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Secretary/Director

Mr. Lewis L. Lawrence

September 2, 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

Dear Mr. Clyde Cristman,

Enclosed in this master application bundle packet are **2 applications** requesting funding for professional designs for nature-based flood protection and prevention projects in Middlesex County. Designs and JPAs are needed before the owner can move to construction of a nature-based shoreline solution. These 2 projects have a total project cost of \$76,160.

Below is short summary of proposed projects:

A. Kimbrough Nature Based Solution Design

- (CID): 510098 Total Cost: \$17,309

B. Ricardi/MiddlesexCounty Nature Based Solution Design

- (CID): 510098 Total Cost: \$58,851

As you know, the Middle Peninsula Fight the Flood program structure, the only one in the Commonwealth, allows MPPDC staff to connect directly with property owners struggling with flood issues to submit requests for assistance and to develop grant proposals requesting financial assistance on their behalf. The Fight the Flood program after Round 1 has another two dozen requests holding for later rounds of the Virginia Community Flood Preparedness Fund. Consequently, as these projects are implemented on the ground, each project will build and strengthen the Middle Peninsula's regional community resiliency. For this reason, we believe the Fight the Flood approach provides demonstrable benefit at the community scale. We are responding project by projects, brick by brick or plant by plant to provide protection.

Thank you for considering the enclosed proposed projects. If you have any questions about the enclosed, please contact me by email at [REDACTED] or by phone at [REDACTED].

Lewis Lawrence

MPPDC

Executive Director

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

**Application Form for Grant Requests for All
Categories – Round 1**

I. ORGANIZATIONAL INFORMATION

Project Title: Middlesex County MPPDC Bundle

Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

- Capacity Building/Planning
 Project
 Study

NFIP/DCR Community Identification Number (CID): 510098

If a state or federally recognized Indian tribe, Name of tribe: NA

Name of Authorized Official: Lewis Lawrence, Executive Director

Signature of Authorized Official: 

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: (____) _____

Email Address: [REDACTED]

Contact Person (If different from authorized official): Jackie Rickards, Senior Planning Project Manager

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: [REDACTED]

Email Address: [REDACTED]

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes 2 app No _____

Categories (select applicable project): Project Grants

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large-scale Low Impact Development (LID) in urban areas.
- 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 restoration or 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.

Location of Project (Include Maps): Middlesex County -2 applications bundled Please see the attached apps and corresponding maps for each application

NFIP Community Identification Number (CID#) (See appendix F): 510098

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): AE Zone

Flood Insurance Rate Map Number(s) (If Applicable): See each application for specific number

Total Cost of Project: _____ \$76,160 _____

Total Amount Requested: _____ \$60,927 _____

Master Bundled Middlesex Projects Round 1- NEXT PAGE

Master Bundled Middlesex Projects Round 1

Middlesex Bundled Projects	DCR	Owner	Total
Personnel	\$5,261	\$1,315	\$6,576
Fringe, 0% salaries;	\$1,399	\$350	\$1,749
Total Personnel	\$6,660	\$1,665	\$8,325
Middlesex SubAward/SubContract Agreements			
Shoreline Assesment for Best Nature Based Shoreline Design/Draft Permit JPA Legal bid docs and procurement prep	\$40,000 \$4,400 \$0 \$0 \$0 \$0 \$0 \$0	\$10,000 \$1,100 \$0 \$0 \$0 \$0 \$0 \$0	\$50,000 \$5,500 \$0 \$0 \$0 \$0 \$0 \$0
SUBTOTAL: Direct Costs	\$51,060	\$12,766	\$63,826
Indirect/IDC/Facilities & Administrative Costs	\$9,867	\$2,467	\$12,334
Total	\$60,927	\$15,233	\$76,160
Other Match:	\$0	\$0	\$0
GRAND TOTAL	\$60,927	\$15,233	\$76,160

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

**Application Form for Grant Requests for All
Categories – Round 1**

I. ORGANIZATIONAL INFORMATION

Project Title: Flood Prevention and Protection for Bland Point Road

Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

- Capacity Building/Planning
 Project
 Study

NFIP/DCR Community Identification Number (CID): 510098

If a state or federally recognized Indian tribe, Name of tribe: NA

Name of Authorized Official: Lewis Lawrence, Executive Director

Signature of Authorized Official: 

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: (____) _____

Email Address: [REDACTED]

Contact Person (If different from authorized official): Jackie Rickards, Senior Planning Project Manager

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: [REDACTED]

Email Address: [REDACTED]

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project): Project Grants

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large-scale Low Impact Development (LID) in urban areas.
- 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 restoration or 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.

Location of Project (Include Maps): County Name - Please see the attached corresponding maps for this application.

NFIP Community Identification Number (CID#) (See appendix F): 510098

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): AE Zone

Flood Insurance Rate Map Number(s) (If Applicable): 51119C0240E

Total Cost of Project: _____ \$17,309 _____

Total Amount Requested: _____ \$13,846 _____

II. SCOPE OF WORK NARRATIVE

INTRODUCTION.

This proposal request funding for the development of a nature-based shoreline design solution and draft JPA permit application to reduce the impacts of storm events, flooding and wetland loss.

Risks to natural hazards are increasing. Population growth along coastlines worldwide, in addition to technological and infrastructural development, inherently results in a concomitant increase in places prone to disasters. Modern society relies upon government for effective prevention and protection strategies for continued resilience and sustainability.

Natural hazards are hazards that exist within the natural environment and are considered “acts of God,” and consist of atmospheric, geologic, hydrologic, seismic, and biologic agents. Such hazards include flooding, drought, hurricanes, landslides, wildfires, and more. They are thought to be unpreventable and are associated with a perceived lack of control. As a result, the ability to manage risk to natural hazards greatly varies due to differences in background. Therefore, the identification of hazards is the foundation of effectively dealing with and avoiding risks. Because of climate change, many natural hazards are expected to become more frequent and more severe. Reducing the impacts these hazards have on lives, properties, and the economy is a top priority for the Middle Peninsula PDC and the Middle Peninsula Fight the Flood (FTF) program.

The 2018 United States National Climate Assessment noted that global climate model predictions, though imprecise, suggest an increased frequency of strong hurricanes (Categories 4 and 5) in the Atlantic Basin, including the Caribbean. It also includes a range of sea-level rise predictions with significant impacts, especially together with high tide flooding. Other estimates include more frequent and intense droughts with microburst and deluge events. This is especially the case for the Coastal Plain area of Virginia.

The Federal Emergency Management Agency (FEMA), Virginia General Assembly, Virginia Department of Conservation and Recreation (DCR) Floodplain Management Program, and the Middle Peninsula Planning District Commission (PDC) all recognize that natural hazards pose a serious risk to all levels of government including states, localities, tribes, and territories and the citizens which reside there.

Until recently, most flood risk management involved conventional engineering measures. These measures are sometimes referred to as “hard” engineering or “gray” infrastructure. Examples include building embankments, dams, levees, and channels to control flooding. Recently the concept of “nature-based solutions”, “ecosystem based adaptation,” “eco-DRR,” or “green infrastructure” has emerged as a good alternative or complement to traditional gray approaches.

Nature-based solutions make use of natural processes and ecosystem services for functional purposes, such as decreasing flood risk or improving water quality. These interventions can be completely “green” (i.e., consisting of only ecosystem elements) or “hybrid” (i.e., a combination of ecosystem elements and hard engineering approaches). Nature-based solutions can help mitigate flood (the focus of this document), drought, erosion, and landslide. In addition, they may help decrease vulnerability to climate change while also creating multiple benefits to the environment and local communities. These include sustaining livelihoods, improving food security, and sequestering carbon. Such solutions can be applied to river basins (e.g., reforestation and green embankments), coastal zones (e.g., mangroves and wetlands), and cities (e.g., urban parks).

There is increasing momentum for the use of nature-based solutions as part of resilience-building strategies, sustainable adaptation, and disaster risk management portfolios. Awareness of nature-based solutions from communities, donors, and policy- and decision-makers is growing. Further, investors and the insurance industry are increasingly interested in nature-based solutions. From a climate change perspective, ecosystem-based adaptation has been highlighted as a priority investment area as noted in this DCR opportunity.

PROJECT INFORMATION.

This proposal application seeks a design for a nature-based solution which utilizes and incorporates sustainable planning, design, environmental management, and engineering practices that weave natural features and/or processes into the built environment to promote adaptation and resilience. Further this proposal design will incorporate natural features and/or processes in efforts to combat climate change, reduce flood risks, improve water quality, protect coastal property, restore, and protect wetlands, stabilize shorelines, reduce heat, adds recreational space, and more. Nature-based solutions offer significant benefits, monetary and otherwise, often at a lower cost than more traditional infrastructure. According to FEMA Building Community Resilience with Nature Based Solutions, these benefits include economic growth, green jobs, increased property values, and improvements to public health, including better disease outcomes and reduced injuries and loss of life.

Specifically, this project proposes to investigate nature-based design solutions or, if necessary, hybrid design solutions when nature-based design solutions are not preferable, to a living shoreline on a private property located on Chesapeake Bay Road in Middlesex County. This project will be a partnership between the Middle Peninsula PDC and one private property owner and is supported by Middlesex County. See the community support letter in Appendix 1.

- A link or to the Middle Peninsula PCD’s Approved Regional Flood Resiliency Plan (2021) can be found at: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf
 - Please see Page 3-5, which notes the need to respond to emerging flood challenges.
- A link to the Middle Peninsula PDC’s All Hazards Mitigation Plan (2016) can be found

at:

https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf

- Please see Section 4 (page 25), which includes historical hazard data within the region.
- A link to the County of Middlesex's Comprehensive Plan can be found at:
<https://www.co.middlesex.va.us/252/Comprehensive-Plan>.

The Middle Peninsula is the second of three large peninsulas on the western shore of Chesapeake Bay in Virginia as seen in **Figure 1**. It lies between the Northern Neck and the Virginia Peninsula. The region is predominantly rural, with large, scattered farms and forested tracts; close-knit waterfront communities; an active regional arts association; broad-based civic involvement; and an excellent transportation infrastructure that provides easy access to urban markets. The area contains 3.2% of Virginia's land mass but only 1.1% of the Commonwealth's total population of approximately 93,000 as seen in **Figure 2**.

Figure 1. Middle Peninsula Geographic Area

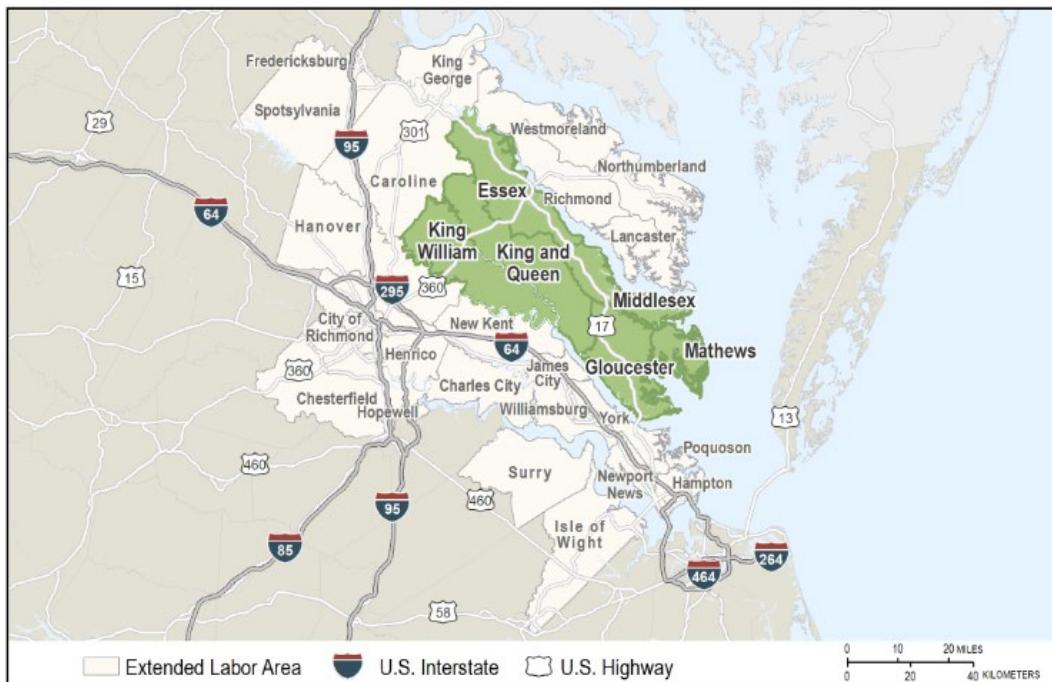


Figure 2. Middle Peninsula Population

CID #	US Census 2020 Population	2020 Total
510048 (Tapp 510049)	Essex (Includes Town of Tappahannock)	10,599
510071	Gloucester	38,711
510082	King and Queen	6,608
510304 (West Point 510083)	King William (Includes Town of West Point)	17,810
510096	Mathews	8,533
510098 (Urbanna 510292)	Middlesex (Includes Town of Urbanna)	10,625
MPPDC Total		92,886

This project proposes to install living shorelines on one private property on Bland Point Road in Middlesex County as found in **Figures 3 and 4**.

Figure 3. County Map of Project Location

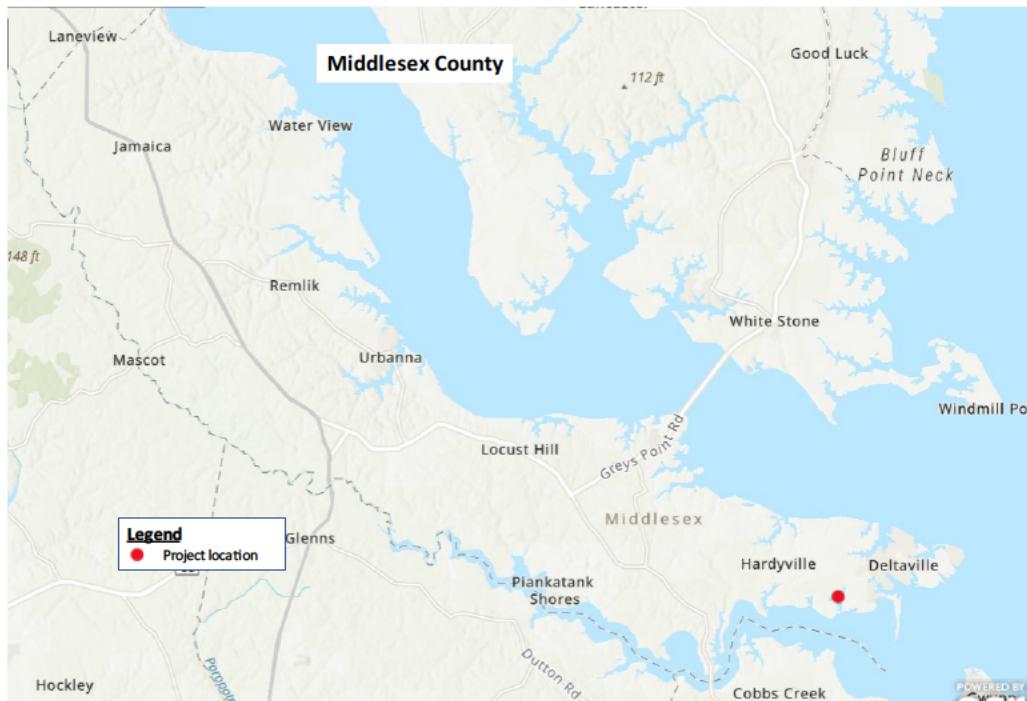
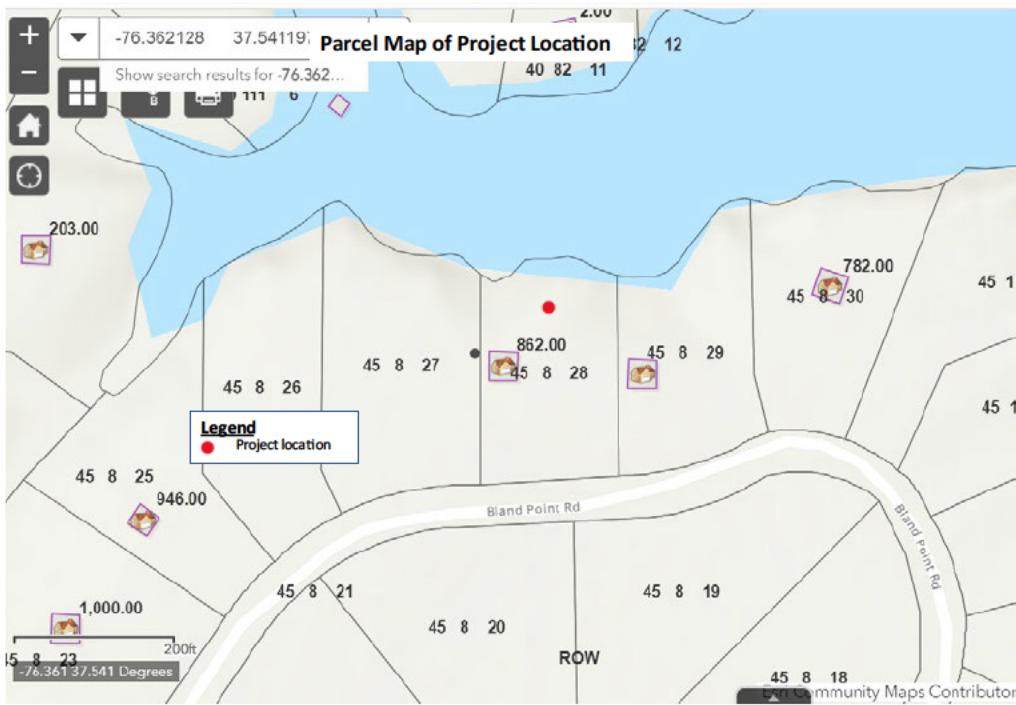


Figure 4. Parcel Map of Project Location



Middlesex County is located at Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 130 square miles of land 80 miles of shorelines. Based on 2020 Census Data, Mathews County's population totals 10,625 which. According to DCR guidelines, a portion of the County is considered a low-income geographic area.

In Figure 5, the green areas qualified as low-income "community" areas meeting the 80% Household limits based on US census household income data or are qualified Opportunity Zones.

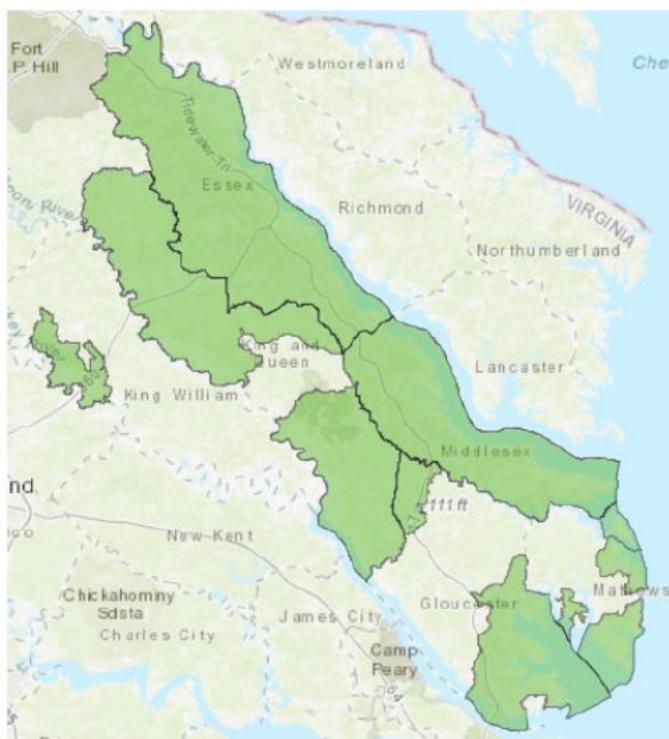
Figure 5. Map of Middle Peninsula Qualifying Low Income Geographic Areas

Each county had its 'Eligible Household income' calculated by multiplying the County's median Household income by .8. This resulted in the following numbers:

	Essex	Middlesex	Mathews	King William	King & Queen	Gloucester
Median household income (in 2019 dollars), 2015-2019	\$51,954	\$57,438	\$64,237	\$66,987	\$63,982	\$70,537
Eligible Household income	\$41,563	\$45,950	\$51,389	\$53,590	\$51,186	\$56,430

Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

The following is an overview of the Regional Eligibility map. Green areas are qualified low-income "community" areas meeting the 80% Household limits based on US census household income data or are qualified Opportunity Zones.



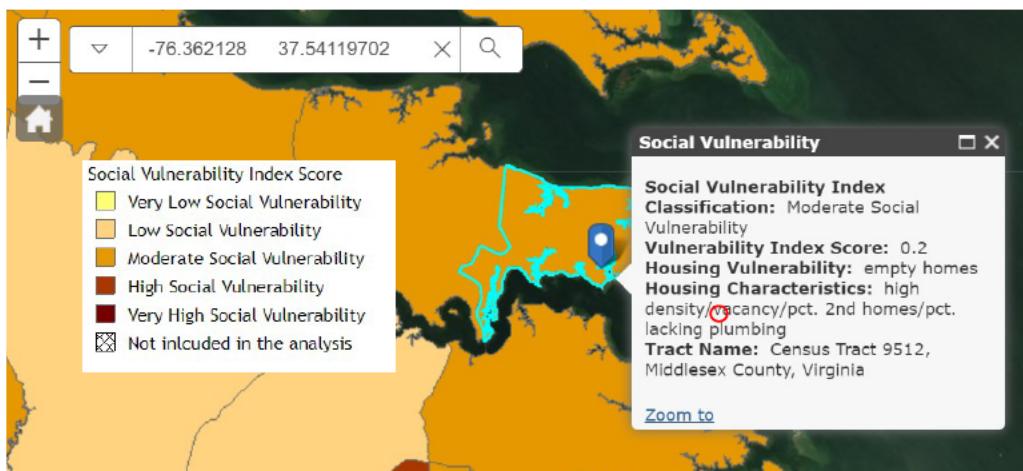
Please see Figure 6 for a zoomed in map of the project location and the green low-income area overlay. This shows that the project location is not within the low-income area.

Figure 6. Map of the Project Location within the Green Low-Income Area



According to the VDAPT Virginia's Social Vulnerability Index Score, this project location has a moderate social vulnerability score as seen in Figure 7; however, it also is important to recognize that there are other social vulnerability models which reflect higher social vulnerability within this project area. For instance, according to FEMA's National Risk Index (<https://hazards.fema.gov/nri/map>), which assesses vulnerability at a census tract level, the social vulnerability is considered relatively moderate level of vulnerability as seen in Figure 8.

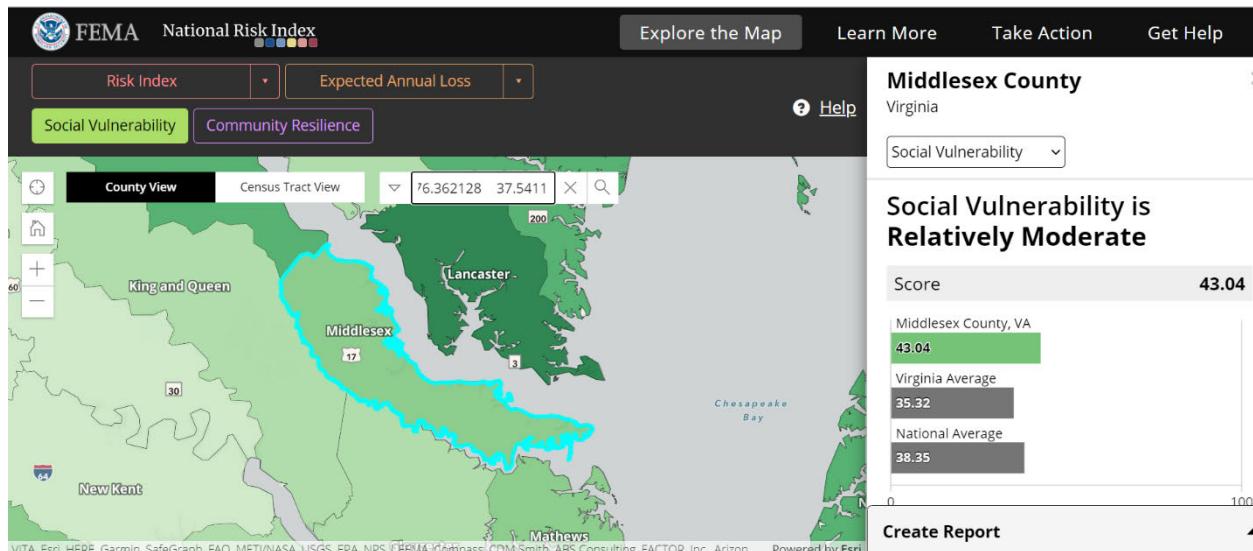
Figure 7. Virginia's Social Vulnerability Index Score Map of the Project Location



Figure

8.

FEMA Nation Risk Index of Census Track of Project Location



The project is located at 862 Bland Point Road, Deltaville, VA 23043 (-76.362128, 37.54119702). It was purchased just this year. It was built in 1993 by the previous owner. Today, the 330 foot shoreline is on a steep back and the water is undercutting the bank; therefore, the top of the bank is steeply facing down toward Moore's Creek causing significant runoff. The trees that are along the bank are now at risk of falling into the water as the erosion continues. Rift raft has been used across the way on another property and seems to be working for several property owners in this area; still, a natural based living shoreline design solution is preferable. The photos were taken at low tide, so you can see how the high tide reaches the bank, which is being undercut by the water, especially in unusual flood tides and storms that cause high turbulence. Rising water levels will cause more vegetative barrier failure and a major bank failure is our greatest concern. Wind is also a cause for concern if there is a direct storm impact.



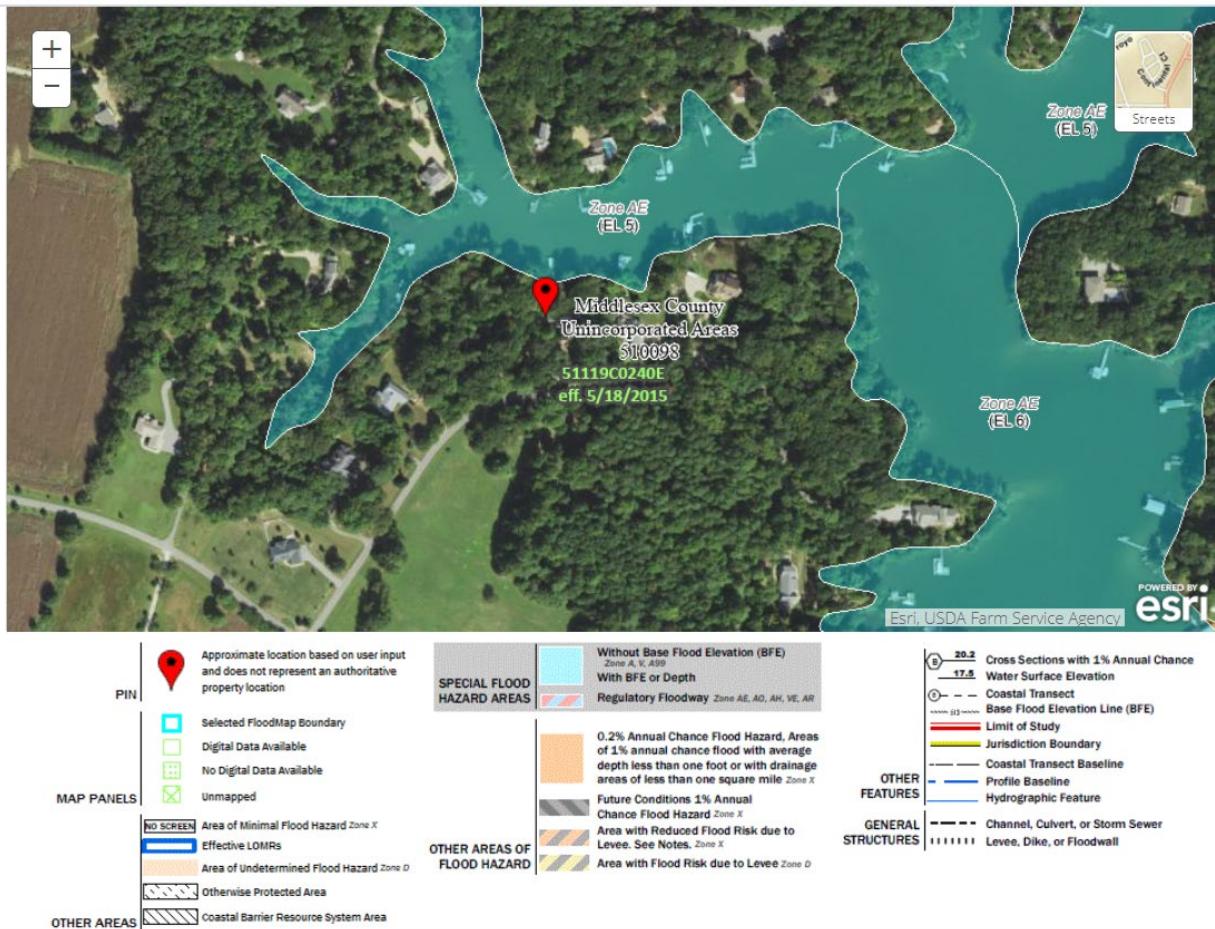


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This site is located within the AE flood zone as seen in **Figure 9**. Please see **Appendix 2** for the FIRMettes (last mapped 5/18/2015) and **Appendix 3** for additional property photos.

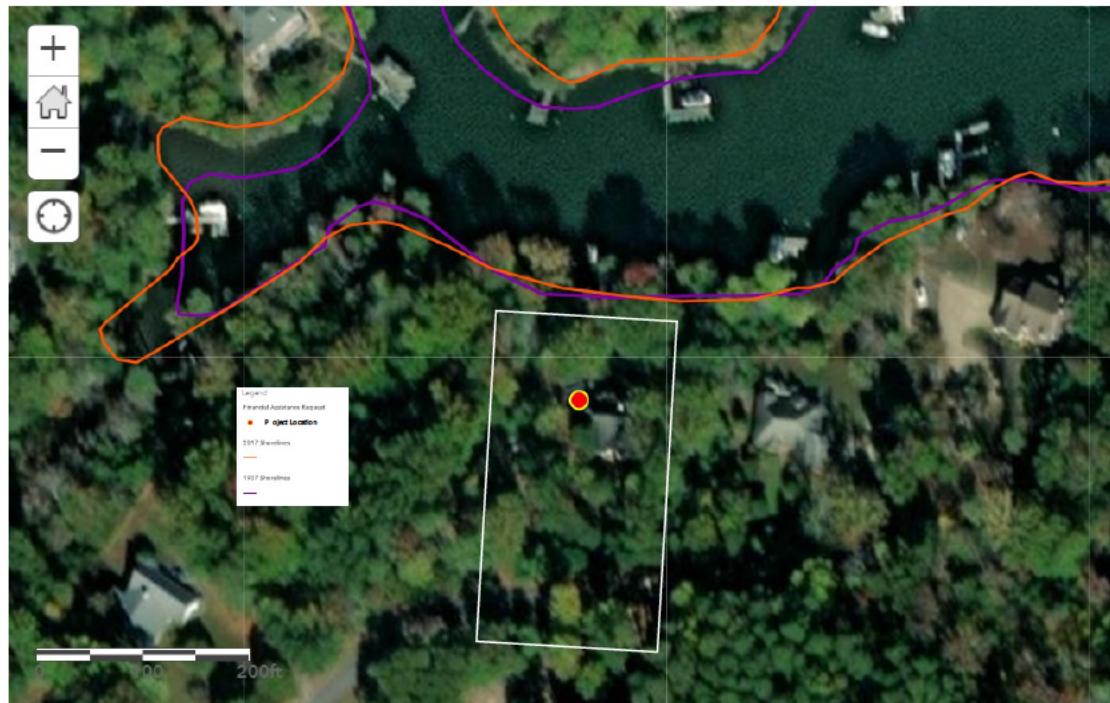
Figure 9: Map of FEMA Flood Zones

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Due to the project site's proximity to the water and relatively low elevation, the site has an extensive history of experiencing flooding events that have resulted in significant impacts to infrastructure and the environment. Based on the historical shoreline data from the Virginia Institute of Marine Science Shoreline Studies Program, **Figure 9** shows the 1937 and the 2017 shorelines. From the figure one can see the change in the shoreline at the project location and the approximate loss of square feet of shoreline. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Appendix 4** lists 79 storm events and provides a map with the project location. Without the flood protection measures proposed, the land, habitat and infrastructure will be compromised, resulting in degradation of the environment and revenue loss to the local tax base.

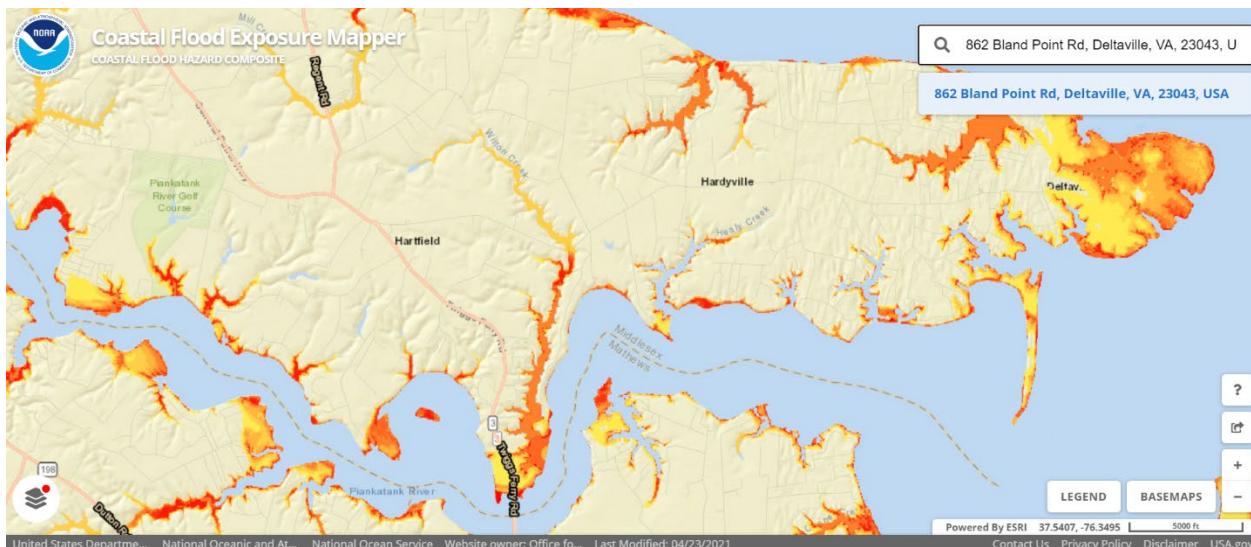
Figure 9. Project Location and Map of the Shoreline Change between 1937 (purple)and 2017



Finally, according to NOAA's Coastal Flood Mapper, this project is at the highest risk of coastal flooding as seen in **Figure 11**.

Figure 11. Map of Project Location and Risk of Coastal Flooding (NOAA, 2021)





For more information about this project area please see:

- A link to the Middle Peninsula PDC's All Hazards Mitigation Plan (2016) can be found at: https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf
- A link to Middlesex County's current floodplain ordinance can be found at: <https://www.co.middlesex.va.us/DocumentCenter/View/422/Floodplain-Management-PDF>.

ALTERNATIVES.

Alternative design solutions are not applicable in this application. The proposed project is to develop a nature-based or hybrid design solutions and its cost does not exceed \$3 million.

GOALS AND OBJECTIVES.

The Code of Virginia § 28.2-104.1. define "Living shoreline" as *shoreline management practice that provides erosion control and water quality benefits; protects, restores, or enhances natural shoreline habitat; and maintains coastal processes through the strategic placement of plants, stone, sand fill, and other structural and organic materials. When practicable, a living shoreline may enhance coastal resilience and attenuation of wave energy and storm surge.*

The goals and objectives of this project are as follows -

Goal 1: Improve coastal resiliency within the community and the Commonwealth.

- Objective A: Prevent loss of life and reduce property damage by mitigating for recurrent, repetitive, and future flooding within the project area using a nature-based design approach.

- Objective B: Stabilize the shoreline to ensure that the County's tax base does not erode and reduce the overall erosion rate within the project area using a nature-based design approach.

According to FEMA and NOAA living shorelines are more resilient again storms than bulkheads. With the installation of sills these structures will run parallel to the existing or vegetative shoreline, reduce wave energy, and prevent erosion. This will protect the land and it will protect, or at least prolong, the life of the oak trees on the property. Additionally, eroding shorelines and sediment from stormwater runoff greatly contribute to the shoaling of navigable waterways. With maritime industries contributing substantially to the local and regional economy, the mitigation of continued sedimentation and shoaling provided by this project will protect and enhance the region's commercial and recreational maritime economies.

Additionally, as the installation of a living shoreline will reduce erosion of the property this will reduce flood risks at the project site. Also, as flooding and erosion threaten the tax base within the locality, this project will help maintain the tax-base at this project location which directly protects the largest employer in Middlesex County, which is local government.

Goal 2: Improve water quality for the Chesapeake Bay area.

- Objective A: Improve nitrogen, phosphorus, and sediment using a nature-based design approach.

Since this project is proposing a nature-based design solution for living shorelines, it could result in a design that will have nutrient and sediment reduction benefit to local waters.

According to a report titled, Removal Rates of Shoreline Management Project, an expert Panel on Shoreline Management identified the living shorelines has having a nitrogen removal rate 0.01218 pounds per linear foot per year (lb/lf/yr) and a phosphorus removal rate of 0.00861 lbs/lf/yr. Additionally living shorelines were shown to reduce total suspended sediment by 42 lb/lf/yr. Therefore, with a proposed project of 150 linear feet of living shoreline this has the ability of removing 1.827 pounds of nitrogen per year, 1.2915 pounds of phosphorus per year and 6,300 pounds of sediment per year. Ultimately contributing to the overall water quality of the Chesapeake Bay.

In addition to water quality improvements, living shorelines offer new habitat for marine wildlife and birds. With the living shorelines reducing wave energy in this area this provides a calmer habitat to breed and nurse juvenile wildlife and fish. Also, the planting will offer more cover and protection from prey.

Goal 3: Transferability to other communities.

- Objective A: Improve the implementation of Fight the Flood projects and project as an example program to be replicated in other communities within the region or the Commonwealth.

For over 40 years the Middle Peninsula PDC and its participating localities have worked diligently on topics associated with the land water interface, including coastal use conflicts and policies, sea level rise, stormwater flooding, roadside ditch flooding, erosion, living shorelines, coastal storm hazards (i.e., hurricanes, tropical storms), riverine and coastal flooding, and coastal resiliency.

APPROACH, MILESTONES, AND DELIVERABLES.

The proposed project is to develop a nature-based or hybrid design solutions in flood prevention and protection to living shorelines and vegetated buffers. Upon receiving notification of an award to proceed, the Middle Peninsula PDC will commence work in moving forward with the project in partnership with the property owner of the specified location.

The proposed project includes three phases of activities over the course of a six month period. The anticipated timeline for the proposed project could be as quick as 3 months year, but no more than six months years. The timeline range is due to the potential delays in project initiation, contractor availability, and permitting.

It is anticipated that the proposed project will commence October 2021 and be completed by March 2022.

Action Item	M1	M2	M3	M4	M5	M6
Phase 1 – Environmental Scan						
Hold administrative project kick off meeting	X					
Conduct environmental scan of property location in need of a flood resiliency design solution	X					
Select contractor to provide potential nature-based or hybrid design solutions	X					
Coordinate with property owner and contractor on project expectations	X	X	X	X	X	
Apply for any necessary permits	X	X	X			
Phase 2 – Solution Design						
Discuss nature-based or hybrid design solutions with contractor and property owner		X	X			
Select which nature-based or hybrid design solution is most appropriate		X	X			
Have contractor develop selected nature-based or hybrid design solution			X	X		
Phase 3 – Strategic Implementation						
Share nature-based or hybrid design solution with property owner					X	
Discuss strategies in moving forward with					X	X

implementing the nature-based or hybrid design solution						
Provide a digital close out report and copy of the completed nature-based or hybrid design solution along with the completed Certificate of Approval Floodplain Management form to the funding agency						X
Hold administrative project close out meeting						X

RELATIONSHIP TO OTHER PROJECTS.

In response to emerging flood challenges, the Middle Peninsula PDC launched the Middle Peninsula FTF Program in 2020 which leverages state and federal funding to deliver flood mitigation solutions directly to constituents, for both the built environment and the natural environment with an emphasis on nature-based flood mitigation solutions. The FTF Program helps property owners (private and public) gain access to programs, funding (i.e., grants and loans), and services to better manage challenges posed by flood water.

Other plans and resources which are integral to the implementation of the Flood Resiliency Plan are:

Long Term Planning

- Middle Peninsula All Hazard Mitigation Plan – FEMA and Middle Peninsula locality approved 2016
 - The overarching project that provides updates every five years of the hazards within the region is the Middle Peninsula All Hazards Mitigation Plan. This plan identifies the top hazards within the region and provides a HAZUS assessment that analyzes flooding (riverine and coastal), sea-level rise and hurricane storm surge impacts in the region. Additionally, this plan lists strategies and objectives that guide member localities to mitigate for these strategies.
- Middle Peninsula Comprehensive Economic Development Strategy – Middle Peninsula PDC approved 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan – Middle Peninsula PDC approved annually

Short Term Implementation

- Middle Peninsula PDC Fight the Flood (FTF) Program Design – Middle Peninsula PDC, approved June 2020 and chairman approved update 2021
- Middle Peninsula PDC Living Shoreline Resiliency Incentive Funding Program – Virginia Revolving Loan Fund Program Design and Guidelines, approved 2015

As the Middle Peninsula PDC has continuously worked on flooding and coastal resiliency topics. All of these projects have built upon each other to establish a solid foundation of regional expertise in flooding and coastal resiliency topics. Now, with such a wealth of information, the Middle Peninsula PDC can move beyond research and studies to begin implementing projects on the ground. One effort, in particular, was launched in 2020 was in response to emerging flood challenges. The Middle Peninsula PDC Commission authorized staff to develop the Middle Peninsula FTF Program. This program leverages state and federal funding to deliver flood mitigation solutions directly to constituents, for both the built environment and the natural environment with an emphasis on nature-based flood mitigation solutions. The Middle Peninsula FTF program helps property owners gain access to programs and services to better manage challenges posed by flood water. Therefore, the Middle Peninsula PDC have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their shoreline as seen in **Appendix 5**.

Finally, the Flood Resiliency Plan and associated programs strive to carry out the guiding principles and goals set forth in the Virginia Coastal Resilience Master Planning Framework established in 2020. The proposed activities are proposed in accordance with the guiding principles and with the intent that the outcomes will help the Commonwealth meet the goals set forth in the planning framework.

MAINTENANCE PLAN.

Maintenance plan is not applicable in this application. The proposed project is to develop a nature-based or hybrid design solutions and its cost does not require ongoing operation and future maintenance.

CRITERIA.

1. 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 or a recognized state or federal Indian tribe)?

The Middle Peninsula PDC is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 and pursuant to the Constitution or laws of the Commonwealth.

2. Does the local government have an approved resilience plan meeting the criteria as established by this grant manual? Has it been attached or a link provided?

The Middle Peninsula PDC does have an Approved Regional Flood Resiliency Plan as of August 19, 2021, which can be found at the following link:

https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf.

3. For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?

The Middle Peninsula PDC does have support letters from all nine localities including the Counties of including Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna as seen in **Appendix 1**.

4. Has the applicant provided evidence of an ability to provide the required match funds?

The property owner has provided a match commitment letter to the Middle Peninsula PDC indicating their responsibility to provide the appropriate match if their design solution project proposal is awarded as seen in **Appendix 6**.

5. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?

Yes, nature-based solutions—such as reconnecting floodplains to give rivers more room during floods or restoring reefs, marshes or dunes that can protect coastal communities during storms—as well as hybrid solutions can also help improve water quality, provide prime wildlife habitat, enhance recreational opportunities, and produce related economic and social benefits.

6. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding? Yes.

SCORING CRITERIA FOR FLOOD PREVENTION AND PROTECTION PROJECTS.

Applicant Name:		Middle Peninsula Planning District Commission	
Eligibility Information			
Criterion	Description		Check One
1. 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)?			
Yes	Eligible for consideration		X
No	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 for consideration for studies, capacity building, and planning only		
3. If the applicant is <u>not</u> a town, city, or county, are letters of support from all affected local governments included in this application?			
Yes	Eligible for consideration		X
No	Not eligible 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 eligible for consideration		
No	Eligible for consideration		X
5. Has the applicant provided evidence of an ability to provide the required matching funds?			
Yes	Eligible for consideration		X
No	Not eligible for consideration		
N/A	Match not required		

Project Eligible for Consideration			X Yes □ No
Applicant Name:	Middle Peninsula Planning District Commission		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Projects (Select all that apply) Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen. The category chosen must be the primary project in the application.			
1.a. Acquisition of property consistent with an overall comprehensive local orregional plan for purposes of allowing inundation, retreat, or acquisition of structures.	50		
<input type="checkbox"/> Wetland restoration, floodplain restoration <input type="checkbox"/> Living shorelines and vegetated buffers. <input type="checkbox"/> Permanent conservation of undeveloped lands identified as having flood resiliencevalue by <i>ConserveVirginia</i> Floodplain and Flooding Resilience layer or a similar datadriven analytic tool <input type="checkbox"/> Dam removal <input type="checkbox"/> Stream bank restoration or stabilization. <input type="checkbox"/> Restoration of floodplains to natural and beneficial function. <input type="checkbox"/> Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	45		
1.b. Any other nature-based approach	40	40	
All hybrid approaches whose end result is a nature-based solution	35		
All other projects	25		
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)			
Very High Social Vulnerability (More than 1.5)	15		
High Social Vulnerability (1.0 to 1.5)	12		
Moderate Social Vulnerability (0.0 to 1.0)	8	8	
Low Social Vulnerability (-1.0 to 0.0)	0		
Very Low Social Vulnerability (Less than -1.0)	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	10
No	0	
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	0	
11. Does this project provide “community scale” benefits?		
Yes	20	20
No	0	
Total Points		83

SCOPE OF WORK CHECKLIST.

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

III. BUDGET NARRATIVE

The proposed project has an estimated Total budget of \$17,309

				Budget (Cat. D)			
				Kimbrough			
Personnel Salaries/Wages		PDC %	Match %	Annual Salary	DCR	Owner	Total
Staff	Staff	0.00%	0.00%	\$70,000	\$1,090	\$273	\$1,363
		0.00%	0.00%	\$0	\$0	\$0	\$0
Personnel		<i>Proj Admin Split</i>		DCR	Owner		
		Total	80%	20%			
		11,500	9,200.00	2,300.00	\$290	\$73	\$363
		15%	1,725.00	1,380.00			
				345.00			
Total Personnel		13,225.00	10,580.00	2,645.00	\$1,380	\$346	\$1,726
SubAward/SubContract Agreements				80%	20%		
<i>Nature Based Shoreline Design/Draft Permit JPA</i>				\$10,000	\$8,000	\$2,000	\$10,000
<i>Legal bid docs and procurement prep</i>				\$1,500	\$1,200	\$300	\$1,500
				\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0
				\$0	\$0	\$0	\$0
				\$11,500			
SUBTOTAL: Direct Costs					\$10,580	\$2,646	\$13,226
Indirect/IDC/Facilities & Administrative Costs		27.31%			\$3,266	\$817	\$4,083
Total					\$13,846	\$3,463	\$17,309
Other Match:					\$0	\$0	\$0
Source of Match							
GRAND TOTAL					\$13,846	\$3,463	\$17,309

Cost estimates for shoreline nature-based design and draft joint permit application development was based on estimates provided by design professional who does shoreline design work. Given that the program is reimbursable, billing will be for actual cost, which we anticipate being lower cost than estimated in the budget. Additionally, it is anticipated that legal and procurement cost may be needed.

MPPDC staff will manage and administer this project. Thus, personnel time is needed to ensure that project deliverables are completed within the project timeline. Along with personnel expenses, MPPDC fringe is needed. This includes health insurance, retirement, group life insurance, workman's comp, and unemployment insurance. MPPDC fringe rate for FY22 is 26.58% and comprised of: Health Insurance – 49.33%, Retirement – 18.35%, Workers Comp – 27.42%, Social Security – 4.46%, Life Insurance – 0.40%, Unemployment – 0.04%. MPPDC also prepares an indirect cost (IDC) plan annually per 2 CFR 200 Appendix VII. Following annual audit, the plan is submitted to NOAA for acceptance. MPPDC's IDC rate has a basis of Modified Total Direct Costs (MTDC), with a planned rate of 27.31%. IDC is only applied to the first \$25,000 of each contract. IDC calculated on MTDC (modified total direct cost)- Personnel, supplies, travel, and first \$25,000 of each subcontract, etc.; excludes equipment

● Authorization to request for funding



COMMISSIONERS

8/30/21

Essex County
Hon. Edwin E. Smith, Jr.
Hon. John C. Magruder
Ms. Sarah Pope
Mr. Michael A. Lombardo

Town of Tappahannock
Hon. Fleet Dillard

Gloucester County
Hon. Ashley C. Chriscoe
(Vice-Chairman)
Hon. Michael R.
Winebarger
Dr. William G. Reay
Mr. J. Brent Fedors

King and Queen County
Hon. Sherrin C. Alsop
Hon. R. F. Bailey
Mr. Thomas J.
Swartzwelder
(Chairman)

King William County
Hon. Ed Moren, Jr.
Hon. Travis J. Moshalski
(Treasurer)
Mr. Otto O. Williams

Town of West Point
Hon. James Pruitt
Mr. John Edwards

Mathews County
Hon. Michael C. Rowe
Hon. Melissa Mason
Mr. Thornton Hill

Middlesex County
Hon. Wayne H. Jessie, Sr.
Hon. Reggie Williams, Sr.
Mr. Gordon E. White

Town of Urbanna
Hon. Marjorie Austin

Secretary/Director
Mr. Lewis L. Lawrence

To: DCR Staff

From: Lewie Lawrence, MPPDC Executive Director

Reff: Authorization to request for funding:

Matching funds for all construction and design projects provided under Round 1 of the Virginia Community Flood Preparedness Fund are provided by the property owner for which the project is proposed. The match commitment letter acknowledges that the owner of the project (land owner) understands that a match commitment is required and will be provided should the project be funded.

The required elements are found within the submitted application proposal packet. A notation of where each required item is noted in "parentheses"

- The name, address, and telephone number of the contributor (application packet and match commitment letter).
- The name of the applicant organization (application cover sheet)
- The title of the project for which the cash contribution is made (application cover sheet)
- The source of funding for the cash contribution (match commitment letter).
- The dollar amount of the cash contribution (application budget)
- A statement that the contributor will pay the cash contribution during the agreement period (match commitment letter).

- *Signed pledge agreement from each contributing organization*

Lud H. Kimbrough, III

862 Bland Point Rd
Deltaville, VA 23043
Lud.Kimbrough@gmail.com

August 16, 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

Dear Mr. Clyde Cristman,

Thank you for considering the application to the Virginia Community Flood Preparedness Fund, involving necessary flood mitigation activities on my property at **862 Bland Point Rd, Deltaville , Virginia 23043**. I am committed to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (MPPDC) revolving loan funds for this project and understand that the final amount of matching funds required will be subject to the contract amount awarded by VDCR.

Please reach out to the MPPDC, who is submitting this proposal on my behalf, at [REDACTED] should you have any questions and they will be able to contact me to coordinate a response.

Sincerely,



Lud H. Kimbrough, III

I. SUPPORTING DOCUMENTATION

- Letters of support from all affected local government
- Detailed map of the project area(s)
- FIRMette of the project area(s)
- Historic flood damage data and/or images

Cont to next page

APPENDIX 1

Community Support Letter

Matthew L. Walker
County Administrator
877 General Puller Hwy
Saluda, VA 23149
804-758-4330
m.walker@co.middlesex.va.us



Betty S. Muncy
Assistant County Administrator

Ann Marie S. Ricardi
Assistant County Administrator

County of Middlesex
Office of the County Administrator

July 20, 2021

Lewis L Lawrence, Executive Director
Middle Peninsula Planning District Commission
P.O. Box 286
Saluda, Va 23149

RE: Support Letter for Applications Submitted by MPPDC to Virginia Community Flood Preparedness Fund

Dear Mr. Lawrence:

Middlesex County supports all eligible applications requesting funding under the DCR Flood Preparedness Fund. Proposals submitted by MPPDC on behalf of our constituents are part of our necessary governmental functions and are consistent with regional and local resilience planning efforts. We further support project proposals that demonstrate a primary purpose of prevention or protection to reduce coastal, riverine or inland flooding. The MPPDC Fight the Flood (FTF) Program serves as the region's flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC FTF Program provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs assist to secure the tax base of coastal localities and reduce the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types.

The FTF and the Living Shoreline programs exist to help the owners of flood-prone properties access programs and services to better manage challenges posed by flood water and to direct constituents to appropriate mitigation solutions, such as nature-based solutions. When grants and loans are available, we fully support the MPPDC to provide such to qualified constituents, to support the public purpose(s) for which the funds, such as the Virginia Community Flood Preparedness Funds, have been allocated.

Should you have any questions concerning our support for the work of the MPPDC, I can be reached at [REDACTED]

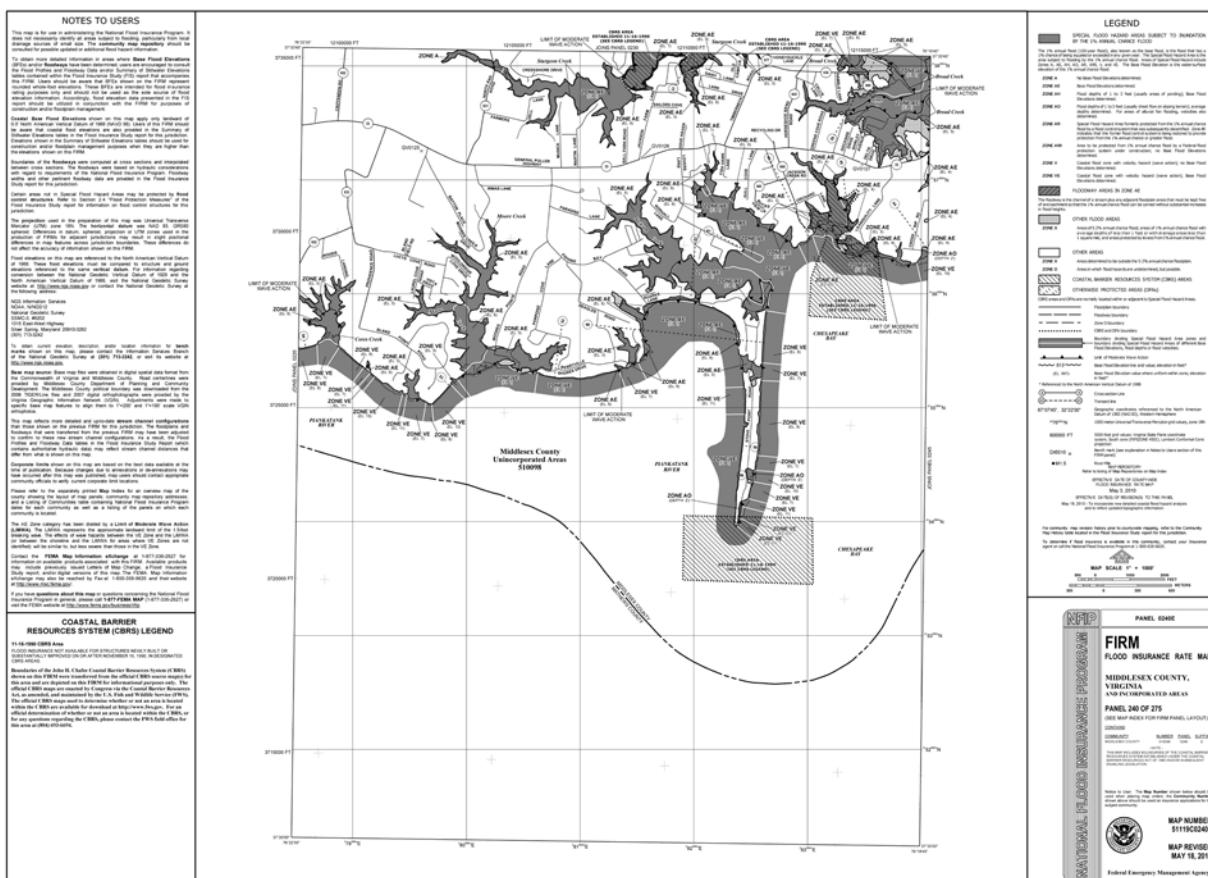
Respectfully,

Matt Walker
County Administrator

APPENDIX 2

Project Location FIRMette

Parker Property (FIRMette #: 51119C0240E)



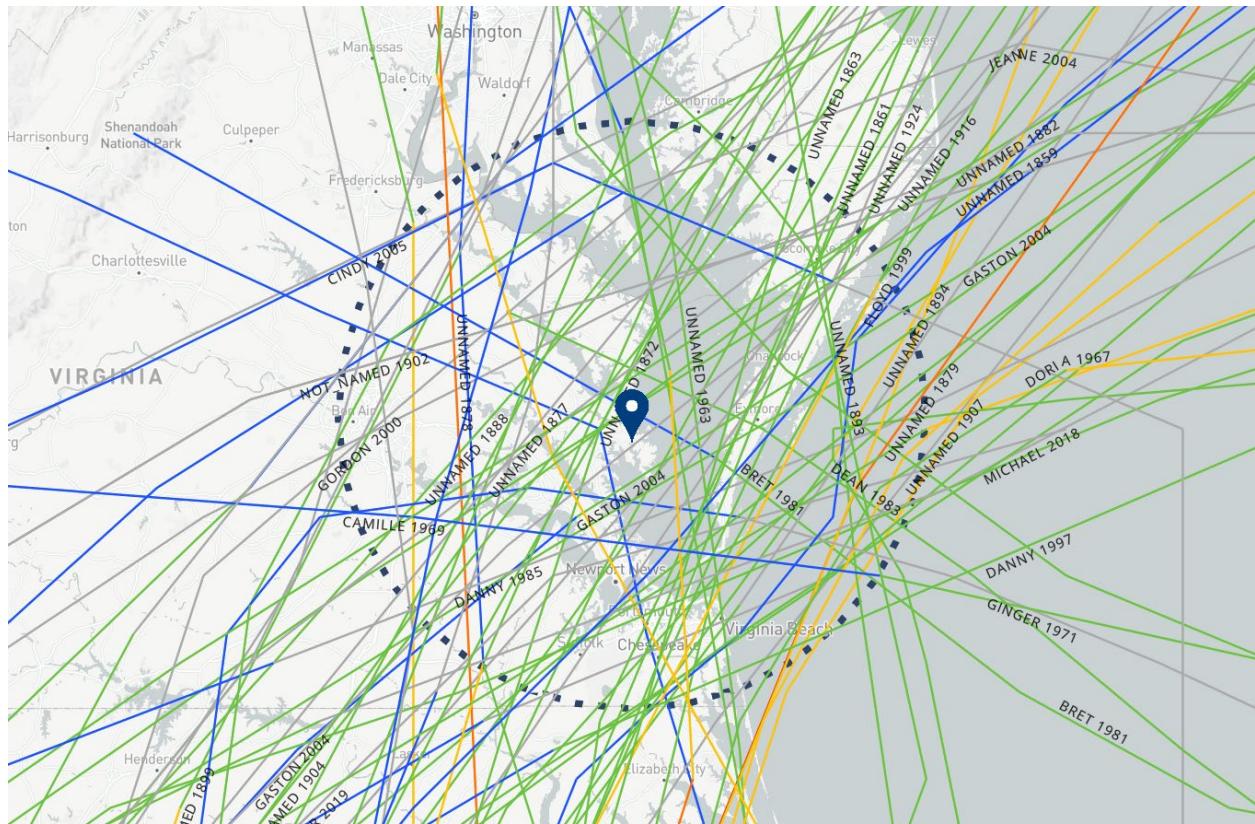
APPENDIX 3

Additional Property Photos



APPENDIX 4

List of Historic Hurricanes Impacting the Property Location



Location: 37.54119702, -76.362128

Categories: H5, H4, H3, H2, H1, TS, TD, ET

Months: ALL

Years: ALL

El Niño-Southern Oscillation (ENSO): ALL

Minimum Pressure (mb) below: 1150

Include Unknown Pressure Rating: TRUE

Buffer Distance: 60

Buffer Unit: Nautical Miles

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
ISAIAS 2020(P)	Jul 23, 2020 to Aug 05,	75	987	H1

	2020			
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5
ANA 2015	May 06, 2015 to May 12, 2015	50	998	TS
ANDREA 2013	Jun 05, 2013 to Jun 08, 2013	55	992	TS
IRENE 2011	Aug 21, 2011 to Aug 30, 2011	105	942	H3
HANNA 2008	Aug 28, 2008 to Sep 08, 2008	75	977	H1
ERNESTO 2006	Aug 24, 2006 to Sep 04, 2006	65	985	H1
CINDY 2005	Jul 03, 2005	65	991	H1

	to Jul 11, 2005			
JEANNE 2004	Sep 13, 2004 to Sep 29, 2004	105	950	H3
IVAN 2004	Sep 02, 2004 to Sep 24, 2004	145	910	H5
GASTON 2004	Aug 27, 2004 to Sep 03, 2004	65	985	H1
CHARLEY 2004	Aug 09, 2004 to Aug 15, 2004	130	941	H4
ALLISON 2001	Jun 05, 2001 to Jun 19, 2001	50	1000	TS
GORDON 2000	Sep 14, 2000 to Sep 21, 2000	70	981	H1
FLOYD 1999	Sep 07, 1999 to Sep 19, 1999	135	921	H4
DANNY 1997	Jul 16, 1997 to Jul	70	984	H1

	27, 1997			
BERTHA 1996	Jul 05, 1996 to Jul 17, 1996	100	960	H3
DANIELLE 1992	Sep 22, 1992 to Sep 26, 1992	55	1001	TS
CHARLEY 1986	Aug 13, 1986 to Aug 30, 1986	70	980	H1
DANNY 1985	Aug 12, 1985 to Aug 20, 1985	80	987	H1
DEAN 1983	Sep 26, 1983 to Sep 30, 1983	55	999	TS
BRET 1981	Jun 29, 1981 to Jul 01, 1981	60	996	TS
BOB 1979	Jul 09, 1979 to Jul 16, 1979	65	986	H1
GINGER 1971	Sep 06, 1971 to Oct 05,	95	959	H2

	1971			
DORIA 1971	Aug 20, 1971 to Aug 29, 1971	55	989	TS
ALMA 1970	May 17, 1970 to May 27, 1970	70	993	H1
CAMILLE 1969	Aug 14, 1969 to Aug 22, 1969	150	900	H5
DORIA 1967	Sep 08, 1967 to Sep 21, 1967	75	973	H1
UNNAMED 1963	Jun 01, 1963 to Jun 04, 1963	50	1000	TS
UNNAMED 1961	Sep 12, 1961 to Sep 15, 1961	55	995	TS
BRENDA 1960	Jul 27, 1960 to Aug 07, 1960	60	976	TS
CINDY 1959	Jul 04, 1959 to Jul	65	995	H1

	12, 1959			
CONNIE 1955	Aug 03, 1955 to Aug 15, 1955	120	944	H4
BARBARA 1953	Aug 11, 1953 to Aug 16, 1953	80	973	H1
UNNAMED 1945	Sep 12, 1945 to Sep 20, 1945	115	949	H4
UNNAMED 1944	Oct 12, 1944 to Oct 24, 1944	125	937	H4
UNNAMED 1944	Jul 30, 1944 to Aug 04, 1944	70	985	H1
UNNAMED 1943	Sep 28, 1943 to Oct 02, 1943	55	997	TS
UNNAMED 1935	Aug 29, 1935 to Sep 10, 1935	160	892	H5
UNNAMED 1934	Sep 01, 1934 to Sep	45	-1	TS

	04, 1934			
UNNAMED 1933	Aug 13, 1933 to Aug 28, 1933	120	948	H4
UNNAMED 1929	Sep 19, 1929 to Oct 05, 1929	135	924	H4
UNNAMED 1928	Sep 06, 1928 to Sep 21, 1928	140	929	H5
UNNAMED 1928	Aug 03, 1928 to Aug 13, 1928	90	971	H2
UNNAMED 1924	Sep 27, 1924 to Oct 01, 1924	55	999	TS
UNNAMED 1916	May 13, 1916 to May 18, 1916	40	990	TS
UNNAMED 1907	Jun 24, 1907 to Jun 30, 1907	55	-1	TS
UNNAMED 1904	Sep 08, 1904 to Sep	70	-1	H1

	15, 1904			
NOT_NAMED 1902	Oct 03, 1902 to Oct 13, 1902	90	970	H2
UNNAMED 1902	Oct 03, 1902 to Oct 13, 1902	90	970	H2
UNNAMED 1902	Jun 12, 1902 to Jun 17, 1902	50	-1	TS
UNNAMED 1899	Oct 26, 1899 to Nov 04, 1899	95	-1	H2
UNNAMED 1894	Oct 01, 1894 to Oct 12, 1894	105	-1	H3
UNNAMED 1893	Oct 20, 1893 to Oct 23, 1893	50	-1	TS
UNNAMED 1889	Sep 12, 1889 to Sep 26, 1889	95	-1	H2
UNNAMED 1888	Sep 06, 1888 to Sep 13, 1888	50	999	TS

UNNAMED 1886	Jun 27, 1886 to Jul 02, 1886	85	-1	H2
UNNAMED 1886	Jun 17, 1886 to Jun 24, 1886	85	-1	H2
UNNAMED 1882	Sep 21, 1882 to Sep 24, 1882	50	1005	TS
UNNAMED 1882	Sep 02, 1882 to Sep 13, 1882	110	949	H3
UNNAMED 1881	Sep 07, 1881 to Sep 11, 1881	90	975	H2
UNNAMED 1879	Aug 13, 1879 to Aug 20, 1879	100	971	H3
UNNAMED 1878	Oct 18, 1878 to Oct 25, 1878	90	963	H2
UNNAMED 1877	Sep 21, 1877 to Oct 05, 1877	100	-1	H3
UNNAMED 1876	Sep 12, 1876	100	980	H3

	to Sep 19, 1876			
UNNAMED 1874	Sep 25, 1874 to Oct 01, 1874	80	980	H1
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1
NOT_NAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
NOT_NAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
NOT_NAMED 1861	Oct 31, 1861 to Nov 03, 1861	60	992	TS
UNNAMED 1861	Sep 27, 1861 to Sep 28, 1861	70	-1	H1
UNNAMED 1859	Sep 15, 1859 to Sep 18,	70	-1	H1

	1859			
NOT_NAMED 1858	Aug 11, 1858 to Aug 20, 1858	45	994	TS
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
NOT_NAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
NOT_NAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS

APPENDIX 5

Flood Prevention Project and its Relevance to Other Projects

The Middle Peninsula PDC staff have worked throughout the years to understand the policy, research and impacts of flooding (i.e., stormwater, coastal, riverine, sea level rise) and coastal resiliency to the region. Below is a list of projects that have built upon each other over the year that have contributed to our understanding.

Climate Change and Sea Level Rise (2009 to 2012)

The Middle Peninsula PDC was funded for a 3 Phase project through the Virginia Coastal Zone Management Program to assess the impacts of climate and sea level rise throughout the region. With over 1,000 miles of linear shoreline, the Middle Peninsula has a substantial amount of coast under direct threat of accelerated climate change and more specifically sea-level. In Phase 1, Middle Peninsula PDC staff assessed the potential anthropogenic and ecological impacts of climate change. Phase 2 focused on the facilitating presentations and develop educational materials about sea level rise and climate change for the public and local elected officials. Finally, Phase 3 focused on developing adaptation public policies in response to the assessments.

Emergency Management – Hazard Mitigation Planning (2009 to Present)

Since 2009, the Middle Peninsula PDC has assisted regional localities in meeting the federal mandate to have an adopted local hazard plan. The Regional All Hazards Mitigation Plan addresses the natural hazards prone to the region, including hurricanes, winter storms, tornadoes, coastal flooding, coastal/shoreline erosion, sea level rise, winter storms, wildfire, riverine flooding, wind, dam failures, drought, lightning, and earthquakes. This plan also consists of a Hazus assessment of hurricane wind, sea level rise (i.e., Mean High Higher Water and the National Oceanic and Atmospheric Administration (NOAA) 2060 intermediate-high scenario), and flooding (coastal and riverine flooding) that estimates losses from each hazard. The Middle Peninsula All-Hazard Mitigation Plan Update 2021 is currently being updated. The 2021 All Hazards Mitigation Plan builds off and updates previous mitigation plans.

Land and Water Quality Protection (2014)

In light of changing Federal and State regulations associated with Bay clean up-nutrient loading, nutrient goals, clean water, onsite sewage disposal system (OSDS) management, storm water management, total maximum daily load (TMDL), etc., staff from the Middle Peninsula PDC will develop a rural pilot project which aims to identify pressing coastal issue(s) of local concern related to Bay clean up and new federal and state legislation which ultimately will necessitate local action and local policy development. Staff has identified many cumulative and secondary impacts that have not been researched or discussed within a local public policy venue. Year 1-3 will include the identification of key concerns related to coastal land use management/water quality and OSDS and community system deployment. Staff will focus on solution based approaches, such as the establishment of a regional sanitary sewer district to manage the temporal deployment of nutrient replacement technology for installed OSDS systems,

assessment of land use classifications and taxation implications associated with new state regulations which make all coastal lands developable regardless of environmental conditions; use of aquaculture and other innovative approaches such as nutrient loading offset strategies and economic development drivers.

Department of Conservation and Recreation Stormwater Management (2014)

The Virginia General Assembly created a statewide, comprehensive stormwater management program related to construction and post-construction activities (HB1065 - Stormwater Integration). The DCR requires stormwater management for projects with land disturbances of one acre or more. This new state mandate requires all Virginia communities to adopt and implement stormwater management programs by July 1, 2014, in conjunction with existing erosion and sediment control programs. Additionally, the communities within the Middle Peninsula PDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The Middle Peninsula PDC Stormwater Program helped localities develop tools specific to the region necessary to respond to the state mandate requirement for the development of successful stormwater programs.

Stormwater Management-Phase II (2014)

Middle Peninsula PDC staff and Draper Aden Associates worked with localities (i.e., Middlesex, King William, and Mathews Counties and the Town of West Point) interested in participating in a Regional Stormwater Management Program. While each locality sought different services from the regional program, this project coordinated efforts, developed regional policies and procedures, and the proper tools to implement a regional Virginia Stormwater Management Program.

Mathews County Rural Ditch Enhancement Study (2015)

In contract with Draper Aden Associates, a comprehensive engineering study was developed to provide recommendations and conceptual opinions of probable costs to improve the conveyance of stormwater and water quality through the ditches in Mathews County.

Drainage and Roadside Ditching Authority (2015)

This report explored the enabling mechanism in which a Regional Drainage and Roadside Ditching Authority could be developed. An Authority would be responsible for prioritizing ditch improvement needs, partnering with Virginia Department of Transportation (VDOT) to leverage available funding, and ultimately working toward improving the functionality of the region's stormwater conveyance system.

Living Shoreline Incentive Program (2016 to present)

In 2011 Virginia legislation was passed designating living shorelines as the preferred alternative for stabilizing Virginia tidal floodplain shorelines. The Virginia Marine Resources Commission, in cooperation with the Virginia Department of Conservation and Recreation and with technical assistance from the Virginia Institute of Marine Science (VIMS), established and implemented a general permit regulation that authorizes and encourages the use of living shorelines however,

no financial incentives were put in place to encourage consumers to choose living shorelines over traditional hardening projects in the Commonwealth. To fill this, need the Middle Peninsula PDC developed the Middle Peninsula PDC Living Shoreline Incentives Program to offer loans and/or grants to private property owners interested in installing living shorelines to stabilize their shoreline. Currently, loans are available to assist homeowners to install living shorelines on suitable properties. Loans up to \$10,000 can be financed for up to 5 years (60 months). Loans over \$10,000 can be financed for up to 10 years (120 months). Interest is at the published Wall Street Journal Prime rate on the date of loan closing - currently at 5.25% (11/29/18). Minimum loan amount is \$1,000. Maximum determined by income and ability to repay the loan. Finally, there are currently no grants available in this program. Since 2016 under the Middle Peninsula PDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~\$500,000 in Virginia Resources Authority loan funding and ~\$400,000 in National Fish and Wildlife Foundation grant funding. Living Shoreline construction cost to date range per job \$14,000- \$180,000. Middle Peninsula PDC oversees all aspects (planning, financing, constriction, and loan servicing) of these projects from cradle to grave.

Mathews County Ditch Project – VCPC White Papers (2017)

This report investigated the challenges presented by the current issues surrounding the drainage ditch network of Mathews County. The study summarized research conducted in the field; examined the law and problems surrounding the drainage ditches; and proposed some next steps and possible solutions.

Mathews County Ditch Mapping and Database Final Report (2017)

This project investigated roadside ditch issues in Mathews County through mapping and research of property deeds to document ownership of ditches and outfalls. This aided in understanding the needed maintenance of failing ditches and the design of a framework for a database to house information on failing ditches to assist in the prioritization of maintenance needs.

Virginia Stormwater Nuisance Law Guidance (2018)

This report was developed by the Virginia Coastal Policy Center to understand the ability of a downstream recipient of stormwater flooding to bring a claim under Virginia law against an upstream party, particularly a nuisance claim. The report summarizes how Virginia courts determine stormwater flooding liability between two private parties.

Oyster Bag Sill Construction and Monitoring at Two Sites in Chesapeake Bay (2018)

Virginia Institute of Marine Science (VIMS) Shoreline Studies Program worked with the Public Access Authority (PAA) to (1) install oyster bag sills as shore protection at two PAA sites with the goal of determining effective construction techniques and placement guidelines for Chesapeake Bay shorelines and (2) assess the effectiveness for shore protection with oyster bags on private property through time.

Fight the Flood Program (2020)

The Fight the Flood (FTF) was launched in 2020 to connect property owners to contractors who can help them protect their property from rising flood waters. FTF also offers a variety of financial tools to fund these projects including but limited to the Septic Repair revolving loan program, Living Shoreline incentives revolving loan fund program, and plant insurance for living shorelines.

APPENDIX 6

Match Commitment Letter

Lud H. Kimbrough, III

862 Bland Point Rd
Deltaville, VA 23043
Lud.Kimbrough@gmail.com

August 16, 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

Dear Mr. Clyde Cristman,

Thank you for considering the application to the Virginia Community Flood Preparedness Fund, involving necessary flood mitigation activities on my property at **862 Bland Point Rd, Deltaville , Virginia 23043**. I am committed to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (MPPDC) revolving loan funds for this project and understand that the final amount of matching funds required will be subject to the contract amount awarded by VDCR.

Please reach out to the MPPDC, who is submitting this proposal on my behalf, at [REDACTED] should you have any questions and they will be able to contact me to coordinate a response.

Sincerely,



Lud H. Kimbrough, III

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

**Application Form for Grant Requests for All
Categories – Round 1**

I. ORGANIZATIONAL INFORMATION

Project Title: Flood Prevention and Protection for Mill Creek

Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

- Capacity Building/Planning
 Project
 Study

NFIP/DCR Community Identification Number (CID): 510098

If a state or federally recognized Indian tribe, Name of tribe: NA

Name of Authorized Official: Lewis Lawrence, Executive Director

Signature of Authorized Official: 

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: (____) _____

Email Address: [REDACTED]

Contact Person (If different from authorized official): Jackie Rickards, Senior Planning Project Manager

Mailing Address (1): PO Box 286

Mailing Address (2): 125 Bowden Street

City: Saluda **State:** VA **Zip:** 23149

Telephone Number: [REDACTED]

Cell Phone Number: [REDACTED]

Email Address: [REDACTED]

Is the proposal in this application intended to benefit a low-income geographic area as defined in the Part 1 Definitions? Yes No

Categories (select applicable project): Project Grants

Project Grants (Check All that Apply)

- Acquisition of property (or interests therein) and/or structures for purposes of allowing floodwater inundation, strategic retreat of existing land uses from areas vulnerable to flooding; the conservation or enhancement of natural flood resilience resources; or acquisition of structures, provided the acquired property will be protected in perpetuity from further development.
- Wetland restoration.
- Floodplain restoration.
- Construction of swales and settling ponds.
- Living shorelines and vegetated buffers.
- Structural floodwalls, levees, berms, flood gates, structural conveyances.
- Storm water system upgrades.
- Medium and large-scale Low Impact Development (LID) in urban areas.
- 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 restoration or 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.

Location of Project (Include Maps): County Name - Please see the attached corresponding maps for this application.

NFIP Community Identification Number (CID#) (See appendix F): 510098

Is Project Located in an NFIP Participating Community? Yes No

Is Project Located in a Special Flood Hazard Area? Yes No

Flood Zone(s) (If Applicable): AE Zone

Flood Insurance Rate Map Number(s) (If Applicable): 51119C0210E

Total Cost of Project: _____ \$58,851 _____

Total Amount Requested: _____ \$47,081 _____

II. SCOPE OF WORK NARRATIVE

INTRODUCTION.

This proposal request funding for the assessment and development of a nature-based shoreline design solution and draft JPA permit application to reduce the impacts of storm events, flooding, and wetland loss, including the relocation of reoccurring storm driven sand blocking a public boat ramp. The sand will be used for onsite nature-based solution

Risks to natural hazards are increasing. Population growth along coastlines worldwide, in addition to technological and infrastructural development, inherently results in a concomitant increase in places prone to disasters. Modern society relies upon government for effective prevention and protection strategies for continued resilience and sustainability.

Natural hazards are hazards that exist within the natural environment and are considered “acts of God,” and consist of atmospheric, geologic, hydrologic, seismic, and biologic agents. Such hazards include flooding, drought, hurricanes, landslides, wildfires, and more. They are thought to be unpreventable and are associated with a perceived lack of control. As a result, the ability to manage risk to natural hazards greatly varies due to differences in background. Therefore, the identification of hazards is the foundation of effectively dealing with and avoiding risks. Because of climate change, many natural hazards are expected to become more frequent and more severe. Reducing the impacts these hazards have on lives, properties, and the economy is a top priority for the Middle Peninsula PDC and the Middle Peninsula Fight the Flood (FTF) program.

The 2018 United States National Climate Assessment noted that global climate model predictions, though imprecise, suggest an increased frequency of strong hurricanes (Categories 4 and 5) in the Atlantic Basin, including the Caribbean. It also includes a range of sea-level rise predictions with significant impacts, especially together with high tide flooding. Other estimates include more frequent and intense droughts with microburst and deluge events. This is especially the case for the Coastal Plain area of Virginia.

The Federal Emergency Management Agency (FEMA), Virginia General Assembly, Virginia Department of Conservation and Recreation (DCR) Floodplain Management Program, and the Middle Peninsula Planning District Commission (PDC) all recognize that natural hazards pose a serious risk to all levels of government including states, localities, tribes, and territories and the citizens which reside there.

Until recently, most flood risk management involved conventional engineering measures. These measures are sometimes referred to as “hard” engineering or “gray” infrastructure. Examples include building embankments, dams, levees, and channels to control flooding. Recently the concept of “nature-based solutions”, “ecosystem based adaptation,” “eco-DRR,” or “green infrastructure” has emerged as a good alternative or complement to traditional gray approaches.

Nature-based solutions make use of natural processes and ecosystem services for functional purposes, such as decreasing flood risk or improving water quality. These interventions can be completely “green” (i.e., consisting of only ecosystem elements) or “hybrid” (i.e., a combination of ecosystem elements and hard engineering approaches). Nature-based solutions can help mitigate flood (the focus of this document), drought, erosion, and landslide. In addition, they may help decrease vulnerability to climate change while also creating multiple benefits to the environment and local communities. These include sustaining livelihoods, improving food security, and sequestering carbon. Such solutions can be applied to river basins (e.g., reforestation and green embankments), coastal zones (e.g., mangroves and wetlands), and cities (e.g., urban parks).

There is increasing momentum for the use of nature-based solutions as part of resilience-building strategies, sustainable adaptation, and disaster risk management portfolios. Awareness of nature-based solutions from communities, donors, and policy- and decision-makers is growing. Further, investors and the insurance industry are increasingly interested in nature-based solutions. From a climate change perspective, ecosystem-based adaptation has been highlighted as a priority investment area as noted in this DCR opportunity.

PROJECT INFORMATION.

This proposal design application is an assessment of a public facility suffering from recurring storm driven sand blocking a public boat ramp. A nature-based solution is planned that will utilize and incorporates sustainable planning, design, environmental management, and engineering practices that weave natural features and/or processes into the built environment to promote adaptation and resilience. Further this proposal incorporates natural features and/or processes in efforts to combat climate change, reduce flood risks, improve water quality, protect coastal property, restore, and protect wetlands, stabilize shorelines, reduce heat, adds recreational space, and more. Nature-based solutions offer significant benefits, monetary and otherwise, often at a lower cost than more traditional infrastructure. According to FEMA Building Community Resilience with Nature Based Solutions, these benefits include economic growth, green jobs, increased property values, and improvements to public health, including better disease outcomes and reduced injuries and loss of life.

Specifically, this project proposes to investigate nature-based design solutions or, if necessary, hybrid design solutions when nature-based design solutions are not preferable, to a living shoreline on a public property located on Chesapeake Bay Road in Middlesex County. This project will be a partnership between the Middle Peninsula PDC and one public property owner and is supported by Middlesex County. See the community support letter in Appendix 1.

- *A link or to the Middle Peninsula PCD’s Approved Regional Flood Resiliency Plan (2021) can be found at: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf*
 - *Please see Page 3-5, which notes the need to respond to emerging flood challenges.*

- A link to the Middle Peninsula PDC's All Hazards Mitigation Plan (2016) can be found at:
https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf
 - Please see Section 4 (page 25), which includes historical hazard data within the region.
- A link to the County of Middlesex's Comprehensive Plan can be found at:
<https://www.co.middlesex.va.us/252/Comprehensive-Plan>.

The Middle Peninsula is the second of three large peninsulas on the western shore of Chesapeake Bay in Virginia as seen in **Figure 1**. It lies between the Northern Neck and the Virginia Peninsula. The region is predominantly rural, with large, scattered farms and forested tracts; close-knit waterfront communities; an active regional arts association; broad-based civic involvement; and an excellent transportation infrastructure that provides easy access to urban markets. The area contains 3.2% of Virginia's land mass but only 1.1% of the Commonwealth's total population of approximately 93,000 as seen in **Figure 2**.

Figure 1. Middle Peninsula Geographic Area

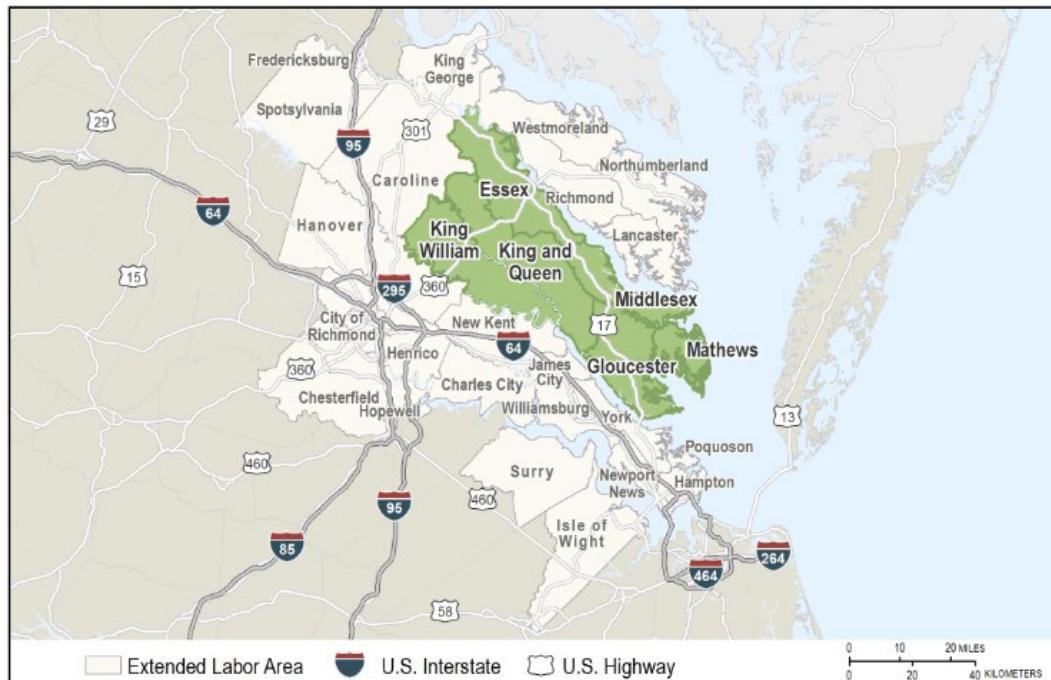


Figure 2. Middle Peninsula Population

CID #	US Census 2020 Population	2020 Total
510048 (Tapp 510049)	Essex (Includes Town of Tappahannock)	10,599
510071	Gloucester	38,711
510082	King and Queen	6,608
510304 (West Point 510083)	King William (Includes Town of West Point)	17,810
510096	Mathews	8,533
510098 (Urbanna 510292)	Middlesex (Includes Town of Urbanna)	10,625
MPPDC Total		92,886

This project proposes to install living shorelines on public property on Carlton Road in Middlesex County as found in **Figures 3 and 4**.

Figure 3. County Map of Project Location

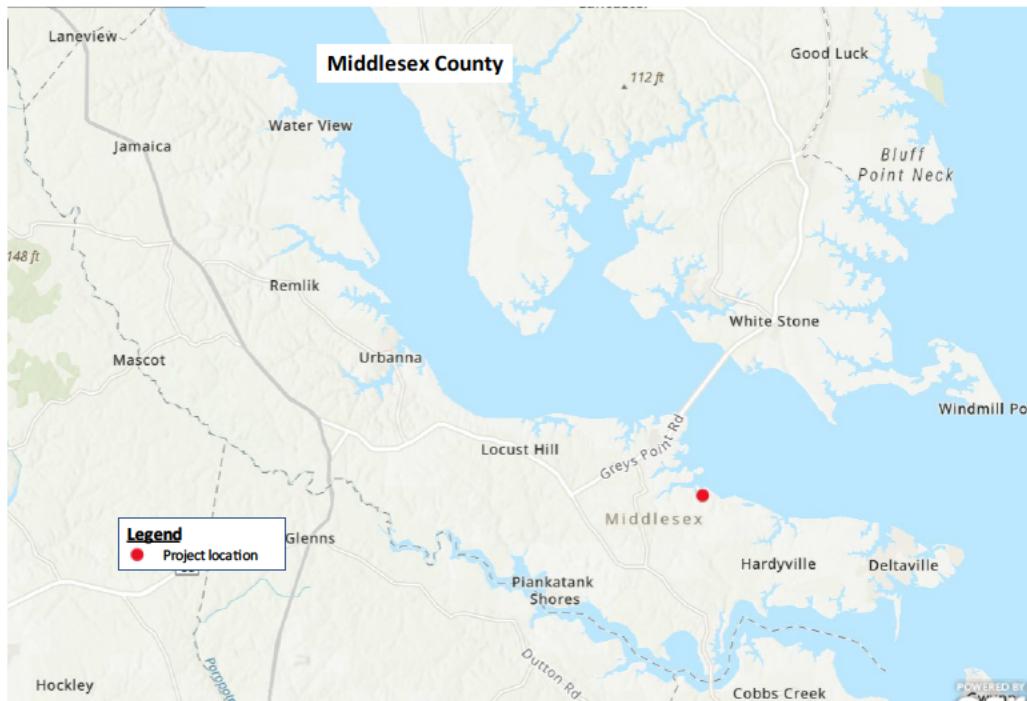
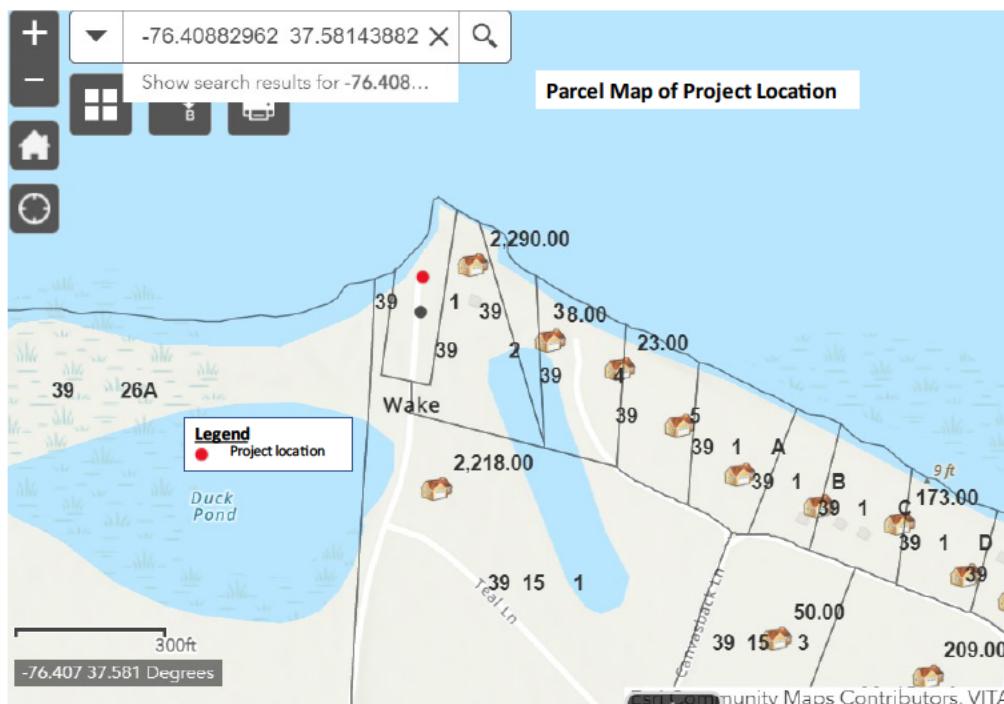


Figure 4. Parcel Map of Project Location



Middlesex County is located at Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 130 square miles of land 80 miles of shorelines. Based on 2020 Census Data, Mathews County's population totals 10,625 which. According to DCR guidelines, a portion of the County is considered a low-income geographic area.

In Figure 5, the green areas qualified as low-income "community" areas meeting the 80% Household limits based on US census household income data or are qualified Opportunity Zones.

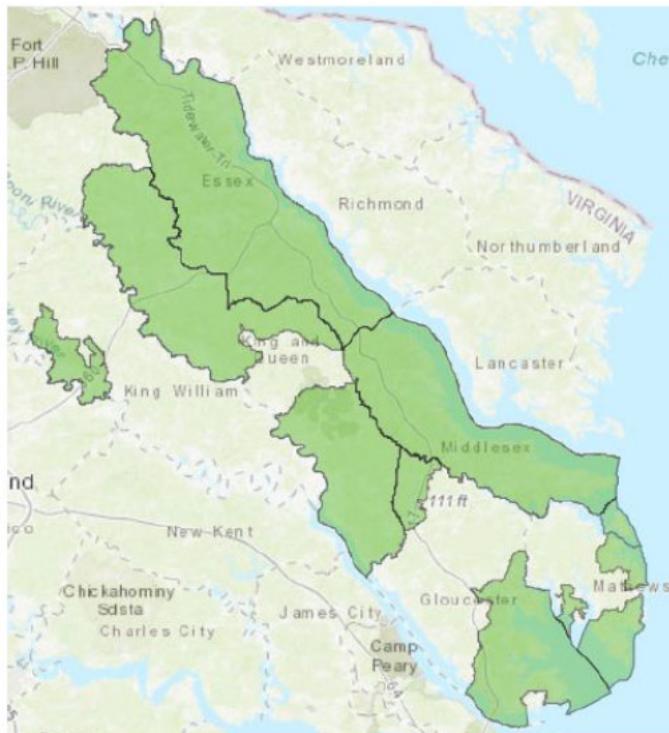
Figure 5. Map of Middle Peninsula Qualifying Low Income Geographic Areas

Each county had its 'Eligible Household income' calculated by multiplying the County's median Household income by .8. This resulted in the following numbers:

	Essex	Middlesex	Mathews	King William	King & Queen	Gloucester
Median household income (in 2019 dollars), 2015-2019	\$51,954	\$57,438	\$64,237	\$66,987	\$63,982	\$70,537
Eligible Household income	\$41,563	\$45,950	\$51,389	\$53,590	\$51,186	\$56,430

Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

The following is an overview of the Regional Eligibility map. Green areas are qualified low-income "community" areas meeting the 80% Household limits based on US census household income data or are qualified Opportunity Zones.



Please see **Figure 6** for a zoomed in map of the project location and the green low-income area overlay. This shows that the project location is not within the low-income area.

Figure 6. Map of the Project Location within the Green Low-Income Area



According to the VDAPT Virginia's Social Vulnerability Index Score, this project location has a moderate social vulnerability score as seen in Figure 7; however, it also is important to recognize that there are other social vulnerability models which reflect higher social vulnerability within this project area. For instance, according to FEMA's National Risk Index (<https://hazards.fema.gov/nri/map>), which assesses vulnerability at a census tract level, the social vulnerability is considered relatively moderate level of vulnerability as seen in Figure 8.

Figure 7. Virginia's Social Vulnerability Index Score Map of the Project Location

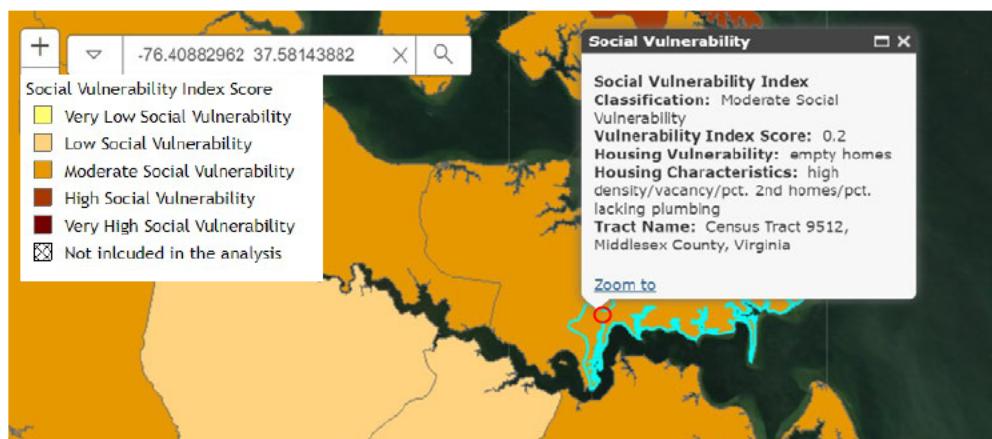
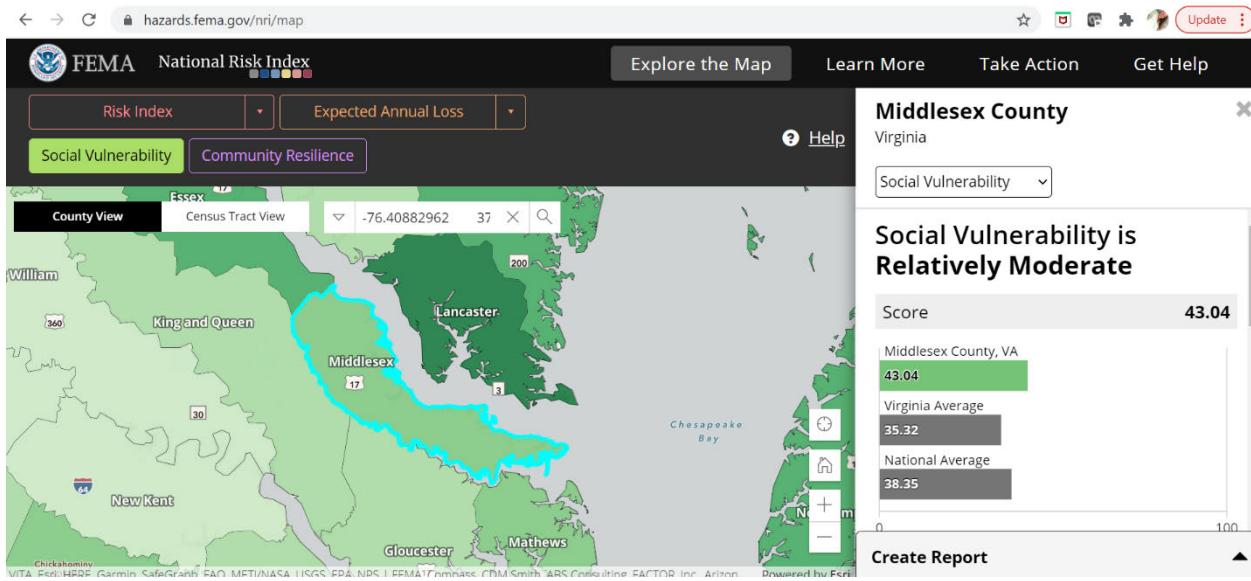


Figure 8. FEMA Nation Risk Index of Census Track of Project Location



The project is located at Carlton Road, Wake, VA 23176 (-76.40882962, 37.58143882). The property is located at the end of the public road where there is a right of way. Historically, it has served as a public boat ramp, which was installed decades ago and gets a lot of usage by watermen both for commercial purposes as well as many leisure or recreational individuals. The Virginia Department of Game and Inland Fisheries was managing the property; however, recurring storm drive sand is filling in the boat ramp, so DGIF is considering abandoning the facility. The public facility is important to the citizens of Middlesex county and the County desires to find a design solution. Middlesex County officials have been removing the sand the past two years, but it is getting too expensive and needs a design solution as recurring storms drive sand into the ramp, closing the facility over night. Middlesex County desires a long term solution from sand erosion from the wind and tides and using the same for a nature based solution.



This site is located within the AE flood zone as seen in **Figure 9**. Please see **Appendix 2** for the FIRMettes (last mapped 5/18/2015) and **Appendix 3** for additional property photos.

Figure 9: Map of FEMA Flood Zones



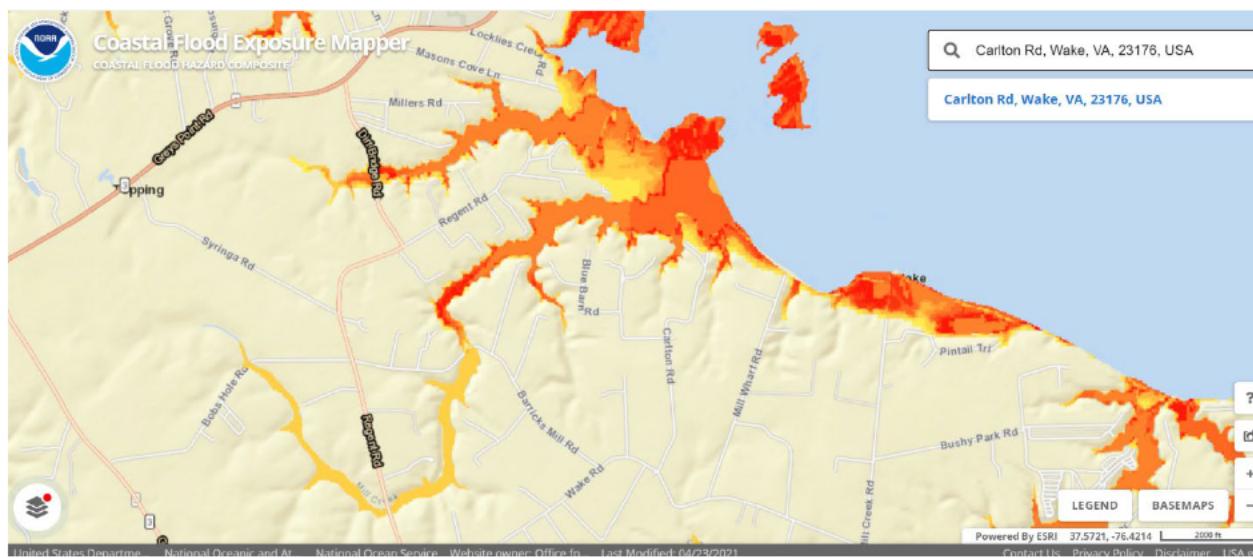
Due to the project site's proximity to the water and relatively low elevation, the site has an extensive history of experiencing flooding events that have resulted in significant impacts to infrastructure and the environment. Based on the historical shoreline data from the Virginia Institute of Marine Science Shoreline Studies Program, **Figure 9** shows the 1937 and the 2017 shorelines. From the figure one can see the change in the shoreline at the project location and the approximate loss of square feet of shoreline. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Appendix 4** lists 78 storm events and provides a map with the project location. Without the flood protection measures proposed, the land, habitat and infrastructure will be compromised, resulting in degradation of the environment and revenue loss to the local tax base.

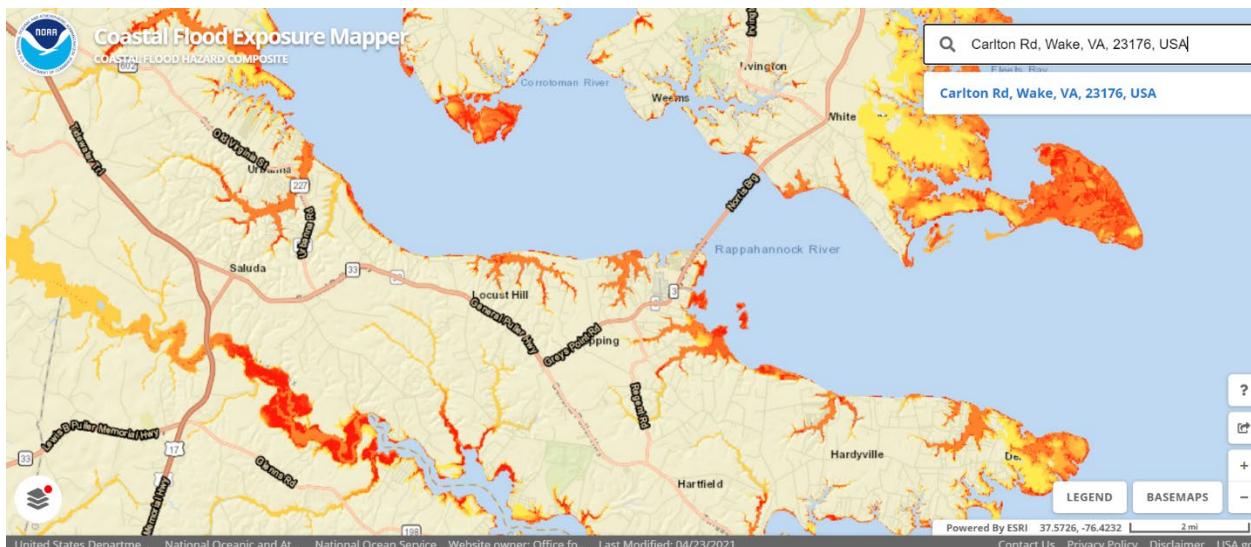
Figure 9. Project Location and Map of the Shoreline Change between 1937 (purple) and 2017



Finally, according to NOAA's Coastal Flood Mapper, this project is at the highest risk of coastal flooding as seen in **Figure 11**.

Figure 11. Map of Project Location and Risk of Coastal Flooding (NOAA, 2021)





For more information about this project area please see:

- A link to the Middle Peninsula PDC's All Hazards Mitigation Plan (2016) can be found at: https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf
- A link to Middlesex County's current floodplain ordinance can be found at: <https://www.co.middlesex.va.us/DocumentCenter/View/422/Floodplain-Management-PDF>.

ALTERNATIVES.

Alternative design solutions are not applicable in this application. The proposed project is to develop a nature-based or hybrid design solutions and its cost does not exceed \$3 million.

GOALS AND OBJECTIVES.

The Code of Virginia § 28.2-104.1. define "Living shoreline" as *shoreline management practice that provides erosion control and water quality benefits; protects, restores, or enhances natural shoreline habitat; and maintains coastal processes through the strategic placement of plants, stone, sand fill, and other structural and organic materials. When practicable, a living shoreline may enhance coastal resilience and attenuation of wave energy and storm surge.*

The goals and objectives of this project are as follows -

Goal 1: Improve coastal resiliency within the community and the Commonwealth.

- Objective A: Prevent loss of life and reduce property damage by mitigating for recurrent, repetitive, and future flooding within the project area using a nature-based design approach.

- Objective B: Stabilize the shoreline to ensure that the County's tax base does not erode and reduce the overall erosion rate within the project area using a nature-based design approach.

According to FEMA and NOAA living shorelines are more resilient again storms than bulkheads. With the installation of sills these structures will run parallel to the existing or vegetative shoreline, reduce wave energy, and prevent erosion. This will protect the land and it will protect, or at least prolong, the life of the oak trees on the property. Additionally, eroding shorelines and sediment from stormwater runoff greatly contribute to the shoaling of navigable waterways. With maritime industries contributing substantially to the local and regional economy, the mitigation of continued sedimentation and shoaling provided by this project will protect and enhance the region's commercial and recreational maritime economies.

Additionally, as the installation of a living shoreline will reduce erosion of the property this will reduce flood risks at the project site. Also, as flooding and erosion threaten the tax base within the locality, this project will help maintain the tax-base at this project location which directly protects the largest employer in Middlesex County, which is local government.

Goal 2: Improve water quality for the Chesapeake Bay area.

- Objective A: Improve nitrogen, phosphorus, and sediment using a nature-based design approach.

Since this project is proposing a nature-based design solution for living shorelines, it could result in a design that will have nutrient and sediment reduction benefit to local waters.

According to a report titled, Removal Rates of Shoreline Management Project, an expert Panel on Shoreline Management identified the living shorelines has having a nitrogen removal rate 0.01218 pounds per linear foot per year (lb/lf/yr) and a phosphorus removal rate of 0.00861 lbs/lf/yr. Additionally living shorelines were shown to reduce total suspended sediment by 42 lb/lf/yr. Therefore, with a proposed project of 150 linear feet of living shoreline this has the ability of removing 1.827 pounds of nitrogen per year, 1.2915 pounds of phosphorus per year and 6,300 pounds of sediment per year. Ultimately contributing to the overall water quality of the Chesapeake Bay.

In addition to water quality improvements, living shorelines offer new habitat for marine wildlife and birds. With the living shorelines reducing wave energy in this area this provides a calmer habitat to breed and nurse juvenile wildlife and fish. Also, the planting will offer more cover and protection from prey.

Goal 3: Transferability to other communities.

- Objective A: Improve the implementation of Fight the Flood projects and project as an example program to be replicated in other communities within the region or the Commonwealth.

For over 40 years the Middle Peninsula PDC and its participating localities have worked diligently on topics associated with the land water interface, including coastal use conflicts and policies, sea level rise, stormwater flooding, roadside ditch flooding, erosion, living shorelines, coastal storm hazards (i.e., hurricanes, tropical storms), riverine and coastal flooding, and coastal resiliency.

APPROACH, MILESTONES, AND DELIVERABLES.

The proposed project is to develop a nature-based or hybrid design solutions in flood prevention and protection to living shorelines and vegetated buffers. Upon receiving notification of an award to proceed, the Middle Peninsula PDC will commence work in moving forward with the project in partnership with the property owner of the specified location.

The proposed project includes three phases of activities over the course of a six month period. The anticipated timeline for the proposed project could be as quick as 3 months year, but no more than six months years. The timeline range is due to the potential delays in project initiation, contractor availability, and permitting.

It is anticipated that the proposed project will commence October 2021 and be completed by March 2022.

Action Item	M1	M2	M3	M4	M5	M6
Phase 1 – Environmental Scan						
Hold administrative project kick off meeting	X					
Conduct environmental scan of property location in need of a flood resiliency design solution	X					
Select contractor to provide potential nature-based or hybrid design solutions	X					
Coordinate with property owner and contractor on project expectations	X	X	X	X	X	
Apply for any necessary permits	X	X	X			
Phase 2 – Solution Design						
Discuss nature-based or hybrid design solutions with contractor and property owner		X	X			
Select which nature-based or hybrid design solution is most appropriate		X	X			
Have contractor develop selected nature-based or hybrid design solution			X	X		
Phase 3 – Strategic Implementation						
Share nature-based or hybrid design solution with property owner					X	
Discuss strategies in moving forward with					X	X

implementing the nature-based or hybrid design solution						
Provide a digital close out report and copy of the completed nature-based or hybrid design solution along with the completed Certificate of Approval Floodplain Management form to the funding agency						X
Hold administrative project close out meeting						X

RELATIONSHIP TO OTHER PROJECTS.

In response to emerging flood challenges, the Middle Peninsula PDC launched the Middle Peninsula FTF Program in 2020 which leverages state and federal funding to deliver flood mitigation solutions directly to constituents, for both the built environment and the natural environment with an emphasis on nature-based flood mitigation solutions. The FTF Program helps property owners (private and public) gain access to programs, funding (i.e., grants and loans), and services to better manage challenges posed by flood water.

Other plans and resources which are integral to the implementation of the Flood Resiliency Plan are:

Long Term Planning

- Middle Peninsula All Hazard Mitigation Plan – FEMA and Middle Peninsula locality approved 2016
 - The overarching project that provides updates every five years of the hazards within the region is the Middle Peninsula All Hazards Mitigation Plan. This plan identifies the top hazards within the region and provides a HAZUS assessment that analyzes flooding (riverine and coastal), sea-level rise and hurricane storm surge impacts in the region. Additionally, this plan lists strategies and objectives that guide member localities to mitigate for these strategies.
- Middle Peninsula Comprehensive Economic Development Strategy – Middle Peninsula PDC approved 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan – Middle Peninsula PDC approved annually

Short Term Implementation

- Middle Peninsula PDC Fight the Flood (FTF) Program Design – Middle Peninsula PDC, approved June 2020 and chairman approved update 2021
- Middle Peninsula PDC Living Shoreline Resiliency Incentive Funding Program – Virginia Revolving Loan Fund Program Design and Guidelines, approved 2015

As the Middle Peninsula PDC has continuously worked on flooding and coastal resiliency topics. All of these projects have built upon each other to establish a solid foundation of regional expertise in flooding and coastal resiliency topics. Now, with such a wealth of information, the Middle Peninsula PDC can move beyond research and studies to begin implementing projects on the ground. One effort, in particular, was launched in 2020 was in response to emerging flood challenges. The Middle Peninsula PDC Commission authorized staff to develop the Middle Peninsula FTF Program. This program leverages state and federal funding to deliver flood mitigation solutions directly to constituents, for both the built environment and the natural environment with an emphasis on nature-based flood mitigation solutions. The Middle Peninsula FTF program helps property owners gain access to programs and services to better manage challenges posed by flood water. Therefore, the Middle Peninsula PDC have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their shoreline as seen in **Appendix 5**.

Finally, the Flood Resiliency Plan and associated programs strive to carry out the guiding principles and goals set forth in the Virginia Coastal Resilience Master Planning Framework established in 2020. The proposed activities are proposed in accordance with the guiding principles and with the intent that the outcomes will help the Commonwealth meet the goals set forth in the planning framework.

MAINTENANCE PLAN.

Maintenance plan is not applicable in this application. The proposed project is to develop a nature-based or hybrid design solutions and its cost does not require ongoing operation and future maintenance.

CRITERIA.

1. 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 or a recognized state or federal Indian tribe)?

The Middle Peninsula PDC is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 and pursuant to the Constitution or laws of the Commonwealth.

2. Does the local government have an approved resilience plan meeting the criteria as established by this grant manual? Has it been attached or a link provided?

The Middle Peninsula PDC does have an Approved Regional Flood Resiliency Plan as of August 19, 2021, which can be found at the following link:

https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf.

3. For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?

The Middle Peninsula PDC does have support letters from all nine localities including the Counties of including Essex, Gloucester, King and Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna as seen in **Appendix 1**.

4. Has the applicant provided evidence of an ability to provide the required match funds?

The property owner has provided a match commitment letter to the Middle Peninsula PDC indicating their responsibility to provide the appropriate match if their design solution project proposal is awarded as seen in **Appendix 6**.

5. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?

Yes, nature-based solutions—such as reconnecting floodplains to give rivers more room during floods or restoring reefs, marshes or dunes that can protect coastal communities during storms—as well as hybrid solutions can also help improve water quality, provide prime wildlife habitat, enhance recreational opportunities, and produce related economic and social benefits.

6. Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding? Yes.

SCORING CRITERIA FOR FLOOD PREVENTION AND PROTECTION PROJECTS.

Applicant Name:		Middle Peninsula Planning District Commission	
Eligibility Information			
Criterion	Description		Check One
1. 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)?			
Yes	Eligible for consideration		X
No	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 for consideration for studies, capacity building, and planning only		
3. If the applicant is <u>not</u> a town, city, or county, are letters of support from all affected local governments included in this application?			
Yes	Eligible for consideration		X
No	Not eligible 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 eligible for consideration		
No	Eligible for consideration		X
5. Has the applicant provided evidence of an ability to provide the required matching funds?			
Yes	Eligible for consideration		X
No	Not eligible for consideration		
N/A	Match not required		

Project Eligible for Consideration			X Yes □ No
Applicant Name:	Middle Peninsula Planning District Commission		
Scoring Information			
Criterion	Point Value	Points Awarded	
6. Eligible Projects (Select all that apply) Projects may have components of both 1.a. and 1.b. below; however, only one category may be chosen. The category chosen must be the primary project in the application.			
1.a. Acquisition of property consistent with an overall comprehensive local orregional plan for purposes of allowing inundation, retreat, or acquisition of structures.	50		
<input type="checkbox"/> Wetland restoration, floodplain restoration <input type="checkbox"/> Living shorelines and vegetated buffers. <input type="checkbox"/> Permanent conservation of undeveloped lands identified as having flood resiliencevalue by <i>ConserveVirginia</i> Floodplain and Flooding Resilience layer or a similar datadriven analytic tool <input type="checkbox"/> Dam removal <input type="checkbox"/> Stream bank restoration or stabilization. <input type="checkbox"/> Restoration of floodplains to natural and beneficial function. <input type="checkbox"/> Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	45		
1.b. Any other nature-based approach	40	40	
All hybrid approaches whose end result is a nature-based solution	35		
All other projects	25		
7. Is the project area socially vulnerable? (Based on ADAPT VA's Social Vulnerability Index Score.)			
Very High Social Vulnerability (More than 1.5)	15		
High Social Vulnerability (1.0 to 1.5)	12		
Moderate Social Vulnerability (0.0 to 1.0)	8	8	
Low Social Vulnerability (-1.0 to 0.0)	0		
Very Low Social Vulnerability (Less than -1.0)	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	10
No	0	
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	0	
11. Does this project provide “community scale” benefits?		
Yes	20	20
No	0	
Total Points		83

SCOPE OF WORK CHECKLIST.

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

III. BUDGET NARRATIVE

The proposed project has an estimated Total budget of \$58,851

						Budget (Cat. D)		
Personnel Salaries/Wages			PDC %	Match %	Annual Salary	Ricardi- Middlesex CO		
						DCR	Owner	Total
Staff			0.00%	0.00%	\$70,000	\$4,171	\$1,043	\$5,214
Staff			0.00%	0.00%	\$0	\$0	\$0	\$0
Personnel				<i>Proj Admin Split</i>		DCR	Owner	
				Total		80%	20%	
				44,000.00		35,200.00	8,800.00	
Fringe, 0% salaries;			15%	6,600.00		5,280.00	1,320.00	
Total Personnel					50,600.00	40,480.00	10,120.00	
SubAward/SubContract Agreements						80%	20%	
Nature Based Shoreline Design/Draft Permit JPA						\$40,000	\$32,000	\$8,000
Legal bid docs and procurement prep						\$4,000	\$3,200	\$800
						\$0	\$0	\$0
						\$0	\$0	\$0
						\$0	\$0	\$0
						\$0	\$0	\$0
						\$0	\$0	\$0
						\$44,000		
SUBTOTAL: Direct Costs								
Indirect/IDC/Facilities & Administrative Costs				27.31%	\$8,251	\$6,601	\$1,650	\$8,251
Total								
Other Match:								
Source of Match								
GRAND TOTAL						\$0	\$0	\$0
						\$47,081	\$11,770	\$58,851

Cost estimates for shoreline nature-based design and draft joint permit application development was based on estimates provided by design professional who does shoreline design work. Given that the program is reimbursable, billing will be for actual cost, which we anticipate being lower cost than estimated in the budget. Additionally, it is anticipated that legal and procurement cost may be needed.

MPPDC staff will manage and administer this project. Thus, personnel time is needed to ensure that project deliverables are completed within the project timeline. Along with personnel expenses, MPPDC fringe is needed. This includes health insurance, retirement, group life insurance, workman's comp, and unemployment insurance. MPPDC fringe rate for FY22 is 26.58% and comprised of: Health Insurance – 49.33%, Retirement – 18.35%, Workers Comp – 27.42%, Social Security – 4.46%, Life Insurance – 0.40%, Unemployment – 0.04%. MPPDC also prepares an indirect cost (IDC) plan annually per 2 CFR 200 Appendix VII. Following annual audit, the plan is submitted to NOAA for acceptance. MPPDC's IDC rate has a basis of Modified Total Direct Costs (MTDC), with a planned rate of 27.31%. IDC is only applied to the first \$25,000 of each contract. IDC calculated on MTDC (modified total direct cost)- Personnel, supplies, travel, and first \$25,000 of each subcontract, etc.; excludes equipment

● Authorization to request for funding:



COMMISSIONERS

Essex County

*Hon. Edwin E. Smith, Jr.
Hon. John C. Magruder
Ms. Sarah Pope
Mr. Michael A. Lombardo*

Town of Tappahannock

Hon. Fleet Dillard

Gloucester County

*Hon. Ashley C. Chriscoe
(Vice-Chairman)
Hon. Michael R.
Winebarger
Dr. William G. Reay
Mr. J. Brent Fedors*

King and Queen County

*Hon. Sherrin C. Alsop
Hon. R. F. Bailey
Mr. Thomas J.
Swartzwelder
(Chairman)*

King William County

*Hon. Ed Moren, Jr.
Hon. Travis J. Moskalski
(Treasurer)
Mr. Otto O. Williams*

Town of West Point

*Hon. James Prueett
Mr. John Edwards*

Mathews County

*Hon. Michael C. Rowe
Hon. Melissa Mason
Mr. Thornton Hill*

Middlesex County

*Hon. Wayne H. Jessie, Sr.
Hon. Reggie Williams, Sr.
Mr. Gordon E. White*

Town of Urbanna

Hon. Marjorie Austin

Secretary/Director

Mr. Lewis L. Lawrence

8/30/21

To: DCR Staff

From: Lewie Lawrence, MPPDC Executive Director 

Reff: Authorization to request for funding:

Matching funds for all construction and design projects provided under Round 1 of the Virginia Community Flood Preparedness Fund are provided by the property owner for which the project is proposed. The match commitment letter acknowledges that the owner of the project (land owner) understands that a match commitment is required and will be provided should the project be funded.

The required elements are found within the submitted application proposal packet. A notation of where each required item is noted in "parentheses"

- The name, address, and telephone number of the contributor (application packet and match commitment letter).
- The name of the applicant organization (application cover sheet)
- The title of the project for which the cash contribution is made (application cover sheet)
- The source of funding for the cash contribution (match commitment letter).
- The dollar amount of the cash contribution (application budget)
- A statement that the contributor will pay the cash contribution during the agreement period (match commitment letter).

- *Signed pledge agreement from each contributing organization*



County of Middlesex
Office of the County Administrator

August 17, 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

Dear Mr. Clyde Cristman:

Thank you for considering the application to the Virginia Community Flood Preparedness Fund, involving necessary flood mitigation activities on the property at Mill Creek Landing. Depending on the cost of our project, Middlesex County may be able to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (MPPDC) revolving loan funds for this project and understand that the final amount of matching funds required will be subject to the contract amount awarded by VDCR, and is also subject to our board's approval.

Please reach out to the MPPDC, who is submitting this proposal on our behalf, at [REDACTED] should you have any questions and they will be able to contact me to coordinate a response. I can be reached by phone at [REDACTED] or by email at [REDACTED]

Respectfully,

A handwritten signature in blue ink that reads "Ann Marie S Ricardi".

Ann Marie S. Ricardi
Assistant County Administrator
Middlesex County, Virginia

I. SUPPORTING DOCUMENTATION

- Letters of support from all affected local government
- Detailed map of the project area(s)
- FIRMette of the project area(s)
- Historic flood damage data and/or images

Cont next page

APPENDIX 1

Community Support Letter

Matthew L. Walker
County Administrator
877 General Puller Hwy
Saluda, VA 23149
804-758-4330
m.walker@co.middlesex.va.us



Betty S. Muncey
Assistant County Administrator

Ann Marie S. Ricardi
Assistant County Administrator

County of Middlesex
Office of the County Administrator

July 20, 2021

Lewis L Lawrence, Executive Director
Middle Peninsula Planning District Commission
P.O. Box 286
Saluda, Va 23149

RE: Support Letter for Applications Submitted by MPPDC to Virginia Community Flood Preparedness Fund

Dear Mr. Lawrence:

Middlesex County supports all eligible applications requesting funding under the DCR Flood Preparedness Fund. Proposals submitted by MPPDC on behalf of our constituents are part of our necessary governmental functions and are consistent with regional and local resilience planning efforts. We further support project proposals that demonstrate a primary purpose of prevention or protection to reduce coastal, riverine or inland flooding. The MPPDC Fight the Flood (FTF) Program serves as the region's flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC FTF Program provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs assist to secure the tax base of coastal localities and reduce the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types.

The FTF and the Living Shoreline programs exist to help the owners of flood-prone properties access programs and services to better manage challenges posed by flood water and to direct constituents to appropriate mitigation solutions, such as nature-based solutions. When grants and loans are available, we fully support the MPPDC to provide such to qualified constituents, to support the public purpose(s) for which the funds, such as the Virginia Community Flood Preparedness Funds, have been allocated.

Should you have any questions concerning our support for the work of the MPPDC, I can be reached at [REDACTED]

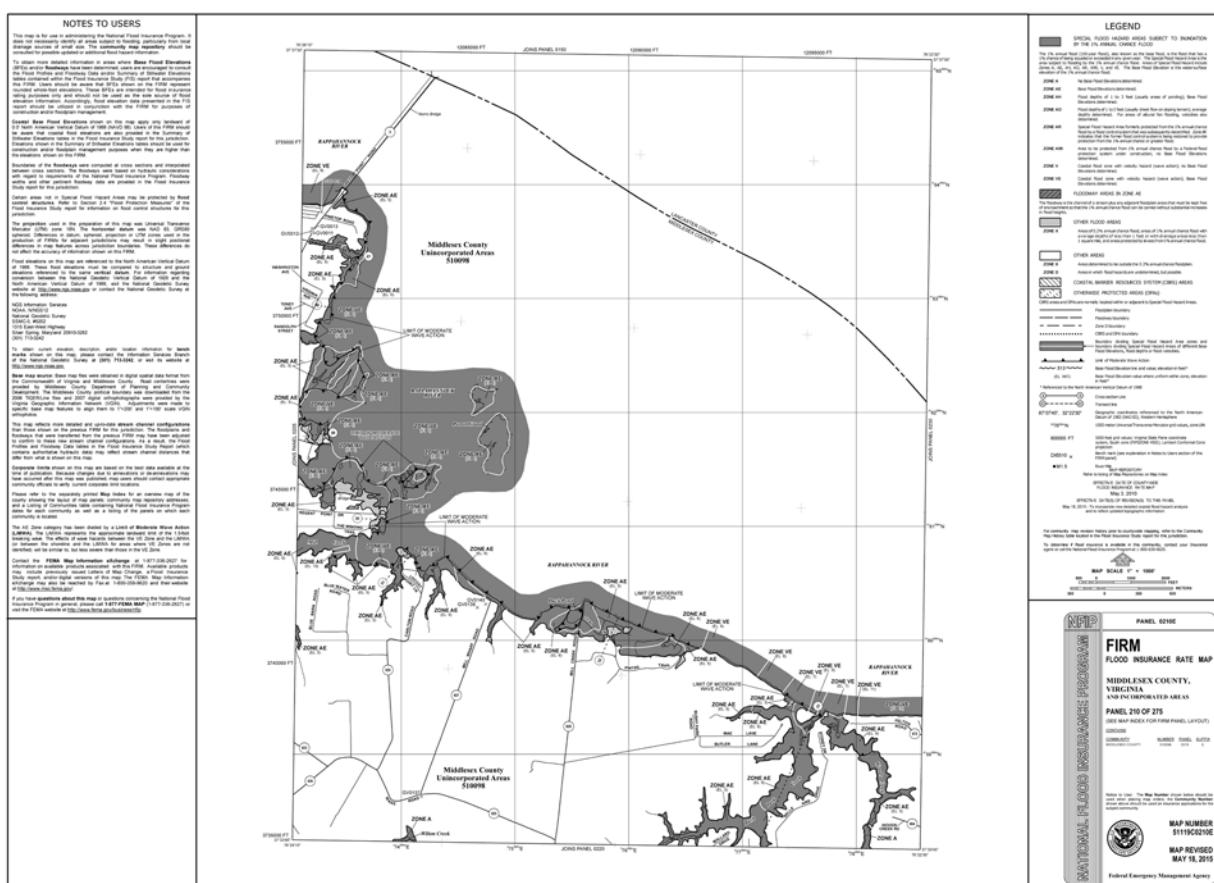
Respectfully,

Matt Walker
County Administrator

APPENDIX 2

Project Location FIRMette

Parker Property (FIRMette #: 51119C0210E)



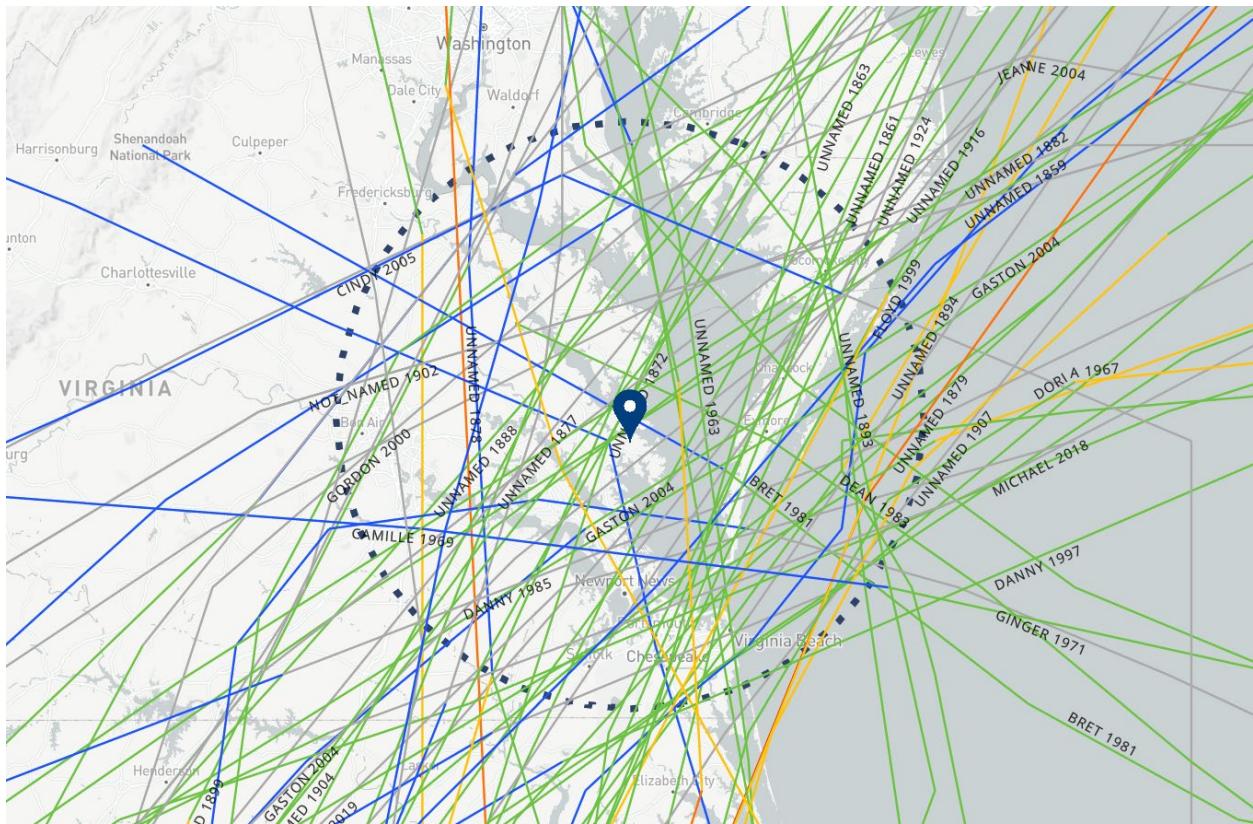
APPENDIX 3

Additional Property Photos



APPENDIX 4

List of Historic Hurricanes Impacting the Property Location



Location: 37.58143882, -76.40882962

Categories: H5, H4, H3, H2, H1, TS, TD, ET

Months: ALL

Years: ALL

El Niño-Southern Oscillation (ENSO): ALL

Minimum Pressure (mb) below: 1150

Include Unknown Pressure Rating: TRUE

Buffer Distance: 60

Buffer Unit: Nautical Miles

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
ISAIAS 2020(P)	Jul 23, 2020 to Aug 05,	75	987	H1

	2020			
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5
ANA 2015	May 06, 2015 to May 12, 2015	50	998	TS
ANDREA 2013	Jun 05, 2013 to Jun 08, 2013	55	992	TS
IRENE 2011	Aug 21, 2011 to Aug 30, 2011	105	942	H3
HANNA 2008	Aug 28, 2008 to Sep 08, 2008	75	977	H1
ERNESTO 2006	Aug 24, 2006 to Sep 04, 2006	65	985	H1
CINDY 2005	Jul 03, 2005	65	991	H1

	to Jul 11, 2005			
JEANNE 2004	Sep 13, 2004 to Sep 29, 2004	105	950	H3
IVAN 2004	Sep 02, 2004 to Sep 24, 2004	145	910	H5
GASTON 2004	Aug 27, 2004 to Sep 03, 2004	65	985	H1
CHARLEY 2004	Aug 09, 2004 to Aug 15, 2004	130	941	H4
ALLISON 2001	Jun 05, 2001 to Jun 19, 2001	50	1000	TS
GORDON 2000	Sep 14, 2000 to Sep 21, 2000	70	981	H1
FLOYD 1999	Sep 07, 1999 to Sep 19, 1999	135	921	H4
DANNY 1997	Jul 16, 1997 to Jul	70	984	H1

	27, 1997			
BERTHA 1996	Jul 05, 1996 to Jul 17, 1996	100	960	H3
DANIELLE 1992	Sep 22, 1992 to Sep 26, 1992	55	1001	TS
CHARLEY 1986	Aug 13, 1986 to Aug 30, 1986	70	980	H1
DANNY 1985	Aug 12, 1985 to Aug 20, 1985	80	987	H1
DEAN 1983	Sep 26, 1983 to Sep 30, 1983	55	999	TS
BRET 1981	Jun 29, 1981 to Jul 01, 1981	60	996	TS
BOB 1979	Jul 09, 1979 to Jul 16, 1979	65	986	H1
GINGER 1971	Sep 06, 1971 to Oct 05,	95	959	H2

	1971			
DORIA 1971	Aug 20, 1971 to Aug 29, 1971	55	989	TS
ALMA 1970	May 17, 1970 to May 27, 1970	70	993	H1
CAMILLE 1969	Aug 14, 1969 to Aug 22, 1969	150	900	H5
DORIA 1967	Sep 08, 1967 to Sep 21, 1967	75	973	H1
UNNAMED 1963	Jun 01, 1963 to Jun 04, 1963	50	1000	TS
UNNAMED 1961	Sep 12, 1961 to Sep 15, 1961	55	995	TS
BRENDA 1960	Jul 27, 1960 to Aug 07, 1960	60	976	TS
CINDY 1959	Jul 04, 1959 to Jul	65	995	H1

	12, 1959			
CONNIE 1955	Aug 03, 1955 to Aug 15, 1955	120	944	H4
UNNAMED 1945	Sep 12, 1945 to Sep 20, 1945	115	949	H4
UNNAMED 1944	Oct 12, 1944 to Oct 24, 1944	125	937	H4
UNNAMED 1944	Jul 30, 1944 to Aug 04, 1944	70	985	H1
UNNAMED 1943	Sep 28, 1943 to Oct 02, 1943	55	997	TS
UNNAMED 1935	Aug 29, 1935 to Sep 10, 1935	160	892	H5
UNNAMED 1934	Sep 01, 1934 to Sep 04, 1934	45	-1	TS
UNNAMED 1933	Aug 13, 1933 to Aug	120	948	H4

	28, 1933			
UNNAMED 1929	Sep 19, 1929 to Oct 05, 1929	135	924	H4
UNNAMED 1928	Sep 06, 1928 to Sep 21, 1928	140	929	H5
UNNAMED 1928	Aug 03, 1928 to Aug 13, 1928	90	971	H2
UNNAMED 1924	Sep 27, 1924 to Oct 01, 1924	55	999	TS
UNNAMED 1916	May 13, 1916 to May 18, 1916	40	990	TS
UNNAMED 1907	Jun 24, 1907 to Jun 30, 1907	55	-1	TS
UNNAMED 1904	Sep 08, 1904 to Sep 15, 1904	70	-1	H1
NOT_NAMED 1902	Oct 03, 1902 to Oct 13,	90	970	H2

	1902			
UNNAMED 1902	Oct 03, 1902 to Oct 13, 1902	90	970	H2
UNNAMED 1902	Jun 12, 1902 to Jun 17, 1902	50	-1	TS
UNNAMED 1899	Oct 26, 1899 to Nov 04, 1899	95	-1	H2
UNNAMED 1894	Oct 01, 1894 to Oct 12, 1894	105	-1	H3
UNNAMED 1893	Oct 20, 1893 to Oct 23, 1893	50	-1	TS
UNNAMED 1889	Sep 12, 1889 to Sep 26, 1889	95	-1	H2
UNNAMED 1888	Sep 06, 1888 to Sep 13, 1888	50	999	TS
UNNAMED 1886	Jun 27, 1886 to Jul 02, 1886	85	-1	H2

UNNAMED 1886	Jun 17, 1886 to Jun 24, 1886	85	-1	H2
UNNAMED 1882	Sep 21, 1882 to Sep 24, 1882	50	1005	TS
UNNAMED 1882	Sep 02, 1882 to Sep 13, 1882	110	949	H3
UNNAMED 1881	Sep 07, 1881 to Sep 11, 1881	90	975	H2
UNNAMED 1879	Aug 13, 1879 to Aug 20, 1879	100	971	H3
UNNAMED 1878	Oct 18, 1878 to Oct 25, 1878	90	963	H2
UNNAMED 1877	Sep 21, 1877 to Oct 05, 1877	100	-1	H3
UNNAMED 1876	Sep 12, 1876 to Sep 19, 1876	100	980	H3
UNNAMED 1874	Sep 25, 1874	80	980	H1

	to Oct 01, 1874			
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1
NOT_NAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
NOT_NAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
NOT_NAMED 1861	Oct 31, 1861 to Nov 03, 1861	60	992	TS
UNNAMED 1861	Sep 27, 1861 to Sep 28, 1861	70	-1	H1
UNNAMED 1859	Sep 15, 1859 to Sep 18, 1859	70	-1	H1
NOT_NAMED 1858	Aug 11, 1858 to Aug	45	994	TS

	20, 1858			
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
NOT_NAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
NOT_NAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS

APPENDIX 5

Flood Prevention Project and its Relevance to Other Projects

The Middle Peninsula PDC staff have worked throughout the years to understand the policy, research and impacts of flooding (i.e., stormwater, coastal, riverine, sea level rise) and coastal resiliency to the region. Below is a list of projects that have built upon each other over the year that have contributed to our understanding.

Climate Change and Sea Level Rise (2009 to 2012)

The Middle Peninsula PDC was funded for a 3 Phase project through the Virginia Coastal Zone Management Program to assess the impacts of climate and sea level rise throughout the region. With over 1,000 miles of linear shoreline, the Middle Peninsula has a substantial amount of coast under direct threat of accelerated climate change and more specifically sea-level. In Phase 1, Middle Peninsula PDC staff assessed the potential anthropogenic and ecological impacts of climate change. Phase 2 focused on the facilitating presentations and develop educational materials about sea level rise and climate change for the public and local elected officials. Finally, Phase 3 focused on developing adaptation public policies in response to the assessments.

Emergency Management – Hazard Mitigation Planning (2009 to Present)

Since 2009, the Middle Peninsula PDC has assisted regional localities in meeting the federal mandate to have an adopted local hazard plan. The Regional All Hazards Mitigation Plan addresses the natural hazards prone to the region, including hurricanes, winter storms, tornadoes, coastal flooding, coastal/shoreline erosion, sea level rise, winter storms, wildfire, riverine flooding, wind, dam failures, drought, lightning, and earthquakes. This plan also consists of a Hazus assessment of hurricane wind, sea level rise (i.e., Mean High Higher Water and the National Oceanic and Atmospheric Administration (NOAA) 2060 intermediate-high scenario), and flooding (coastal and riverine flooding) that estimates losses from each hazard. The Middle Peninsula All-Hazard Mitigation Plan Update 2021 is currently being updated. The 2021 All Hazards Mitigation Plan builds off and updates previous mitigation plans.

Land and Water Quality Protection (2014)

In light of changing Federal and State regulations associated with Bay clean up-nutrient loading, nutrient goals, clean water, onsite sewage disposal system (OSDS) management, storm water management, total maximum daily load (TMDL), etc., staff from the Middle Peninsula PDC will develop a rural pilot project which aims to identify pressing coastal issue(s) of local concern related to Bay clean up and new federal and state legislation which ultimately will necessitate local action and local policy development. Staff has identified many cumulative and secondary impacts that have not been researched or discussed within a local public policy venue. Year 1-3 will include the identification of key concerns related to coastal land use management/water quality and OSDS and community system deployment. Staff will focus on solution based approaches, such as the establishment of a regional sanitary sewer district to manage the temporal deployment of nutrient replacement technology for installed OSDS systems,

assessment of land use classifications and taxation implications associated with new state regulations which make all coastal lands developable regardless of environmental conditions; use of aquaculture and other innovative approaches such as nutrient loading offset strategies and economic development drivers.

Department of Conservation and Recreation Stormwater Management (2014)

The Virginia General Assembly created a statewide, comprehensive stormwater management program related to construction and post-construction activities (HB1065 - Stormwater Integration). The DCR requires stormwater management for projects with land disturbances of one acre or more. This new state mandate requires all Virginia communities to adopt and implement stormwater management programs by July 1, 2014, in conjunction with existing erosion and sediment control programs. Additionally, the communities within the Middle Peninsula PDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The Middle Peninsula PDC Stormwater Program helped localities develop tools specific to the region necessary to respond to the state mandate requirement for the development of successful stormwater programs.

Stormwater Management-Phase II (2014)

Middle Peninsula PDC staff and Draper Aden Associates worked with localities (i.e., Middlesex, King William, and Mathews Counties and the Town of West Point) interested in participating in a Regional Stormwater Management Program. While each locality sought different services from the regional program, this project coordinated efforts, developed regional policies and procedures, and the proper tools to implement a regional Virginia Stormwater Management Program.

Mathews County Rural Ditch Enhancement Study (2015)

In contract with Draper Aden Associates, a comprehensive engineering study was developed to provide recommendations and conceptual opinions of probable costs to improve the conveyance of stormwater and water quality through the ditches in Mathews County.

Drainage and Roadside Ditching Authority (2015)

This report explored the enabling mechanism in which a Regional Drainage and Roadside Ditching Authority could be developed. An Authority would be responsible for prioritizing ditch improvement needs, partnering with Virginia Department of Transportation (VDOT) to leverage available funding, and ultimately working toward improving the functionality of the region's stormwater conveyance system.

Living Shoreline Incentive Program (2016 to present)

In 2011 Virginia legislation was passed designating living shorelines as the preferred alternative for stabilizing Virginia tidal floodplain shorelines. The Virginia Marine Resources Commission, in cooperation with the Virginia Department of Conservation and Recreation and with technical assistance from the Virginia Institute of Marine Science (VIMS), established and implemented a general permit regulation that authorizes and encourages the use of living shorelines however,

no financial incentives were put in place to encourage consumers to choose living shorelines over traditional hardening projects in the Commonwealth. To fill this, need the Middle Peninsula PDC developed the Middle Peninsula PDC Living Shoreline Incentives Program to offer loans and/or grants to private property owners interested in installing living shorelines to stabilize their shoreline. Currently, loans are available to assist homeowners to install living shorelines on suitable properties. Loans up to \$10,000 can be financed for up to 5 years (60 months). Loans over \$10,000 can be financed for up to 10 years (120 months). Interest is at the published Wall Street Journal Prime rate on the date of loan closing - currently at 5.25% (11/29/18). Minimum loan amount is \$1,000. Maximum determined by income and ability to repay the loan. Finally, there are currently no grants available in this program. Since 2016 under the Middle Peninsula PDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~\$500,000 in Virginia Resources Authority loan funding and ~\$400,000 in National Fish and Wildlife Foundation grant funding. Living Shoreline construction cost to date range per job \$14,000- \$180,000. Middle Peninsula PDC oversees all aspects (planning, financing, constriction, and loan servicing) of these projects from cradle to grave.

Mathews County Ditch Project – VCPC White Papers (2017)

This report investigated the challenges presented by the current issues surrounding the drainage ditch network of Mathews County. The study summarized research conducted in the field; examined the law and problems surrounding the drainage ditches; and proposed some next steps and possible solutions.

Mathews County Ditch Mapping and Database Final Report (2017)

This project investigated roadside ditch issues in Mathews County through mapping and research of property deeds to document ownership of ditches and outfalls. This aided in understanding the needed maintenance of failing ditches and the design of a framework for a database to house information on failing ditches to assist in the prioritization of maintenance needs.

Virginia Stormwater Nuisance Law Guidance (2018)

This report was developed by the Virginia Coastal Policy Center to understand the ability of a downstream recipient of stormwater flooding to bring a claim under Virginia law against an upstream party, particularly a nuisance claim. The report summarizes how Virginia courts determine stormwater flooding liability between two private parties.

Oyster Bag Sill Construction and Monitoring at Two Sites in Chesapeake Bay (2018)

Virginia Institute of Marine Science (VIMS) Shoreline Studies Program worked with the Public Access Authority (PAA) to (1) install oyster bag sills as shore protection at two PAA sites with the goal of determining effective construction techniques and placement guidelines for Chesapeake Bay shorelines and (2) assess the effectiveness for shore protection with oyster bags on private property through time.

Fight the Flood Program (2020)

The Fight the Flood (FTF) was launched in 2020 to connect property owners to contractors who can help them protect their property from rising flood waters. FTF also offers a variety of financial tools to fund these projects including but limited to the Septic Repair revolving loan program, Living Shoreline incentives revolving loan fund program, and plant insurance for living shorelines.

APPENDIX 6

Match Commitment Letter



County of Middlesex
Office of the County Administrator

August 17, 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

Dear Mr. Clyde Cristman:

Thank you for considering the application to the Virginia Community Flood Preparedness Fund, involving necessary flood mitigation activities on the property at Mill Creek Landing. Depending on the cost of our project, Middlesex County may be able to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (MPPDC) revolving loan funds for this project and understand that the final amount of matching funds required will be subject to the contract amount awarded by VDCR, and is also subject to our board's approval.

Please reach out to the MPPDC, who is submitting this proposal on our behalf, at [REDACTED] should you have any questions and they will be able to contact me to coordinate a response. I can be reached by phone at [REDACTED] or by email at [REDACTED]

Respectfully,

A handwritten signature in blue ink that reads "Ann Marie S. Ricardi".

Ann Marie S. Ricardi
Assistant County Administrator
Middlesex County, Virginia



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

MPPDC- Requested Resubmission Round 1 apps

2 me age

Lewis Lawrence [REDACTED] >

Fri, Sep 3, 2021 at 12:07 PM

To: "CFPF, rr" <cfpf@dcr.virginia.gov>

Cc: "Glover, Darryl (DCR)" [REDACTED], " [REDACTED]" [REDACTED], Curt Smith
[REDACTED]

< [REDACTED] >

Good afternoon-

As requested, we have separated the MPPDC design applications submitted yesterday into three new separate files (share point links below), each corresponds to the locality where the work is being done and each includes a master application and master budget sheet. Also, each design project also contains an individual project budget sheet should you desire to better understand proposed costs for individual applications.

[CID510071_GloucesterCounty_CFPF.PDF](#)

[CID510096_MathewsCounty_CFPF.pdf](#)

[CID510098_MiddlesexCounty_CFPF.pdf](#)

We hope this resubmittal makes your job easier. Its was a monumental lift, 5 hours last night and this morning to reorganize, separate and reaggregate the budgets and pages back together. Once we get the format down, it will take less time next round.

Please advise on receipt

Lewie



*Lewis L Lawrence
Executive Director*

*Middle Peninsula Planning District Commission
P.O.Box 286*

Saluda, Va 23149

[REDACTED]

www.mppdc.com

Sent from [Mail](#) for Windows 10

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

To: Lewis Lawrence [REDACTED] >

Cc "Glover, Darryl (DCR)" [REDACTED], [REDACTED], [REDACTED], Curt Smith

[REDACTED] >

Fri, Sep 3, 2021 at 8:25 PM

Received, thank you.

[Quoted text hidden]