home must be securely anchored to the adequately anchored foundation system to resist flotation, collapse and lateral movement.
  - (iii) All recreational vehicles placed on sites must either:
    - (aa) Be on the site for fewer than 180 consecutive days, be fully licensed and ready for highway use (a recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions); or

- (bb) Meet all the requirements for manufactured homes in Section 9-34(3)(d)(i).
- (4) Standards for subdivision proposals.
  - (a) All subdivision proposals shall be consistent with the need to minimize flood damage;
  - (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage;
  - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood hazards, and
  - (d) Base flood elevation data shall be obtained from other sources or developed using detailed methodologies, hydraulic and hydrologic analysis, comparable to those contained in a flood insurance study for subdivision proposals and other proposed development proposals (including manufactured home parks and subdivisions) that exceed five lots or five acres, whichever is the lesser.

(Ord. No. <u>Z16-03</u>, 4-13-2016; Ord. No. <u>Z18-9</u>, 7-11-2018)

Sec. 9-35. - Existing structures in floodplain areas.

- (1) Any structure or use of a structure or premises must be brought into conformity with these provisions when it is changed, repaired, or improved unless one of the following exceptions is established before the change is made:
  - (a) The floodplain administrator has determined that:
    - (i) Change is not a substantial repair or substantial improvement;
    - (ii) No new square footage is being built in the floodplain that is not compliant;
    - (iii) No new square footage is being built in the floodway; and
    - (iv) The change complies with this ordinance.
  - (b) The changes are required to comply with a citation for a health or safety violation.
  - (c) The structure is a historic structure and the change required would impair the historic nature of the structure.

(Ord. No. <u>Z16-03</u>, 4-13-2016)

Sec. 9-36. - Variances—Factors to be considered.

- (1) Additional factors to be considered. In considering applications for variances to this article, the board of zoning appeals shall satisfy all relevant factors and procedures specified in chapter 13 of the zoning ordinance and consider the following additional factors:
  - (a) The showing of good and sufficient cause.
  - (b) A determination that failure to grant the variance would result in exceptional hardship to the applicant.
  - (c) The danger to life and property due to increased flood heights or velocities caused by encroachments.
  - (d) The danger that materials may be swept on to other lands or downstream to the injury of others.
  - (e) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination, and unsanitary conditions.

- (f) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owners.
- (g) The importance of the services provided by the proposed facility to the community.
- (h) The requirements of the facility for a waterfront location.
- (i) The availability of alternative locations not subject to flooding for the proposed use.
- (j) The compatibility of the proposed use with existing development and development anticipated in the foreseeable future.
- (k) The relationship of the proposed use to the comprehensive plan and floodplain management program for the area.
- (I) The safety of access by ordinary and emergency vehicles to the property in time of flood.
- (m) The expected heights, velocity, duration, rate of rise, and sediment transport of the floodwaters expected at the site.
- (n) The repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (o) Such other factors which are relevant to the purposes of this article.
- (2) Technical assistance. The board of zoning appeals may refer any application and accompanying documentation pertaining to any request for a variance to any engineer or other qualified person or agency for technical assistance in evaluating the proposed project in relation to flood heights and velocities, and the adequacy of the plans for flood protection and other related matters.
- (3) Additional criteria to be applied.
  - (a) Variances shall be issued only after the board of zoning appeals has determined that the granting of such variance will not result in (1) unacceptable or prohibited increases in flood heights, (2) additional threats to public safety, (3) extraordinary public expense; and will not (4) create nuisances, (5) cause fraud or victimization of the public, or (6) conflict with local laws or ordinances.
  - (b) Variances shall be issued only after the board of zoning appeals has determined that the variance will be the minimum required to provide relief from exceptional hardship to the applicant. The variance shall minimize changes to the requirements of this article, and maximize flood protection of the structure. No variance shall be granted by the board of zoning appeals for any proposed use, development, or activity within any floodway district that will cause any increase in the one hundred (100) year flood elevation.
  - (c) Prior to the consideration of an application for a variance to the provisions of this article, the board of zoning appeals shall notify the applicant for a variance, in writing, that the grant of a variance to construct a structure below the one hundred (100) year flood elevation (a) increases the risks to life and property and (b) will result in increased premium rates for flood insurance.
  - (d) A record shall be maintained of the above notification as well as all variance actions, including justification for the issuance of the variances. Any variances that are issued shall be noted in the annual or biennial report submitted to the federal insurance administrator.

(Ord. No. **Z16-03**, 4-13-2016)

Sec. 9-37. - Definitions.

To the extent that the following definitions conflict with chapter 2 of the zoning ordinance, they will prevail.

Base flood. The flood having a one percent chance of being equaled or exceeded in any given year.

Base flood elevation. The water surface elevations of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year. The water surface elevation of the base flood in relation to the datum specified on the community's flood insurance rate map. For the purposes of this section, the base flood is the 1% annual chance flood.

Basement. Any area of the building having its floor sub-grade (below ground level) on all sides.

Board of zoning appeals. The board appointed to review appeals made by individuals with regard to decisions of the zoning administrator in the interpretation of this chapter.

*Breakaway wall.* 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.

Coastal A Zone. Flood hazard areas that have been delineated as subject to wave heights between 1.5 feet and 3 feet.

Coastal high hazard area. A special flood hazard area extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

Design Flood Elevation. The base flood elevation plus the freeboard required by this chapter.

Development. Any man-made change to improved or unimproved real estate, including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

*Elevated building.* A non-basement building built to have the lowest floor elevated above the ground level by means of solid foundation perimeter walls, pilings, or columns (posts and piers).

*Encroachment.* The advance or infringement of uses, plant growth, fill, excavation, buildings, permanent structures or development into a floodplain, which may impede or alter the flow capacity of a floodplain.

Existing manufactured home park or subdivision. A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.

Expansion of an existing manufactured home park or subdivision. The preparation of additional sites by the construction of facilities for servicing the lots on which the manufacturing homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

Existing construction. For the purposes of the insurance program, structures for which the "start of construction" commenced on or before December 31, 1974. "Existing construction" may also be referred to as "existing structures" and "pre-FIRM."

#### Flood or flooding.

- 1. A general or temporary condition of partial or complete inundation of normally dry land areas from
  - (a) The overflow of inland or tidal waters; or
  - (b) The unusual and rapid accumulation or runoff of surface waters from any source.
  - (c) Mudflows which are proximately caused by flooding as defined in paragraph (1)(b) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.

2. The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature such as flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph 1 (a) of this definition.

Flood Insurance Rate Map (FIRM). An official map of a community, on which the Federal Emergency Management Agency has delineated both the special hazard areas and the risk premium zones applicable to the community. A FIRM that has been made available digitally is called a Digital Flood Insurance Rate Map (DFIRM).

Flood Insurance Study (FIS). A report by FEMA that examines, evaluates and determines flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudflow and/or flood-related erosion hazards.

Floodplain or flood-prone area. Any land area susceptible to being inundated by water from any source.

Flood proofing. Any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

*Floodway.* The channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than one foot at any point within the community.

Freeboard. A factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, and the hydrological effect of urbanization in the watershed.

Functionally dependent use. A use which cannot perform its intended purpose unless it is located or carried out in close proximity to water. This term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and shipbuilding and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

*Highest adjacent grade.* The highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic structure. Any structure that is:

- 1. Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the secretary of the Interior as meeting the requirements for individual listing on the National Register;
- 2. Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- 3. Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- 4. Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
  - (a) By an approved state program as determined by the Secretary of the Interior; or
  - (b) Directly by the Secretary of the Interior in states without approved programs.

Hydrologic and hydraulic engineering analysis. Analyses performed by a licensed professional engineer, in accordance with standard engineering practices that are accepted by the Virginia Department of Conservation and Recreation and FEMA, used to determine the base flood, other frequency floods, flood elevations, floodway information and boundaries, and flood profiles.

Letters of Map Change (LOMC). A Letter of Map Change is an official FEMA determination, by letter, that amends or revises an effective Flood Insurance Rate Map or Flood Insurance Study. Letters of Map Change include:

- Letter of Map Amendment (LOMA): An amendment based on technical data showing that a
  property was incorrectly included in a designated special flood hazard area. A LOMA amends the
  current effective Flood Insurance Rate Map and establishes that a land as defined by meets and
  bounds or structure is not located in a special flood hazard area.
- 2. Letter of Map Revision (LOMR): A revision based on technical data that may show changes to flood zones, flood elevations, floodplain and floodway delineations, and planimetric features. A Letter of Map Revision Based on Fill (LOMR-F), is a determination that a structure or parcel of land has been elevated by fill above the base flood elevation and is, therefore, no longer exposed to flooding associated with the base flood. In order to qualify for this determination, the fill must have been permitted and placed in accordance with the community's floodplain management regulations.
- Conditional Letter of Map Revision (CLOMR): A formal review and comment as to whether a
  proposed flood protection project or other project complies with the minimum NFIP requirements
  for such projects with respect to delineation of special flood hazard areas. A CLOMR does not
  revise the effective Flood Insurance Rate Map or Flood Insurance Study.

Lowest adjacent grade. The lowest natural elevation of the ground surface next to the walls of a structure.

Lowest floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood-resistant enclosure, usable solely for parking of vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of Federal Code 44CFR §60.3.

Manufactured home. A structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days.

Manufactured home park or subdivision. A parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

Mean sea level. An elevation point that represents the average height of the ocean's surface (such as the halfway point between the mean high tide and the mean low tide) which is used as a standard in reckoning land elevation.

New construction. For the purposes of determining insurance rates, structures for which the "start of construction" commenced on or after January 1, 1975, and includes any subsequent improvements to such structures. For floodplain management purposes, new construction means structures for which the start of construction commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures. Such structure is also referred to as "post-FIRM."

New manufactured home park or subdivision. A manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by the city.

Other flood areas. Those areas identified as X (Shaded) or X500 on the FIRM for which there is a one-fifth percent (0.2%) annual chance of flooding.

*Post-FIRM structures.* A structure for which construction or substantial improvement occurred on or after January 1, 1975.

*Pre-FIRM structures.* A structure for which construction or substantial improvement occurred on or before December 31. 1974.

Primary frontal dune. A continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms.

Recreational vehicle. A vehicle which is:

- 1. Built on a single chassis;
- 2. 400 square feet or less when measured at the largest horizontal projection;
- 3. Designed to be self-propelled or permanently towable by a light duty truck; and
- 4. Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational camping, travel, or seasonal use.

Regulatory flood protection elevation. An elevation equivalent to the design flood elevation.

Repetitive loss structure. A building covered by a contract for flood insurance that has incurred flood-related damages on two occasions in a 10-year period, in which the cost of the repair, on the average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event; and at the time of the second incidence of flood-related damage, the contract for flood insurance contains increased cost of compliance coverage.

Severe repetitive loss structure. A structure that: (a) Is covered under a contract for flood insurance made available under the NFIP; and (b) Has incurred flood related damage (i) For which 4 or more separate claims payments have been made under flood insurance coverage with the amount of each such claim exceeding \$5,000, and with the cumulative amount of such claims payments exceeding \$20,000; or (ii) For which at least 2 separate claims payments have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the insured structure.

Shallow flooding area. A special flood hazard area with base flood depths from one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and indeterminate, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

Special flood hazard area. The land in the floodplain subject to a one percent or greater chance of being flooded in any given year as determined in section 9-33(1) of this article.

Start of construction. For other than new construction and substantial improvement, under the Coastal Barriers Resource Act (P.L. - 97-348), means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, substantial improvement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of the construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

Structure. For floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

Substantial damage. Damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the city's assessed value or the market value of the structure before the damage occurred as established by an independent, unbiased, third party appraiser licensed in the Commonwealth of Virginia.

Substantial improvement. Any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the city's assessed value or the market value of the structure before the start of construction of the improvement as established by an independent, unbiased, third party appraiser licensed in the Commonwealth of Virginia. This term includes structures which have incurred or substantial damage regardless of the actual repair work performed. The term does not, however, include either:

- 1. Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions,
- 2. Any alteration of a historic structure, provided that the alteration will not preclude the structure's continued designation as a historic structure, or
- 3. Historic structures undergoing repair or rehabilitation that would constitute a substantial improvement as defined above, must comply with all ordinance requirements that do not preclude the structure's continued designation as a historic structure. Documentation that a specific ordinance requirement will cause removal of the structure from the National Register of Historic Places or the state inventory of historic places must be obtained from the Secretary of the Interior or the state historic preservation officer. Any exemption from ordinance requirements will be the minimum necessary to preserve the historic character and design of the structure.

*Violation.* The failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required in this ordinance is presumed to be in violation until such time as that documentation is provided.

Watercourse. A lake, river, creek, stream, wash, channel or other topographic feature on or over which waters flow at least periodically. Watercourse includes specifically designated areas in which substantial flood damage may occur.

(Ord. No. Z16-03, 4-13-2016; Ord. No. Z18-9, 7-11-2018)

Secs. 9-38—9-40. - Reserved.



CFPF, rr <cfpf@dcr.virginia.gov>

#### City of Hampton (CID# 515527) - Applications to Community Flood Preparedness Fund

2 me age

Heaps, Carolyn		Fri, Sep 3, 2021 at 3:26 PM
To: "cfpf@dcr.virginia.gov" <ctpt@dcr.virginia.gov></ctpt@dcr.virginia.gov>		
Cc "O'Neill, Terry" , "Mitchell, Ja on L "	, "Smith, Scott"	, "Bry on, Ja mine"
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Good afternoon,

The City of Hampton is pleased to submit three applications to the Virginia Community Flood Preparedness Fund. Please find attached PDF files corresponding to the following application materials.

- Honor Park Resilience Project CID515527\_Hampton\_CFPF-1
- Mill Point Living Shoreline CID515527 Hampton CFPF 2
- Downtown Hampton, Phoebus and Buckroe Beach Water Plan CID515527\_Hampton\_CFPF-3

We kindly request that DCR confirm receipt of these materials. Should you have any questions regarding our applications, or difficulty accessing the documents, plea e do not he itate to contact me

Warm regard,

Carolyn Heap

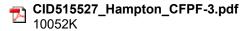
Carolyn Heap Resiliency Officer Resilient Hampton | Community Development Department 22 Lincoln St, 5<sup>th</sup> floor, Hampton VA, 23669 Phone: Direct (757) 728-5221 | Main (757) 727-6140

Visit us on the web: www.hampton.gov



#### 3 attachment





CID515527\_Hampton\_CFPF-1.pdf 1976K

CFPF, rr <cfpf@dcr.virginia.gov>

To: "Heaps, Carolyn"

Received

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Fri, Sep 3, 2021 at 4:37 PM