

EXHIBIT F: LEVERAGE

COMMONWEALTH OF VIRGINIA

ExhibitFLeverage.pdf

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OUTCOMES. A major goal of the Commonwealth’s proposed **THRIVE: Resilience In Virginia** approach is to transform how Virginians live with water. DHCD and its partners will develop a model for redesign in coastal communities, concentrating on Hampton Roads’ most vulnerable citizens and neighborhoods, where this approach can integrate new water management principles, and mixed-use and mixed-income development practices. These new practices will accelerate the creation of businesses that enhance the Hampton Roads region’s ability to manage water and improve water quality, while providing new employment opportunities that will decrease the vulnerability of low-to-mid level income residents.

The **THRIVE** strategy will be carried out in three phases. In the near term, the strategy will focus on incorporating resilient water management strategies into ongoing projects, revisiting redevelopment plans and applying a resilience lens to them, selecting demonstration projects, conducting community outreach, educational initiatives, and advocacy for recommended policies and funding. This will also include replication and scaling of a neighbor-to-neighbor community-building pilot around disaster preparedness that is currently underway. In the mid-term, **THRIVE** pilot/demonstration projects will be implemented, while continuing all of the above. In the long term, DHCD will look for opportunities to scale and replicate successful projects across Virginia while sustaining them in Hampton Roads.

A main criterion for selecting projects to implement as part of this initiative will be the project’s potential to deliver co-benefits. As discussed in Exhibit E, Virginia’s infrastructure solutions include developing green and nature-based infrastructure that provides recreational amenities, environmental benefits and storm water management, as well as co-benefits such as increased social cohesion and economic development. Specifically, by expanding the region’s natural infrastructure (wetlands, shorelines, tree canopy, tidal streams and other landscape features) and building on restoration projects currently underway, a line of defense against storms will be provided, while also providing habitat and water quality improvements.

By increasing community resilience at the neighborhood level through job opportunities, social cohesion and emergency planning network development, communities may over time reap additional resilience dividends. The neighbor-to-neighbor approach around shared water vulnerabilities may serve as an initial step for advancing resident-led vision for revitalization of neighborhoods (re-norming and spill-over). Research shows that increased social cohesion translates into less crime and economic revitalization. Norfolk has successfully piloted such an asset-building model of redevelopment in the Park Place neighborhood.

Environmentally and Financially Sustainable Implementation. The Hampton Roads region has been at the forefront of water quality improvements through the restoration of oyster reefs, wetlands and underwater grasses, and this type of innovation will be incorporated in **Resilience In Virginia** projects. The City of Norfolk is already experimenting with improving water quality in storage systems using natural filtration, and the Rockefeller Foundation's RE.invest Initiative program has provided other water management strategies with the potential to improve water quality, including holding water in tree trenches, bio swales, rain gardens and other landscaping techniques. The RE.invest Initiative also recommended that the region become a lab for water management demonstration projects to attract water management business to the region. **Resilience In Virginia's** approach will integrate locally and regionally appropriate new urbanism and smart growth development principles, while generating new business in an innovative model maritime community.

Indicators of Success and Evaluation.

Unite the Region: Examples of outcomes that encompass a unified, regional vision for resilience include: an increased number of projects completed collectively by regional partners; an increased number of projects co-funded by multiple regional municipalities; and increased collaboration between the private and public sectors to create solutions.

Create Coastal Resilience: Anticipated outcomes include: integration of systems to manage water, number of cross-disciplinary impacts/co-benefits, such as increased quality of life through open space amenities, water quality, increased economic diversity, increased ability of individuals to meet their basic needs through improved employment opportunities; and creation of more cohesive communities.

Strengthen Vulnerable Neighborhoods: Outcomes that indicate success include: de-concentration of poverty in the targeted area; increased social cohesion as measured by the number of networks in place in the project area; increased housing values in project area; and a reduction in the number of emergency assistance service calls in the targeted project area.

Build Water Management Solutions: Desirable outcomes include: increased capacity to manage water as measured by fewer days of flooding and lower levels of flooding in targeted project areas; a decrease in property loss and insurance claims in targeted project areas; and the increased integration of green, grey and hard infrastructure in water management solutions.

Improve Economic Vitality: Examples of anticipated outcomes include: an increased number of small and medium-sized businesses; increased employment opportunities in water management; an increased number of entry-level positions; and increased workforce training certifications for retrofitting property.

LEVERAGE. Innovative projects addressing water management are already underway across the region. Many **THRIVE** partners already work together to increase water quality, reduce risk of water inundation and improve systems handling the precipitation that causes much of the region's flooding. Other examples of supportive projects include dune restoration funded by the US Army Corps of Engineers and the City of Norfolk, and Environmental Protection Agency-funded wetlands restoration in Norfolk's Mason Creek.

The Virginia Port Authority and US Army Corps of Engineers' Norfolk District are in the process of implementing a 10-year, \$70 million, 411-acre environmental mitigation plan which allows wetland creation and oyster restoration along the Lafayette and Elizabeth Rivers. Additionally, Concurative Corporation is working with multiple cities and **THRIVE** partners to develop strategies to increase the

number of neighborhood networks that improve vulnerable residents' ability to survive service disruptions. The Hampton Roads Community Foundation is implementing regional strategies to increase business start-ups in the region. These efforts all will enhance the implementation and maintenance of grant strategies.

Initiative partners assisted by the 100 Resilient Cities staff are in conversations with insurance and reinsurance representatives around the risks associated with increased flooding and its effects on insurance premiums. Swiss-Re, one of the leading reinsurers and 100 Resilient Cities' Platform Partners, is helping to develop methods to monetize potential insurance savings to fund mitigation efforts that reduce risk. DHCD will coordinate the implementation of strategies to monetize savings developed through this process and apply it to fund projects and related maintenance.

Co-benefits of implementing the strategy include reduced vulnerability resulting from the creation of job ladders leading out of poverty and towards the availability of safer housing choices. Additionally, it could potentially deliver cost savings to be contributed towards its financing. By growing businesses to implement mitigation projects, the grant's economic impact will be used to accelerate the pace of building a regional business cluster focused on water resilience innovation and entrepreneurship and developing workforce readiness with our educational partners.

The localities also plan to explore any mechanisms that could be used to reduce the financial burden of flood insurance through the changes of the FEMA flood maps and localities' Community Rating System's (CRS) class. According to the Multi-hazard Mitigation Council, each dollar spent on mitigation saves society an average of four dollars in disaster response and recovery costs. In Hampton Roads, over \$17.4 billion in property value is located less than 5 feet above the high tide line in Virginia. According to low range projections, this area has "a more than even chance" of floods exceeding today's historic records within the next 20 to 30 years, according to the *Central Coastal Vulnerability Assessment for Virginia*.

Committed Resources. A total of \$275,000 is available for activities directly related to undertaking this CDBG-NDRC proposal for **THRIVE: Resilience In Virginia**:

- The Commonwealth of Virginia has committed \$200,000 towards project implementation.
- The City of Norfolk has committed \$125,000 towards project implementation.
- Old Dominion University has committed \$50,000 towards project implementation.

(see Attachment B, p. 110).