

THE RAFT

Resilience Adaptation Feasibility Tool

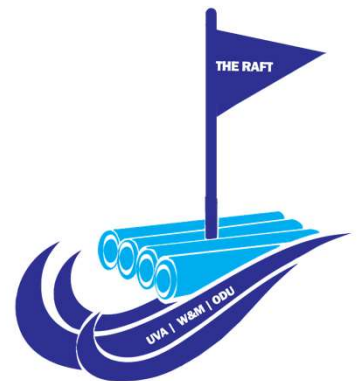
Hopewell

Scorecard Report

August 2022

The RAFT Goal

To help Virginia's coastal localities improve resilience to flooding and other coastal storm hazards while remaining economically and socially viable.



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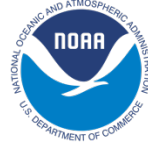
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Background

What is The RAFT?

- “Full-service tool” and collaborative, community-driven process designed to assist coastal localities in increasing their resilience.
- Conceived and developed by an academic interdisciplinary collaborative called the “Core Team”
 - Institute for Engagement & Negotiation (IEN) at the University of Virginia
 - Virginia Coastal Policy Center (VCPC) at William & Mary Law School
 - Old Dominion University (ODU)/Virginia Sea Grant Climate Adaptation and Resilience Program.

The RAFT has three key components:

1. The RAFT **Scorecard**, completed by the Core Team, provides a comprehensive assessment of the locality’s resilience.
2. A **Resilience Action Workshop** where participants review the assessment findings, identify achievable action items and create a one-year Resilience Action Checklist.
3. **Implementation** in which the Core Team works with a Locality Implementation Team to achieve items identified on the Resilience Action Checklist.

How does The RAFT help a locality?

1. Open a community conversation about community resilience, including gaps, and needs.
2. Support the community in identifying priority actions for the largest impact in increasing resilience.
3. Improve communication and coordination within the community and with regional and state agencies.
4. Help the community become better positioned to find and apply for relevant funding opportunities.
5. Earn a better Community Rating System (CRS) score, which saves residents money on their flood insurance premiums.

What is resilience?

The RAFT focuses on coastal community resilience, improving the ability of a community to bounce back from hazardous events such as hurricanes and extreme weather and deal with chronic issues such as flooding.

The RAFT takes a comprehensive approach by including environmental, economic, and social resilience. All three are vital for a community to thrive.

To build resilience, localities need capacities in areas of emergency management, infrastructure, planning, policy, and community well-being.

The Resilience Cycle



Adapted from: NOAA Coastal Community Resilience Indicators and Rating Systems, 2015.

Locality Total Score

Category	Score Received	Possible Score
1) POLICY, LEADERSHIP, AND COLLABORATION <i>Measures policy and legislation in place for coastal resilience and includes coordination and collaboration between various levels of government, and how accessible and open government data is to the public.</i>	9	20
2) RISK ASSESSMENT AND EMERGENCY MANAGEMENT <i>Examines how well a locality has conducted risk assessments to prepare for coastal storm hazards, identified vulnerable populations and their needs during or after a coastal storm hazard, and developed plans for disaster preparedness, including a Hazard Mitigation Plan.</i>	16	20
3) INFRASTRUCTURE RESILIENCE <i>Assesses how well the locality has identified methods and plans for storm water and protecting critical infrastructure including using natural and nature-based features (NNBF).</i>	10	20
4) PLANNING FOR RESILIENCE <i>Assesses the comprehensive plan and zoning code for resilience, how a locality is using incentives to promote resilience in building and development, how policies protect ecosystems, how they use green infrastructure to improve resilience, and how much resilience has been incorporated into planning.</i>	10	20
5) COMMUNITY ENGAGEMENT, HEALTH, AND WELL BEING <i>Assesses how the community engages with residents in planning for coastal storm hazard including social equity considerations and examines the locality's attention to issues of health and wellness during and after coastal events.</i>	10	20
Total Score:	55%	

Interpreting the Score


Low Resilience: Less than 50- There are plenty of opportunities for improvement. The locality should decide whether it will be more beneficial to achieve the least difficult improvements first, or to tackle more challenging problems. The key is to decide which of these approaches makes the most sense, as the locality develops their Resilience Action Checklist.

Moderate Resilience: 50- 74 – The locality is actively involved in coastal resilience planning and has achieved some successes. There are still opportunities for strengthening resilience. The Resilience Action Checklist should focus on weak categories and anticipate moderate to difficult improvements.

High Resilience: 75 or More- Locality is well prepared! There may still be room for resilience and the Resilience Action Checklist may focus on ways to improve resilience and further engage residents. Examples of locality policies, plans, and activities may assist other localities in the region and beyond.

If you see **CRS** next to an item, action to improve that metric can result in CRS credit.

If you see \$\$\$ next to an item, action to improve that metric supports economic resilience.

If you see  next to an item, action to improve that metric supports environmental resilience.

If you see  next to an item, action to improve that metric supports engagement with vulnerable populations.

LOCALITY LEADERSHIP, POLICY, AND COLLABORATION

1.1 LOCALITY LEADERSHIP AND PLANNING FOR RESILIENCE:

2 / 4


Collaboration among local government decision makers, officials, departments, academia, and NGOs is important in planning for coastal resilience. Effective collaboration requires identifying local leaders and organizations, establishing the roles of such leaders and organizations, and providing leadership training and educational resources.


Points		Scoring Metric	Notes
1		a. Leadership roles are identified for staff and/or elected officials important for planning for resilience. If staff is limited or nonexistent, the locality has tasked someone with handling resilience efforts for the community.	Per locality staff, leadership roles are identified for staff and/or elected officials important for planning resilience. Per locality staff, the emergency operations plan covers initial response and recovery phases.
0		b. Training and education events are held for elected officials specifically on resilience issues.	Per locality staff, the elected officials do not go through training on resilience issues.
1		c. Training and education events are held for locality staff, or if staff is limited or nonexistent, training of whomever has been tasked with handling resilience efforts for the community.	Per locality staff, there is training for locality staff who have been tasked with handling resilience efforts. Per locality staff, there is a yearly training and drill on the Emergency Operations Plan.
0		d. Locality staff and/or elected officials, or whomever has been tasked with handling resilience efforts for the community, are meeting at least once per quarter to coordinate planning specifically on resilience issues.	Per locality staff, there is no meeting once per quarter to coordinate planning specifically on resilience issues.

1.2 LOCALITY LEADERSHIP AND RESPONDING TO EMERGENCY:

3 / 4

Collaboration among local officials and relevant stakeholders is equally important in responding to a coastal hazard. An organized, coordinated response to a coastal hazard requires identifying stakeholders, establishing roles, creating plans, and publicizing information.


Points		Scoring Metric	Notes
1		a. Locality has identified stakeholders who will require emergency response including socially vulnerable populations.	Per locality staff, in response to the COVID-19 pandemic, the locality used Deloitte data from the state to identify vulnerable populations. Per locality staff, the locality has identified all stakeholders. The locality uses an “all-hazards” approach. The locality works with populations in areas subject to flooding. Before storms, staff make sure debris is cleared to reduce flooding. According to the locality, most flooding is man-made, infrastructure flooding, not coastal. Along with the city engineering department, the emergency office created the fluid stormwater resilience plan.

1		b. Locality has established internal emergency response roles (e.g., standing committees, staff titles), and these staff and partners participate in at least one training each year.	According to the City website , the Emergency Management Office has one full time position, and operates under the direction of the fire chief. There is also a Local Emergency Planning Committee. Accomplishing the mission of Emergency Management involves: Conducting exercises to test and train on the EOP through simulated emergencies. Per locality staff, the Emergency Management Office takes an all-hazards approach to identify hazards in the city. The Office has identified rules, including backup positions. The locality conducts at least one exercise per year.
0		c. Locality collaborates on resilience planning with the stakeholders who will need emergency response and has provided the public with opportunity to give input from lower income vulnerable populations.	Per locality staff, the locality has done public distribution of personal protective equipment throughout the COVID-19 pandemic. The staff has also distributed information about sheltering in place and how to sign up for emergency notifications. In this process, staff reported that they “essentially knocked on every door in the city,” including, but not limited to vulnerable populations. The public has opportunities to comment as the locality helps develop the 2022 DRAFT Hazard Mitigation Plan .
1		d. Locality has a means of communicating these plans to the public during a coastal storm hazard event.	According to the Richmond-Crater Hazard Mitigation Plan Appendices , Hopewell uses NOAA Weather Radio (p. 282). Per locality staff, the locality uses a reverse 911 system through texts, phone calls, and emails; CodeRED; the locality website; social media; and local media.

LOCALITY LEADERSHIP, POLICY, AND COLLABORATION

1.3 LOCAL COLLABORATION WITH STATE AGENCIES AND PDCs: 4/ 4

Coastal resilience issues go beyond political boundaries; therefore, localities benefit from regional collaboration. Regular communication between local, multi-jurisdictional, and state officials encourages sharing of information and ideas. Collaboration should include working with agencies that serve socially vulnerable communities. Localities are part of a Planning District Commission (PDC), which coordinates many activities.

Points		Scoring Metric	Notes
1		a. Locality staff and/or officials engage with regional and state agencies on resilience-oriented issues.	The locality engaged with PlanRVA, the regional convener, planning agency and provider of essential services to the localities of the Richmond Region, to develop the Richmond-Crater Hazard Mitigation Plan .
1		b. Locality participation in local and regional resilience-oriented committees and initiatives to serve socially vulnerable populations.	Per locality staff, the locality participates in local and regional resilience-oriented committees and initiatives to serve socially vulnerable populations. As an example, the locality pointed to the public-hearings stage of the process of creating the regional hazard mitigation plan.
1		c. Locality elected officials participate on relevant local and regional resilience-oriented commissions.	Per locality staff, the locality participates in PDC committees and Chesapeake Bay committees. Per locality staff, the Vice Mayor is on a stormwater committee at the PDC level. Members of the city staff participate in the Southside Trauma-Informed Network . Also Central Virginia Regional Alliance Committee .
1	\$\$\$	d. Locality staff work to identify funding opportunities and priorities to address resilience issues at the regional and state level.	Per locality staff, the locality has reviewed the funding opportunities for resilience projects on the Department of Conservation & Recreation website for the Virginia Coastal Resilience Master Plan. The locality has also considered applying for funding from the state's Community Flood Preparedness Fund administered by DCR. The locality has not yet determined if it is going to apply for funding yet. Per locality staff, the emergency response team has also looked at other funding opportunities. The team looks for opportunities to include resilience projects in the Hazard Mitigation Plan. The staff is in the process of finalizing the HMP in the next couple of months. The staff also reported

trying to get FEMA funding for flooding issues.

1.4 ADAPTIVE MANAGEMENT:

0 / 4 Points

Adaptive management involves updating ordinances and plans for coastal resilience based on new findings and emerging strategies. Use of data, scientific analyses, and new information is important to inform local policies to prepare. Adaptive management means incorporating lessons learned from research that informs best methods for addressing the needs of socially vulnerable populations.

Points		Scoring Metric	Notes
0		a. Locality incorporated new data, scientific analyses, and approaches to resilience, within the last five years into the Floodplain Management Ordinance.	According to the Past Versions tool in MuniCode, Article XV. - Floodplain District of Appendix A Zoning Ordinance has not been updated within the last five years. Per locality staff, the locality typically updates the floodplain ordinance when it receives new floodplain maps. The locality is actively waiting to receive the new floodplain maps. Speak to Mr. Ward?
0		b. Locality incorporated new data, scientific analyses, and approaches to resilience, within the last five years into Zoning Ordinance.	Per locality staff, the Zoning Ordinance is updated after the Comprehensive Plan; the Comprehensive Plan was updated in 2018. Per locality staff, the Zoning Ordinance does not incorporate new scientific analyses; however, the Ordinance has always included the floodplain district (2 feet above BFE) in the ordinance.
0		c. Locality incorporated new data, scientific analyses, and approaches to resilience, within the last five years into Site and Subdivision Ordinances.	According to the Past Versions tool in MuniCode, the Subdivision Ordinance Appendix B has not been updated in the last five years.
0		d. Locality incorporated new data, scientific analyses, and approaches to resilience, within the last five years into Comprehensive Plan.	Yes, Hopewell Comprehensive Plan was updated in 2018, but does not specifically address coastal resilience. There is discussion of the floodplain - see pgs. 244-45, but the discussion does not incorporate SLR data and resilience approaches.

LOCALITY LEADERSHIP, POLICY, AND COLLABORATION

1.5 The NFIP's COMMUNITY RATING SYSTEM:

0 / 4 Points

Communities wishing to go above and beyond the minimums of the National Flood Insurance Program can choose to participate in the Community Rating System (CRS). Participating communities implement higher standards of floodplain management, and, in return, residents are eligible for flood insurance premium reductions. Localities can do many things to improve their scores. For more information, see FEMA's CRS website or the Wetlands Watch website on the subject.

Points		Scoring Metric	Notes
0	CRS	a. Locality has achieved a CRS Score of 9 or higher.	Locality does not participate in the CRS.
0	CRS	b. Locality has achieved a CRS Score of 8.	Locality does not participate in the CRS.
0	CRS	c. Locality has achieved a CRS Score of 7	Locality does not participate in the CRS.
0	CRS	d. Locality has achieved a CRS Score of 6 or lower.	Locality does not participate in the CRS.

TOTAL SCORE FOR SECTION 1:

9 / 20 POINTS

2) RISK ASSESSMENT AND EMERGENCY MANAGEMENT

2.1 FLOOD EXPOSURE AND VULNERABILITY ASSESSMENT: 4 / 4 Points



Localities should conduct and use an assessment of their flood exposure and vulnerability in developing policies and programs. Localities should be knowledgeable of their flooding risks, raise awareness in the community about vulnerable areas, help target action to assist the most threatened areas and reduce possible damage, and save costs by being preemptive not reactive.


Points		Scoring Metric	Notes
1	CRS	a. An exposure and/or vulnerability assessment is completed, mapped and updated within the last 5-7 years, available at the locality level, and (as evidence of being used) referenced in locality policy making.	<p>2022 DRAFT Richmond-Crater Hazard Mitigation Plan at Section 5.4 (Hazard Identification, Risk Assessment (HIRA) and Vulnerability Analysis: Flooding). Figure 5.5b on p. 5-25 maps Repetitive Loss Areas and National Risk Index Ratings of High or Moderate Risk for Prince George County and Hopewell specifically.</p> <p>P. 16 of Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan) contains a map of Annualized Flood Damage by Census Block for the City of Hopewell specifically.</p>
1	CRS	b. Sources of flooding for both tidally driven and precipitation-driven events are identified and updated within last 5 years.	<p>2022 DRAFT Richmond-Crater Hazard Mitigation Plan at Section 5.4 (Hazard Identification, Risk Assessment (HIRA) and Vulnerability Analysis: Flooding), p. 5-10, discusses winter flooding (from snowmelt and ice jam breakaway) and spring flooding (from seasonal rain patterns), and also distinguishes between flooding arising from hurricanes and tropical storms and flooding arising from riverine floods or nor'easters.</p> <p>Section 5.6 (Hazard Identification, Risk Assessment (HIRA) and Vulnerability Analysis: Severe Wind Events) also discusses storm surge flooding and riverine flooding on p. 5-54 and 5-55.</p>
1	CRS	c. Flooding for different return period storm events is identified and mapped.	<p>2022 DRAFT Richmond-Crater Hazard Mitigation Plan, Figure 5.4 on p. 5-14 maps Richmond-Crater Storm Surge Zones; Table 5.3 on p. 5-15 to 5-16 lists History of Flood Events and Damages (from 2011-2020); Table 5.7 on p. 5-23 to 5-23 lists Repetitive Flood Losses and Severe Repetitive Flood Losses (by locality); Figure 5.5b on p. 5-25 maps Repetitive Loss Areas and National Risk Index Ratings of High or Moderate Risk for Prince George County and Hopewell specifically; Table 5.10 on p. 5-36 lists</p>


			<p>Annualized Flood Events and Losses (from 1993-2020).</p> <p>Pp. 3-4 of Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan) list significant flooding events in Hopewell specifically.</p>
1	\$\$\$ CRS	d. Additional vulnerabilities (see above), including cultural, historic and economic assets, are identified and updated within the last 5 years.	<p>See generally 2022 DRAFT Richmond-Crater Hazard Mitigation Plan, Section 4 (Community Profile).</p> <p>P. 2 of Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan) states that much of the housing was built in the 1900s, and that “a significant part of the City’s industrial development is in the floodplain.”</p>

2.2 RISK ASSESSMENT FOR VULNERABLE POPULATIONS: 3 / 4 Points

Localities should conduct risk assessments of their socially vulnerable populations. These populations include those in areas of high poverty, elderly, caregivers, veterans, homeless, transient or nomadic communities, children and youth, physically or mentally disabled people, medically fragile people and non-English speakers. Because these populations may not have resources to change their level of vulnerability, it is vital for localities to identify these populations, ways to reduce their risk, and create plans for assistance during and after coastal hazard events. Localities need to conduct outreach to vulnerable populations.

Points		Scoring Metric	Notes
1	CRS 	a. Locality has identified vulnerable populations that are subject to flooding and coastal storm hazards.	<p>2022 DRAFT Richmond-Crater Hazard Mitigation Plan at Section 4.6 discusses the population of the Richmond-Crater region and identifies vulnerable populations that may require special consideration when developing hazard reduction strategies and public outreach programs (see Sections 4.6.2 on Language, 4.6.3 on Age, 4.6.4 on Education, and 4.6.5 on Income). Further, Figure 5.6 on p. 5-37 maps Social Vulnerability to Flood Hazards in the Richmond-Crater region.</p> <p>Further, Section 7 of the 2022 DRAFT Richmond-Crater Hazard Mitigation Plan discusses jurisdictionally specific Mitigation Action Plans (MAPs), and there is a separate ranking for each MAP’s impact on socially vulnerable populations.</p>
0		b. Locality has engaged vulnerable populations and provided them with meaningful information (e.g., in their own language, relevant to their circumstances) relating to their vulnerability to coastal storm hazards.	<p>2022 DRAFT Richmond-Crater Hazard Mitigation Plan, p. 6-153 (Hopewell Mitigation Action 3): “Target FEMA’s repetitive loss property, and those in the surrounding repetitive loss area, for specialized outreach and mitigation activities.” P. 6-29 (Regional Mitigation Action 12) includes a public</p>

			<p>education/awareness component: “Enhance other outreach efforts to educate the public about hazard risk and regional resilience.” Further, Goal 1 on p. 1-3 states the following sub-goal for the region as a whole and for each community: “Conduct outreach and educational opportunities for diverse groups of citizens” (as part of a larger effort to “[e]quitably prepare and protect the whole community against natural hazards.” Finally, Section 4.6.4 on p. 4-27 states that demographics on education, age, and English fluency “are important to keep in mind when developing public outreach programs.”</p> <p>Per p. 11 of the Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan), locality Emergency Management staff are engaged in an ongoing, medium-priority effort to “[d]istribute brochures and use other means to educate the public regarding preparedness and mitigation.”</p> <p>However, per locality staff, they take an “all-hazard” approach to outreach, so have not engaged in coastal storm-specific outreach to vulnerable populations.</p>
1		c. Locality has worked with vulnerable populations to increase their emergency preparedness and evacuation plans so they know their risk and know what steps should be taken during and after an event.	<p>Per p. 11 of the Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan), locality staff are engaged in an ongoing, medium-priority effort to “[d]istribute brochures and use other means to educate the public regarding preparedness and mitigation.”</p> <p>Per locality staff, they have identified flood-prone areas and utilize the CodeRED notification system to alert individuals located within those areas when there is a flood risk. However, locality staff also noted that, because Hopewell is located on a bluff, their outreach does not focus specifically on evacuation planning (as the flood risk does not rise to the level of requiring evacuation).</p> <p>Locality staff further added that they take a seasonal approach to outreach and engage with citizens about coastal storm preparedness prior to hurricane season.</p>

1		<p>d. Locality partners with organizations that provide assistance to vulnerable populations before, during and after coastal storm hazards, including food banks or pantries with refrigeration units and backup generators.</p>	<p>Per locality staff, Hopewell partners with a number of organizations including Feed More and Red Cross to assist with feeding operations; also partners with faith communities and non-profits to provide shelter for individuals who may be experiencing homelessness.</p> <p>Locality staff further noted that, if the City is impacted to the point that a significant number of residents are affected, they have plans to provide shelter at high schools (which are equipped with generators).</p>
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2) RISK ASSESSMENT AND EMERGENCY MANAGEMENT

2.3 BUSINESS AND ECONOMIC RISK ASSESSMENT:

2 / 4 Points

Localities need to identify local business and economic vulnerabilities to coastal storm hazards. Businesses are differentially affected by these hazards and attention should be paid to making sure that businesses that serve vulnerable populations are considered. Including business and economic vulnerability in a risk assessment and emergency management is important for resilience and recovery after a storm event.

Points		Scoring Metric	Notes
1	\$\$\$	a. Locality has included the business sector in its assessment and mapping of coastal hazard vulnerability	<p>Chapter XI, p. 2 of Comprehensive Plan notes that constraints on development include “areas subject to flooding;” map on p. 6 of Chapter XI displays the City’s flood hazard zones in detail.</p> <p>Further, 2022 DRAFT Richmond-Crater Hazard Mitigation Plan, p. 5-11 discusses the impact that flood damage can have on businesses. However, p. 5-12 notes that “much of the land in the region’s floodplain is designated for agricultural uses.”</p> <p>Locality staff confirmed that businesses in Hopewell are not located in areas subject to coastal flooding.</p>
0	\$\$\$	b. Locality has engaged economic development department and/or independent chamber of commerce in locality hazards mitigation and/or resilience planning.	<p>Chapter VIII, p. 5 of Comprehensive Plan notes that the City works with the Chamber of Commerce and Economic Development Authority, but in the context of increasing recreational opportunities.</p> <p>However, locality staff noted that the Hopewell local emergency planning committee (which meets monthly to discuss preparedness for all hazards, including coastal hazards) involves several businesses.</p>
0	\$\$\$ 	c. Locality and/or business associations have programs for small businesses, particularly businesses that serve socially vulnerable populations, to encourage each business to be prepared for an emergency and plan for business continuity.	<p>“Local Emergency Information” page on Hopewell city website provides general emergency preparedness tips, but nothing aimed at small businesses/businesses serving vulnerable populations.</p> <p>Locality staff noted that efforts are being made on this front, but not taken advantage of. The Regional Emergency Management Alliance is working on ways to encourage participation from small businesses.</p>

1	\$\$\$	d. Locality emergency management communicates with business sector in the event of severe weather emergency or evacuation.	Communication is handled the same as with the general public - via CodeRED Citizen Notification Service , which sends phone notifications to subscribers. Subscribers can sign up as a business or as an individual.
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2.4 HAZARD MITIGATION:

4 / 4 Points

The Hazard Mitigation Plan (HMP) is required by state code as a condition of emergency assistance. In the coastal region, it is important for the HMP to specifically address coastal storm hazards by identifying what locality resources and areas are at risk, to enable the locality to take actions to reduce future risks. Furthermore, having an HMP is essential to be eligible for certain grants and funding related to coastal storm hazards.

Points		Scoring Metric	Notes
1		a. The locality's HMP specifically addresses coastal resilience.	See generally 2022 DRAFT Richmond-Crater Hazard Mitigation Plan - specifically, see the discussion of resiliency on p. 6-23 and 6-24.
1		b. The locality is engaging in regional coordination for Hazard Mitigation through a regional plan.	See generally 2022 DRAFT Richmond-Crater Hazard Mitigation Plan .
1		c. The locality's HMP details how the locality collaborates with VDEM, DCR Floodplain Management or SHMO.	See generally 2022 DRAFT Richmond-Crater Hazard Mitigation Plan , which mentions VDEM and DCR throughout.
1		d. The locality's HMP is approved by FEMA, was developed with meaningful public engagement with socially vulnerable communities and is formally adopted by locality governing body.	FEMA Hazard Mitigation Plan Status . See also Richmond-Crater Hazard Mitigation Plan Executive Summary on p. 1-1.

2) RISK ASSESSMENT AND EMERGENCY MANAGEMENT

2.5 RESIDENT EMERGENCY PREPAREDNESS:

3 / 4 Points

Well-organized emergency preparedness plans save lives and property and help ensure that localities can act in sufficient time. They contribute to faster and more efficient post-hazard recovery. Preparedness for vulnerable populations includes ensuring that residents have the opportunity to learn swimming and water safety skills. Communities should consider participating in regional, national, or state-wide outreach events such as Hurricane Preparedness Week.

Points		Scoring Metric	Notes
1	CRS	a. Locality has a current resident emergency preparedness plan, updated within the last five years, which identifies resident emergency preparedness risks and needs, including knowledge of water safety.	Emergency Operations Plan , pg. 82.
1	CRS	b. Locality conducts community outreach at least once a year to inform residents about community emergency preparedness.	<p>Per p. 11 of the Hopewell Executive Summary (from the Richmond-Crater Hazard Mitigation Plan), locality staff are engaged in an ongoing, medium-priority effort to “[d]istribute brochures and use other means to educate the public regarding preparedness and mitigation.”</p> <p>Per locality staff, this outreach focuses on emergency preparedness and occurs at least once a year. Emergency Operations Plan does not mention.</p>
0	CRS	c. Locality engages resident groups, including schools, hospitals, and other groups, in testing preparedness through emergency drills, disaster simulations, and planning workshops.	Emergency Operations Plan does not detail this kind of community engagement.
1	CRS 	d. Locality has implemented early warning signals/systems/emergency warning tools for its residents, particularly those most vulnerable.	<p>Hopewell provides emergency notices through CodeRED Citizen Notification Service, which sends phone notifications to subscribers.</p> <p>Locality staff further provided that weather alerts are automated – every time there’s a storm, it is mapped and issues a warning immediately through CodeRED.</p>

TOTAL SCORE FOR SECTION 2:




16 / 20 POINTS

3) INFRASTRUCTURE RESILIENCE

3.1 STORMWATER INFRASTRUCTURE:

3 / 4 Points

Stormwater management is regulated by state law, which requires localities either create and operate a stormwater management program or request the state to operate its stormwater management program. Local ordinances must comply with the Virginia Stormwater Management Act and regulations, as well as the Virginia Erosion and Sediment Control Law. Additional stormwater management and flood risks are typically handled at the local level through environmental regulation, site plan approval, and subdivision approval. Localities that go beyond the minimum state requirements are better able to manage stormwater and increase their resilience to coastal storm hazards. Stormwater infrastructure may include use of bioswales, dry ponds, retention basins, rainwater management systems, low impact development, rainwater collection and management systems, green infrastructure, rooftop gardens, and green and open spaces.

Points		Scoring Metric	Notes
1	\$\$\$ 	a. Locality offers at least one official incentive for private property activities that manage stormwater.	Hopewell administers a stormwater enterprise fund and offers utility fee credits to any person who installs and achieves a reduction in stormwater flow and pollutant loadings. City Code Ch. 14, Art. III., Sec. 14-39 & 14-41.
1		b. Locality funds stormwater management projects through stormwater utility fees, user fees, grants, or other creative funding mechanisms.	Hopewell's stormwater utility fee funds construction and operation of new stormwater control facilities and the cost of administration of the city's stormwater program (now in its sixth year), among other things. Hopewell City website , Stormwater FAQ and City Code Ch. 14, Art. III., Sec. 14-39 .
1		c. Locality implements one or more stormwater BMPs on public property for educational demonstration, as shown by signage, tours, or other information.	Hopewell conducts a Tree Stewards Program and Resident Workshops , in addition to a stormwater runoff education campaign which uses signage, brochures and door hangers.
0		d. Locality stormwater policy goes above and beyond the minimum state requirements.	Despite comparatively low stormwater management prices , per locality staff, Hopewell matches and does not go beyond minimum state requirements.

3.2 CRITICAL TRANSPORTATION INFRASTRUCTURE:

2 / 4 Points

An evaluation of critical transportation infrastructure allows a locality to understand its capacity and preparedness for coastal storm hazards. Although most localities do not manage their own roads, as this is handled at the state level, they nevertheless do have the ability to identify their transportation needs and priorities.

Points		Scoring Metric	Notes
1		a. Locality has identified critical transportation infrastructure and assessed its vulnerability within the last 5 years.	Per locality staff, critical transportation infrastructure is assessed from a regional perspective. The 2022 Draft Richmond-Crater Hazard Mitigation Plan discusses the region's transportation infrastructure vulnerabilities and highlights Hopewell's 2017 mitigation action involving stream channel and road embankment stabilization along the City's primary emergency route and its work along Winston Churchill Drive between High Avenue and Arlington Road to protect adjacent residences. See pgs. 260, 30, 60, 73, 118, 131.
0		b. Locality has developed a plan to protect critical transportation infrastructure within the last 5 years.	Per locality staff, Hopewell has developed a plan to protect underground infrastructure systems like pipes, but not transportation infrastructure.
1		c. Locality has a plan available and has informed residents which critical transportation infrastructure to utilize in the case of coastal storm hazards.	Per locality staff, Hopewell takes an "all hazards approach" and plans to use the Code Red system and social media in case of an emergency. Per the 2022 Draft Richmond-Crater Hazard Mitigation Plan , Hopewell has substantially completed a mitigation action involving stream channel and road embankment stabilization along the City's primary emergency route. pg. 260.
0		d. Locality has a contingency plan for critical transportation infrastructure. This plan has been created and/or updated in the past 5 years.	Per locality staff, Hopewell does not have a contingency plan for critical transportation infrastructure.

3) INFRASTRUCTURE RESILIENCE

3.3 WATER SUPPLY AND WASTEWATER MANAGEMENT : 0 / 4 Points

Communication and coordination between a locality and its municipal water utility and wastewater utility enable a coordinated, cohesive, and synchronized response to a coastal storm hazard.

Points		Scoring Metric	Notes
0		a. Locality conducts an assessment of its drinking water supply and wastewater management, both public sources and private well owners, to identify vulnerabilities to coastal storm hazards.	<p>Per locality staff, since the water system has gone down five times since 2017, the locality has assessed vulnerabilities.</p> <p>Response requested from Virginia American Water, not yet received.</p>
0		b. Locality water supply plan addresses coastal flooding and hazard events to assure safe drinking water supply and water conservation.	<p>The Appomattox River Water Authority (ARWA) Water Supply Plan (2011) also notes the flooding of Hopewell's raw water pump station caused by Hurricane Isabel in 2003 (pg. 423)</p> <p>Response requested from Virginia American Water, not yet received.</p>
0		c. Locality conducts a resident education program on safe drinking water to assure post-event public health and safety.	<p>No information found.</p> <p>Response requested from Virginia American Water, not yet received.</p>
0		d. Locality communications with municipal water and wastewater utility, to manage ongoing challenges to safe water, including during and after a storm, Alternatively or additionally, the locality has established methods of communication with private well and water system owners, to ensure all are informed about how they can increase their water system resiliency.	<p>Per locality staff, since the water system has gone down five times since 2017, the locality has spent many hours with private water companies to ensure improvements to water system resilience.</p> <p>Response requested from Virginia American Water, not yet received.</p>

3.4 CRITICAL INFRASTRUCTURE FOR EMERGENCY SERVICES: 2/ 4 Points

An evaluation of critical infrastructure for emergency services including shelters, emergency facilities, medical, electrical, and other essential services that allows a locality to understand its capacity and preparedness for coastal storm hazards. Critical infrastructure ensures that socially vulnerable populations, not just those who can afford it, will have access to quality drinking water, electricity, food, and shelter.





Points		Scoring Metric	Notes
0		a. Locality identifies critical infrastructure for emergency services and assessed its vulnerability within the last 5 years.	Per locality staff, the 2020 Updated Emergency Operations Plan identifies and assesses vulnerabilities for critical infrastructure for emergency services. Emergency Operations Plan does not appear to speak to a vulnerability assessment.
0		b. Locality has a plan to protect critical infrastructure from storms within the last 5 years, including outreach to private well and private water system owners about how they can protect and increase their water system resiliency.	No information found, not mentioned in Emergency Operations Plan.
1		c. Locality informs residents which critical infrastructure they should use during coastal storm hazards.	Per locality staff, Hopewell does not publish lists of shelters but informs citizens of specific shelters to use depending on the type and severity of the hazard.
1		d. Locality has a contingency plan for continuing services. This plan has been developed or updated in the last 5 years.	Per locality staff, the most recent continuity of operations plan was implemented during the COVID-19 Pandemic. Emergency Operations Plan, see page 65 (Mass Care, Housing, Human Resources).

3) INFRASTRUCTURE RESILIENCE

3.5 NATURAL AND NATURE-BASED FEATURES:

3 / 4 Points

Natural and nature-based features (NNBF) are features that define natural coastal landscapes and are either naturally occurring or have been engineered to mimic natural conditions. Examples include beaches and dunes; vegetated forest buffers, salt marshes, freshwater wetlands, and submerged aquatic vegetation; oyster reefs; and barrier islands. Green infrastructure (GI) is similar and complementary, and uses vegetation, soils, and other elements and practices to restore some of the natural processes required to manage water and create healthier urban environments. At the city or county scale, green infrastructure is a patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the neighborhood or site scale, stormwater management systems that mimic nature soak up and store water. Both NNBF and GI may be undertaken by a community in a variety of ways.

Points		Scoring Metric	Notes
1		a. Locality has identified natural and nature-based features that are protective and can assist with coastal resilience.	Hopewell has identified natural assets including wetlands, shorelines, floodplains, shrinking and swelling soils, and the Appomattox River Walk (Hopewell Comprehensive Plan, pg. 33). Per locality staff, Hopewell also plans to periodically send engineers to identify wetlands that can assist with coastal resilience.
1		b. Locality has developed plans and policies that use natural and nature-based features to enhance coastal resilience.	Per locality staff, Hopewell enforces the VA Department of Conservation Shoreline Manual when considering tree removal and development proposals near city shorelines. Also see Hopewell Comprehensive Plan; pg. 251, 279-280.
1		c. Locality is implementing projects that are in accordance with the plans and policies developed to utilize natural and nature-based features to increase coastal resilience.	Per locality staff, Hopewell's Urban Tree Canopy Program plants trees in strategic areas throughout the City such as public parks, along public right of way, and at school facilities. The program includes major stream restoration efforts and continues smaller planting efforts like introducing bald cypress trees to the Appomattox River Shoreline. The City has hosted multiple tree give-away events to encourage property owners to increase tree canopy on their own, rain barrel workshops, assisted private landowners with adding rain gardens to their properties, and established "conservation corners". See Restoration Design Services , Hopewell Restoration Project - Chesapeake Bay Foundation .
0	\$\$\$ 	d. Locality offers incentives for the use of natural and nature-based features to increase coastal resilience.	Not currently. Per locality staff, Hopewell is considering multiple incentives for the use of natural and nature based features to increase coastal resilience, including changing parking requirements and asphalt paving requirements in industrial areas.

TOTAL SCORE FOR SECTION 3:

10 / 20 POINTS

4) PLANNING FOR RESILIENCE


4.1 BUDGET, FUNDING AND STATE & FEDERAL ASSISTANCE: 3/4 Points


Coastal hazard mitigation efforts, when properly funded, can reduce or prevent damage and decrease costs from storm damage. To ensure proper funding a locality can budget for mitigation efforts, assess the potential economic impact from a coastal storm hazard, and identify sources of funding for mitigation projects.

Points		Scoring Metric	Notes
1		a. Locality has incorporated into its Capital Improvement Plan (CIP) funding for coastal resilience. Projects could include upgrading critical infrastructure, water and wastewater systems, and/or food and health systems, with priority for needs of vulnerable populations.	Per locality staff, there are critical infrastructure projects in the Capital Improvement Plan. CIP includes green infrastructure, marina, and parks projects.
1	\$\$\$	b. Locality has conducted an economic impacts assessment of coastal storm hazards.	The Richmond-Crater Hazard Mitigation Plan addresses the History of Flood Events and Damages from 2011-2020 (Table 5.3); Flood Damage to Property and Crops, 1993-2020 (Table 5.4); Repetitive Flood Losses and Severe Repetitive Flood Losses (Table 5.7); Repetitive Flood Loss Area Descriptions (Table 5.8); Hazus 100-Year Flood Damage Vulnerability Results (Table 5.9); Annualized Flood Events and Losses, 1993-2020 (Table 5.10). The Plan comprehensively addresses the threat of storms, flooding, and winds.
1		c. Locality has identified specific actions for coastal resilience (pre/post-flooding mitigation) in Hazard Mitigation Plan.	In the Hazard Mitigation Plan's Executive Summary for Hopewell , Hopewell identifies pre and post-flooding mitigation (p. 9-13). The 2022 DRAFT Hazard Mitigation Plan incorporates pre and post-flooding mitigation steps as well (p. 427-445), approved and scheduled for ratification at September 2022 City Council Meeting.
0	\$\$\$	d. Locality has identified funding for non-CIP coastal resilience projects, including priority needs of vulnerable populations impacted by coastal storm hazards.	Per locality staff, the locality has not identified funding for non-CIP coastal resilience projects, including priority needs of vulnerable populations impacted by coastal storm hazards.

4.2 COASTAL RESILIENCY IN COMPREHENSIVE PLAN: 1/ 4 Points

A comprehensive plan is a locality's vision for future land use, development, adaptation, and resilience. Coastal resilience can be addressed in comprehensive plans by incorporating elements such as green infrastructure, open space preservation, infill development, the National Flood Insurance Program (NFIP), the Community Rating System (CRS), and stormwater management. The ideal comprehensive plan identifies equity and the need to identify and support socially vulnerable populations as a priority for resilience, as well as a priority preference for restoration, green infrastructure and connectivity.

Points		Scoring Metric	Notes
0		a. The comprehensive plan discusses how community engagement around coastal resilience informed the plan.	Comprehensive Plan was developed via required public input and participation (see Chapter I, p. 9-14, detailing citizen participation), but not specific to coastal resilience.
0		b. The comprehensive plan includes clear discussion of coastal resilience and coastal storm hazards and incorporates assessments to inform the development of policies to reduce vulnerability to coastal storm hazards.	<p>Chapter XI, Section 3 of Comprehensive Plan discusses the City's Areas of Environmental Vulnerability, including subsections on the City's Floodplains, Wetlands, Soils, Watersheds, Water Supply, and Shoreline.</p> <p>Further, Chapter XI, pp. 12 and 14 specifically note that the shorelines around the Appomattox and James Rivers may suffer erosion during major storm events.</p> <p>However, the Comprehensive Plan does not include a <i>clear</i> discussion of coastal resilience/coastal storm hazards, nor does it identify coastal resilience as a priority.</p> <p>Locality staff agreed with this analysis; however, they clarified that – due to Hopewell's location on a bluff – coastal flooding is not as pressing an issue as it may be for other localities that participate in the RAFT. Locality staff further noted that the Comprehensive Plan was drafted with the aid of the planning commission, consultants, and several other stakeholders, and would have included a discussion of coastal resilience/storm hazards had those parties deemed it necessary (however, because the risk is lower, a full discussion was not included).</p>
1		c. The comprehensive plan includes goals and objectives for preserving and protecting natural resources that mitigate coastal storm hazards.	<p>Chapter XI, p. 41 of Comprehensive Plan discusses Hopewell's shoreline preservation strategies, noting: "The recommended shoreline strategies for Hopewell can provide effective shore protection but also have the added distinction of creating, preserving, and enhancing wetland, beach, and dune habitat. These habitats are essential to addressing the protection and restoration of water quality and natural resources within the Chesapeake Bay watershed."</p> <p>Further, the 4th section of the "Vision and Goals for Hopewell" listed in Chapter II, p. 13, states the following goal: "Conserve, protect, renew, and enhance the City's environmental resources, placing the highest emphasis on the intrinsic value of its river frontage, stream valleys, wetlands, and vulnerable ecologically sensitive areas."</p>

0		<p>d. The comprehensive plan addresses impacts on critical infrastructure and essential services from coastal storm hazards, particularly for impacts affecting socially vulnerable populations.</p>	<p>Comprehensive Plan addresses storm impacts on critical infrastructure and essential services as follows:</p> <ul style="list-style-type: none"> ● Chapter VII, p. 3: “[M]any ... local streets are under-built, having limited stormwater ... infrastructure.” ● Chapter II, p. 12: Hopewell’s land use goals include “[d]evelop[ing] and implement[ing] a City-wide stormwater management (SWM) master plan.” ● Chapter II, p. 25: Hopewell’s emergency preparedness goals include “develop[ing] a comprehensive strategy and action plan to address water supply emergencies.” ● Chapter II, p. 22: Hopewell’s transportation goals include “[e]stablish[ing] programs to promote, serve, and coordinate the transportation needs of underserved City populations.” <p>However, these observations are not related to coastal storm hazards specifically.</p> <p>Again, locality staff agreed with this assessment, but noted that impacts from coastal storm hazards are less of a concern due to Hopewell’s location on a bluff (which is why a more detailed discussion of coastal storm impacts was not included in the Plan).</p>
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4) PLANNING FOR RESILIENCE

4.3 LAND USE ORDINANCES:

2/ 4 Points

A locality's land use ordinances (such as zoning, subdivision, and floodplain) should enact the locality's vision and policies laid out in its comprehensive plan. Land use ordinances can be used to conserve and protect natural resources, ecosystems, agricultural lands, and areas vulnerable to flooding. Localities are required to enact Chesapeake Bay Preservation Act ordinances and going beyond these ordinances provides greater resilience.

Points		Scoring Metric	Notes
1	CRS	a. Locality land use regulations protect areas vulnerable to flooding by limiting development inside the floodplain or encouraging development outside the floodplain.	Appendix A. Article XV(A) – Floodplain District. “Restricting or prohibiting certain uses, activities, and development from locating within districts subject to flooding; 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 Protecting individuals from buying land and structures which are unsuited for intended purposes because of flood hazards.”
1	CRS	b. Locality land use regulations protect areas vulnerable to flooding by setting higher standards in existing flood zones or by designating additional flood zones beyond those designated by FEMA.	Appendix A. Article XV(D). — Abrogation and greater restrictions. “To the extent that the provisions are more restrictive, this ordinance supersedes any ordinance currently in effect in flood-prone districts. To the extent that any other existing law or regulation is more restrictive or does not conflict it shall remain in full force and effect.”
0	CRS	c. Locality land use regulations protect areas vulnerable to flooding by setting buffers, including open space.	Per locality staff, there are no other buffers outside of the Resource Management Area.
0	CRS	d. Locality land use regulations protect areas vulnerable to flooding by using setbacks to protect flood-prone areas.	Per locality staff, there are no additional setbacks other than RPA and RMA.

4.4 INCENTIVES FOR COASTAL RESILIENCE:

2/ 4 Points

Incentive programs encourage infill development and protect open spaces, while protecting flood-prone areas and critical ecosystems. Incentives should be developed with community input, with particular attention to consulting agencies and organizations working with or providing services to lower income and vulnerable populations as well as agencies and organizations working to build community resilience.

Points		Scoring Metric	Notes
1	\$\$\$	a. Locality offers an incentive for achieving coastal resilience goals: (1) discourage development in areas prone to flooding; (2) protect critical ecosystems; (3) encourage sustainable development; (4) improve resilience in high-risk areas; and (5) preserve natural assets.	(1): Hopewell limits development in flood prone areas as defined by the CBPA – Resource Protection (RPAs) and Management Areas (RMAs) – to redevelopment of existing structures, boathouses and recreation. Point sources of pollution are not to be established in these floodplains. (Hopewell Zoning Ordinance, Article XV and XVI ; Hopewell Comprehensive Plan, pg. 276). (2): Hopewell plans to mandate high environmental standards for development (HCP Goal 4 (pg. 38)). Protection foci include eroding shorelines (pg. 35), water quality against pollution (pg. 122) and sensitive lands (pg. 262).
1	\$\$\$	b. Locality offers a second incentive for achieving the goals listed above.	(5): Hopewell hopes to preserve natural assets by ensuring the cleanliness of the river and requiring development consider terrain and soils, etc. (Hopewell Comprehensive Plan, pg. 35).
0	\$\$\$	c. Locality offers three or more incentives for achieving the goals listed above.	(3): Hopewell hopes to encourage sustainable development through reducing commercial sprawl (Hopewell Comprehensive Plan, pg. 65) and zoning enhancements/neighborhood planning (pg. 67). Per locality staff, the city does not offer incentives for sustainable development beyond the CBPA.
0	\$\$\$	d. Locality develops incentives in consultation with agencies and organizations working with socially vulnerable populations.	Per locality staff, incentives were not developed in consultation with agencies and organizations working with socially vulnerable populations.

4) PLANNING FOR RESILIENCE

4.5 NATURAL RESOURCE PRESERVATION:

2/ 4 Points

Natural resources are important to the locality's economy, environment, and quality of life. Natural resources also can help protect against coastal storm hazards and minimize damage from coastal storm events. The preservation of these critical natural resources is paramount to providing resilience for a coastal locality during these events. These actions should go beyond the required Chesapeake Bay Preservation Act Ordinance.

Points		Scoring Metric	Notes
1	CRS	a. Locality has identified and mapped natural resources that are important for broad ecosystem health and which are at risk of being lost due to flooding and coastal storm hazards.	Per locality staff, except for the city's Flood Insurance Rate Map (FIRM) (see Hopewell Comprehensive Plan , pg. 243), Hopewell has not identified or mapped natural resources that are important for broad ecosystem health which are at risk of being lost due to flooding and coastal storm hazards (e.g. riparian buffers and wetlands). However, Friends of the Lower Appomattox have mapped and identified resources and work closely with City staff.
0	CRS	b. Locality has developed plans and policies that preserve and restore natural resources to increase coastal resilience.	No, but Re: CBPA – City stated its desire to do so in the Comprehensive Plan. See 4.15–Implementation of CBP Act (pg. 38).
1		c. Locality has programs with residents, civic organizations, and nonprofit organizations to educate the community about the natural resource preservation plan and engage them in helping to implement the plan.	Re: CBPA – City stated its desire to do so in the Comprehensive Plan., See HCP 4.3—to pursue public education efforts about the CBP Act (pg. 37). Friends of the Lower Appomattox are doing work to educate the community and liaise with City staff.
0		d. Locality is funding actions that implement the natural resource preservation plan.	No, but Re: CBPA – see HCP 4.15–Implementation of CBP Act (pg. 38). Also see improving signage (pg. 40), prioritization of funding for critical RPA maintenance (pg.272).

TOTAL SCORE FOR SECTION 4:



10/ 20 POINTS

5) COMMUNITY ENGAGEMENT, HEALTH, AND WELL-BEING

5.1 PUBLIC INVOLVEMENT IN RESILIENCE PLANNING:

0/ 4 Points

For community resilience, it is important to use meaningful engagement strategies where residents are able to provide feedback and suggestions through meetings, workshops, and surveys. To reach people of color and the elderly, media and social media that serves these populations is effective. Public engagement enables residents and other stakeholders to provide input to the locality. Better informed residents are better able to ensure their locality remains resilient to coastal storm hazards.

Points		Scoring Metric	Notes
0		a. Locality has a written policy regarding the role of residents and businesses, schools and educators, institutional, nonprofit, faith-based communities veterans, and other stakeholders in coastal resilience.	Per locality staff, there is no written policy. For several of the below items, there are efforts in progress via One Hopewell.
0	CRS	b. Locality has staff dedicated to public engagement on coastal resilience, including a standing committee that addresses coastal resilience as part of its work.	Per locality staff, there is a very active LAPC; however, it addresses all hazards, not coastal resilience specifically.
0	CRS 	c. Locality holds at least one public meeting per year, including one in vulnerable resident areas to address coastal resilience issues and posts the results of the public meetings. For 75-150,000, at least two such public meetings per year; for 150,000+ at least three per year.	Per locality staff, the locality does not hold at least one public meeting per year to address coastal resilience issues.
0	CRS 	d. Locality informs and engages vulnerable population about coastal resilience by using website, social media, media serving people of color and minorities, and faith-based organizations to enable them to provide suggestions about issues and strategies.	Per locality staff, the locality does not inform and engage vulnerable populations about coastal resilience using their website, social media, media serving people of color and minorities, and faith-based organizations to enable them to provide suggestions about issues and strategies.

5.2 PROVIDING RESILIENCE INFORMATION TO THE PUBLIC:

1/ 4 Points

The public needs free and open access to information related to coastal resilience and planning. Information sharing allows residents to understand their risks and the importance of resilience. Information should be shared easily and presented in a manner which is clear and easy to understand, and easy to access in ways that reach different populations in the community.

Points		Scoring Metric	Notes
0	CRS	a. Locality provides to the public localized user-friendly information on coastal resilience, in digital and non-digital formats and in multiple languages where appropriate based on demographics.	Per locality staff, the locality does not provide to the public localized user-friendly information about coastal resilience.
0	CRS	b. Locality provides to the public localized user-friendly information on coastal resilience, on a website (e.g., interactive maps).	Per locality staff, the locality does not provide to the public localized user-friendly information about coastal resilience on a website.
1	CRS	c. Locality provides localized user-friendly information on coastal resilience in public spaces (e.g., public offices or library).	Per locality staff, the locality provides some information about flooding and flooding risks in the Public Development Office. This information is FEMA

			information about flooding. The locality also provides a planning guide to the public about personal preparedness in the event of disasters.
0	\$\$\$	d. Locality provides the public with localized, user-friendly information about economic costs and risks associated with coastal storm hazards.	<p>The Richmond-Crater Hazard Mitigation Plan addresses the History of Flood Events and Damages from 2011-2016 (Table 5-6); Flood Damage to Property and Crops, 1993-2016 (Table 5-7); TEIF 2.0 (Oct 2016) Flood Risk (Table 5-11); Annualized Flood Events and Losses, 1993-2016 (Table 5-12); History of Wind Events and Damages, 2011-2016 (Table 5-14); Annualized Thunderstorm (with Hail and Lightning) Events and Losses, 1956-2016 (Table 5-23).</p> <p>The Plan comprehensively addresses the threat of storms, flooding, and winds. It does not, however, address the hazard of stormwater flooding.</p> <p>Per locality staff, the locality does not provide the public with localized, user-friendly information about economic costs and risks associated with coastal storm hazards.</p>

5) COMMUNITY ENGAGEMENT, HEALTH, AND WELL-BEING

5.3 NETWORKS FOR RESILIENCE:

1/ 4 Points

Developing resident leaders and strong volunteer networks are important aspects of building a locality's health and wellness resilience. Leaders can be responsible for informing residents, expressing resident concerns, and assisting with local preparedness. Leaders can be called on during emergencies to assist residents in need and to assist with post-hazard recovery. Communities can build this capacity by offering volunteer opportunities to cultivate experienced, local responders.

Points		Scoring Metric	Notes
1		a. Locality supports and invests in community-led initiatives on coastal resilience.	Per p. 194 of the Virginia Coastal Resilience Master Plan , Hopewell is partnering with FOLAR (Friends of the Lower Appomattox River) to develop "a 25-mile blueway and greenway that will span through six localities bordering the lower Appomattox River."
0		b. Locality offers training opportunities and education opportunities for resident leaders or volunteers to educate residents on what they can do to increase their resilience on individual properties or in neighborhoods.	Per locality staff, nonprofit organizations may offer such training, but Hopewell itself does not. Hopewell does make brochures available about knowing one's risk for coastal storm hazards, but does not offer education opportunities beyond that.


0		c. Locality supports resident leaders or volunteers in community education and outreach efforts about coastal resilience by providing them with materials, speakers for gatherings, or support for resident action projects.	Per locality staff, Hopewell makes brochures about flooding generally available and also provides a manual about how to remove invasive species/mitigate shore erosion issues to individuals located along the bluff area. However, the City does not otherwise work with local leaders to provide them with additional materials.
0		d. Locality highlights the work of resident leaders or volunteers in supporting and advancing coastal resilience, on its website, through social media, Facebook, awards, or other means.	Per locality staff, no. This is a One Hopewell priority.

5.4 RESILIENT COMMUNITY SYSTEMS:

4/ 4 Points

If a community's food, health, and medicine systems are not resilient before a storm, then the community may face a substantially longer recovery. Food, health, and medicine systems must be sustained before, during and after storm events, and are dependent on critical systems, including transportation and utilities. Lower-income and minority populations often already struggle to access food, health, and medicine, and are among the vulnerable populations during a coastal storm hazard.

Points		Scoring Metric	Notes
1		a. Locality has emergency plans for provision of food, health, and medicines to residents, through its comprehensive, hazard mitigation, or other plans.	Such emergency plans are not addressed in the Comprehensive Plan or regional Hazard Mitigation Plan; however, they are addressed in Hopewell's Emergency Operations Plan.
1		b. Locality has plans for providing food to vulnerable populations, has areas for improvement, has developed partnerships to address these needs, and has provided information to residents on how to access food during emergencies and coastal storm events.	Yes – per locality staff, Hopewell complies with FEMA Emergency Support Function (ESF) 6 requirements for mass care, emergency assistance, housing, and human services, which include the provision of food and medical care to residents that need assistance during/after emergencies. Hopewell also complies with ESF 14 requirements for long-term community recovery and mitigation – locality staff noted that there is a regional long-term recovery plan (developed by a contractor), and that they are in the process of localizing that plan.
1		c. Locality has plans for providing healthcare to vulnerable populations, has areas for improvement, has developed partnerships to address these needs, and has provided information to residents on how to access healthcare during emergencies and coastal storm hazards.	Yes – per locality staff, Hopewell complies with FEMA Emergency Support Function (ESF) 6 requirements for mass care, emergency assistance, housing, and human services, which include the provision of food and medical care to residents that need assistance during/after emergencies. Hopewell also

			complies with ESF 14 requirements for long-term community recovery and mitigation – locality staff noted that there is a regional long-term recovery plan (developed by a contractor), and that they are in the process of localizing that plan.
1		d. Locality has plans for providing medicine to vulnerable populations, areas for improvement, has developed partnerships to address these needs, and has provided information to the public on how to access medicine during emergencies and coastal storm hazards.	Yes – per locality staff, Hopewell complies with FEMA Emergency Support Function (ESF) 6 requirements for mass care, emergency assistance, housing, and human services, which include the provision of food and medical care to residents that need assistance during/after emergencies. Hopewell also complies with ESF 14 requirements for long-term community recovery and mitigation – locality staff noted that there is a regional long-term recovery plan (developed by a contractor), and that they are in the process of localizing that plan.

5) COMMUNITY ENGAGEMENT, HEALTH, AND WELL-BEING

5.5 SOCIAL EQUITY IN COMMUNITY RESILIENCE: 4 / 4 Points

To ensure that socially vulnerable and underserved populations do not experience disproportionate impacts from flooding and coastal hazards, a locality needs to be able to predict how its residents may fare during a coastal storm hazard event, and then help those who are most vulnerable. One key measure that can be useful to localities in this effort is the metric for “deaths of despair”— or the prevalence of suicide, cirrhosis of the liver, and overdoses – which can serve as a proxy for the locality’s physical and mental health, as persons who are suffering from depression and addictions are less likely to be able to respond effectively during flooding events. A locality with good physical and mental health will be better able to respond effectively to new or changing conditions as well as to recover from stressful events.

Points		Scoring Metric	Notes
1		a. Locality maintains data on community physical and mental wellbeing and challenges through specific metrics, such as the metrics for “deaths of despair” (suicide, cirrhosis of the liver, overdoses).	Hopewell actively maintains Building Blocks, an app to map various data sets from federal, state and local data sources. 11-16-20 Hopewell City Council Minutes . Per locality staff, metrics include census, demographics, police and fire calls, code violations, housing voucher use, alcoholism, overdoses, and COVID-19. Hopewell also maintains data on diabetes, smoking and alcoholism from the City Health Dashboard.
1		b. Locality has met at least once with community partners to identify “trusted messengers” for communicating with vulnerable populations.	An example provided by locality staff was partnership with the Hispanic Community Liaison and the Mexican Consulate, who assisted the city in translating COVID-19 information flyers and conducting the census.
1		c. Locality has identified, or maps its vulnerable neighborhoods, and has done this in partnership with NGOs, faith-based organizations, and its health and community services board.	Per locality staff, Hopewell has mapped minority and low-income populations, and is working to map fire hazards and hunger through the Building Blocks app. Hopewell worked to map areas with less than favorable health outcomes during the COVID pandemic to assist with PPE distribution. The city does have a map of health-vulnerable populations that was done as part of the Covid-19 pandemic response.
1		d. Locality has a plan with these NGOs, faith-based organizations, and health and community services board that helps its physically and mentally challenged vulnerable populations prepare for coastal flooding events, and that provides assistance to them during and after these events.	Per locality staff, Hopewell works with the Housing authority and its facilities to provide vulnerable and disabled residents and residents with other functional/access needs information and classes to be resilient in response to all hazards.

TOTAL SCORE FOR SECTION 5:

10 / 20 POINTS

Opportunities

Example of an Opportunity Action Item Checklist showing possible actions to improve scores in each scorecard category. Opportunity items for your locality will be determined by your implementation team and the RAFT core team.

Locality Action Category	Score	Opportunity Actions for Score Improvement	Potential Time Commitment Short-Term: < 1 year; Mid-Term: 1-3 years; Long-Term: > 3 years
1.4 Adaptive Management	≤ 2	Incorporate new (<5 years) data, analysis, and approaches to resilience into:	
		a. Floodplain Management Ordinance.	MT – LT
		b. Zoning Ordinance.	MT - LT
		c. Site and Subdivision Ordinances.	MT – LT
		d. Comprehensive Plan.	MT – LT
3.3 Water Supply and Wastewater Management	≤ 2	a. Conduct assessment of drinking water supply and wastewater management to identify vulnerabilities and hazards to coastal storms.	ST
		b. Amend water supply plan to address coastal flooding and hazard events to assure safe drinking water supply and water conservation	ST – MT
		c. Conduct resident education program on safe drinking water to assure post-event public health and safety	MT – LT
		d. Establish communications with municipal water and wastewater utilities as well as private well and water system owners to ensure water system resiliency.	MT - LT
5.1 Public Involvement in Resilience Planning	≤ 2	a. Develop a written policy to include stakeholders in coastal resilience planning	ST
		b. Designate locality staff to serve on a standing coastal resilience committee or subcommittee	MT - LT
		c. Hold regular public meetings, including in vulnerable resident areas, to address coastal resilience issues and post the results of public meetings	ST - MT
		d. Inform and engage vulnerable populations about coastal resilience through locality website, social media, and faith-based organizations, and other media service people of color and minorities.	MT -LT

Next Steps

Resilience Action Workshop

- Community leaders work together to create a one-year **Resilience Action Checklist**.
- The RAFT Core team helps to **identify achievable action items** for improving resilience.
- Localities break into focused discussion groups to **identify 3 to 5 top opportunities** for the next year to increase resilience.
- Large group discussion on **regional sharing**, followed by breakout into locality discussion groups to:
 - **Identify a Locality Implementation Team;**
 - **Create a timeline for actions;**
 - **Coordinate logistics;**
 - **Determine next steps for implementation team.**



Implementation

- **Identify a Locality Implementation Team** made up of local officials and residents that will work with the Core Team to accomplish checklist actions and projects.
- **Work with one of the Core Team members** who will set up periodic check-in meetings or calls to track progress and provide support.
- Assistance from RAFT partners could take the form of:
 - **Communications product development;**
 - **Hazard and critical infrastructure mapping;**
 - **Policy and legal analysis;**
 - **Model ordinance and comprehensive plan language;**
 - **Green infrastructure projects;**
 - **Workshop or meeting facilitation;**
 - **Community engagement recommendations;**
 - **Specific research or data collection projects.**

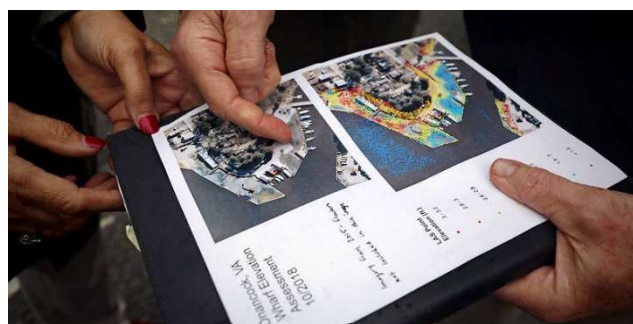


Photo by Aileen
Devlin, Virginia Sea
Grant

Data Sources Used to Complete Scoring

Data Sources	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5
Business Association Website																									
Calls to the locality	X	X	X	X		X	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X
Calls to the PDC			X			X	X		X																
Capital Improvement Plan																X									
Community Services Board																									X
County Health Rankings and Roadmaps																									X
Dam Management Plan																									
DCR Floodplain Management Program																									
Department of Conservation and Recreation			X						X					X											
Department of Emergency Management									X																
Department of Environmental Quality																									
Department of Health							X																		
Department of Transportation Road and Bridge Standards												X													
Emergency Management Plans				X				X																	
Emergency Operations Plan	X	X					X			X	X			X							X			X	X
FEMA's CRS website					X	X	X			X								X		X	X	X			
Fire Department website		X																							
Flood exposure and vulnerability assessment publications (VIMS, FEMA, and DCR)						X																X			
Hazard Mitigation Plan		X	X			X	X	X	X	X	X	X				X						X		X	
Local Assessments of Ecological Assets															X								X		
Local Boards to advise elected officials			X																	X	X				X
Local Budget																X									

Data Sources	1.1	1.2	1.3	1.4	1.5	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	3.4	3.5	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	5.4	5.5
Local Chamber Website								X																	
Local Economic Impact Assessments																									
Local Ordinances and Comprehensive Plan				X				X			X				X		X	X	X	X				X	X
Local Public Works Design & Construction Standards												X													
Local Transportation Plan																									
Local Utility Website													X												
Local Water Supply Plan													X												
Locality Resilience Plan or Strategy		X		X																					X
Locality Social Media																							X		
Locality Website	X	X	X				X	X	X	X	X	X	X	X	X			X	X		X	X	X	X	X
School Curriculum																									
Social Services							X																		
Planning District Commission (PDC) website		X	X			X	X		X																
Public Libraries																									
Wetlands Watch					X																				
Zoning Codes				X															X						