MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

November 28, 2022

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. Matthew Wells,

Enclosed in this packet are four applications for flood protection and prevention projects that involve implementation of nature-based shoreline and stormwater solutions. Among the applications are projects which are currently at the construction stage. Construction projects are requesting funds to implement projects which have approved permits or are nearing permit approval prior to construction of a nature-based flood protection solution.

The applications have been modified to include additional information as requested by DCR staff for the Supplemental Round 3 of funding. The primary modifications include addressing adverse impacts to adjacent properties, review of the project by a Certified Floodplain Manager, and additional information for how the project will be maintained over the lifespan of the project, and additional language emphasizing the flood protection benefits of the project.

Below is short summary and map showing the locations of proposed construction projects in the Mobjack Bay watershed:

A. Ware River Phase III - Nature-based Construction Project
(CID): 510071 Total Cost (from individual project application): $161,686
This project proposes to construct a 3rd phase to an ongoing multi-owner/multiparcel nature-based solution on private property located on the Ware River in Gloucester County. The 3rd phase nature-based solution will involve the installation of 192 linear feet (LF) out of a multi-parcel project totaling 1,300 LF of living shoreline. The VIMS Shoreline Studies Program has designed shoreline plans and established cost estimates for the entire 1,300 LF.

B. Wilsons Creek – Living Shoreline Construction Project
(CID): 510071 Total Cost (from individual project application): $204,719
This project proposes to construct a nature-based shoreline management solution spanning two private properties located on Wilsons Creek in Gloucester County. The nature-based solution will involve the installation of a 485-feet-long

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rock sill with clean sand back fill and plantings of native vegetation and a 95 linear feet section of riprap revetment. This project will be a partnership between the MPPDC and two private property owners and is supported by Gloucester County.

C. Historic Antioch Rosenwald School Flood Protection

(CID): 510096 Total Cost (from individual project application): $141,438

This proposal requests funding to assist the Antioch Baptist Church with designing and implementing stormwater protection activities to preserve and enhance the historic Antioch Rosenwald School property in Mathews County, which continues to serve a minority community which has historically been underserved regarding flood protection assistance. The efforts to mitigating the stormwater challenges faced at the property are a critical step towards the broader effort to convert the historic property into a community center and museum which can provide much needed assistance and create much needed opportunities for the underserved citizens of this vulnerable community as well as help preserve the rich minority history of the property and the community. The project will construct a stormwater collection system on the Rosenwald School focusing on the roof and managing runoff utilizing approved stormwater BMPs, as well as designing a suite of landscape-focused stormwater BMPs which can be implemented over time to ensure that the property grounds themselves can once again be restored to a useable and functional condition to meet the needs of the community.

D. North River Property Resiliency Construction Project

(CID): 510096 Total Cost (from individual project application): $125,715

This project proposes to construct a nature-based solution on private property located on the North River in Mathews County. The nature-based solution will involve modifying and removing a dilapidated failed wooden bulkhead and the installation of 80 linear feet of living shoreline, 60 linear feet of a bioengineered structure, 900 square feet of fill and plantings and 103 linear feet of rip rap. The applicant also submitted a Round 1 proposal for design needed on a second portion of the project site and therefore this request is not duplicative

The total project costs for projects within the Mobjack Bay watershed are **$633,558** and MPPDC staff are requesting **$443,491** from DCR to support this work.

We consider helping both public and private entities manage flooding a critical and essential function of government.

Thank you for considering the enclosed proposed projects. If you have any questions about the enclosed, please contact me by email at llawrence@mppdc.com or by phone at 804-758-2311.

Sincerely,

Lewis Lawrence
Executive Director

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Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund
Flood Prevention and Protection Project

PROJECT TITLE: Phase III- Ware River Nature-based Construction Project
Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

_____Capacity Building/Planning X Project _____Study

NFIP/DCR Community Identification Number (CID): Gloucester County (510071)

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: (804) 758-2311 Cell Phone Number: (____)
Email Address: llawrence@mppdc.com

Contact Person (If different from authorized official): Jackie Rickards
Mailing Address (1): PO Box 286
Mailing Address (2): 125 Bowden Street
City: Saluda **State:** VA **Zip:** 23149
Telephone Number: (804) 758-2311 **Cell Phone Number:** (215) 264-6451
Email Address: jrickards@mppdc.com

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

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): Gloucester County
NFIP Community Identification Number (CID#) (See appendix F): 510071

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): 51073C0140F

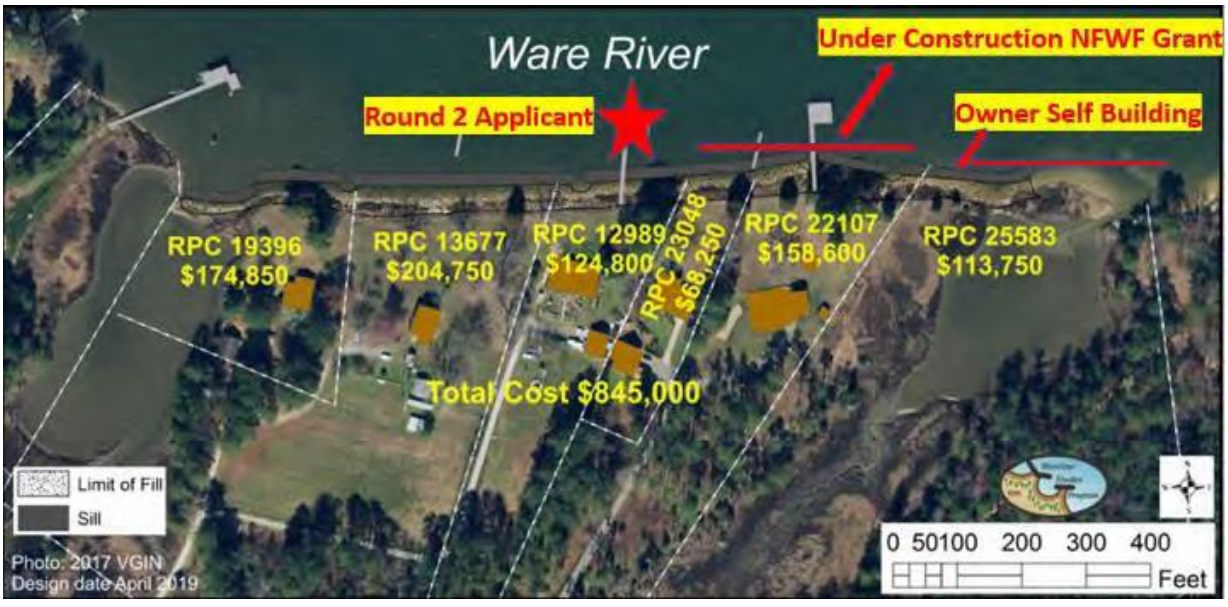
Total Cost of Project: **$ 161,686**

Total Amount Requested: **$ 113,180**

INTRODUCTION –

This project proposes to construct Phase 3 of an ongoing nature- based solution on private property located on the Ware River in Gloucester County. The 3rd phase nature-based solution will involve the installation of 192 linear feet (LF) out of a multi- parcel project totaling 1,300 LF of living shoreline. The VIMS Shoreline Studies Program has designed shoreline plans and established cost estimates for the entire 1,300 LF.

FEMA, Virginia General Assembly, DCR's Floodplain Management Program, and the Middle Peninsula 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 and work there. These hazards include flooding, drought, hurricanes, landslides, wildfires and more. 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 (www.FightTheFloodVA.com). This proposal is a Nature-based solution which utilizes and incorporates sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. Further, this proposal incorporates natural features and 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. 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 (*FEMA Building Community Resilience with Nature Based Solutions,* June 2021).



This project will be a partnership between the MPPDC and one private property owner and is supported by Gloucester County (See the community support letter in **Attachment 1**).

- A link or copy to the approved resilience plan: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf
- Middle Peninsula All Hazards Mitigation Plan (2016): https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf within the plan, please see Section 4 (page 25). This Section includes historical hazard data within the region.
- Here's a link to the Gloucester County Comprehensive Plan: https://www.gloucesterva.info/DocumentCenter/View/5777/2016-Gloucester-County-Comprehensive-Plan

PROJECT LOCATION INFORMATION –

In 2019, the MPPDC was funded through the National Fish Wildlife Foundation (NFWF) to engage local landowners in Living Shorelines and nature-based shoreline management solutions (NFWF Project ID:0603.18.062813). Upon funding MPPDC staff-initiated discussions with a community on the Ware River interested in implementing strategies to reduce/better manager chronic flooding issues associated flooding on and around FEMA Repetitive Loss parcels and adjoining parcels to offer "reach based", multi parcel protection. The project consisted of one RL structure (6626 Ware Haven) with six contiguous waterfront parcels on the Ware River. Phase I of this project entailed the design cost estimation of nature-based living shorelines for all 6 properties, and the construction of nature-based living shoreline designed/ extrapolated to a FEMA year storm event. As MPPDC staff continue to work with this community to implement reach-based solution to chronic flooding issues along the Ware River, Phase II, as proposed in this application will construct living shorelines at 7903 Riverside Drive in Gloucester County. (**Figure 1 and 2**).

FIGURE 1: COUNTY MAP OF PROJECT LOCATION.

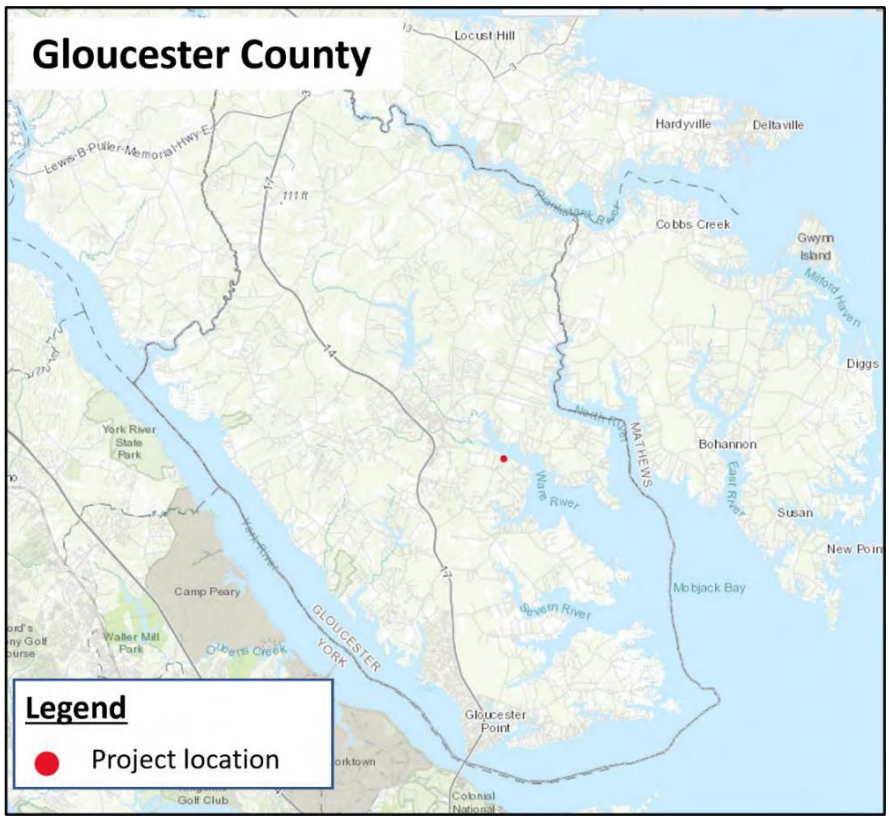
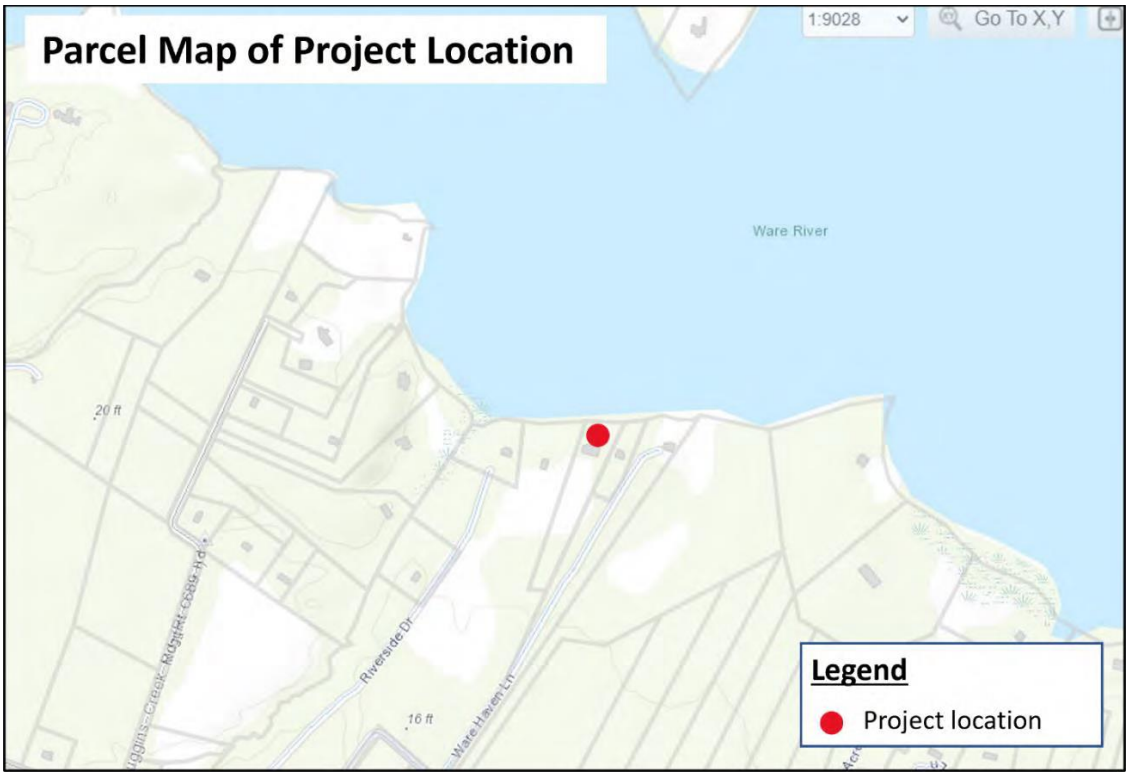


FIGURE 2: PARCEL MAP OF PROJECT LOCATION.



Gloucester County is located at the southern tip of Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 218 square miles of land 296 miles of shorelines. Based on 2020 Census Data, Gloucester County's population totals 38,711 which makes it the largest Middle Peninsula locality. According to DCR guidelines, a portion of the County is considered a low-income geographic area. In **Figure 3** 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.

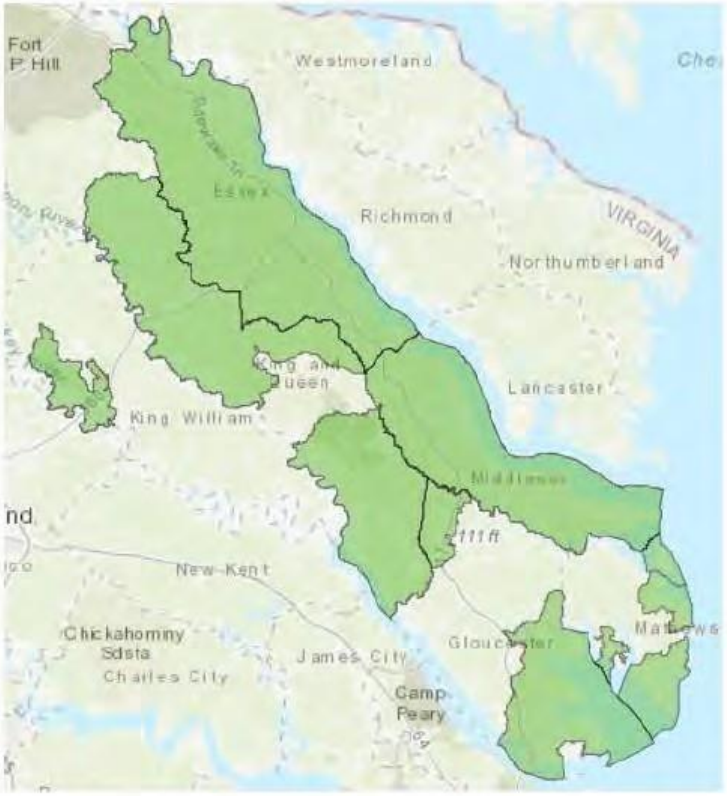
FIGURE 3: MAP OF MIDDLE PENINSULAS LOW INCOME GEOGRAPHIC AREAS QUALIFYING UNDER DCR GUIDELINES.

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

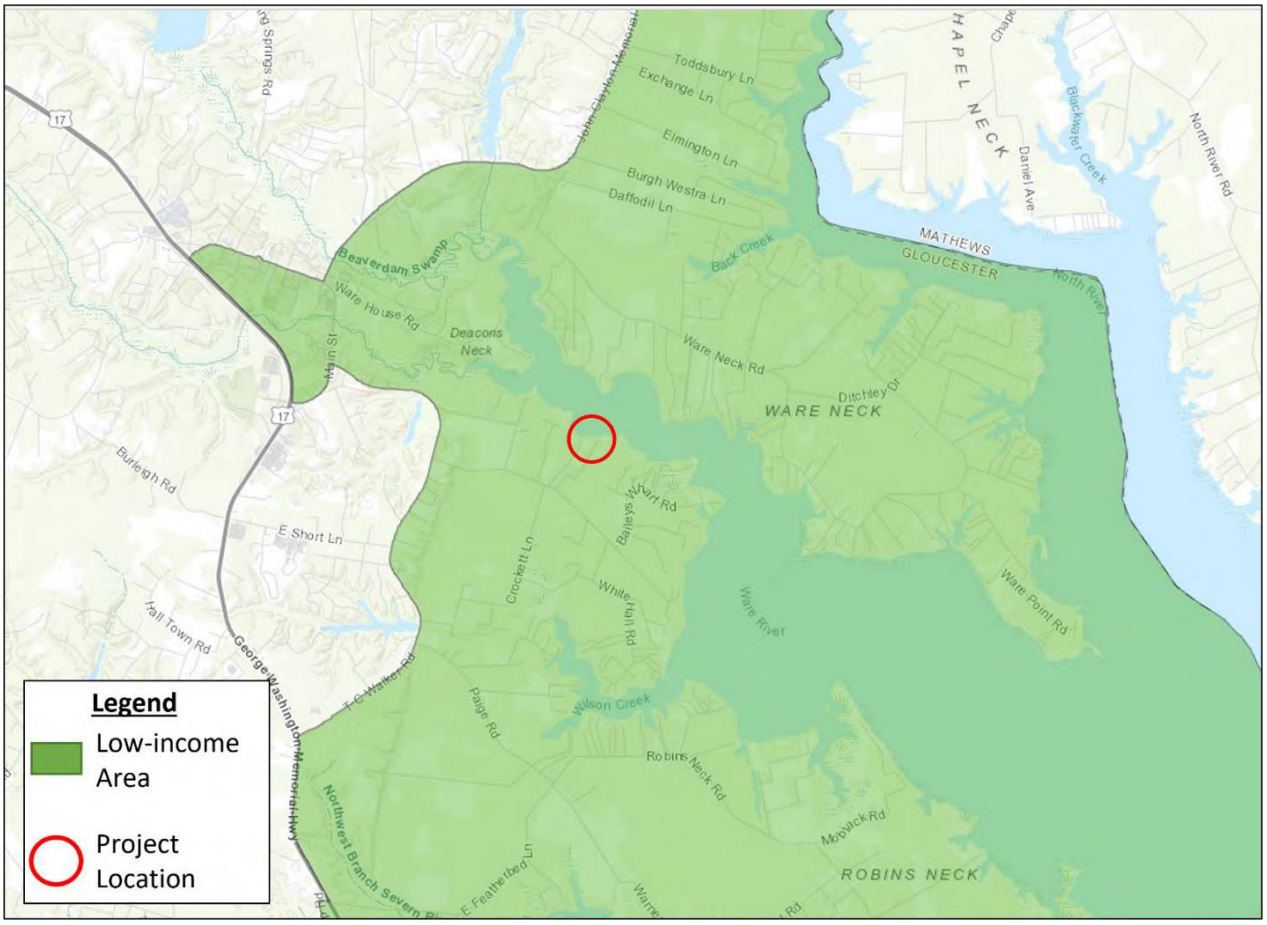
Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

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.



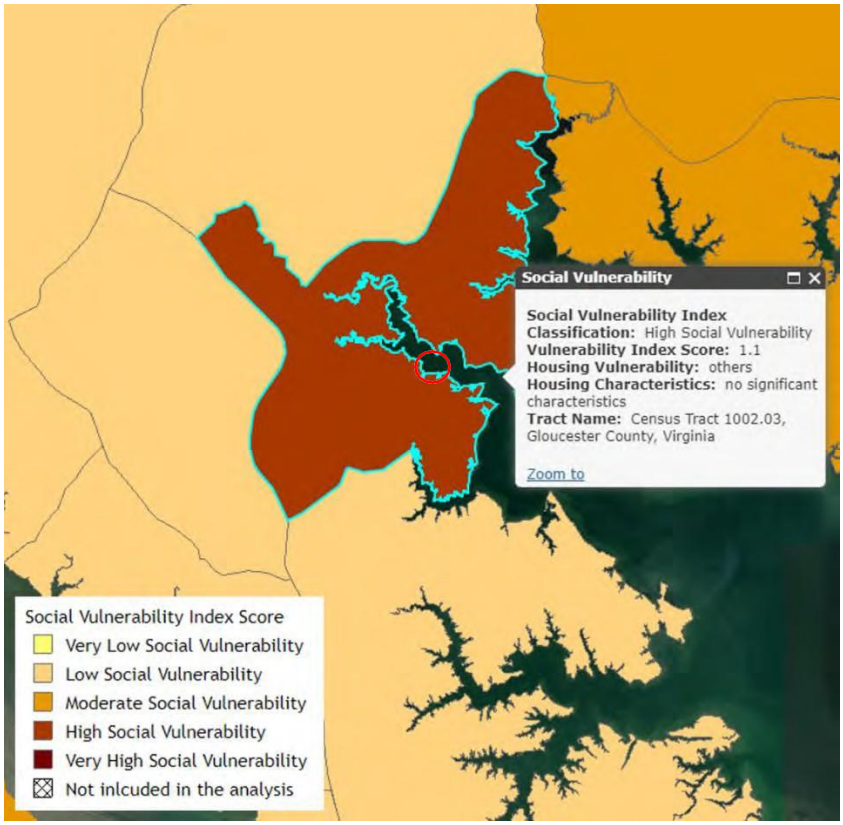
Please see **Figure 4** for a zoomed in map of the project location and the green low-income area overlay. This shows that the project location is within the low-income area.

FIGURE 4: MAP OF THE PROJECT LOCATION WITHIN THE GREEN LOW-INCOME AREA.



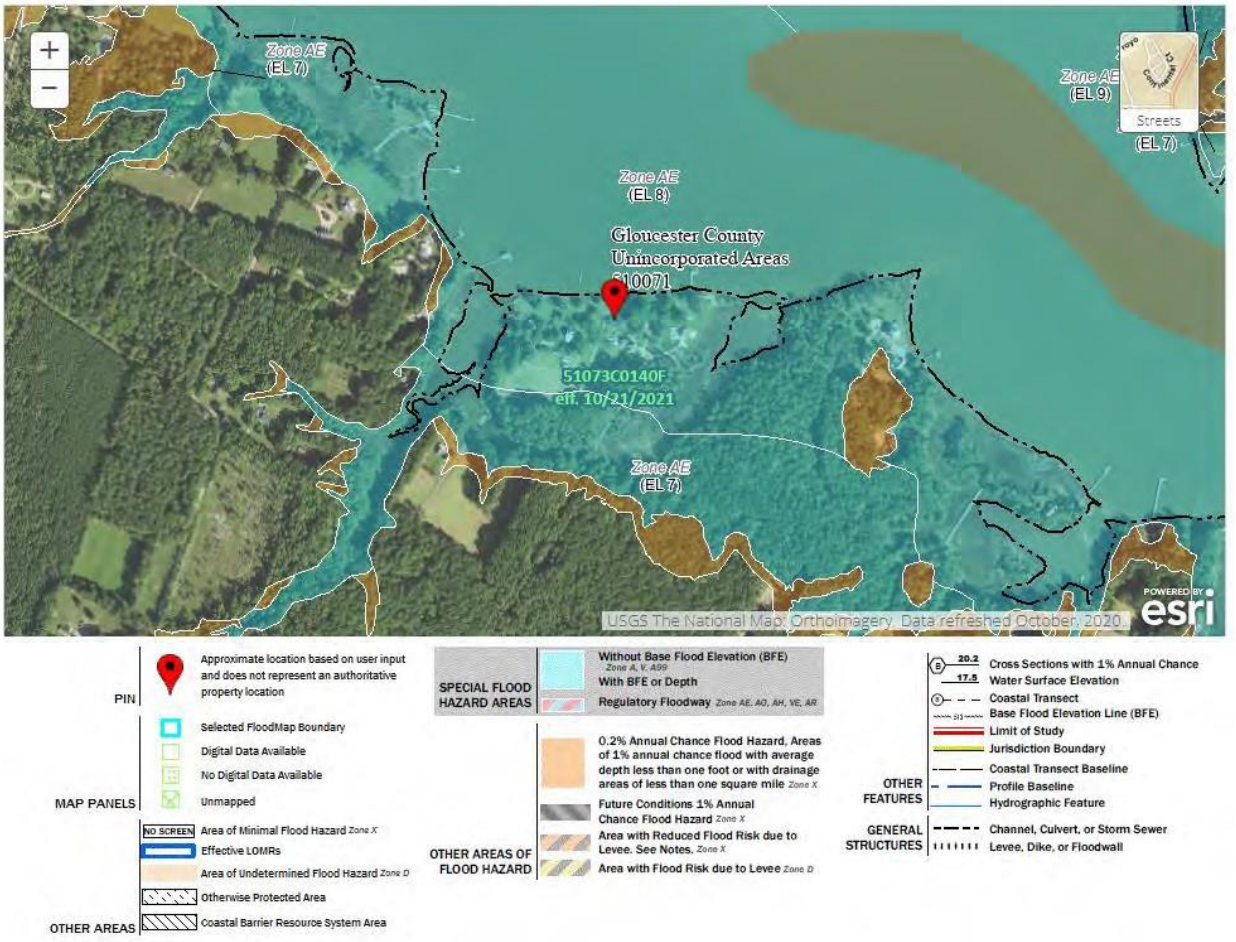
According to the VDAPT Virginia's Social Vulnerability Index Score, this project location has a high social vulnerability score (**Figure 5**).

FIGURE 5: VIRGINIA'S SOCIAL VULNERABILITY INDEX SCORE MAP FOR THE PROJECT LOCATION.



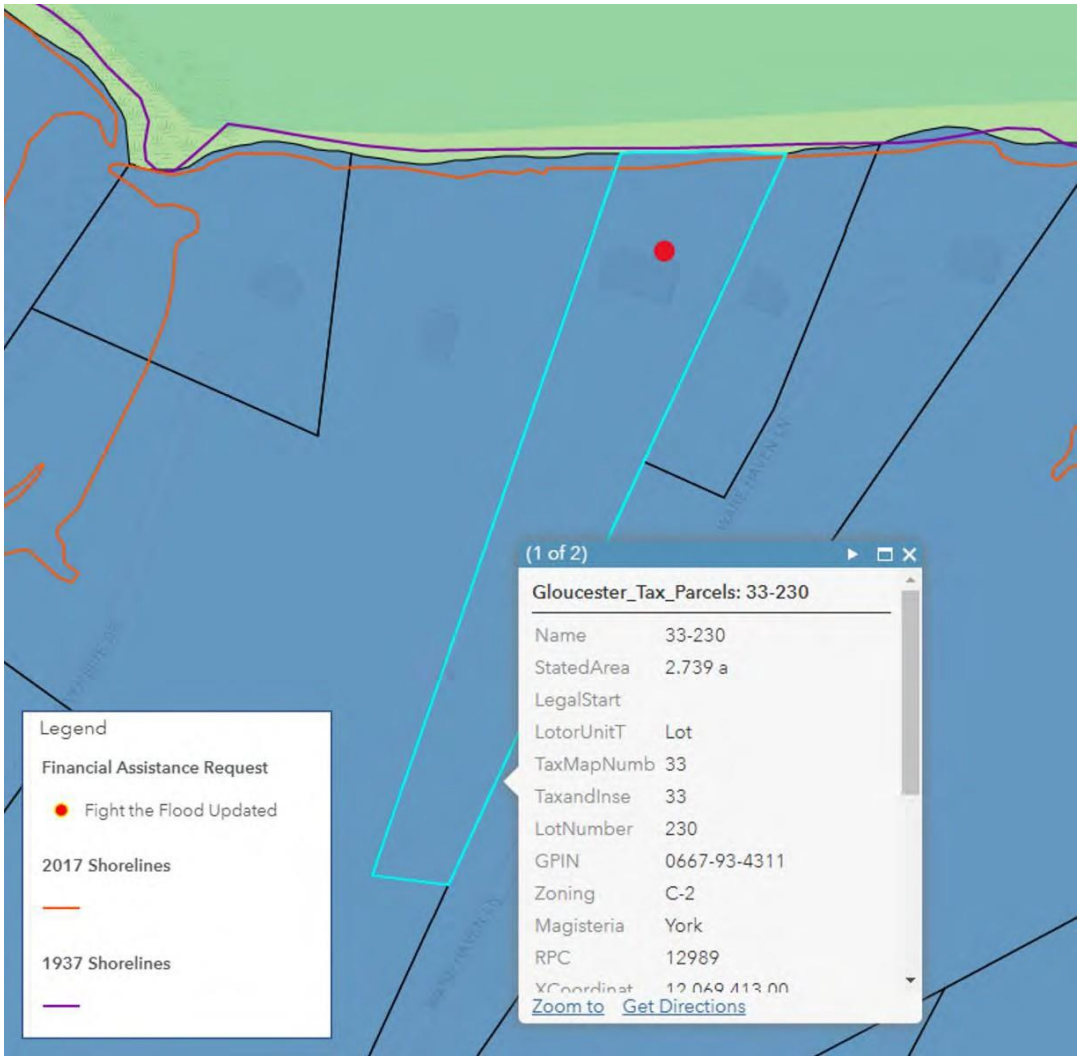
The project is located at 7903 Riverside Dr Gloucester, VA 23061 (37.39407, -76.48094). This project proposes to construct 1,300 linear feet of living shoreline. Within the project area there is 1 residential home, 1 detached garage and two septic systems. The structures are not identified as severe repetitive loss structure or repetitive loss structures. This site is located within the AE flood zone (**Figure 7**). Please see **Attachment 2** for the FIRMettes (last mapped 10/21/2021).

FIGURE 7: MAP OF FEMA FLOOD ZONES.



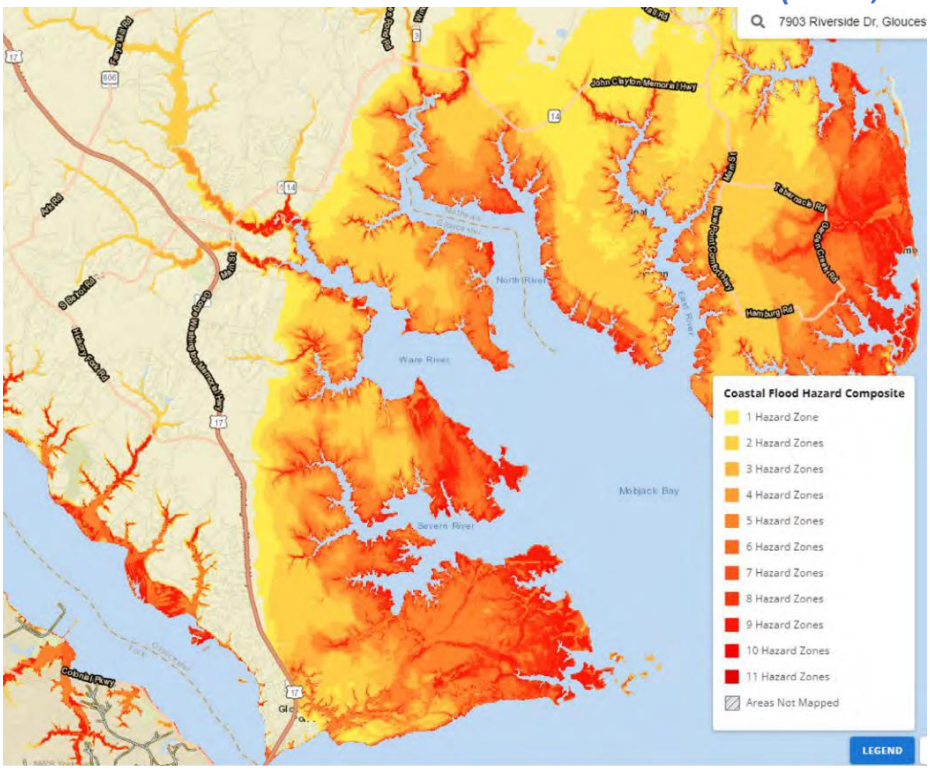
Due to the project site's proximity to the water and relatively low elevation, the site has an extensive history of experiencing flooding events that have resulted in significant impacts to infrastructure and the environment. Based on the historical shoreline data from the Virginia Institute of Marine Science Shoreline Studies Program, **Figure 8** 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 3,498.5 square feet of shoreline. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Attachment 3** lists 81 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.

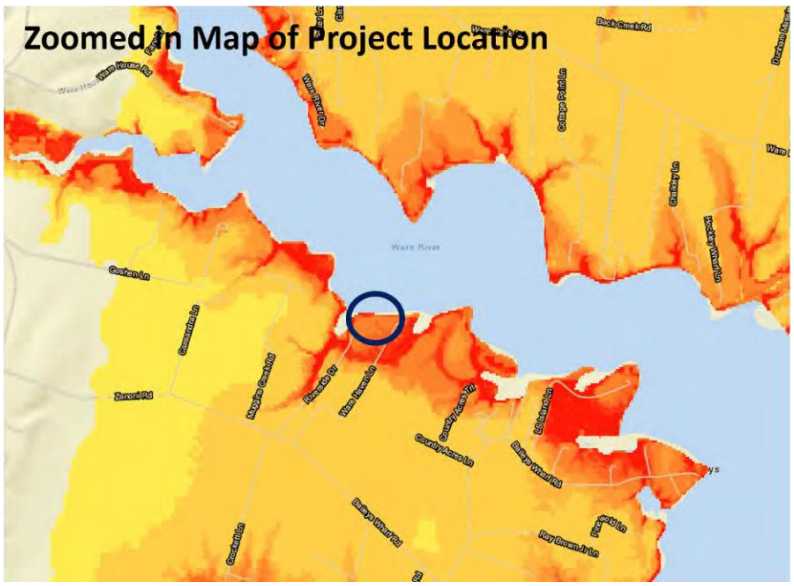
FIGURE 8: PROJECT LOCATION AND MAP OF THE SHORELINE CHANGE BETWEEN 1937 AND 2017. PLEASE NOTE THAT THE PROJECT AREA PARCEL IS OUTLINED IN WHITE.



Finally, according to NOAA's Coastal Flood Mapper, this project is at the highest risk of coastal flooding (**Figure 9**).

FIGURE 9: MAP OF PROJECT LOCATION AND RISK OF COASTAL FLOODING (NOAA, 2021).





For more information about this project area please see:

- The Middle Peninsula All Hazards Mitigation Plan identifies all hazards that impact the region - https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf .
- Gloucester County Building and Engineering Department administers the NFIP. Here is the link to the current floodplain ordinance: http://gloucestercounty-va.elaws.us/code/coor_ch8.5

NEED FOR ASSISTANCE –

The Middle Peninsula Planning District Commission (MPPDC) is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 to provide solutions to problems of greater than local significance and cost-savings through economies of scale. The MPPDC serves nine localities of the Middle Peninsula including Essex, Gloucester, King & Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna.

MPPDC is staffed using multiple methods including co-operative procurement, hourly, and burdened staff. MPPDC staff consists of Executive Director, Deputy Director, Chief Financial Officer, Senior Project Planner, clerical support staff; co-operative procured Director of Planning, General Planner, Certified Flood Plain Manager, Transportation Planner, Emergency Planner; Hourly staff for Housing, Community Development Planner and Public relations.

The PDC staffing team assists localities with long-term and/or regional planning efforts. The MPPDC Executive Director, Deputy Director, and Chief Financial Officer have decades of experience in managing and administering project grants at multiple scale from grants in excess of $1,000,000 to very small grants. MPPDC is an entrepreneurial based government agency with an annual operating budget ranging from $750,000 to over $1,000,000. The MPPDC manages annually 25-30 concurrent federal and state grants utilizing industry standard Grants Management Software. Staff utilize GIS and all Microsoft software as well as other software as required by different grants. The MPPDC operates service centers in the topical areas of coastal zone management, emergency planning, housing, transportation planning and transportation demand management, economic development, social assistance, small business development, general planning and technical assistance and other areas as determined by the Commission. MPPDC has over 25 years of experience managing multiple revolving loan programs. In the 25 years that the Executive Director has been employed by the Commission no audit findings have occurred.

The need for assistance is two-fold.

First, as Gloucester County is near the Chesapeake Bay and numerous tidal rivers that create an area of high risk of coastal flooding, sea-level rise, and storm surge. Based on tidal gauge data from VIMS, relative sea- level rise rates ranging from 0.11-0.23 in./yr. (2.9-5.8 mm/yr.; period: 1976-2007; 10 stations) within the Chesapeake Bay region, which are the highest rates reported along the U.S. Atlantic coast (Boon et. al., 2010). In addition to sea-level rise, Gloucester County has a history of being impacted by hurricanes and tropical storms. As storms pass over or near the coast, the atmospheric pressure drops, causing a large volume of sea water to build up, eventually being pushed ashore by the storm's winds causing a storm surge. In Gloucester County, strong East and Northeast winds can push water from the Chesapeake Bay into the mouth of the York and Rappahannock Rivers and Mobjack Bay, flooding much of the county's low-lying areas (Middle Peninsula Planning District Commission, 2005). Additionally, when a storm makes landfall at high tide, the storm surge and the added water from the tidal fluctuation combines to create a "storm tide". In Gloucester County, tidal waters fluctuate twice

daily from 1.2 feet above mean sea level to 1.2 feet below (FEMA 1987, 6). If a severe hurricane were to make landfall during high tide, and additional 1.2 feet of water would be added to the highest storm surge possible, which could create a storm tide of 16.2 feet (Rygel, 2005). Nor'easters, like hurricanes and tropical storms, can dump heavy amounts of rain and produce hurricane-force winds that push large amounts of sea water inland.

According to a study conducted by the Center for Coastal Resources Management, a one-and-a-half-foot rise in sea level coupled with a three-foot storm surge, like what would be experienced in a strong tropical storm, would lead to 13% of Gloucester County's land mass being flooded – including 118 miles of roads. Only 3% of the projected flood area is currently developed. A strong indicator that Gloucester County is experiencing the impact of coastal hazards (i.e., flooding, hurricanes, sea- level rise, and storm surge) is the number of repetitive loss and severe repetitive loss claims submitted by residents and businesses to FEMA. As of 2015, the County had 147 repetitive loss properties with claims topping $3.3 Million and 13 severe repetitive loss properties with claims totaling nearly $1.9 Million. The County has implemented several preventative measures, property protection policies, public information activities, and emergency service measures to decrease impacts on communities. Therefore, this project will build on other local efforts move toward becoming a more resilient community.

Second, at this project location, the shoreline is experiencing sever erosion and frequent flooding. Currently the shoreline is tidal marsh grass, but with the shoreline quickly eroding and rising sea levels and more frequent storms, additional shoreline protection is needed.

Additionally, there are mature trees on the property that help the soil and land in place and with without offering this shoreline some protection the trees will most certainly be lost. This will ultimately bring water closer to the structures on the property. Please see **Figure 10** for project location photos and **Attachment 4** for more photos.

FIGURE 10: PHOTOS OF THE PROJECT LOCATION.

BELOW IS A PHOTO OF THE NATURAL SHORELINE ON THE PROPERTY.

THIS IS A PHOTO OF THE YARD WITH DURING AN ABOVE AVERAGE HIGH TIDE AND SOME WIND.

ALTERNATIVES –

Alternatives are not applicable to this project. A living shoreline is feasible at this location and therefore required per VMRC regulations. This project employs a nature-based solution, and

this project cost is not greater than $3 Million.

GOALS AND OBJECTIVES –
This project will install a nature-based solution consisting of 1,300 linear feet of living shoreline (i.e., clean sand nourishment and spartina plantings). This project will reduce erosion and stabilize the shoreline. Through a previous grant a draft JPA has been completed but not yet sent to VMRC for approval. During this project the JPA will be submitted for permits and the living shoreline will be installed as designed within the approved JPA application. **Attachment 5** does not include the draft JPA because it will be developed as part of the project and submitted as a final deliverable.

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 approach.
- Objective B: Stabilize the shoreline to ensure that the County's tax base does not erode.

Goal 2: Improve water quality

- Objective A: Construct a living shoreline to capture nitrogen, phosphorus, and sediment.

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.

The MPPDC anticipates that the living shoreline installed at this project location will:

1. **Stabilize the shoreline and reduce the overall erosion rate at the project location**. 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. 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.

2. **Provide ecosystem services to the community.** Since this project is proposing the installation of living shorelines, this project 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 1300 linear feet of living shoreline this has the ability of

removing 15.834 pounds of nitrogen per year, 11.193 pounds of phosphorus per year and 54,600 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.

3. **Prevent loss of property and life.** 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 Gloucester County, which is local government.

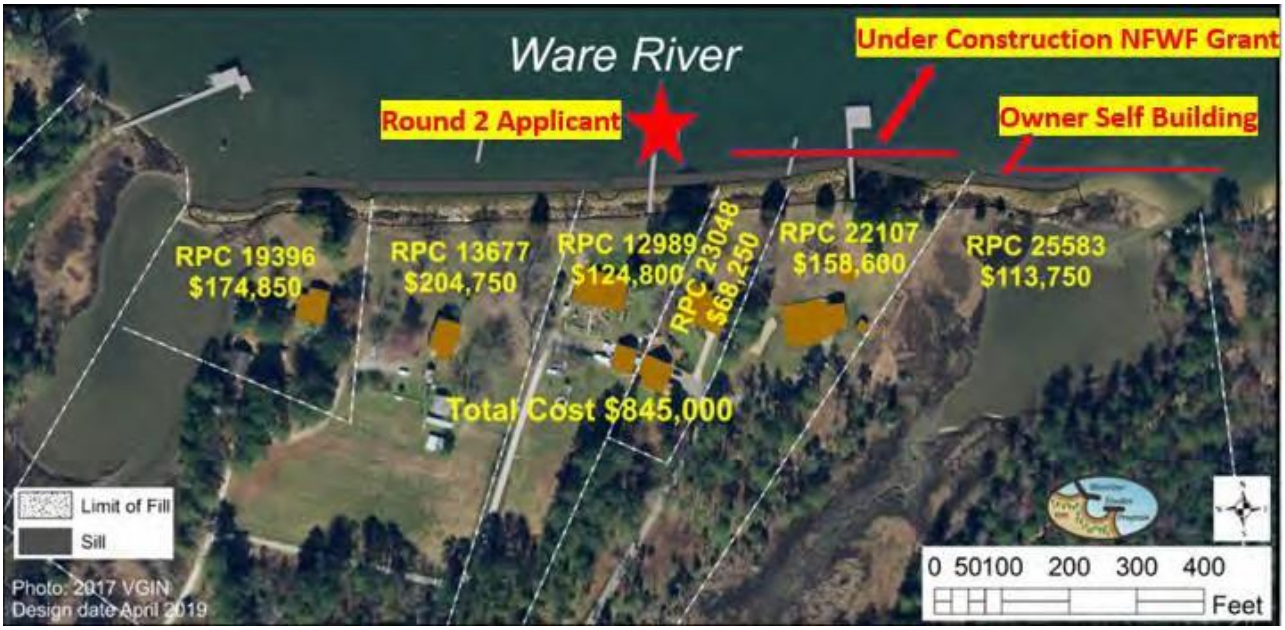
   The proposed project was confirmed for the MPPDC by Matthew C. Burnette PG, PH, CFM or Holly White AICP, CFM.

APPROACH, MILESTONES, AND DELIVERABLES –

This project will follow the designs outlined in the draft Joint Permit Application. Upon issuance of the permits for this project, VMRC will analyze the upstream and downstream impacts of this project using the best available science, as per state law. Please see **Attachment 5** for the draft JPA application and designs. The below table outlines the components of the nature-based solution:

Phase 3 	**Total Project Location**
Living Shoreline	192 Linear Feet

The anticipated timeline for this project could be as quick as 1 year, but no more than two years. The timeline range is due to the potential delays in the construction industry or delays caused by COVID, including supply shortages. Having a two-year timeline will offer potential windows for planting the living shoreline. To explain, the Chesapeake Bay Foundation recommends that perennials and grasses for living shorelines should be planted during peak growing season (in mid-to-late summer) to allow enough time for their root systems to become established before they go dormant in the late Fall. Trees and shrubs should be planted in Spring and Fall when there is adequate rainfall to help them develop strong roots and leafy growth.



Below is the project timeline and project milestones for this project.

Receive funding notice - March 2023
Coordinate with property owners and the project contractor to review project timeline and project expectations – April 2023
Initiate site preparation at the project location - April 2023 to October 2023
Construction of the living shoreline – September 2023 to December 2023
Project Close out – December 2023

Concerning Adverse Impacts
Additionally, the applicant and the property owner recognize the importance to do no harm to land owned by the Commonwealth nor the adjacent property owners as result of the construction elements of this project. The proposed project will be constructed under the auspices of experienced contractors who understand that adverse impacts must be avoided and considered in the design and implementation of the project. The proposed project will work with the permitting agency, designers, and contractors to ensure that the project is built to and functions at the level of the design specifications to ensure that no adverse impacts will occur.

RELATIONSHIP TO OTHER PROJECTS –
For over 40 years the Middle Peninsula Planning District Commission (MPPDC) 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.

In 2019, Middle Peninsula Planning District Commission (MPPDC) targeted repetitive loss (RL) and severe repetitive loss (SRL) waterfront properties for nature-based flood mitigation projects across the Middle Peninsula. The MPPDC funded through National Fish Wildlife Foundation (NFWF) to engage local landowners in Living Shorelines and nature-based shoreline

management solutions (NFWF Project ID:0603.18.062813). Upon funding MPPDC staff-initiated discussions with a community on the Ware River interested in implementing strategies to reduce/better manager chronic flooding issues associated flooding on and around a FEMA RL parcel and adjoining parcels to offer "reach based", multi parcel protection. This project consisted of one RL structure (6626 Ware Haven) with 6 contiguous waterfront parcels on the Ware River. Phase I of this project entailed the design cost estimation of nature-based living shorelines for all 6 properties, and the construction of nature-based living shoreline designed/ extrapolated to a FEMA year storm event on 2 properties 6626 (RL) and 6631 Ware Haven. The proposed project in this application will build on phase I and add more living shorelines to an adjacent property on the Ware River that will improve the community resiliency.

The proposed project is also a priority project generated from the Middle Peninsula Regional Flood Resilience Plan, which was approved by DCR during August 2021. The Flood Resiliency Plan serves as the MPPDC's guiding document for its flood resiliency programs and is comprised of two primary MPPDC-approved policy documents which form the implementation and foundation of the Middle Peninsula flood protection approach and are indirectly and directly supported by multiple specific regional planning documents, both approved by various required federal, regional, or local partners as required by statute.

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 (MPPDC Website)
- 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, MPPDC Approved March 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan - MPPDC Approved ~annually

Short Term Implementation

- Middle Peninsula Planning District Commission Fight the Flood Program Design MPPDC Commission (approved June 2020 Chairman approved 8/6/21 update)
- Middle Peninsula Planning District Commission Living Shoreline Resiliency Incentive Funding Program-Virginia Revolving Loan Fund Program Design and Guidelines (approved 2015)

As the MPPDC has continuously worked on flooding and coastal resiliency topics, **Attachment 6** lists the projects and short description of relevant projects. 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 MPPDC 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 MPPDC Commission authorized staff to develop the **Middle Peninsula Fight the Flood (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, MPPDC staff have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their shoreline.

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 –
It is important to ensure that the public investment of DCR CFPF funding be protected should the project not withstand future conditions. As such, MPPDC staff will work with legal counsel to develop an agreement to be signed by each party which outlines the terms necessary to ensure the public investment is maintained over the duration of the project.

CRITERIA –
Describe how the project meets each of the applicable scoring criteria contained in Appendix B and provide the required documentation where necessary. Documentation can be incorporated into the Scope of Work Narrative or included as attachments to the application. Appendix B must be completed and submitted with the application.

For local governments that are not towns, cities, or counties, the documentation provided for the criteria below should be based on the local government or local governments in which the project is located and/or directly impacts.

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?**
   YES.
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?**
   YES. Here's the 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?**
   YES. Please see Attachment 1
4. **Has the applicant provided evidence of an ability to provide the required match funds?**
   YES. Please see the match commitment letter in **Attachment 8**

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

BUDGET NARRATIVE -

For applications submitted under MPPDC Round 2 proposals that resides in a low-income area or opportunity zone the following applies to the submitted budget. If the applicant does not, then the following does not apply: For projects within low-income areas and opportunity zones, the budgets are being submitted with budgets that reflect a 70:30 grant to match ratio even though the program manual states that these projects are eligible for 80:20 match for being in low-income areas and opportunity zones. In response to the DCR letter addressed to the MPPDC dated October 20, 2021, which eliminated the ability of MPPDC applicants who reside in a low-income area or opportunity zone to request 80% state funding. We respectfully request that DCR reconsider applying the determination required for Round 1 proposals on the MPPDC Round 2 proposals since the grant manual states that all applicants who reside in a low-income area or opportunity zone should be funded at the level that they qualify for. Should DCR agree to award projects located in low-income areas or opportunity zones at the levels indicated within the grant manual, the budgets can be adjusted when contracts are awarded to ensure consistency with the grant manual.

Please see match commitment letters from the property owners in **Attachment 11**.

Robins							
							Budget (Cat. D)
					Applicant 2		
Personnel Salaries/Wages	**DCR**	**Match %**	**Annual Salary**		**DCR**	**Owner**	**Total**
Staff	9.62%	2.35%	$70,000		$10,799	$4,628	$15,427
Personnel	*Lewie's Cheat Sheet*		**DCR**	**Owner**	$10,799	$4,628	$15,427
	Total		*70%*	*30%*			
Fringe, 26.21% salaries;		$129,800	90,860.00	38,940.00	$2,830	$1,213	$4,043
	15%	19,470.00	13,629.00	5,841.00			
Total Personnel		**149,270.00**	**104,489.00**	**44,781.00**	$13,629	$5,841	$19,470
Direct Cost: SubAward/SubContract Agreements					**70%**	**30%**	
VIMS Cost Estimate: Living Shoreline rock,sand plants 20%mob and demob $650 LF				$124,800	$87,360	$37,440	$124,800
Legal Procurement and Financing/deeds of trust				$5,000	$3,500	$1,500	$5,000
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
Project financial services (50000/50500/55900/56100)				$7,585	$6,068	$1,517	$7,585
Facility services (52100/52200/52400/54200/54500)				$2,162	$1,730	$432	$2,162
Communication services (52250/52255/55150/57100/57300)				$681	$545	$136	$681
Data services (53100/53101/53200/57900)				$205	$164	$41	$205
Material services (53400/53500/57200/57500)				$804	$643	$161	$804
Consulting services (55100/56300/56400/56700)				$979	$783	$196	$979
				$142,216			
SUBTOTAL: Direct Costs					$114,422	$47,264	$161,686
Total					**$114,422**	**$47,264**	**$161,686**
Other Match:							
Source of Match					$0	$0	$0
GRAND TOTAL					**$114,422**	**$47,264**	**$161,686**

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%. Direct charges are costs associated with overall projects costs consistent with general accounting principles

Also please note that the cost estimates for the construction of this project were supplied by the contractor, Shoreline Structures, LLC. Please see **Attachment 7**.

In summary:

***Estimated total project cost*:** $ 161,686

***Amount of funds requested from the Fund*:** $ 114,422

Finally, please see the authorization to request for funding in **Attachment 9.**

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

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

Applicant Name:	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 a town, city, or county</u>, 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	☑ 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 or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	**50**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool ☐ Dam removal ☐ Stream bank restoration or stabilization. ☐ Restoration of floodplains to natural and beneficial function. ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	**45**	45
1.b. any other nature-based approach	**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 theChesapeake 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 witha 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		88

Appendix D: Checklist All Categories

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

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

Attachment 1: Community Support Letter

Gloucester County
Administrator's Office

Telephone 804-693-4042 *6489 Main Street, Gloucester, Virginia 23061* *Fax 804-693-6004*

July 16, 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 the MPPDC to Virginia Community Flood Preparedness Fund

Dear Lewie,

Gloucester County supports all eligible applications requesting funding under the Virginia Department of Conservation and Recreation (DCR) Flood Preparedness Fund. Proposals submitted by the MPPDC on behalf of our constituents are a necessary governmental function and 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 Program serves as the region's flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC Fight the Flood Program Design provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs, especially the MPPDC Fight the Flood program, recognize the need to better secure the tax base of coastal localities and the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types. They also recognize the relationship between at-risk waterfront real estate values and funding of essential governmental services.

The Fight the Flood program and the Living Shoreline program exist to help flood-prone property owners access programs and services to better manage challenges posed by flood water and direct constituents to appropriate mitigation solutions, such as nature-based solutions. When grants and loans are available, we fully support the MPPDC providing such to qualified constituents based on the terms and conditions associated with flood risk necessary to support the public purposes for which the funds, such as the Virginia Community Flood Preparedness Funds, have been allocated.

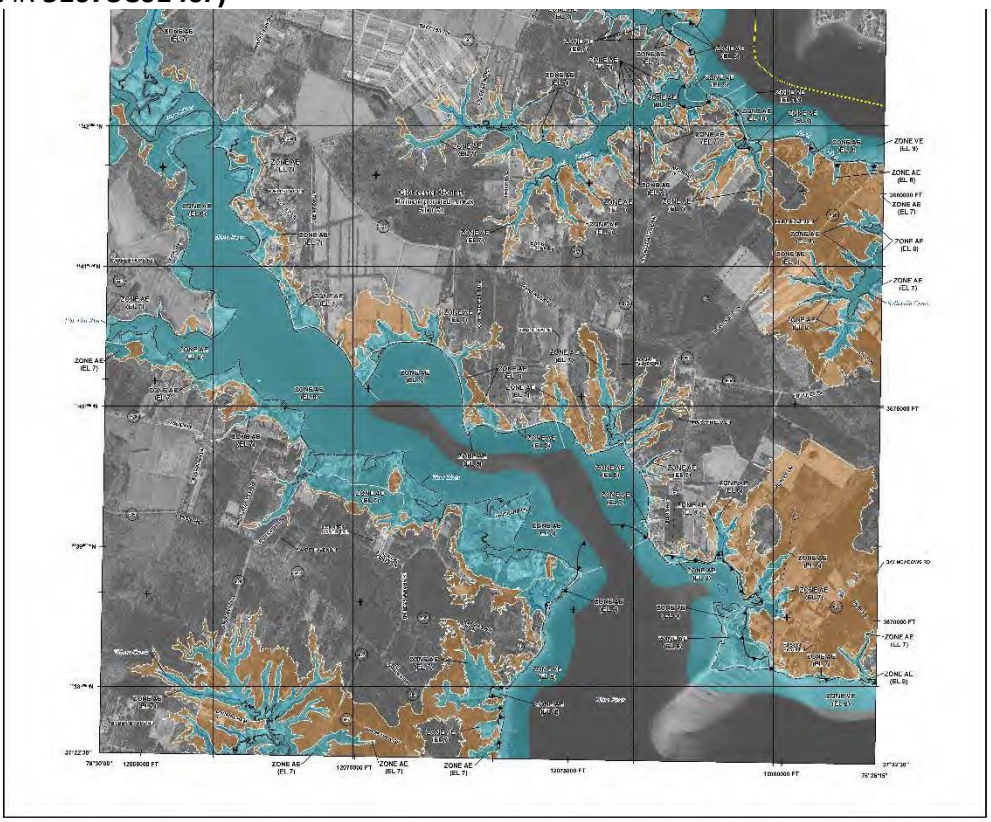
Should you have any questions concerning our support for the work of the MPPDC, I can be reached at 804-693-4042.

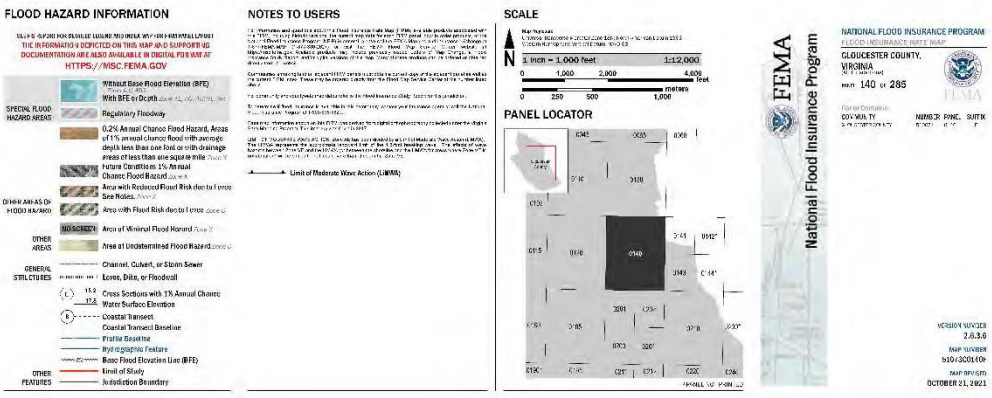
Sincerely,

Carol E. Steele
Acting County Administrator

Attachment 2: Project Location FIRMette

(FIRMette #: **51073C0140F)**





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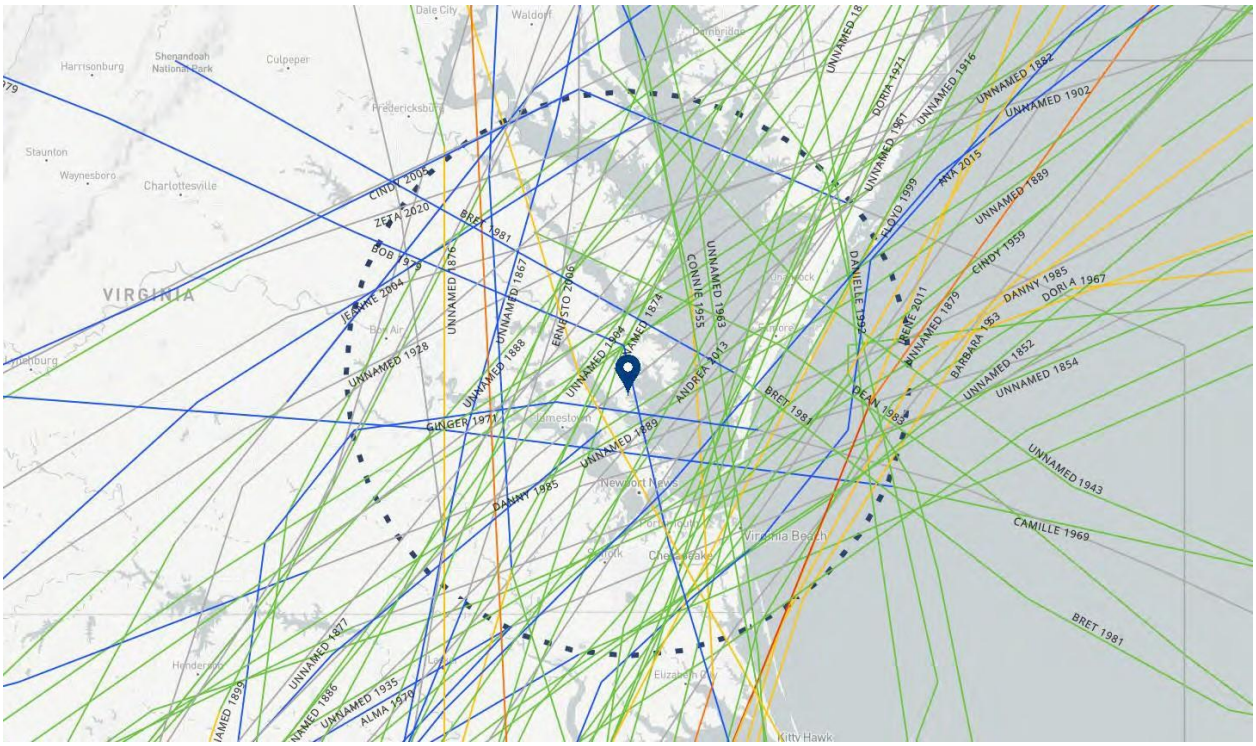
Attachment 3: List of historic hurricanes impacting the project area.

Hurricane List



Search Filter Criteria
Location: 37.39407, 76.48094

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
ZETA 2020	Oct 24, 2020 to Oct 30, 2020	100	970	H3
ISAIAS 2020	Jul 28, 2020 to Aug 05, 2020	80	986	H1
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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 to Jul 11, 2005	65	991	H1
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
HELENE 2000	Sep 15, 2000 to Sep 25, 2000	60	986	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 27, 1997	70	984	H1
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
GINGER 1971	Sep 06, 1971 to Oct 05, 1971	95	959	H2
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 12, 1959	65	995	H1
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 04, 1934	45	-1	TS
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1916	Sep 04, 1916 to Sep 07, 1916	45	-1	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
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 to Oct 01, 1874	80	980	H1
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
UNNAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
UNNAMED 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
UNNAMED 1858	Aug 11, 1858 to Aug 20, 1858	45	994	TS
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
UNNAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
UNNAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS

Attachment 4: Photos of project location.

This shows flooding of the property's driveway which impedes ingress and egress onto the property.

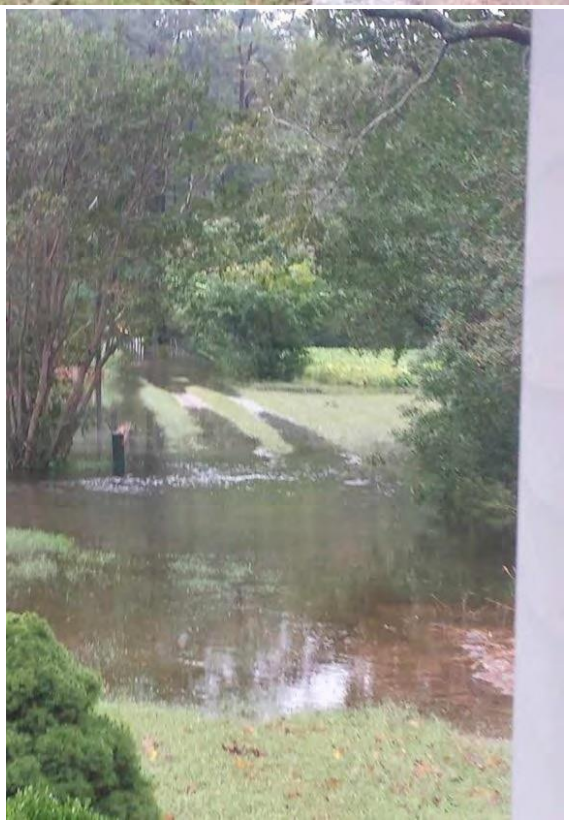
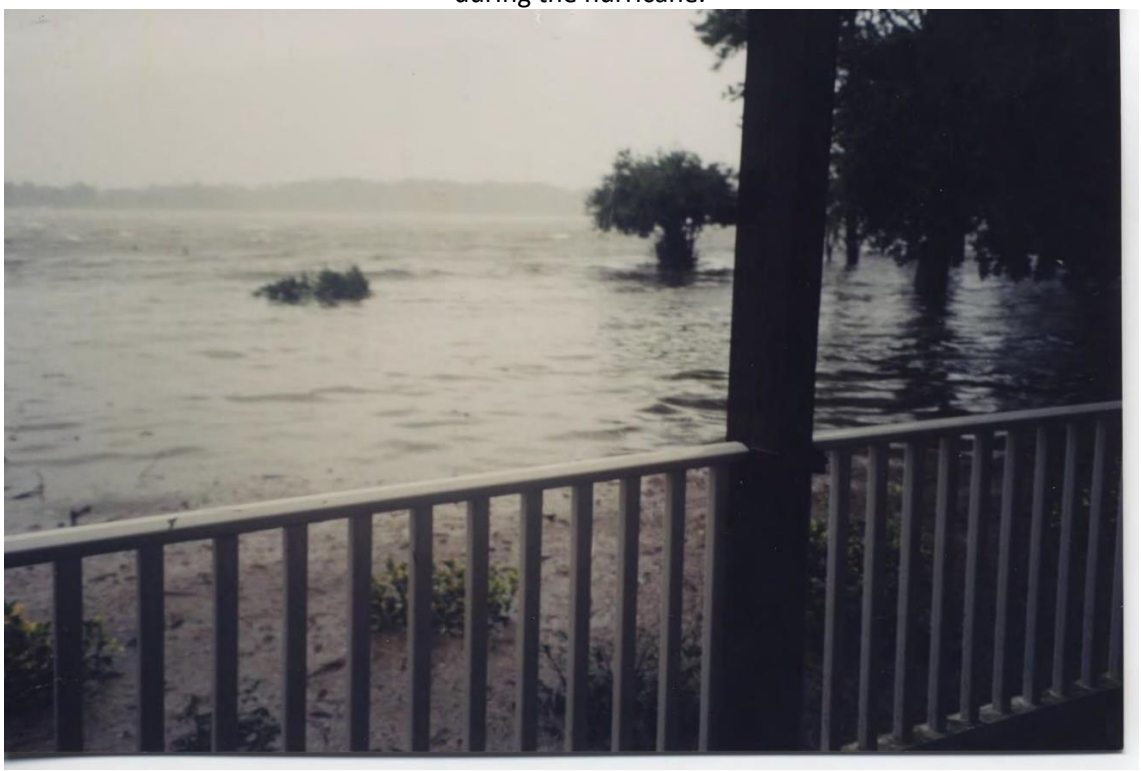


Photo of flooding in the backyard due to tides and winds.

The below photos show the damage from Hurricane Isabel in 2003. The water reaches the house during the hurricane.



The below photos show the damage from Hurricane Isabel in 2003. The water reaches the house and side yard during the hurricane.

The below photos show the damage from Hurricane Isabel in 2003. The water reaches the house and the garage during the hurricane.

The below photos show the damage from Hurricane Isabel in 2003. Flood waters move objects in the yard during the hurricane.

Attachment 5: Draft JPA Application & Design

Regulatory Agency Contact Information

Virginia Marine Resources Commission (VMRC)
Habitat Management Division
380 Fenwick Road, Building 96
Fort Monroe, VA 23651
Phone: (757) 247-2200, Fax: (757) 247-8062
Website: http://www.mrc.virginia.gov/hmac/hmoverview.shtm

United States Army Corps of Engineers (USACE)
Norfolk District
803 Front Street, ATTN: CENAO-WR-R
Norfolk, Virginia 23510-1011
Phone: (757) 201-7652, Fax: (757) 201-7678
Website: http://www.nao.usace.army.mil/Missions/Regulatory.aspx

Virginia Department of Environmental Quality (DEQ)
Virginia Water Protection Permit Program
Post Office Box 1105
Richmond, Virginia 23218
Phone: (804) 698-4000
Website: http://www.deq.virginia.gov/

LOCAL WETLANDS BOARD (LWB) CONTACT INFORMATION:
Links to LWB information on the Web can be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html
In addition, the phone numbers listed below can be used to contact the LWB. Please be advised that these phone numbers are subject to change at any time.

Accomack County (757) 787-5721, Cape Charles (757) 331-3259, Charles City County (804) 829-9296, Chesapeake (757) 382-6248, Colonial Heights (804) 520-9275, Essex County (804) 443-4951, Fairfax County (703) 324-1364, Fredericksburg (540) 372-1179, Gloucester County (804) 693-2744, Hampton (757) 727-6140, Hopewell (804) 541-2267, Isle of Wight County (757) 365-6211, James City County (757) 253-6673, King and Queen County (804) 769-4978, King George County (540) 775-7111, King William County (804) 769-4927, Lancaster County (804) 462-5220, Mathews County (804) 725-5025, Middlesex County (804) 758-0500, New Kent County (804) 966-9690, Newport News (757) 247-8437, Norfolk (757) 664-4368, Northampton County (757) 678-0442, Northumberland County (804) 580-8910, Poquoson (757) 868-3040, Portsmouth (757) 393-8836, Prince William County (703) 792-6984, Richmond County (804) 333-3415, Stafford County (540) 658-8668, Suffolk (757) 923-3650, Virginia Beach (757) 427-8246, Westmoreland County (804) 493-0120, West Point (804) 843-3330, Williamsburg (757) 220-6130, York County (757) 890-3538

Tidewater Joint Permit Application (JPA)
For Projects Involving Tidal Waters, Tidal Wetlands and/or Dunes and Beaches in Virginia

This application may be used for most commercial and noncommercial projects involving **tidal waters, tidal wetlands and/or dunes and beaches in Virginia** which require review and/or authorization by Local Wetlands Boards (LWB), the Virginia Marine Resources Commission (VMRC), the Department of Environmental Quality (DEQ), and/or the U. S. Army Corps of Engineers (USACE). This application can be used for:

- **Access-related activities**, including piers, boathouses, boat ramps (without associated dredging or excavation*), moorings, marinas.
- **Shoreline stabilization projects** including living shorelines, riprap revetments, marsh toe stabilization, bulkheads, breakwaters, beach nourishment, groins, and jetties. It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1).
- **Crossings** over or under tidal waters and wetlands including bridges and utility lines (water, sewer, electric).
- **Aquaculture structures**, including cages and floats except "oyster gardening"**

***Note:** for all dredging, excavation, or surface water withdrawal projects you **MUST** use the Standard JPA form; for noncommercial, riparian shellfish aquaculture projects (i.e., "oyster gardening") you must use the abbreviated JPA found at https://mrc.virginia.gov/forms/2019/VGP3_Aquaculture_form_2019.pdf or call VMRC for a form.

The DEQ and the USACE use this form to determine whether projects qualify for certain General, Regional, and/or Nationwide permits. If your project does not qualify for these permits and you need a DEQ Virginia Water Protection permit or an individual USACE permit, you must submit the Standard Joint Permit application form. You can find this application at http://www.nao.usace.army.mil/Missions/Regulatory/JPA.aspx. Please note that some health departments and local agencies, such as local building officials and erosion and sediment control authorities, do not use the Joint Permit Application process or forms and may have different informational requirements. The applicant is responsible for contacting these agencies for information regarding those permitting requirements.

HOW TO APPLY

Submit one (1) completed copy of the Tidewater JPA to VMRC:

1. If by mail or courier, use the VMRC address provided on page 1.
2. If by electronic mail, address the package to: **JPA.permits@mrc.virginia.gov.** The application must be provided in the .pdf format and should not exceed 10 MB. If larger than 10 MB you may provide a file transfer protocol (ftp) site for download purposes.

The Tidewater JPA should include the following:

1. **Part 1** – General Information
2. **Part 2** – Signatures
3. **Part 3 -** Appendices (A, B, C, and/or D as applicable to your project)
4. **Part 4** – Project Drawings.
   The drawings shall include the following for **ALL** projects:
   - Vicinity Map (USGS topographic map, road map or similar showing project location)
   - Plan View Drawing (overhead, to scale or with dimensions clearly marked)
   - Section View Drawing (side-view, to scale or with dimensions clearly marked)

Sample drawings are included at the end of Part 4 of this application to show examples of the information needed to consider your application complete and allow for the timely processing.

When completing this form, use the legal name of the applicant, agent, and/or property owner. For DEQ application purposes, *legal name* means the full legal name of an individual, business, or other organization. For an individual, the legal name is the first name, middle initial, last name, and suffix. For an entity authorized to do business in Virginia, the legal name is the exact name set forth in the entity's articles of incorporation, organization or trust, or formation agreement, as applicable. Also provide the name registered with the State Corporation Commission, if required to register. DEQ issues a permit or grants coverage to the so-named individual or business, who becomes the 'permittee'. Correspondence from some agencies, including permits, authorizations, and/or coverage, may be provided via electronic mail. If the applicant and/or agent wishes to receive their permit via electronic mail, please remember to include an e-mail address at the requested place in the application.

In order for projects requiring LWB authorization to be considered complete (Virginia Code § 28.2-1302); "The permit application shall include the following: the name and address of the applicant; a detailed description of the proposed activities; a map, drawn to an appropriate and uniform scale, showing the area of wetlands directly affected, the location of the proposed work thereon, the area of existing and proposed fill and excavation, the location, width, depth and length of any proposed channel and disposal area, and the location of all existing and proposed structures, sewage collection and treatment facilities, utility installations, roadways, and other related appurtenances of facilities, including those on the adjacent uplands; a description of the type of equipment to be used and the means of access to the activity site; the names and addresses of record of adjacent land and known claimants of water rights in or adjacent to the wetland of whom the applicant has notice; an estimate of cost; the primary purpose of the project; and secondary purpose of the proposed project; a complete description of measures to be taken during and after alteration to reduce detrimental offsite effects; the completion date of the proposed work, project, or structure; and such additional materials and documentation as the wetlands board may require."

You may include signed Adjacent Property Owner (APO) Acknowledgement Forms found at the end of this Short Form. You must provide these addresses in Part 1 whether or not you use the APO forms. VMRC will request comments from APOs for projects that require permits for encroachment over state-owned submerged lands. VMRC or your local wetlands board must notify all APO's of public hearings required for all proposals involving tidal wetlands and dunes/beaches that are not authorized by statute. This information will not be used by DEQ to meet the requirements of notifying riparian land owners.

Regional Permit 17 (RP-17), authorizes the installation and/or construction of open-pile piers, mooring structures/devices, fender piles, covered boathouses/boatslips, boatlifts, osprey pilings/platforms, accessory pier structures, and certain devices associated with shellfish gardening, for private use, subject to strict compliance with all conditions and limitations further set out in the RP-17 enclosure located at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/. In addition to the information required in this JPA, prospective permittees seeking authorization under RP-17 must complete and submit the 'Regional Permit 17 Checklist' with their JPA. A copy of the 'Regional Permit 17 Checklist' is found on pages 13 and 14 of this application package. If the prospective permittee answers "yes" (or "N/A", where applicable) to all of the questions on the 'Regional Permit 17 Checklist', the permittee is in compliance with RP-17 and will not receive any other written authorization from the Corps but may not proceed with construction until they have obtained all necessary state and local permits. ***Note: If the prospective permittee answers "no" to any of the questions on the 'Regional Permit 17 Checklist' then their proposed structure(s) does not meet the terms and conditions of RP-17 and written authorization from the Corps is required before commencement of any work.***

Note: Land disturbance (grading, filling, etc.) or removal of vegetation associated with projects located in Chesapeake Bay Preservation Areas will require approval from local governments. Certain localities utilize this application during their Bay Act review. Part 5 of this application is included to provide assistance for the applicant to comply with Bay Act /or Erosion and Sediment Control requirements concurrent with this application.

WHAT HAPPENS NEXT

Upon receipt of an application, VMRC will assign a permit application number to the JPA and will then distribute a copy of the application and any original plan copies submitted to the other regulatory agencies that are involved in the JPA process. All agencies will conduct separate but concurrent reviews of your project. Please be aware that each agency must issue a separate permit (or a notification that no permit is required). Note that in some cases, DEQ may be taking an action on behalf of the USACE, such as when the State Program General Permit (SPGP) applies. Make sure that you have received all necessary authorizations, or documentation that no permit is required, from each agency prior to beginning the proposed work.

During the JPA review process, site inspections may be necessary to evaluate a proposed project. Failure to allow an authorized representative of a regulatory agency to enter the property, or to take photographs of conditions at the project site, may result in either the withdrawal or denial of your permit application.

For certain federal and state permit applications, a public notice is published in a newspaper having circulation in the project area, is mailed to adjacent and/or riparian property owners, and/or is posted on the agency's web page. The public may comment on the project during a designated comment period, if applicable, which varies depending upon the type of permit being applied for and the issuing agency. In certain circumstances, the project may be heard by a governing board, such as a Local Wetlands Board, the State Water Control Board, or VMRC in cases where a locality does not have a wetlands board and with certain subaqueous cases. You may be responsible for bearing the costs for advertisement of public notices.

Public hearings that are held by VMRC occur at their regularly scheduled monthly commission meetings under the following situations: Protested applications for VMRC permits which cannot be resolved; projects costing over $500,000 involving encroachment over state-owned subaqueous land; and all projects affecting tidal wetlands and dunes/beaches in localities without a LWB. All interested parties will be officially notified regarding the date and time of the hearing and Commission meeting procedures. The Commission will usually make a decision on the project at the meeting unless a decision for continuance is made. If a proposed project is approved, a permit or similar agency correspondence is sent to the applicant. In some cases, notarized signatures, as well as processing fees and royalties, are required before the permit is validated. If the project is denied, the applicant will be notified in writing.

PERMIT APPLICATION OR OTHER FEES

Do not send any fees with the JPA. VMRC is not responsible for accounting for fees required by other agencies. Please consult agency websites or contact agencies directly for current fee information and submittal instructions.

- USACE: Permit application fees are required for USACE Individual (Standard) permits. A USACE project manager will contact you regarding the proper fee and submittal requirements.

- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA #

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☐ NWP # _____ (*For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned*)	Regional Permit 17 (RP-17) ☐	
County or City in which the project is located: _____ **Waterway at project site:** Ware River		

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:
   [redacted]
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____
   State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:
   [redacted]
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____
   State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable): Contact Information:
   Home (____)_____
   Work (____)_____
   Fax (____)_____
   Cell (____)_____
   e-mail _____
   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

   The project is located on the upper Ware River in Gloucester County. The low bank shoreline faces north-northwest and has an average fetch of 0.7 miles with a long fetch to the northwest of 1.3 miles. The tide range is 2.5 ft. A marsh fringe with an eroding edge exists along the shoreline. To increase the level of shore protection and longer-term coastal resiliency, a living shoreline project was designed with 1 rock sill, sand fill, and Spartina patens and Spartina alterniflora marsh grass plantings. The structure (sill 4A) is part of a system designed for an overall living shoreline project on adjacent properties to provide shore protection with a reach approach. Coastal resiliency is enhanced by the reach approach because adjacent systems work together to provide an enhanced level of shore and habitat protection. Along the [redacted] properties, approximately 7,600 square feet of marsh will be created along about 200 ft of shoreline. For construction, the site will be accessed by land with materials being delivered by truck. No tree clearing or grading will occur.

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ___ Yes* ___ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)
   Contractor's name* and complete mailing address:

   Contact Information:
   Home (_)_____
   Work (_)_____
   Fax (_)_____
   Cell (_)_____
   email _____

   State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

   Name and complete mailing address:
   Gloucester-Mathews Gazette-Journal
   P.O. Box 2060
   Gloucester, Va. 23061

   Telephone number
   (804) 693-3101

7. Give the following project location information:

   Street Address (911 address if available) 7903 Riverside Dr.
   Lot/Block/Parcel# RPC 12989, Tax map #33-230
   Subdivision _____
   City / County Gloucester County ZIP Code 23061
   Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
   37.394333° / -76.480857° (Example: 36.41600/-76.30733)

   If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

   From Rt. 17 take TC Walker Rd (Rt 629). Turn onto Zanoni Rd (Rt 626). Turn onto Riverside Dr.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

   The primary purpose of the project is shore protection. The existing marsh and the upland, where exposed, is eroding. A stable marsh will be create to protect the upland property through the installation of a living shoreline. A secondary purpose is to provide coastal resiliency for the affected shoreline from flooding and sea-level rise.

Part 1 - General Information (continued)

9. Proposed use (check one):
   X Single user (private, non-commercial, residential)
   ___ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

    Although 5,400 square feet of subaqueous land will be covered, the sills need to be slightly farther offshore to accommodate the beach fill that provides a level of protection. Bringing the structures closer to the shore would steepen the fill and reduce wetland plantings. No clearing, grading or excavating will occur. No SAV occurs in the area.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes X No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $ 139,500
    Approximate cost of that portion of the project that is channel ward of mean low water:
    $ 90,300

13. Completion date of the proposed work:_____-_____

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

    1) Shannon and Robert Elrod
    7919 Riverside Dr.
    Gloucester, VA 23061

    2) Lanning Living Trust
    6626 Ware Haven Ln
    Gloucester, VA 23061

Part 2 - Signatures

1. Applicants and property owners (if different from applicant).
NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

Applicant's Legal Name (printed/typed) _____ (Use if more than one applicant)

Applicant's Signature _____ (Use if more than one applicant)

Date _____

Property Owner's Legal Name (printed/typed) (If different from Applicant) _____ (Use if more than one owner)

Property Owner's Signature _____ (Use if more than one owner)

Date _____

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we),_____, hereby certify that I (we) have authorized _____
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

_____ _____
(Agent's Signature) (Use if more than one agent)

_____
(Date)

_____ _____
(Applicant's Signature) (Use if more than one applicant)

_____
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), _____, have contracted_____
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated_____.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

_____
Contractor's name or name of firm

_____
Contractor's or firms address

_____ _____
Contractor's signature and title Contractor's License Number

_____ _____
Applicant's signature (use if more than one applicant)

_____
Date

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ ABOUT THE PROJECT.

I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ ABOUT THE PROJECT.

I DO NOT OBJECT _____ TO THE PROJECT.

I OBJECT _____ TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS**.**

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

   The living shoreline project covers a total of about 200 linear feet along the Ware River. It consists of 1 rock sill that is 193 ft long. Clean sand fill will be placed behind each structure and planted with Spartina alterniflora and Spartina patens. About of 0.17 acres of wetlands will be created (1865 sq.ft S. alterniflora; 5700 sq.ft S. patens).

2. What is the maximum encroachment channelward of mean high water? 50 feet.
   Channelward of mean low water? 30 feet.
   Channelward of the back edge of the dune or beach? NA feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands 3,700 square feet
   - Non-vegetated wetlands 1,865 square feet
   - Subaqueous bottom 5,407 square feet
   - Dune and/or beach NA square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes____ No.

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No.

   If no, please provide an explanation for the purpose and need for the additional encroachment.

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

   Project will be constructed from the land side. The low bank allows direct access along the shoreline. It is anticipated that material will be placed with excavator. The project consists of clean sand and Class II armor.

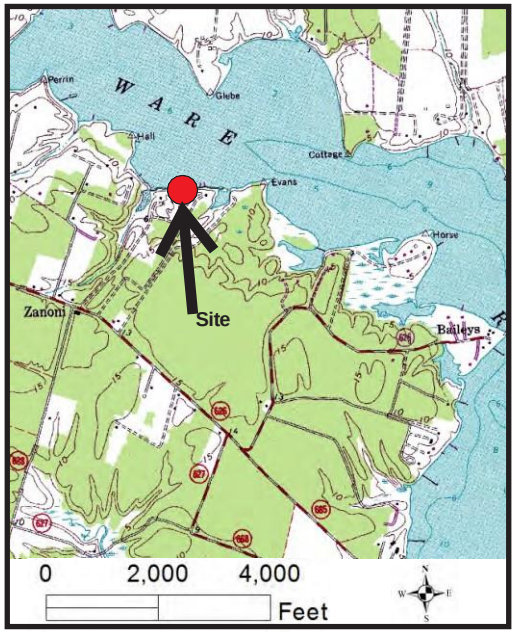
6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
   Core (inner layer) material 25 pounds per stone Class size 1A
   Armor (outer layer) material 325 pounds per stone Class size II

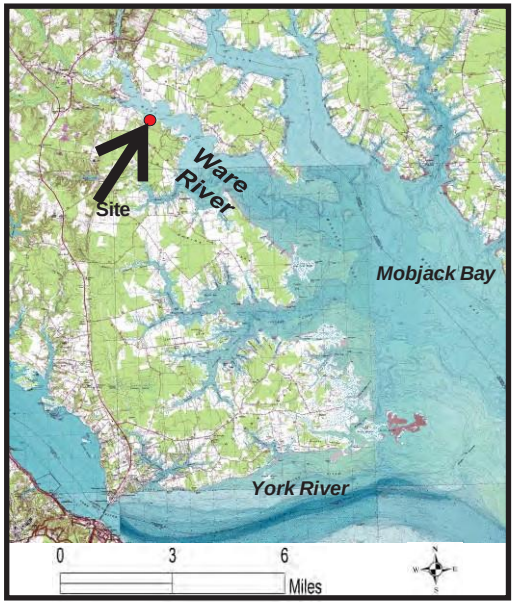
7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

   - Volume of material
     - 31 cubic yards channelward of mean low water
     - 500 cubic yards landward of mean low water
     - 91 cubic yards channelward of mean high water
     - 441 cubic yards landward of mean high water
   - Area to be covered
     - 1,832 square feet channelward of mean low water
     - 5,322 square feet landward of mean low water
     - 91 cubic yards channelward of mean high water
     - 441 cubic yards landward of mean high water
   - Source of material, composition (e.g. 90% sand, 10% clay): Local borrow pit
   - Method of transportation and placement:
     Truck haul
   - Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

     Vegetative stabilization of the sand substrate will be with Spartina alterniflora and Spartina patens. Each species will be planted on a 1.5' x 1.5' grid spacing with 0.5 oz of slow-release fertilizer per plant. Survival of 80% of the planting is required for one year.

Ware River Living Shoreline Project: Robens





Adjacent Property Owners:
1) Robert & Shannon Elrod
2) Lanning Living Trust

GENERAL NOTES

1. Mean tide range is 2.5 ft (1983-2001)
2. Horizontal control was established by Real Time Kinematic Global Positioning System (RTK-GPS) and is shown in UTM, zone 18, NAD83, ift and Latitude/Longitude.
3. Vertical control is MLW. MLW (1983-2001) was determined to be 1.5 ft below NAVD88 at Ware River Living Shoreline Project.
4. Topographic data obtained on 18 Dec 2019 using RTK-GPS.
5. All dimensions and coordinates are given in feet.
6. Plans were created in Esri ArcGIS.

CONSTRUCTION SCHEDULE FOR SEDIMENT AND EROSION CONTROL

1. Contractor is to notify MPPDC of the date construction is to begin at least seven (7) days prior to the date (Time Frame = 1 day).
2. Install silt fences, erosion and sediment control measures and turbidity curtain, as needed (1 day).
3. Remove all debris interfering with shoreline construction as construction proceeds (continuous). Clear trees and underbrush within designated areas as construction proceeds.
4. Structure installation (60 days).
    1. Install stone sills.
    2. Place sand as a vegetative terrace.
    3. Plant vegetative planting terrace as specified
5. Stabilize and seed all upland disturbed areas as specified
6. Remove turbidity curtain (1 day).
7. After establishment of vegetative cover on site, remove silt fence and other erosion and sediment control measures.

Ware River Living Shoreline Project

MIDDLE PENINSULA PLANNING DISTRICT COMMISSION

NFWF

VIMS | WILLIAM & MARY
VIRGINIA INSTITUTE OF MARINE SCIENCE

Shoreline Studies Program

Project Title
Ware River Living Shoreline Project: Robens

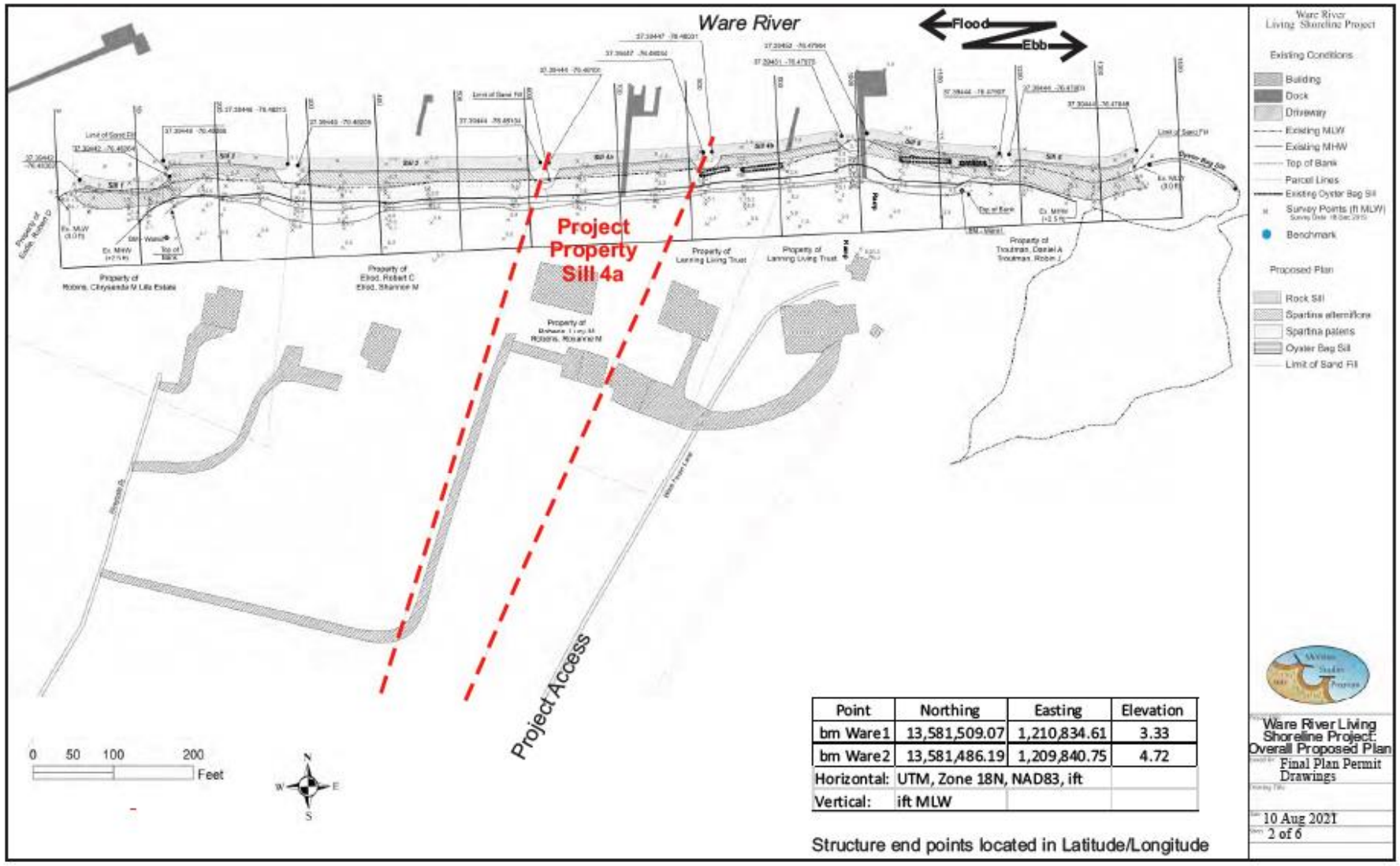
Issued for
Final Plan Permit Drawings

Drawing Title
Cover Sheet

Date
10 Aug 2021

Scale

Sheet: 1 of 6



Point	Northing	Easting	Elevation
bm Ware1	13,581,509.07	1,210,834.61	3.33
bm Ware2	13,581,486.19	1,209,840.75	4.72
Horizontal:	UTM, Zone 18N, NAD83, ift		
Vertical:	ift MLW		

Structure end points located in Latitude/Longitude

Ware River
Living Shoreline Project

Existing Conditions

- Building
- Dock
- Driveway
- Existing MLW
- Existing MHW
- Top of Bank
- Parcel Lines
- Existing Oyster Bag Sill
- Survey Points (ft MLW)
- Benchmark

Proposed Plan

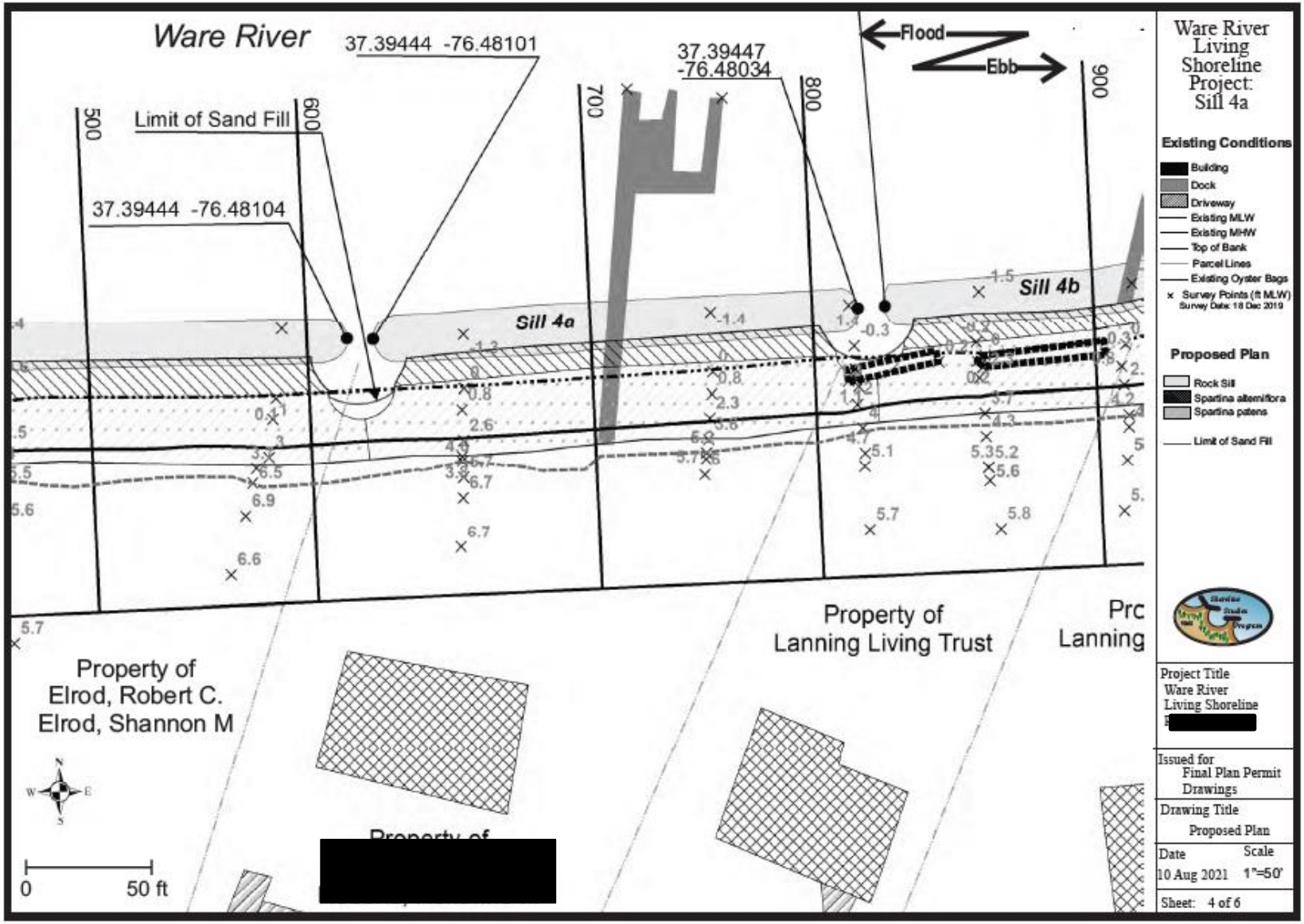
- Rock Sill
- Spartina alterniflora
- Spartina patens
- Oyster Bag Sill
- Limit of Sand Fill

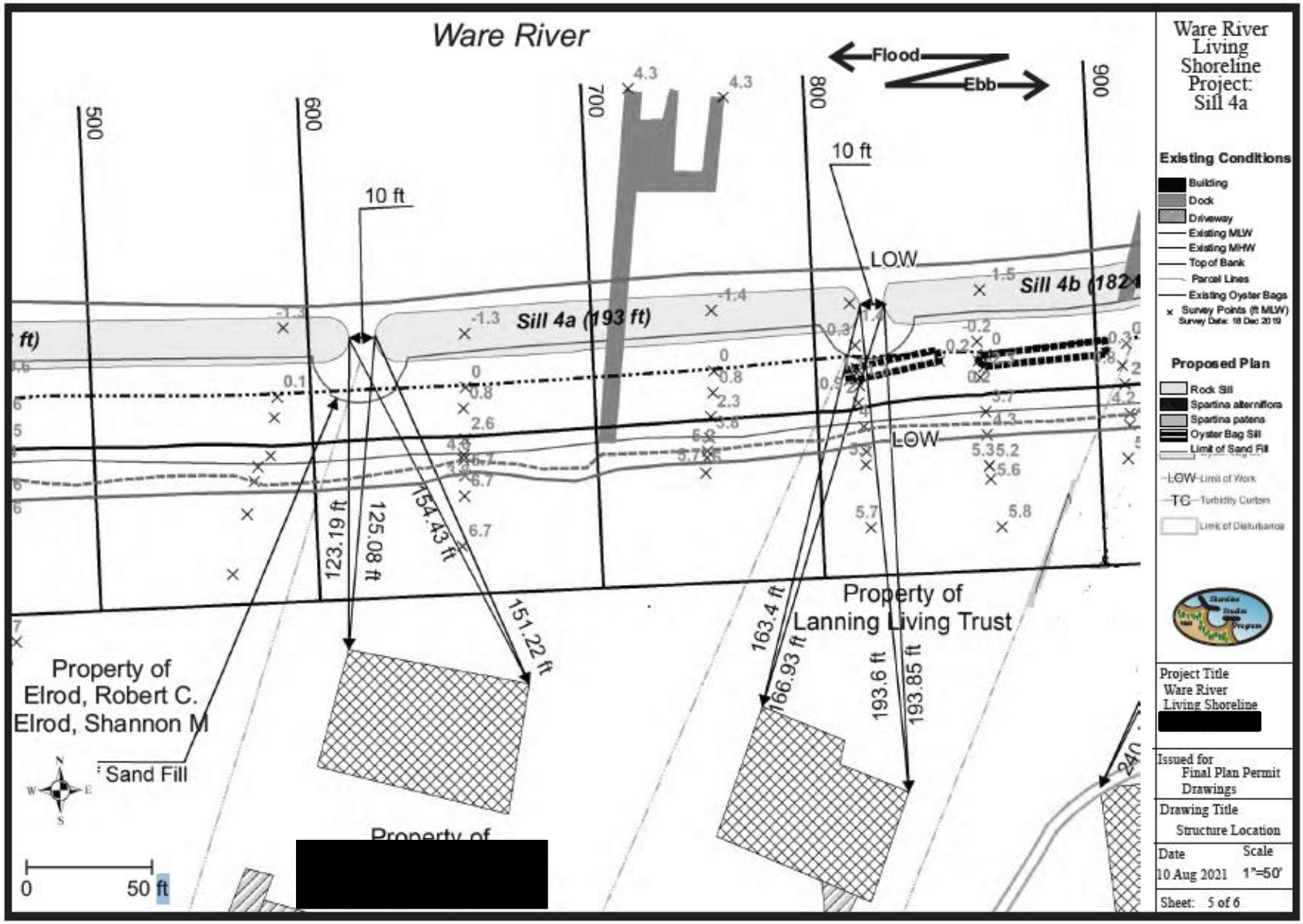
Ware River Living Shoreline Project: Overall Proposed Plan

Final Plan Permit Drawings

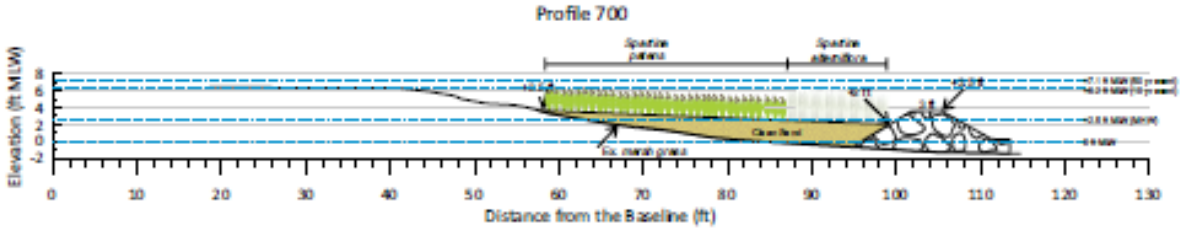
10 Aug 2021

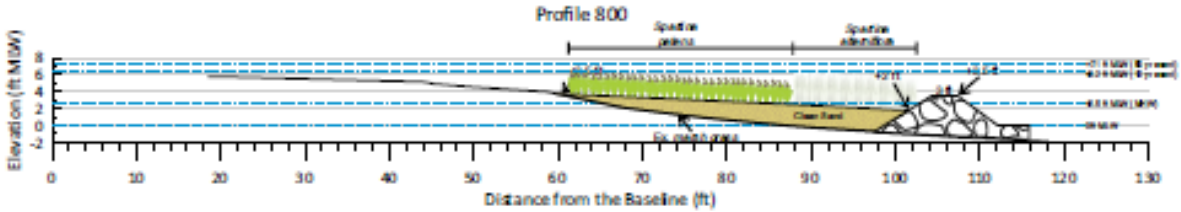
2 of 6


Ware River
37.39444 -76.48101
37.39447
-76.48034
Flood
Ebb
500
Limit of Sand Fill
600
700
800
900
37.39444 -76.48104
Sill 4a
Sill 4b
Property of
Elrod, Robert C.
Elrod, Shannon M
Property of
Lanning Living Trust
Prc
Lanning
N
W
E
S
0
50 ft
Ware River
Living
Shoreline
Project:
Sill 4a
Existing Conditions
Building
Dock
Driveway
Existing MLW
Existing MHW
Top of Bank
Parcel Lines
Existing Oyster Bags
Survey Points (ft MLW)
Survey Date: 18 Dec 2019
Proposed Plan
Rock Sill
Spartina alterniflora
Spartina patens
Limit of Sand Fill
Project Title
Ware River
Living Shoreline
[redacted]
Issued for
Final Plan Permit
Drawings
Drawing Title
Proposed Plan
Date
10 Aug 2021
Scale
1"=50'
Sheet: 4 of 6


Ware River
Flood
Ebb
500
600
700
800
900
10 ft
10 ft
LOW
LOW
Sill 4a (193 ft)
Sill 4b (1824
123.19 ft
125.08 ft
154.43 ft
151.22 ft
163.4 ft
166.93 ft
193.6 ft
193.85 ft
Property of
Elrod, Robert C.
Elrod, Shannon M
Sand Fill
Property of
Lanning Living Trust
Property of
[redacted]
0
50 ft
Ware River
Living
Shoreline
Project:
Sill 4a
Existing Conditions
Building
Dock
Driveway
Existing MLW
Existing MHW
Top of Bank
Parcel Lines
Existing Oyster Bags
Survey Points (ft MLW)
Survey Date: 18 Dec 2019
Proposed Plan
Rock Sill
Spartina alterniflora
Spartina patens
Oyster Bag Sill
Limit of Sand Fill
LOW-Limit of Work
TC-Turbidity Curtain
Limit of Disturbance
Project Title
Ware River
Living Shoreline
[redacted]
Issued for
Final Plan Permit
Drawings
Drawing Title
Structure Location
Date
10 Aug 2021
Scale
1"=50'
Sheet: 5 of 6

Ware River Living Shoreline Project: Sill 4a





Project Title
Ware River Living Shoreline
[redacted]

Issued for
Final Plan Permit Drawings

Drawing Title
Cross-Section

Date
10 Aug 2021

Scale

Sheet: 6 of 6

Attachment 6: Flood Prevention Project and its Relevance to Other Projects

MPPDC staff have worked throughout the years to understand the policy, research and impacts of flooding (ie. 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 & Sea Level Rise (2009 to 2012)

The MPPDC 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, MPPDC 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.

Phase 1: Middle Peninsula Climate Change Adaptation: Facilitation of Presentations and Discussions of Climate Change Issues with Local Elected Officials and the General Public *Phase 2:* Climate Change III: Initiating Adaptation Public Policy Development

Phase 3: Phase 3 Climate Change: Initiating Adaptation Public Policy Development

Emergency Management - Hazard Mitigation Planning (2009 to Present): Since 2009, the Middle Peninsula Planning District Commission 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* (ie. Mean High Higher Water and the 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, OSDS management, storm water management, TMDLs, etc, staff from the Middle Peninsula Planning District Commission (MPPDC) 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 Onsite Sewage Disposal System (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 Virginia Department of Conservation and Recreation 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 MPPDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The MPPDC 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): MPPDC 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 VSMP.

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 MPPDC developed the MPPDC 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 MPPDC Living Shoreline Revolving Loan program, 8 living shorelines have been

financed and built to date encumbering ~$500,000 in VRA loan funding and ~$400,000 in NFWF grant funding. Living Shoreline construction cost to date range per job $14,000- $180,000. MPPDC 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.

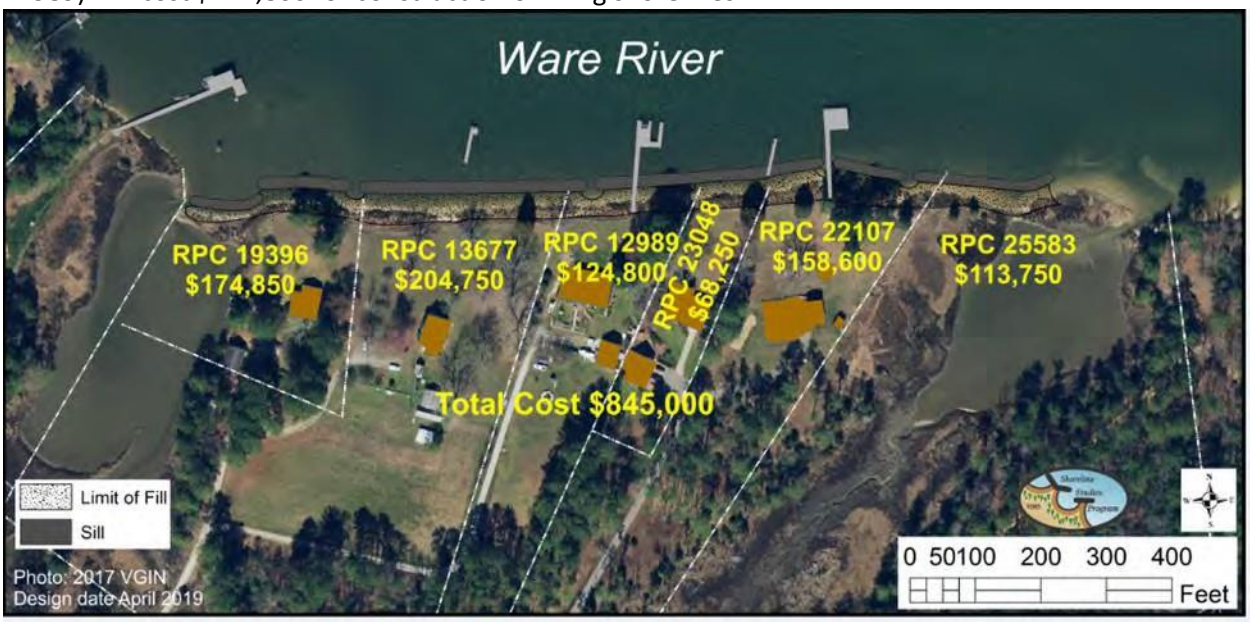
Virginia Stormwater Nuisance Law Guidance (2018): This report was developed by the Virginia Coastal Policy Center to understand the ability of a downstream recipient of stormwater flooding to bring a claim under Virginia law against an upstream party, particularly a nuisance claim. The report summarizes how Virginia courts determine stormwater flooding liability between two private parties.

Oyster Bag Sill Construction and Monitoring at Two Sites in Chesapeake Bay (2018): VIMS Shoreline Studies Program worked with the 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 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.

Attachment 7: Project cost estimates

The below image is a map of the 6 contiguous property owners that were interested in participating in the original NFWF grant. From this project Virginia Institute of Marine Science developed a cost estimate for each parcel to install living shorelines. The Phase III project (RPC 12989) will cost $124,800 for construction of living shorelines.



Approximate cost per parcel for the Ware River Living Shoreline based on the average cost of $650 per linear foot calculated for this project. The total includes rock, sand, plants, and 20% mob/demob .

							Budget (Cat. D)
					Applicant 2		
Personnel Salaries/Wages	**DCR**	**Match %**	**Annual Salary**		**DCR**	**Owner**	**Total**
Staff	9.62%	2.35%	$70,000		$10,799	$4,628	$15,427
Personnel	*Lewie's Cheat Sheet*		**DCR**	**Owner**	$10,799	$4,628	$15,427
		Total	*70%*	*30%*			
Fringe, 26.21% salaries;		$129,800	90,860.00	38,940.00	$2,830	$1,213	$4,043
	15%	19,470.00	13,629.00	5,841.00			
Total Personnel		#########	**104,489.00**	**44,781.00**	$13,629	$5,841	$19,470
SubAward/SubContract Agreements					**70%**	**30%**	
VIMS Cost Estimate: Living Shoreline rock,sand plants 20%mob and demob $650 LF				$124,800	$87,360	$37,440	$124,800
Legal Procurement and Financing/deeds of trust				$5,000	$3,500	$1,500	$5,000
				$0	$0	$0	$0
				$0	$0	$0	$0
				$0	$0	$0	$0
				$0	$0	$0	$0
				$0	$0	$0	$0
				$0	$0	$0	$0
				$129,800			
SUBTOTAL: Direct Costs					$104,489	$44,781	$149,270
Indirect/IDC/Facilities & Administrative Costs			**27.92%**	$12,416	$8,691	$3,725	$12,416
Total					**$113,180**	**$48,506**	**$161,686**
Other Match:							
Source of Match					$0	$0	$0
GRAND TOTAL					**$113,180**	**$48,506**	**$161,686**

Attachment 8: Match Commitment Letters

shoreline commitment letter

RR [redacted] <marlinntide@cox.net>
To Jackie Rickards

Reply | Reply All | Forward | ...
Fri 10/15/2021 11:17 AM

You forwarded this message on 10/15/2021 11:21 AM.

shoreline match letter.docx
12 KB

10/11/2021

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

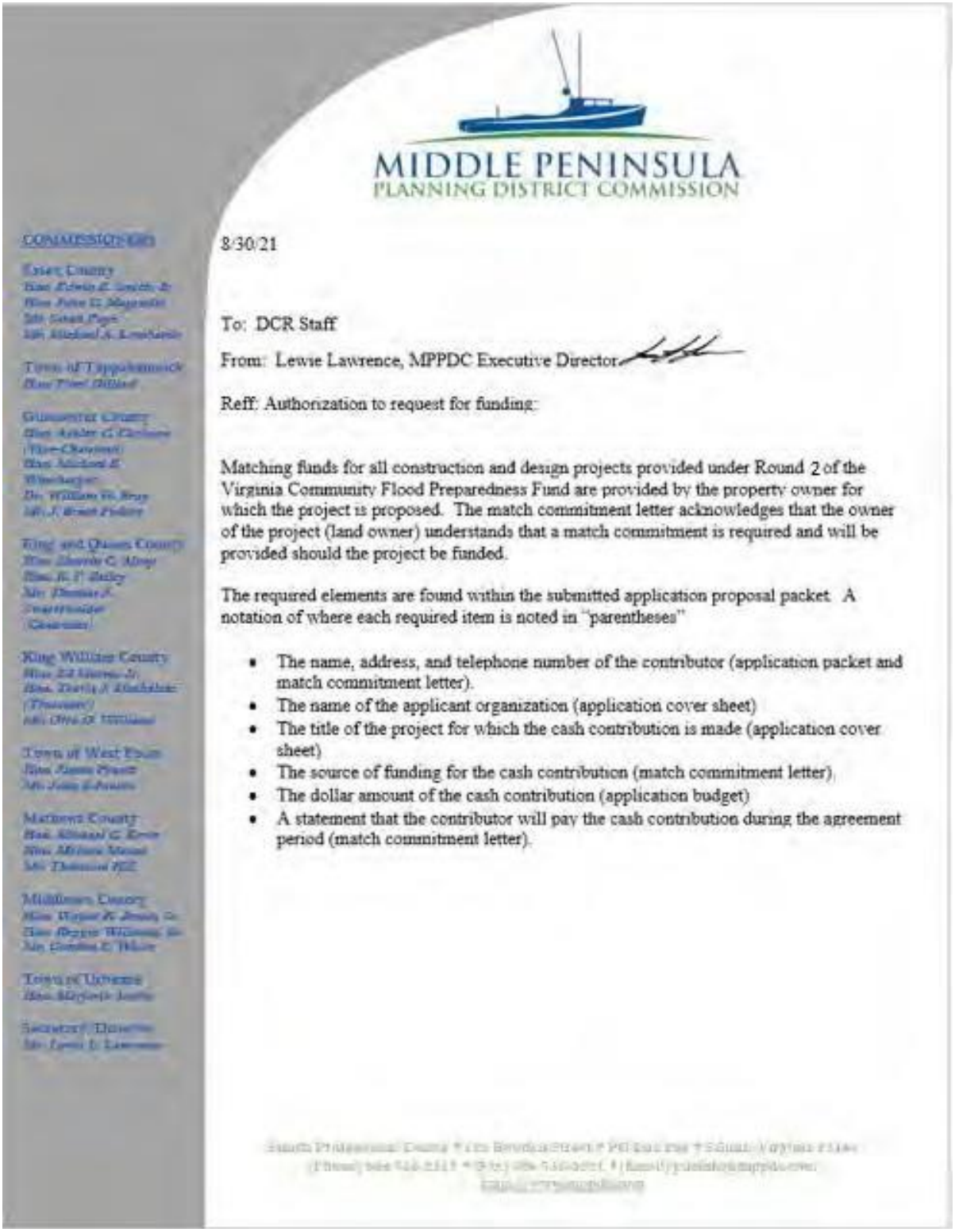
Dear Mr. Clyde Cristman

Thank you for considering the application to the Virginia Community Flood Preparedness Fund,
involving necessary flood mitigation activities on my property at 7903 Riverside Drive Gloucester Va 23061.
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 804-758-2311
should you have any questions, and they will be able to contact me to coordinate a response. I can be reached by phone at 757-871-7776 or by email at marlinntide@cox.net.

Sincerely,

[redacted]

Attachment 9: Authorization to request for funding



MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

COMMISSIONERS

Essex County

Town of Tappahannock

Gloucester County

King and Queen County

King William County

Town of West Point

Mathews County

Middlesex County

Town of Urbanna

Secretary/Director

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 2 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).

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund
Flood Prevention and Protection Project

PROJECT TITLE: Wilsons Creek Living Shoreline Construction Project
Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

_____Capacity Building/Planning X Project _____Study

NFIP/DCR Community Identification Number (CID): Gloucester County (510071)

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: (804) 758-2311 Cell Phone Number: (____
Email Address: llawrence@mppdc.com

Contact Person (If different from authorized official): Jackie Rickards
Mailing Address (1): PO Box 286
Mailing Address (2): 125 Bowden Street
City: Saluda **State:** VA **Zip:** 23149
Telephone Number: (804) 758-2311 **Cell Phone Number:** (215) 264-6451
Email Address: jrickards@mppdc.com

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

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): Gloucester County
NFIP Community Identification Number (CID#) (See appendix F): 510071

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): 51073C0201E and 51073C0202E

Total Cost of Project: **$204,719**

Total Amount Requested: **$143,304**

INTRODUCTION –

This project proposes to construct a nature-based shoreline management solution on two private properties located on Wilsons Creek in Gloucester County. The nature-based solution will involve the installation of a 485-feet-long rock sill with clean sand back fill and plantings of native vegetation and a 95 linear feet section of riprap revetment.

FEMA, Virginia General Assembly, DCR's Floodplain Management Program, and the Middle Peninsula 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 and work there. These hazards include flooding, drought, hurricanes, landslides, wildfires and more. 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 (www.FightTheFloodVA.com). This proposal is a Nature-based solution which utilizes and incorporates sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. Further, this proposal incorporates natural features and 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. 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 (*FEMA Building Community Resilience with Nature Based Solutions*, June 2021).

This project will be a partnership between the MPPDC and two private property owners and is supported by Gloucester County (See the community support letter in **Attachment 1**).

- *A link or copy to the approved resilience plan:* Approved-8_19_DCR-packet_letterandplan.pdf (fightthefloodva.com)
- Middle Peninsula All Hazards Mitigation Plan (2016): https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf within the plan please see Section 4 (page 25). This Section includes historical hazard data within the region.
- Here's a link to the Gloucester County Comprehensive Plan: https://www.gloucesterva.info/DocumentCenter/View/5777/2016-Gloucester-County-Comprehensive-Plan

PROJECT LOCATION INFORMATION –

This project proposes to install living shorelines on two private properties on Wilson Creek in Gloucester County (**Figure 1 and 2**).

FIGURE 1: COUNTY MAP OF PROJECT LOCATION.

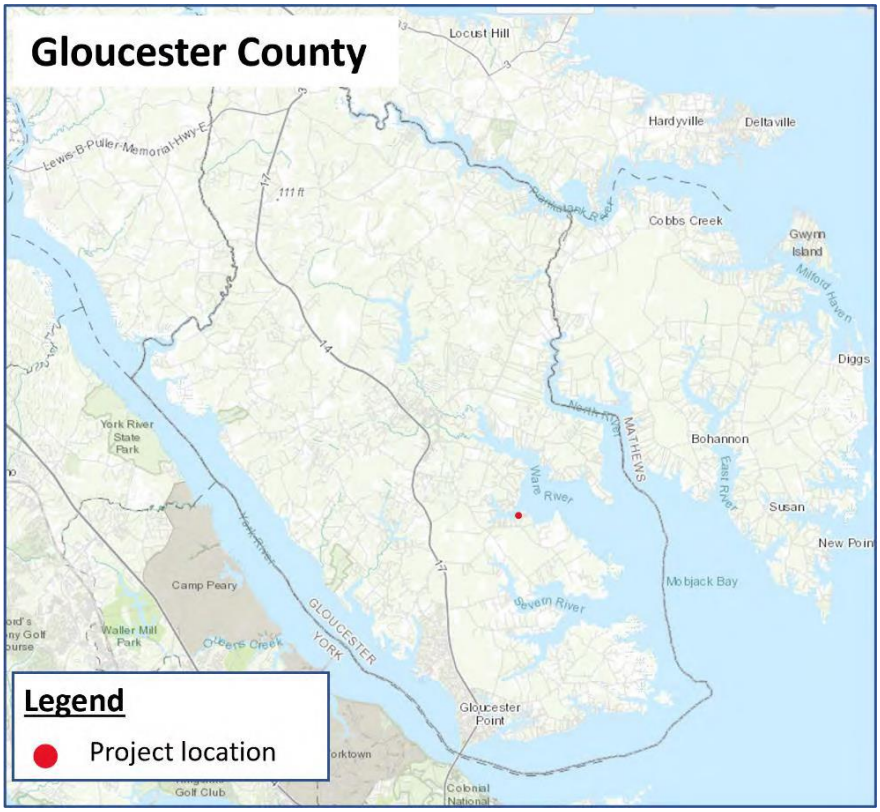
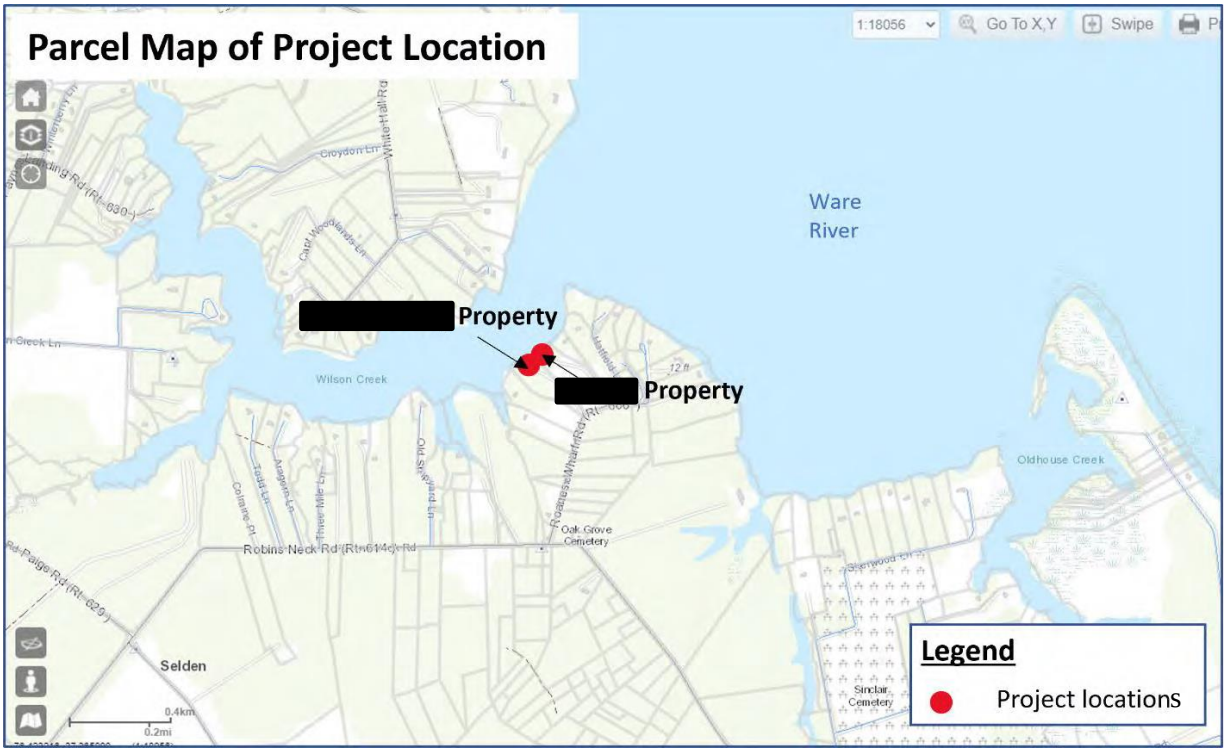


FIGURE 2: PARCEL MAP OF PROJECT LOCATION.



Gloucester County is located at the southern tip of Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 218 square miles of land and 296 miles of shorelines. Based on 2020 Census Data, Gloucester County's population totals 38,711 which makes it the most populous Middle Peninsula locality.

According to DCR guidelines, a portion of the County is considered a low-income geographic area. In **Figure 3** 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 3: MAP OF MIDDLE PENINSULAS LOW INCOME GEOGRAPHIC AREAS QUALIFYING UNDER DCR GUIDELINES.

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

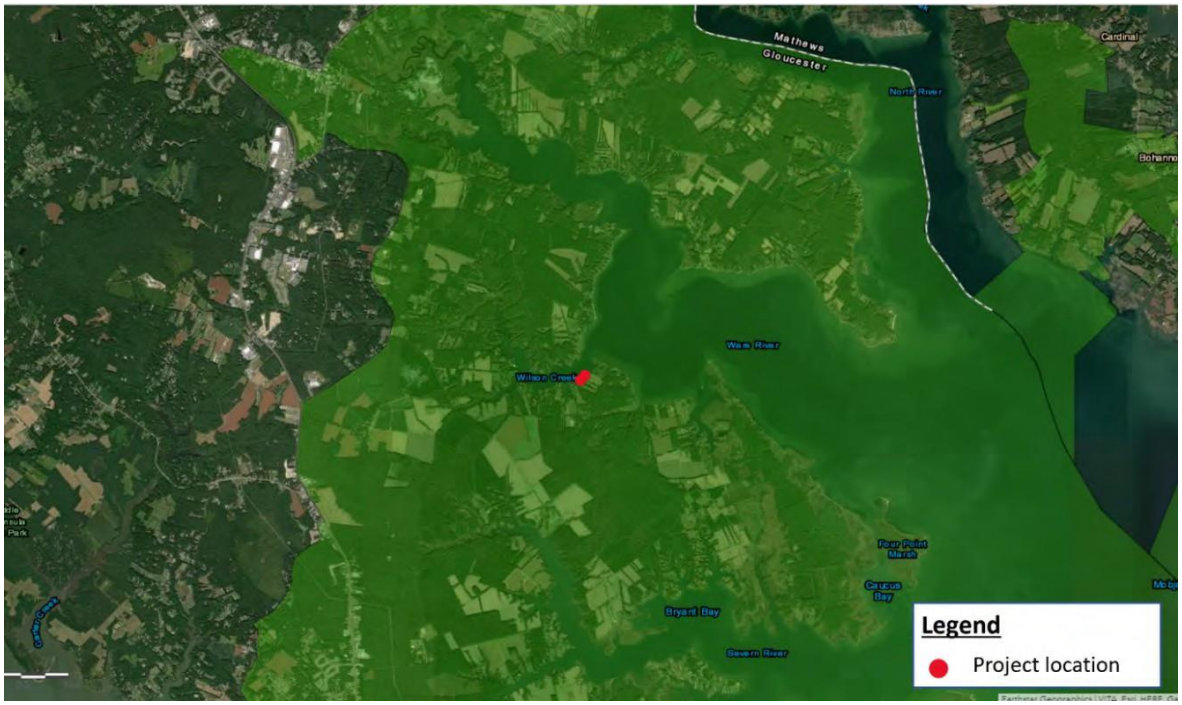
	Essex	Middlesex	Mathews	King William	King & Queen	Gloucester
Median household income (in 2019 dollars), 2015-2019	$51,954	$57,438	$64,237	$66,987	$63,982	$70,537
Eligible Household income	$41,563	$45,950	$51,389	$53,590	$51,186	$56,430

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 4** for a zoomed in map of the project location and the green low-income area overlay. This shows that the project location is within the low-income area.

FIGURE 4: 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 low social vulnerability score (**Figure 5**); however, it is important to recognize that there are other social vulnerability models which reflect higher social vulnerability within this project area.

For instance, according to the CDC's Social Vulnerability Index (SVI) (https://svi.cdc.gov/map.html), which assesses vulnerability at a census track level, the social vulnerability is considered low to moderate level of vulnerability (**Figure 6**). The SVI is a database that helps emergency response planners and public health officials identify, map, and plan support for communities that will most likely need support before, during, and after a public health emergency. Please see **Attachment 2** for another model outcome.

FIGURE 5: VIRGINIA'S SOCIAL VULNERABILITY INDEX SCORE MAP FOR THE PROJECT LOCATION.

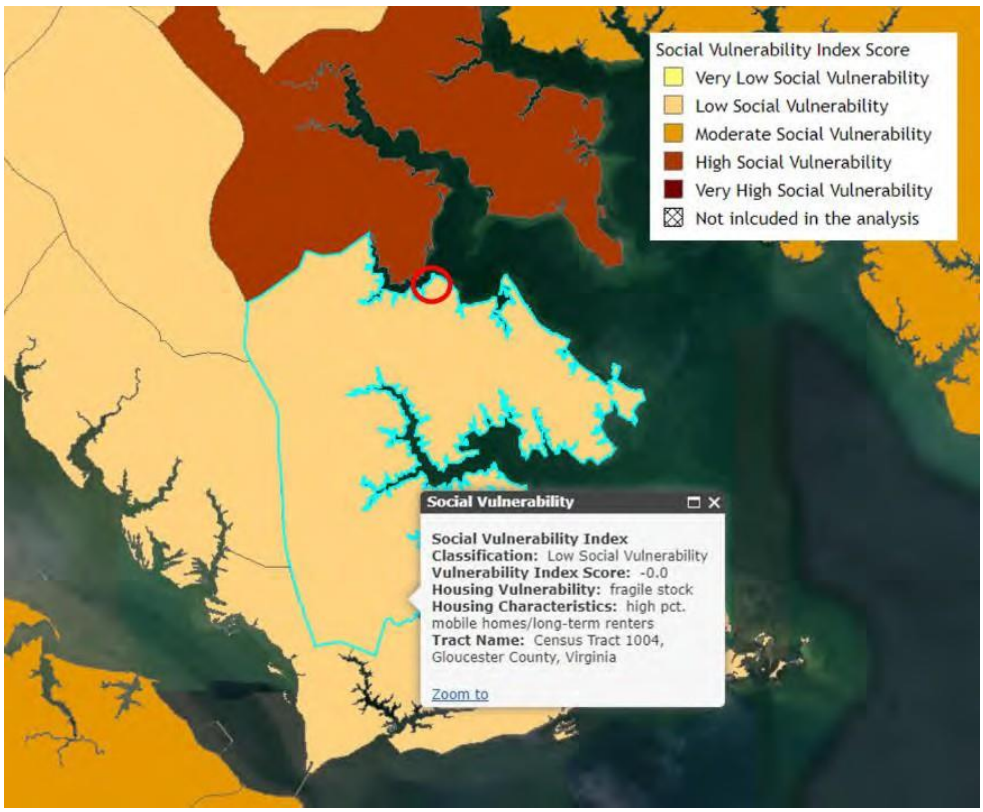
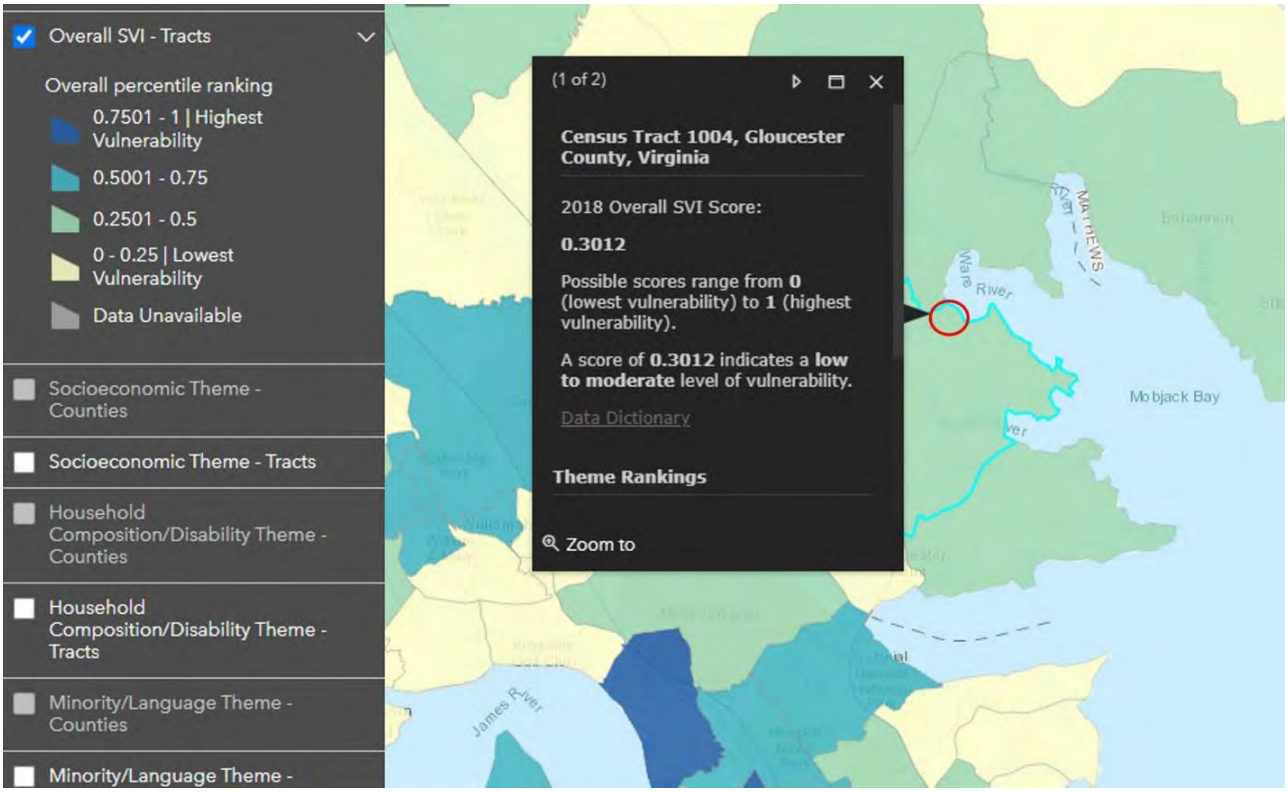


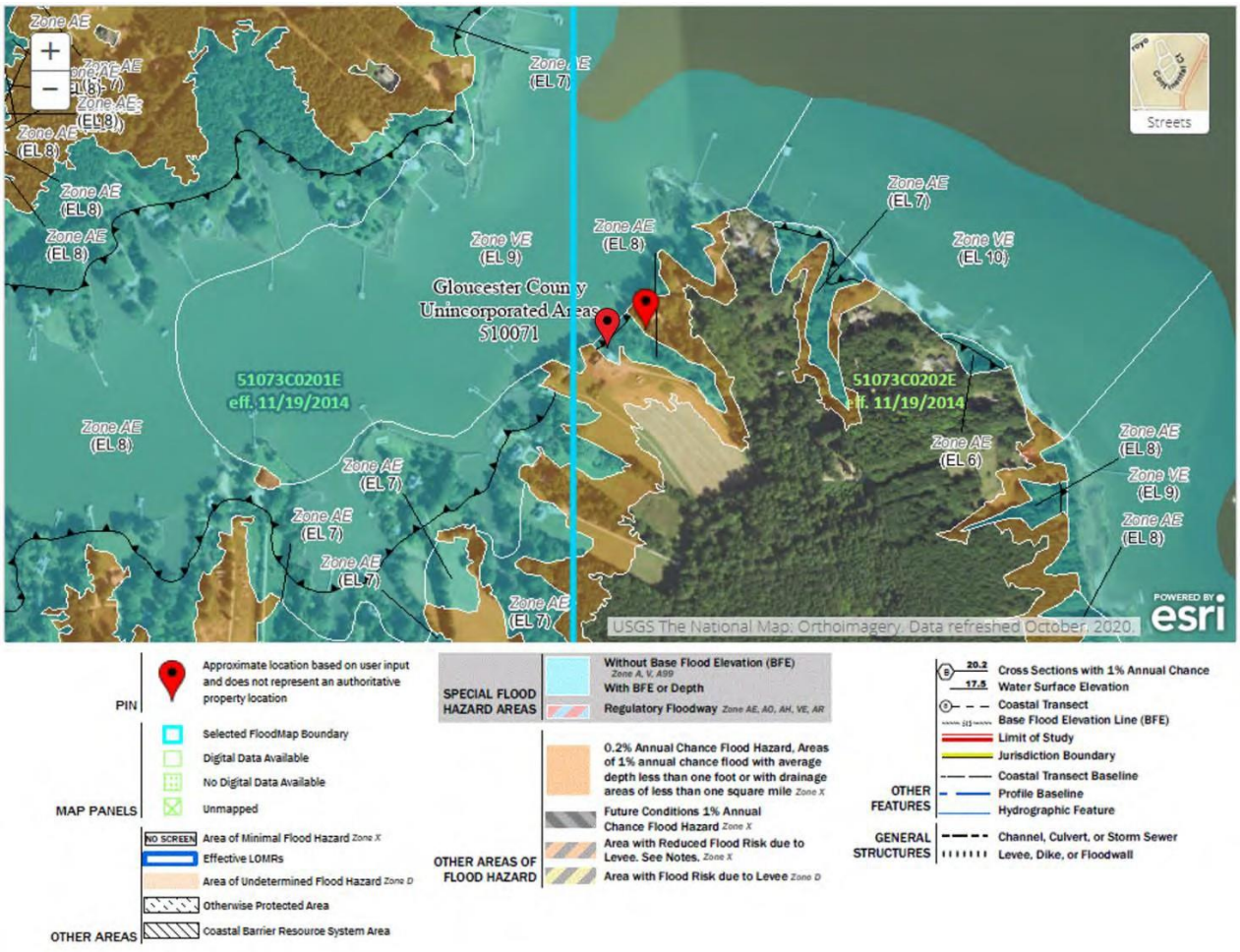
FIGURE 6: SVI OF CENSUS TRACK WHERE THE PROJECT LOCATION.



The project location consists of two residential sites.

First, property #1 is located at 5514 Roane's Wharf Rd, Gloucester, Virginia (37.3638633, -76.469438). A 240-ft living shoreline will be constructed at this site. Second, property #2 is located at 5518 Roane's Wharf Rd, Gloucester, Virginia (37.3643316, -76.46846). A 245-ft. living shoreline will be constructed at the site. Within the project area there are 8 structures which will be protected from current and future flooding, including 2 residential homes, 1 smoke house, 2 barns, and 2 sheds. They are not severe repetitive loss structures or repetitive loss structures. Both sites are located within the AE flood zone (Figure 6). Please see **Attachment 3** for the FIRMettes (last mapped 11/19/2014).

FIGURE 7: MAP OF FEMA FLOOD ZONES.



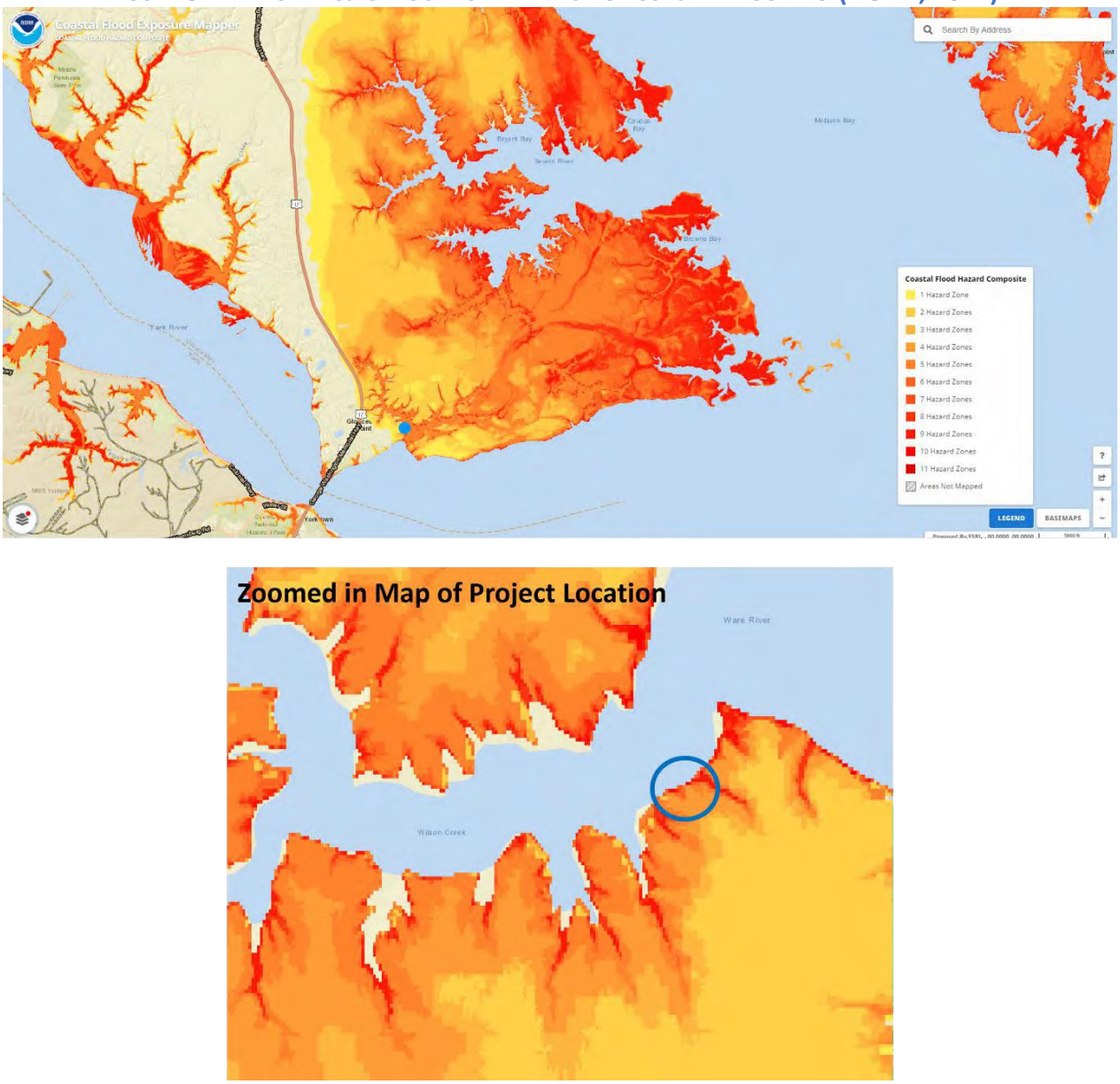
Due to the project site's proximity to the water, exposure to an expansive fetch to the mouth of Wilson Creek and Mobjack Bay, and relatively low elevation, the site has an extensive history of experiencing flooding events that have resulted in significant impacts to infrastructure and the environment. Based on the historical shoreline data from the Virginia Institute of Marine Science Shoreline Studies Program, **Figure 8** 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 9,327 square feet of shoreline. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Attachment 4** lists 84 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 8: PROJECT LOCATION AND MAP OF THE SHORELINE CHANGE BETWEEN 1937 AND 2017.

Finally, according to NOAA's Coastal Flood Mapper, this project is at the highest risk of coastal flooding (**Figure 9**).

FIGURE 9: MAP OF PROJECT LOCATION AND RISK OF COASTAL FLOODING (NOAA, 2021).



For more information about this project area please see:

- The Middle Peninsula All Hazards Mitigation Plan identifies all hazards that impact the region - https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf .
- Gloucester County Building and Engineering Department administers the NFIP. Here is the link to the current floodplain ordinance: http://gloucestercounty- va.elaws.us/code/coor_ch8.5

NEED FOR ASSISTANCE –

The Middle Peninsula Planning District Commission (MPPDC) is a political subdivision of the

Commonwealth of Virginia formed under VA Code §15.2-4203 to provide solutions to problems of greater than local significance and cost-savings through economies of scale. The MPPDC serves nine localities of the Middle Peninsula including Essex, Gloucester, King & Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna.

MPPDC is staffed using multiple methods including co-operative procurement, hourly, and burdened staff. MPPDC staff consists of Executive Director, Deputy Director, Chief Financial Officer, Senior Project Planner, clerical support staff; co-operative procured Director of Planning, General Planner, Certified Flood Plain Manager, Transportation Planner, Emergency Planner; Hourly staff for Housing, Community Development Planner and Public relations.

The PDC staffing team assists localities with long-term and/or regional planning efforts. The MPPDC Executive Director, Deputy Director, and Chief Financial Officer have decades of experience in managing and administering project grants at multiple scale from grants in excess of $1,000,000 to very small grants. MPPDC is an entrepreneurial based government agency with an annual operating budget ranging from $750,000 to over $1,000,000. The MPPDC manages annually 25-30 concurrent federal and state grants utilizing industry standard Grants Management Software. Staff utilize GIS and all Microsoft software as well as other software as required by different grants. The MPPDC operates service centers in the topical areas of coastal zone management, emergency planning, housing, transportation planning and transportation demand management, economic development, social assistance, small business development, general planning and technical assistance and other areas as determined by the Commission. MPPDC has over 25 years of experience managing multiple revolving loan programs. In the 25 years that the Executive Director has been employed by the Commission no audit findings have occurred.

The need for assistance is two-fold.

First, as Gloucester County is near the Chesapeake Bay and numerous tidal rivers that create an area of high risk of coastal flooding, sea-level rise, and storm surge. Based on tidal gauge data from VIMS, relative sea- level rise rates ranging from 0.11-0.23 in./yr. (2.9-5.8 mm/yr.; period: 1976-2007; 10 stations) within the Chesapeake Bay region, which are the highest rates reported along the U.S. Atlantic coast (Boon et. al., 2010). In addition to sea-level rise, Gloucester County has a history of being impacted by hurricanes and tropical storms. As storms pass over or near the coast, the atmospheric pressure drops, causing a large volume of sea water to build up, eventually being pushed ashore by the storm's winds causing a storm surge. In Gloucester County, strong East and Northeast winds can push water from the Chesapeake Bay into the mouth of the York and Rappahannock Rivers and Mobjack Bay, flooding much of the county's low-lying areas (Middle Peninsula Planning District Commission, 2005). Additionally, when a storm makes landfall at high tide, the storm surge and the added water from the tidal fluctuation combine to create a "storm tide". In Gloucester County, tidal waters fluctuate twice daily from 1.2 feet above mean sea level to 1.2 feet below (FEMA 1987, 6). If a severe hurricane were to make landfall during high tide, and additional 1.2 feet of water would be added to the

highest storm surge possible, which could create a storm tide of 16.2 feet (Rygel, 2005). Nor'easters, like hurricanes and tropical storms, can dump heavy amounts of rain and produce hurricane-force winds that push large amounts of sea water inland. According to a study conducted by the Center for Coastal Resources Management, a one-and-a-half-foot rise in sea level coupled with a three-foot storm surge, like what would be experienced in a strong tropical storm, would lead to 13% of Gloucester County's land mass being flooded – including 118 miles of roads. Only 3% of the projected flood area is currently developed. A strong indicator that Gloucester County is experiencing the impact of coastal hazards (i.e., flooding, hurricanes, sea-level rise, and storm surge) is the number of repetitive loss and severe repetitive loss claims submitted by residents and businesses to FEMA. As of 2015, the County had 147 repetitive loss properties with claims topping $3.3 Million and 13 severe repetitive loss properties with claims totaling nearly $1.9 Million. The County has implemented several preventative measures, property protection policies, public information activities, and emergency service measures to decrease impacts on communities. Therefore, this project will build on other local efforts move toward becoming a more resilient community.

Second, at this project location, the shoreline is unstable and quickly eroding. At the [redacted] property the existing bulkhead has underperformed and is severely damaged. As boards are coming off the bulkhead the soil is being washed away from the roots of an old cedar tree that sits in the RPA. This tree provides a lot of shade on the property and is critical for holding the soil and the bank with its roots. If a living shoreline is not installed this tree will most certainly be lost in the very near future. This will ultimately bring water closer to the house as the soil and bank will continue to erode. Please see **Figure 10** for project location photos and **Attachment 5** for more photos. At the [redacted] property all the marsh grasses that used to be on the shoreline have drowned over the course of a year and now the shoreline is an eroded beach area. The shoreline is steadily and quickly eroding. Also, big cedar trees lining the shoreline will be affected next by flooding and the eroding bank if not mitigated. Please see **Figure 11** for project location photos and **Attachment 6** for more photos.

FIGURE 10: PHOTOS OF THE PROPERTY #1.

FIGURE 11: PHOTOS OF THE PROPERTY #2.

ALTERNATIVES –

Alternatives are not applicable to this project. A living shoreline is feasible at this location and therefore required per VMRC regulations. This project employs a nature-based solution, and this project cost is not greater than $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.*

This project will install a total of 485 ft. of living shorelines at the project location including 240 ft. on the [redacted] property and 245 ft. on the [redacted] property. These adjoining neighbors are taking a collaborative approach to reduce erosion and stabilize their shoreline. The installation of living shorelines will also help to protect 4 red cedar trees and one pine tree that line the shoreline and hold a lot of the soil and bank in place. The living shoreline will be installed as designed and permitted through the JPA process. Please see the permit package for each site within the project area in **Attachment 7 and 8**.

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 approach.
- Objective B: Stabilize the shoreline to ensure that the County's tax base does not erode.

Goal 2: Improve water quality

- Objective A: Construct a living shoreline to capture nitrogen, phosphorus, and sediment.

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.

The MPPDC anticipates that the living shoreline installed at this project location will:

1. **Stabilize the shoreline and reduce the overall erosion rate at the project location**. 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 red cedars 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.

2. **Provide ecosystem services to the community.** Since this project is proposing the installation of living shorelines, this project 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 485 linear feet of living shoreline this has the ability of removing 5.9073 pounds of nitrogen per year, 4.17585 pounds of phosphorus per year and 20,370 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.

3. **Prevent loss of property and life.** 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 Gloucester County, which is local government.

   The proposed project was confirmed for the MPPDC by Matthew C. Burnette PG, PH, CFM

or Holly White AICP, CFM.

APPROACH, MILESTONES, AND DELIVERABLES –

This project will follow the designs outlined and approved in the Joint Permit Application. Please see **Attachment 7 & 8** for the JPA application, Design, and Permit Package. The below table outlines the components of the living shoreline and what will be installed at the project location.

	Property #1	**Property #2**	**Total Project Location**
Tall Rock Sills	160 linear feet (LF)	155 LF	315 LF
Short Rock Sills	60 LF	95 LF	155 LF
Rock Revetment	95 LF	0 LF	95 LF
Sand Nourishment	550 cubic yards	550 cubic yards	1100 cubic yards
Spartina Plantings	1,660 square feet	1,200 square feet	2,860 square feet

The anticipated timeline for this project could be as quick as 1 year, but no more than two years. The timeline range is due to the potential delays in the construction industry or delays caused by COVID, including supply shortages. Having a two-year timeline will offer potential windows for planting the living shoreline. To explain, the Chesapeake Bay Foundation recommends that perennials and grasses for living shorelines should be planted during peak growing season (in mid-to-late summer) to allow enough time for their root systems to become established before they go dormant in the late Fall. Trees and shrubs should be planted in Spring and Fall when there is adequate rainfall to help them develop strong roots and leafy growth.

Below is the project timeline and project milestones for this project:

- Receive funding notice - January 2023
- Coordinate with property owners and the project contractor Shoreline Structures, LLC to review
- project timeline and project expectations – January 2023
- Initiate site preparation at the project location - February 2023 to August 2023
  Construction of the living shoreline – September 2023 to December 2023
- Project Close out – December 2023

Concerning Adverse Impacts

Additionally, the applicant and the property owner recognize the importance to do no harm to land owned by the Commonwealth nor the adjacent property owners as result of the construction elements of this project. The proposed project will be constructed under the auspices of experienced contractors who understand that adverse impacts must be avoided and considered in the design and implementation of the project. The proposed project will work with the permitting agency, designers, and contractors to ensure that the project is built to and functions at the level of the design specifications to ensure that no adverse impacts will

occur.

RELATIONSHIP TO OTHER PROJECTS –
For over 40 years the Middle Peninsula Planning District Commission (MPPDC) 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.

The proposed project is a priority project generated from the Middle Peninsula Regional Flood Resilience Plan, which was approved by DCR during August 2021. The Flood Resiliency Plan serves as the MPPDC's guiding document for its flood resiliency programs and is comprised of two primary MPPDC-approved policy documents which form the implementation and foundation of the Middle Peninsula flood protection approach and are indirectly and directly supported by multiple specific regional planning documents, both approved by various required federal, regional, or local partners as required by statute.

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

<u>Long Term Planning</u>
- Middle Peninsula All Hazard Mitigation Plan, FEMA and Middle Peninsula locality approved 2016 (MPPDC Website)
- 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, MPPDC Approved March 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan - MPPDC Approved ~annually

<u>Short Term Implementation</u>
- Middle Peninsula Planning District Commission Fight the Flood Program Design MPPDC Commission (approved June 2020 Chairman approved 8/6/21 update)
- Middle Peninsula Planning District Commission Living Shoreline Resiliency Incentive Funding Program-Virginia Revolving Loan Fund Program Design and Guidelines (approved 2015)

As the MPPDC has continuously worked on flooding and coastal resiliency topics, **Attachment 9** lists the projects and short description of relevant projects. 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 MPPDC 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 MPPDC Commission authorized staff to develop the **Middle Peninsula Fight the Flood (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, MPPDC staff have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their shoreline.

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 –
It is important to ensure that the public investment of DCR CFPF funding be protected should the project not withstand future conditions. As such, MPPDC staff will work with legal counsel to develop an agreement to be signed by each party which outlines the terms necessary to ensure the public investment is maintained over the duration of the project.

CRITERIA –
Describe how the project meets each of the applicable scoring criteria contained in Appendix B and provide the required documentation where necessary. Documentation can be incorporated into the Scope of Work Narrative or included as attachments to the application. Appendix B must be completed and submitted with the application.

For local governments that are not towns, cities, or counties, the documentation provided for the criteria below should be based on the local government or local governments in which the project is located and/or directly impacts.

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?**
YES.
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?** Approved-8_19_DCR-packet_letterandplan.pdf (fightthefloodva.com)
YES. Here's the link:
3. **For local governments that are not towns, cities, or counties, have letters of support been provided from affected local governments?**
YES. Please see Attachment 1

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

YES. Please see the match commitment letter in **Attachment 11.**

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

YES.

BUDGET NARRATIVE -

Below is the estimated budget for the proposed flood prevention and protection construction project that will result in a nature-based solution located in a low-income geographic area. Therefore, MPPDC staff is requesting 80% funding from DCR and will provide 20% match. Please see match commitment letters from the property owners in **Attachment 11**.

			DCR (80%)	Match from Owner (20%)	Project Total
Project Management Costs					
	Personnel		$ 15,586	$ 3,896	$ 19,482
	Fringe (26.58% on Salaries)		$ 4,143	$ 1,036	$ 5,179
SubAward/SubContract Agreement					
	[redacted]5514	*60 LF Short Sill*	$ 7,600	$ 1,900	$ 9,500
	[redacted]5514	*160 LF Tall Sill*	$ 31,096	$ 7,774	$ 38,870
	[redacted]5514	*95 LF Revetment*	$ 19,197	$ 4,799	$ 23,996
	[redacted]5514	*Sand Nourishment 550 cyds*	$ 12,704	$ 3,176	$ 15,880
	[redacted]5514	*Timber Mats*	$ 2,000	$ 500	$ 2,500
	[redacted]5514	*Spartina Plantings*	$ 1,120	$ 280	$ 1,400
	[redacted]5514	*Environmental permits, fees, etc*	$ 600	$ 150	$ 750
	[redacted]5514	*Access and yard repair*	$ 240	$ 60	$ 300
	[redacted]- 5518	*155 LF tall Sill*	$ 29,264	$ 7,316	$ 36,580
	[redacted]- 5518	*90 LF short Sill*	$ 11,200	$ 2,800	$ 14,000
	[redacted]- 5518	*Sand Nourishment 550 cyds*	$ 12,704	$ 3,176	$ 15,880
	[redacted]- 5518	*Timber Mats*	$ 2,000	$ 500	$ 2,500
	[redacted]- 5518	*Spartina Plantings*	$ 960	$ 240	$ 1,200
	[redacted]- 5518	*Environmental permits, fees, etc*	$ 600	$ 150	$ 750
	[redacted]- 5518	*Access and yard repair*	$ 240	$ 60	$ 300
Indirect/IDC/Facilities & Administrative Costs (27.31%)			$ 10,850	$ 2,712	$ 13,562
Project totals			$ 162,103	$ 40,526	$ 202,629

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.

Also please note that the cost estimates for the construction of this project were supplied by the contractor, Shoreline Structures, LLC. Please see **Attachment 10**.

In summary:

***Estimated total project cost*:** $202,629
***Amount of funds requested from the Fund (80% project total)*:** $162,103
***Amount of cash funds available (20% project total)*:** $40,526

Finally, please see the authorization to request for funding in **Attachment 12.**

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

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

Applicant Name:	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 a town, city, or county</u>, 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	☑ 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 or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	**50**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool ☐ Dam removal ☐ Stream bank restoration or stabilization. ☐ Restoration of floodplains to natural and beneficial function. ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	**45**	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**	
Low Social Vulnerability (-1.0 to 0.0)	**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		120

Appendix D: Checklist All Categories

Virginia Department of Conservation and Recreation

Community Flood Preparedness Fund Grant Program

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

Attachment 1: Community Support Letter

Gloucester County
Administrator's Office

Telephone 804-693-4042 *6489 Main Street, Gloucester, Virginia 23061* *Fax 804-693-6004*

July 16, 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 the MPPDC to Virginia Community Flood Preparedness Fund

Dear Lewie,

Gloucester County supports all eligible applications requesting funding under the Virginia Department of Conservation and Recreation (DCR) Flood Preparedness Fund. Proposals submitted by the MPPDC on behalf of our constituents are a necessary governmental function and 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 Program serves as the region's flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC Fight the Flood Program Design provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs, especially the MPPDC Fight the Flood program, recognize the need to better secure the tax base of coastal localities and the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types. They also recognize the relationship between at-risk waterfront real estate values and funding of essential governmental services.

The Fight the Flood program and the Living Shoreline program exist to help flood-prone property owners access programs and services to better manage challenges posed by flood water and direct constituents to appropriate mitigation solutions, such as nature-based solutions. When grants and loans are available, we fully support the MPPDC providing such to qualified constituents based on the terms and conditions associated with flood risk necessary to support the public purposes 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 804-693-4042.

Sincerely,

Carol E. Steele
Acting County Administrator

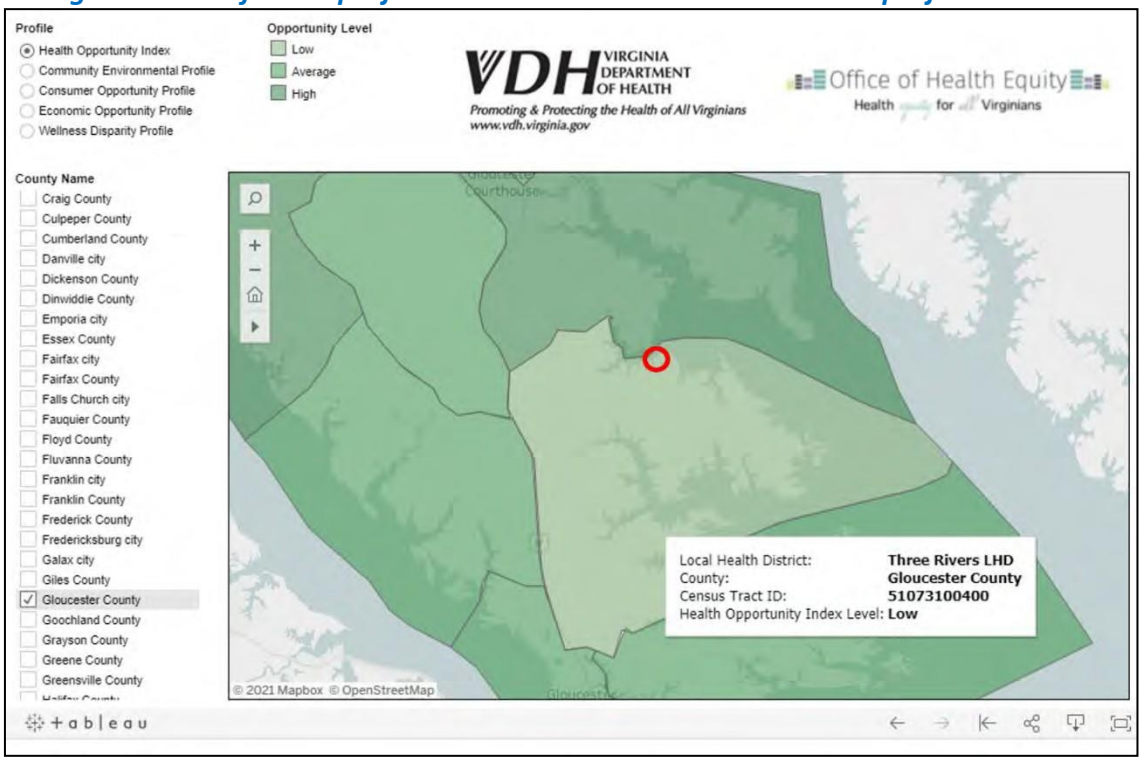
Attachment 2: Other Social Vulnerability Models to Consider

Social vulnerability refers to the resilience of communities when confronted by external stresses on human health, stresses such as natural or human-caused disasters, or disease outbreaks. Reducing social vulnerability can decrease both human suffering and economic loss. When considering the social vulnerability of this project location a variety of social vulnerability models were considered and based on the differences between the methodology and scale of the model, the project area ranged from being classified as having low social vulnerability to average social vulnerability.

Below is another model considered to determine social vulnerability within the project area.

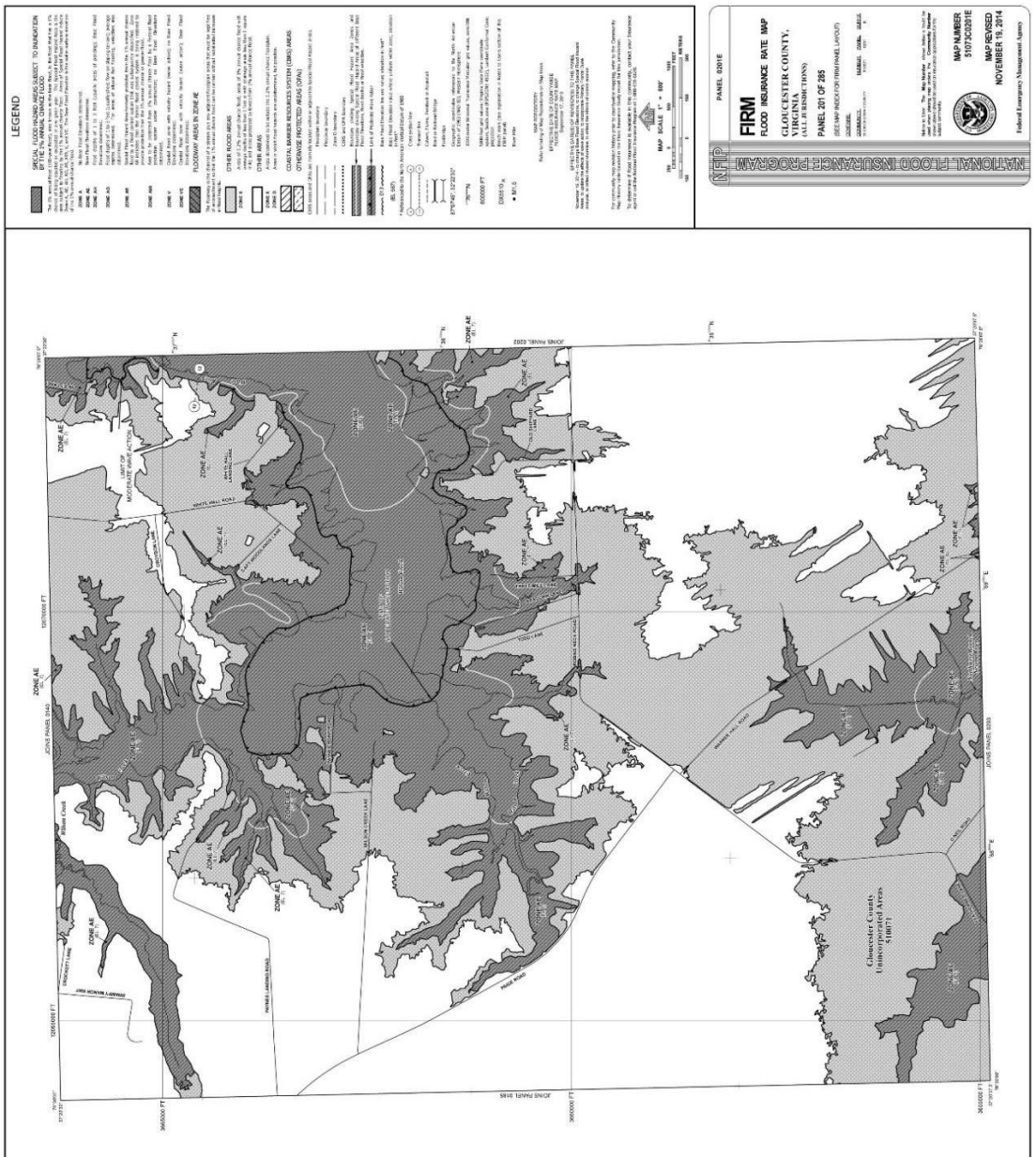
When considering the Virginia Department of Health (VDH) – Office of Health Equity Health Opportunity Index a group of indicators provide broad insight into the overall opportunity for Virginians to live long and healthy lives based on the Social Determinants of Health. It is a hierarchical index that allows users to examine social determinants of health at multiple levels of detail in Virginia. It is made up of over 30 variables, combined into 13 indicators (i.e., Air quality, population churning, population density, walkability, affordability, education, food accessibility, material deprivation, employment accessibility, income inequality, job participation, access to care, segregation), grouped into four profiles (i.e. community environment, consumer opportunity, economic opportunity, and wellness disparity), which are aggregated into a single Health Opportunity Index (HOI). The HOI is reported on a Census Tract level and is defined as the opportunity to live a long and healthy life in each area. Therefore, as the HOI is low for the project location this means that opportunity to live a long and healthy life is low due to Social Determinants of Health. (Figure 22).

Figure 22: HOI for the project location. The red circle shows the project location.

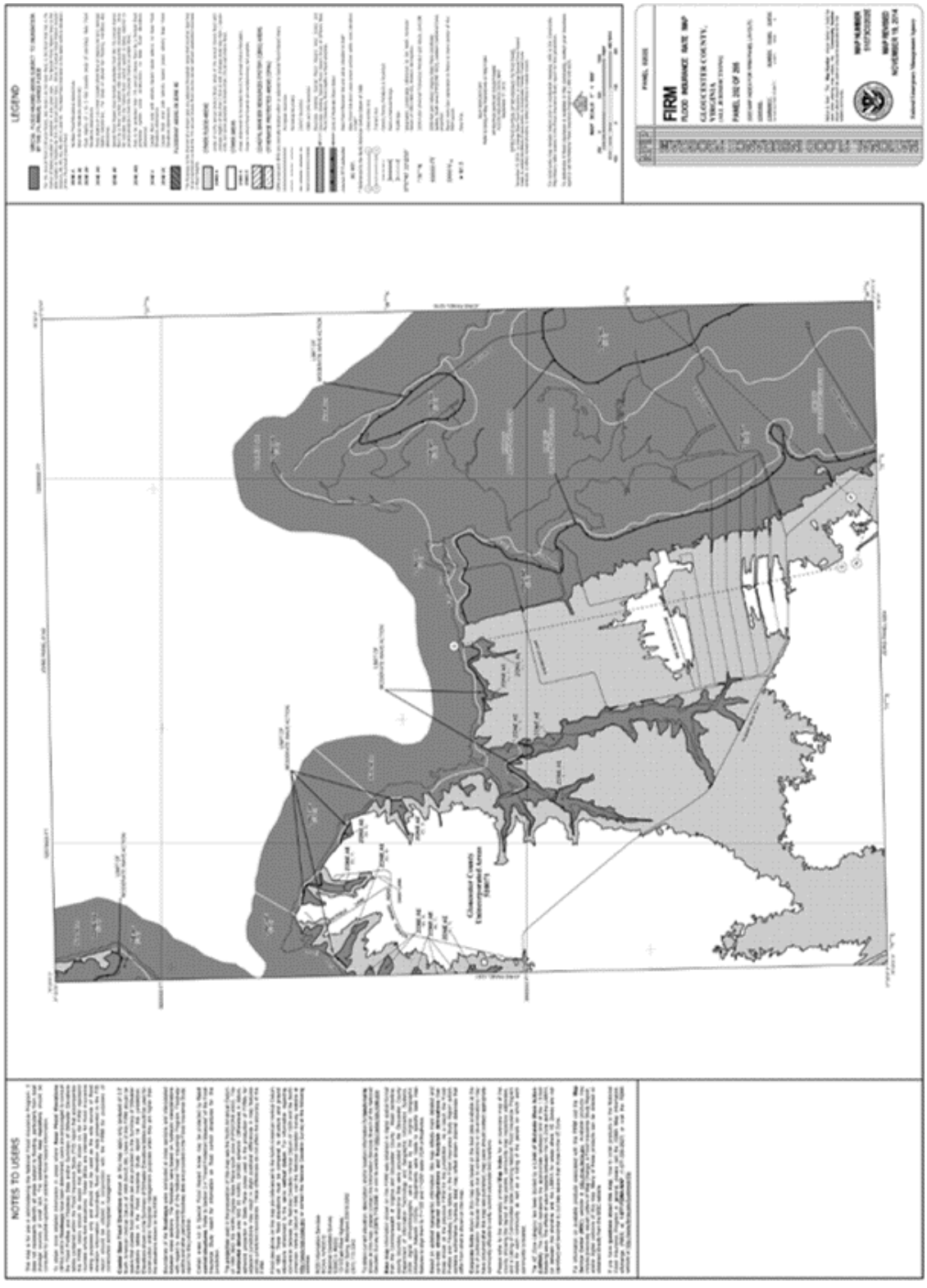


Attachment 3: Project Location FIRMettes

Property #1 - (FIRMette #: 51073C0201E)

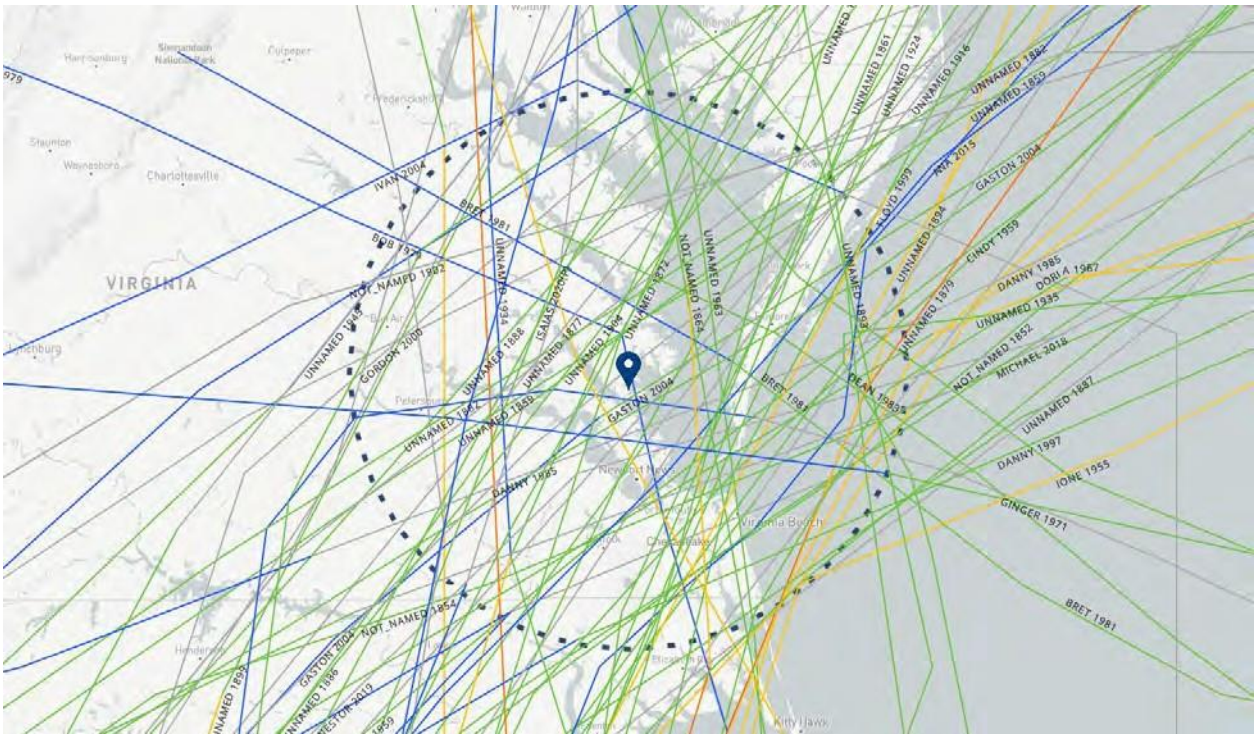


Property #2 - (FIRMette #: 51073C0202E)



Attachment 4: List of historic hurricanes impacting the project area.

Hurricane List



Search Filter Criteria

Location: 37.3638633, -76.469438

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, 2020	75	987	H1
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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
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
HELENE 2000	Sep 15, 2000 to Sep 25, 2000	60	986	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 27, 1997	70	984	H1
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, 1971	95	959	H2

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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 12, 1959	65	995	H1
IONE 1955	Sep 10, 1955 to Sep 27, 1955	120	938	H4
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 04, 1934	45	-1	TS
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1916	Sep 04, 1916 to Sep 07, 1916	45	-1	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, 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 1893	Jun 12, 1893 to Jun 20, 1893	65	-1	H1
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 1887	Oct 09, 1887 to Oct 22, 1887	75	-1	H1
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1876	Sep 12, 1876 to Sep 19, 1876	100	980	H3
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, 1859	70	-1	H1
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

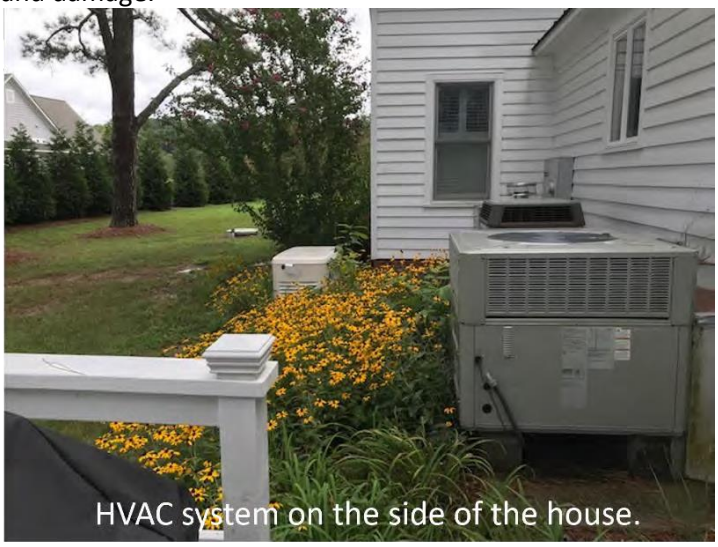
Attachment 5: Photos of the Property #2 shoreline.

Photo of failing bulkhead.

Photo of dead shrub on the shoreline.

Drowning marsh grasses on shoreline.

The house and HVAC system are about 30 feet from the water's edge. Also, the corner of one of the barns on the property is only feet from flooding waters. Without the installation of a nature-based solution all structures are at risk of flooding and damage.


HVAC system on the side of the house.

Corner of barn is within feet of the rising waters. This threatens the foundation of this structure.

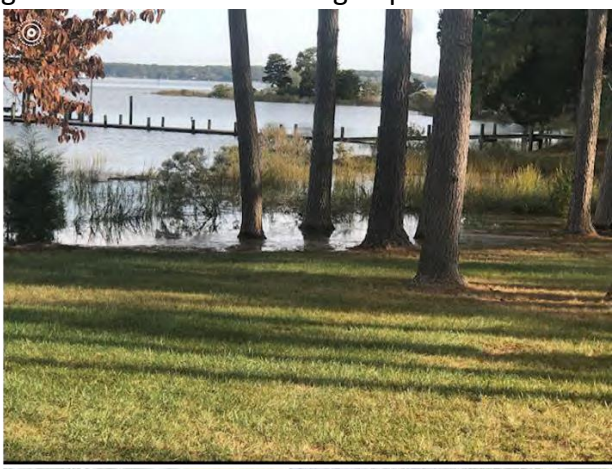
Attachment 6: Photos of the Property #2 shoreline.

Exposed beach with little vegetation to protect it from erosion or rising waters.

This is the beach at high tide.

There have been changes in the wetland grass. Instead of this section being full of marsh grasses the grasses in the middle have died and have increased flooding in this area of the property.

This is flooding around the pine trees. The photos below show the proximity to the house, and it also shows that the pine trees and grass around the are being impacted.



Attachment 7: Property #1 JPA, Design, and Permit Package

From: Gloucester Office Supply
To: jpa.permits@mrc.virginia.gov; Jeffrey G. Watkins
Subject: two new applications
Date: Monday, May 3, 2021 10:54:21 AM
Attachments: DOC065.PDF
DOC064.PDF

Please let Jeff know you received this.
Thanks

Office Supply of Gloucester 6754 Main Street Edgehill Town Center Gloucester, VA 23061 Phone: 804-693-4155 Fax: 804-693-2270 gloofficesupply@yahoo.com

- ❖ DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- ❖ VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- ❖ LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA # 21-1009

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☐ NWP # ______	Regional Permit 17 (RP-17) ☐	

County or City in which the project is located: Gloucester
Waterway at project site: Wilson Creek

[redacted]

Received by VMRC May 3, 2021 /blh

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

[redacted]
5514 Roane's Wharf Rd.
Gloucester, VA 23061

Home (____)_____
Work (____)_____
Fax (____)_____
Cell (____)_____
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

Home (____)_____
Work (____)_____
Fax (____)_____
Cell (____)_____
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable): Contact Information:

Jeff Watkins, Shoreline Structures, LLC
P.O. Box 515
Gloucester VA 23061

Home (____)_____
Work (____)_____
Fax (____)_____
Cell (____)804-815-0813
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

Shoreline Erosion control project:
Rock sills = 240 L.F.
Revetment = 95 L.F.
Sand Nourishment = 750 c.yds.
Spartina plantings = 1660 s.f.

Private pier replacement: 6' x 210', 400 s.f. L head, finger pier & boatlift.

↳ 5'x57'

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ✓ Yes* ___ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)

Contractor's name* and complete mailing address:

Jeff Watkins
P.O. Box 515
Gloucester, Va. 23061

Contact Information:
Home (___)___
Work (804) 815-0813
Fax (___)___
Cell (___)___
email jwatkins49@cox.net

State Corporation Commission Name and ID Number (if applicable) ___

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

Name and complete mailing address:

Gazette-Journal
6625 Main Street
Gloucester, Va. 23061

Telephone number (804) 693-3101

7. Give the following project location information:
Street Address (911 address if available) 5514 Roanes Wharf Rd.
Lot/Block/Parcel# RP11844 40-167
Subdivision Selden
City / County Gloucester, Va. ZIP Code 23061
Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
___ / -___ (Example: 36.41600/-76.30733)

If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

- From rt 17N to Featherbed Lane, past Paige Rd + Warner Hall Rd on Rollins Neck Rd.
- turn left onto Roanes Wharf Rd
- turn left into Magnolia Farm property on Roanes Wharf Rd # 5514

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

First - to prevent further erosion to front of property
Second - to stabilize waterfront to prevent old trees from uprooting (three trees on very edge)

Part 1 - General Information (continued)

9. Proposed use (check one):
   - ✓ Single user (private, non-commercial, residential)
   - ___ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

There will need to be careful excavating during project construction because there is a narrow piece of land in the front between house and water. The most serious area is a very narrow strip of land.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes ✓No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $97,000.00 +/-
    Approximate cost of that portion of the project that is channelward of mean low water:
    $_____

13. Completion date of the proposed work:_____-_____

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

John and Margaret Singleton
5488 Roanes Wharf Rd
Gloucester, Va. 23061

[redacted]
5518 Roanes Wharf Rd.
Gloucester, Va. 23061

Part 2 - Signatures

1. **Applicants and property owners (if different from applicant).**
   NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

[redacted]
Applicant's Legal Name (printed/typed)

N/A
(Use if more than one applicant)

[redacted]
Applicant's Signature

N/A
(Use if more than one applicant)

April 20, 2021
Date

N/A
Property Owner's Legal Name (printed/typed)
(If different from Applicant)

N/A
(Use if more than one owner)

N/A
Property Owner's Signature

N/A
(Use if more than one owner)

N/A
Date

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we), [redacted] hereby certify that I (we) have authorized Lewie Lawrence Jeff Watkins
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

(Agent's Signature) (Use if more than one agent)

4-20-21
(Date)

[redacted]
(Applicant's Signature) (Use if more than one applicant)

April 20, 2021
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), [redacted], have contracted Jeff Watkins / Shoreline Structures LLC
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated 4-20-21.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

Shoreline Structures LLC
Contractor's name or name of firm

PO Box 515 Glo. VA 23061
Contractor's or firms address

Contractor's signature and title

Contractor's License Number

[redacted]
Applicant's signature (use if more than one applicant)

April 20, 2021
Date

U.S. Army Corps
Of Engineers
Norfolk District

REGIONAL PERMIT 17 CHECKLIST

Please review the 18-RP-17 enclosure before completing this form and note 18-RP-17 can only be used for proposed PRIVATE USE structures that comply with the terms and conditions of 18-RP-17. Copies can be obtained online at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/.

YES☐ NO☐ **(1)** Has the permittee reviewed the 18-RP-17 enclosure and verified that the proposed structure(s) is in compliance with all the terms, conditions, and limitations of 18-RP-17?

YES☐ NO☐ **(2)** Does the proposed structure(s) extend no more than one-fourth of the distance across the waterway measured from either mean high water (MHW) to MHW (including all channelward wetlands) or ordinary high water (OHW) to OHW (including all channelward wetlands)?

YES☐ NO☐ **(3)** Does the proposed structure(s) extend no more than 300 feet from MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(4)** Does the proposed structure(s) attach to the upland at a point landward of MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(5)** If the proposed structure(s) crosses wetland vegetation, is it an open-pile design that has a maximum width of five (5) feet and a minimum height of four (4) feet between the decking and the wetland substrate?

YES☐ NO☐ N/A☐ **(6)** Does the proposed structure(s) include no more than two (2) boatlifts and no more than two (2) boat slips?

YES☐ NO☐ N/A☐ **(7)** Is the open-sided roof structure designed to shelter a boat ≤ 700 square feet and/or is the open sided roof structure or gazebo structure designed to shelter a pier ≤ 400 square feet?

YES☐ NO☐ N/A☐ **(8)** Are all piles associated with the proposed structure(s) non-steel, less than or equal to 12" in diameter, and will less than or equal to 25 piles be installed channelward of MHW?

YES☐ NO☐ N/A☐ **(9)** Is all work occurring behind cofferdams, turbidity curtains, or other methods to control turbidity being utilized when operationally feasible and federally listed threatened or endangered species may be present?

YES☐ NO☐ N/A☐ **(10)** If the proposed structure(s) is to be located within an anadromous fish use area, will the prospective permittee adhere to the anadromous fish use area time of year restriction (TOYR) prohibiting in-water work from occurring between February 15 through June 30 of any given year if (1) piles are to be installed with a cushioned impact hammer and there is less than 492 feet between the most channelward pile and mean low water (MLW) on the opposite shoreline or (2) piles are to be installed with a vibratory hammer and there is less than 384 feet between the most channelward pile and MLW on the opposite shoreline?

YES☐ NO☐ **(11)** Is all work occurring outside of submerged aquatic vegetation (SAV) mapped by the Virginia Institute of Marine Sciences' (VIMS) most recent survey year and 5 year composite?

YES☐ NO☐ **(12)** Has the permittee ensured the construction and/or installation of the proposed structure(s) will not affect federally listed threatened or endangered species or designated critical habitat?

YES☐ NO☐ **(13)** Will the proposed structure be located outside of Broad Creek in Middlesex County, Fisherman's Cove in Norfolk, or the Salt Ponds in Hampton?

YES☐ NO☐ **(14)** Will the proposed structure(s) be located outside of the waterways containing a Federal Navigation Project listed in Permit Specific Condition 12 of 18-RP-17 and/or will all portions of the proposed structure(s) be located more than 85 feet from the Federal Navigation Project?

YES☐ NO☐ **(15)** Will the proposed structure(s) be located outside a USACE Navigation and Flood Risk Management project area?

YES☐ NO☐ **(16)** Will the proposed structure(s) be located outside of any Designated Trout Waters?

YES☐ NO☐ N/A☐ **(17)** If the proposed structure(s) includes flotation units, will the units be made of materials that will not become waterlogged or sink if punctured?

YES☐ NO☐ N/A☐ **(18)** If the proposed structure(s) includes flotation units, will the floating sections be braced so they will not rest on the bottom during periods of low water?

YES☐ NO☐ **(19)** Is the proposed structure(s) made of suitable materials and practical design so as to reasonably ensure a safe and sound structure?

YES☐ NO☐ **(20)** Will the proposed structure(s) be located on the property in accordance with the local zoning requirements?

YES☐ NO☐ N/A☐ **(21)** If the proposed structure(s) includes a device used for shellfish gardening, will the device be attached directly to a pier and limited to a total of 160 square feet?

YES☐ NO☐ N/A☐ **(22)** If the proposed structure(s) includes a device used for shellfish gardening, does the permittee recognize this RP does not negate their responsibility to obtain an oyster gardening permit (General Permit #3) from Virginia Marina Resources Commission (VMRC)'s Habitat Management Division? Please refer to Appendix D of the Tidewater JPA for more details on VMRC's aquaculture requirements.

YES☐ NO☐ **(23)** Does the permittee recognize this RP does not authorize any dredging or filling of waters the United States (including wetlands) and does not imply that future dredging proposals will be approved by the Corps?

YES☐ NO☐ **(24)** Does the permittee understand that by accepting 18-RP-17, the permittee accepts all of the terms and conditions of the permit, including the limits of Federal liability contained in the 18-RP-17 enclosure? Does the permittee acknowledge that the structures permitted under 18-RP-17 may be exposed to waves caused by passing vessels and that the permittee is solely responsible for the integrity of the structures permitted under 18-RP-17 and the exposure of such structures and vessels moored to such structures to damage from waves? Does the permittee accept that the United States is not liable in any way for such damage and that it shall not seek to involve the United States in any actions or claims regarding such damage?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, REGIONAL PERMIT 17 (18-RP-17) DOES NOT APPLY AND YOU ARE REQUIRED TO OBTAIN WRITTEN AUTHORIZATION FROM THE CORPS PRIOR TO PERFORMING THE WORK.

IF YOU HAVE ANSWERED "YES" (OR "N/A", WHERE APPLICABLE) TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH REGIONAL PERMIT 17 (18-RP-17). PLEASE SIGN BELOW, ATTACH, AND SUBMIT THIS CHECKLIST WITH YOUR COMPLETED JOINT PERMIT APPLICATION (JPA). THIS SIGNED CERTIFICATE SERVES AS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS; HOWEVER, YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT 17 (18-RP-17), DATED SEPTEMBER 2018, ISSUED BY THE US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT REGULATORY BRANCH (CENAO-WRR), NORFOLK, VIRGINIA.

Signature of Property Owner(s) or Agent

Date 4-1-21

Proposed work to be located at:

5514
Rowe's Wharf Rd.
Glo. VA 23064

Part 3 – Appendices

Please complete and submit the appendix questions applicable to your project, and attach the required vicinity map(s) and drawings to your application. If an item does not apply to your project, please write "N/A" in the space provided.

Appendix A: Projects for Access to the water such as private and community piers, boathouses, marinas, moorings, and boat ramps. Answer all questions that apply.

1. **Briefly describe your proposed project.**

Replace pier: 6' X 210', 400 S.F. L head
finger pier & boatlift

2. **For private, noncommercial piers:**
   Do you have an existing pier on your property? ✓ Yes____ No
   If yes, will it be removed? ✓ Yes ____No
   Is your lot platted to the mean low water shoreline? ✓ Yes ____No
   What is the overall length of the proposed structure? 210 feet.
   Channelward of Mean High Water? 205 feet.
   Channelward of Mean Low Water? 200 feet.
   What is the area of the piers and platforms that will be constructed over
   Tidal non-vegetated wetlands __________ square feet.
   Tidal vegetated wetlands _________ square feet.
   Submerged lands __________square feet.
   What is the total size of any and all L- or T-head platforms? 400 sq. ft.
   For boathouses, what is the overall size of the roof structure? ________sq. ft.
   Will your boathouse have sides?_____Yes____ No.

NOTE: All proposals for piers, boathouses and shelter roofs must be reviewed by the Virginia Marine Resources Commission (Commission or VMRC), however, pursuant to § 28.2-1203 A 5 of the Code of Virginia a VMRC permit may not be required for such structures (except as required by subsection D of § 28.2-1205 for piers greater than 100 feet in length involving commercially productive leased oyster or clam grounds), provided that (i) the piers do not extend beyond the navigation line or private pier lines established by the Commission or the United States Army Corps of Engineers (USACE), (ii) the piers do not exceed six feet in width and finger piers do not exceed five feet in width, (iii) any L or T head platforms and appurtenant floating docking platforms do not exceed, in the aggregate, 400 square feet, (iv) if prohibited by local ordinance open-sided shelter roofs or gazebo-type structures shall not be placed on platforms as described in clause (iii), but may be placed on such platforms if not prohibited by local ordinance, and (v) the piers are determined not to be a navigational hazard by the Commission. Subject to any applicable local ordinances, such piers may include an attached boat lift and an open-sided roof designed to shelter a single boat slip or boat lift. In cases in which open-sided roofs designed to shelter a single boat, boat slip or boat lift will exceed 700 square feet in coverage or the open-sided shelter roofs or gazebo structures exceed 400 square feet, and in cases in which an adjoining property owner objects to a proposed roof structure, permits shall be required as provided in § 28.2-1204.

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS.

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

- Rock Revetment, 950 L.F. Class II over Core & F.C.
- Rock Sills = 240 L.F. Class II & I over Core
- Sand Nourishment = 750 cyds
- Sparlina planting = 1660 S.F.

2. What is the maximum encroachment channelward of mean high water? 40 feet.
   Channelward of mean low water? 25 feet.
   Channelward of the back edge of the dune or beach? NA feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands 0 square feet
   - Non-vegetated wetlands ~~3080~~ square feet
   - Subaqueous bottom → square feet
   - Dune and/or beach NA square feet

Rock Revt. = 950
Sand = 1200
Rock = 3080
Sand = 1120

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes____ No.

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No.

   If no, please provide an explanation for the purpose and need for the additional encroachment.

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
NOTE: Drawings must include construction details, including dimensions, design and all materials, including fittings if used.

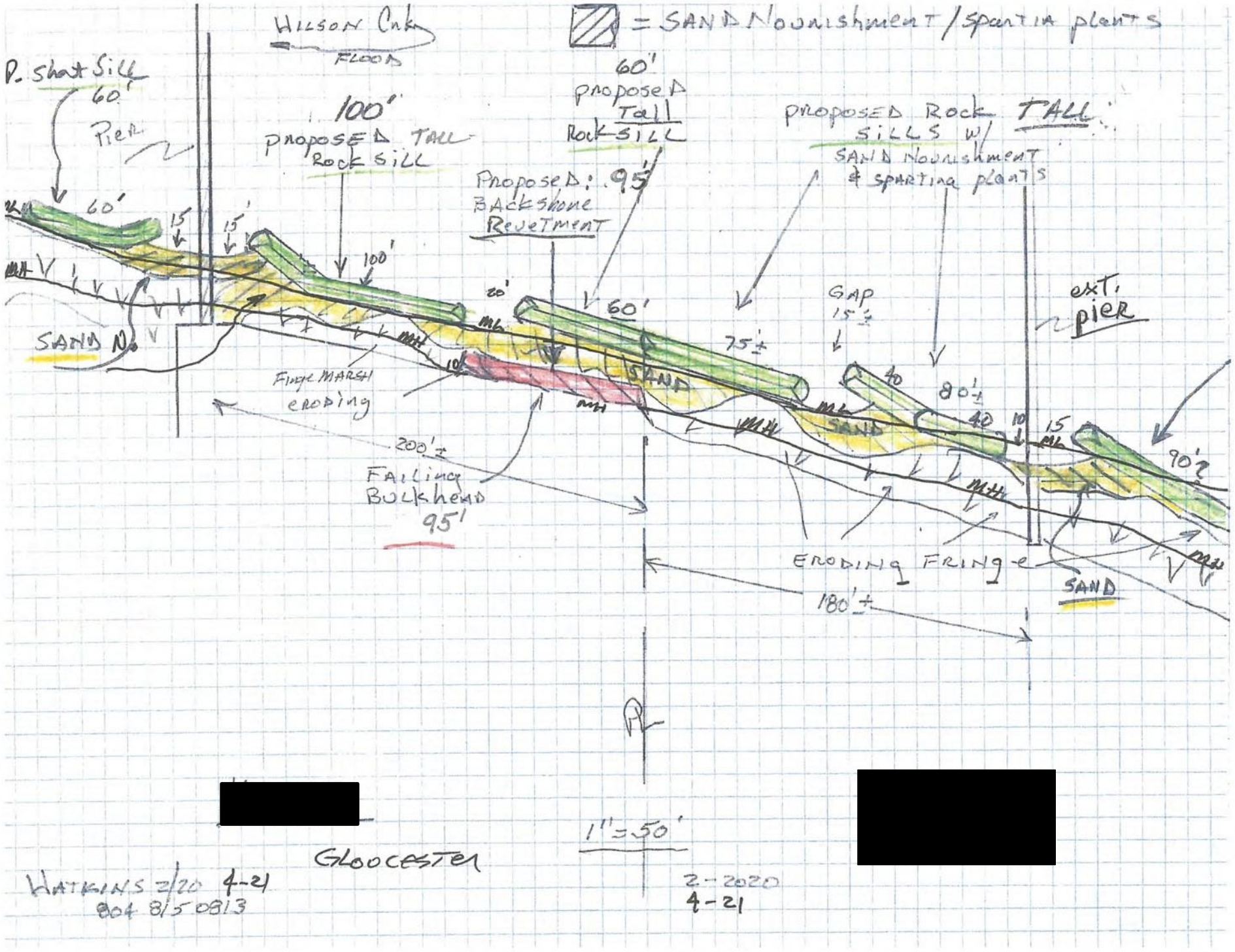
6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
Core (inner layer) material 20 pounds per stone Class size Sump
Armor (outer layer) material 500/1500 pounds per stone Class size #

7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

- Volume of material
  - 250 cubic yards channelward of mean low water
  - 500 cubic yards landward of mean low water
  - 750 cubic yards channelward of mean high water
  - 0 cubic yards landward of mean high water
- Area to be covered
  - 1120 square feet channelward of mean low water
  - 1200 square feet landward of mean low water
  - _____ cubic yards channelward of mean high water
  - _____ cubic yards landward of mean high water
- Source of material, composition (e.g. 90% sand, 10% clay): 90
- Method of transportation and placement:

  _____
- Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

Received by VMRC May 3, 2021 /blh



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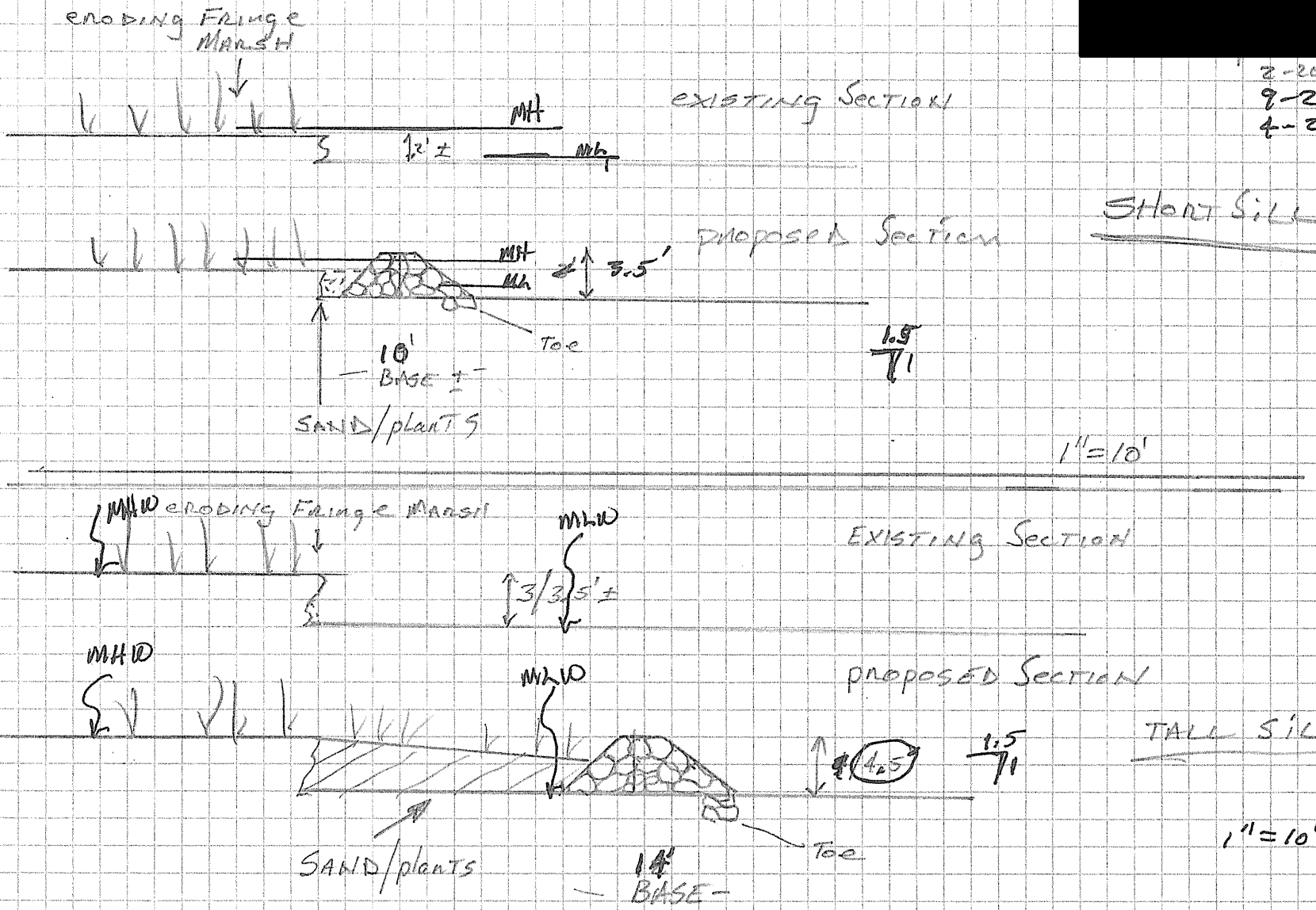
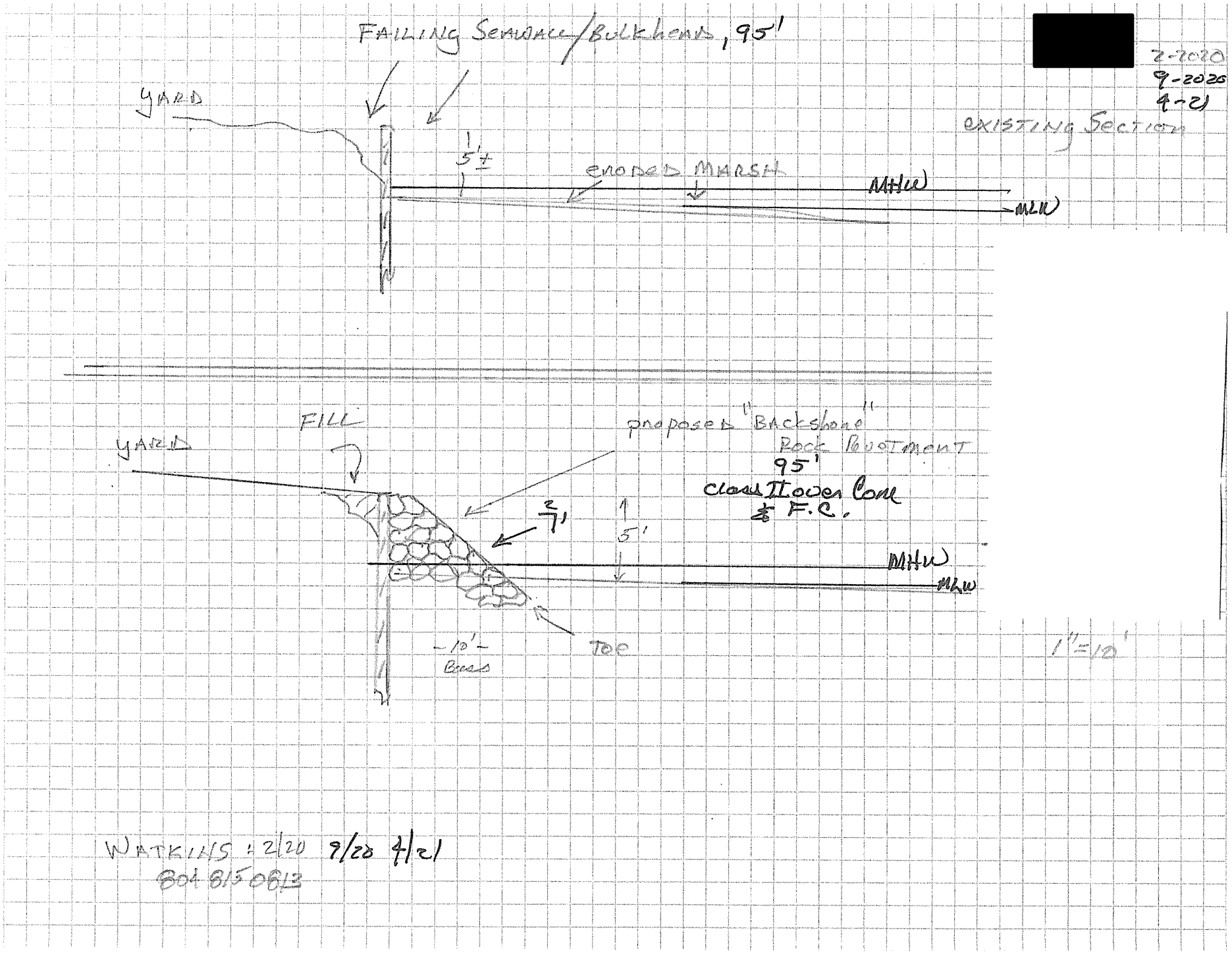
2-2020
9-2020
4-21



Watkins, 2/20 9/20
804-815-0813



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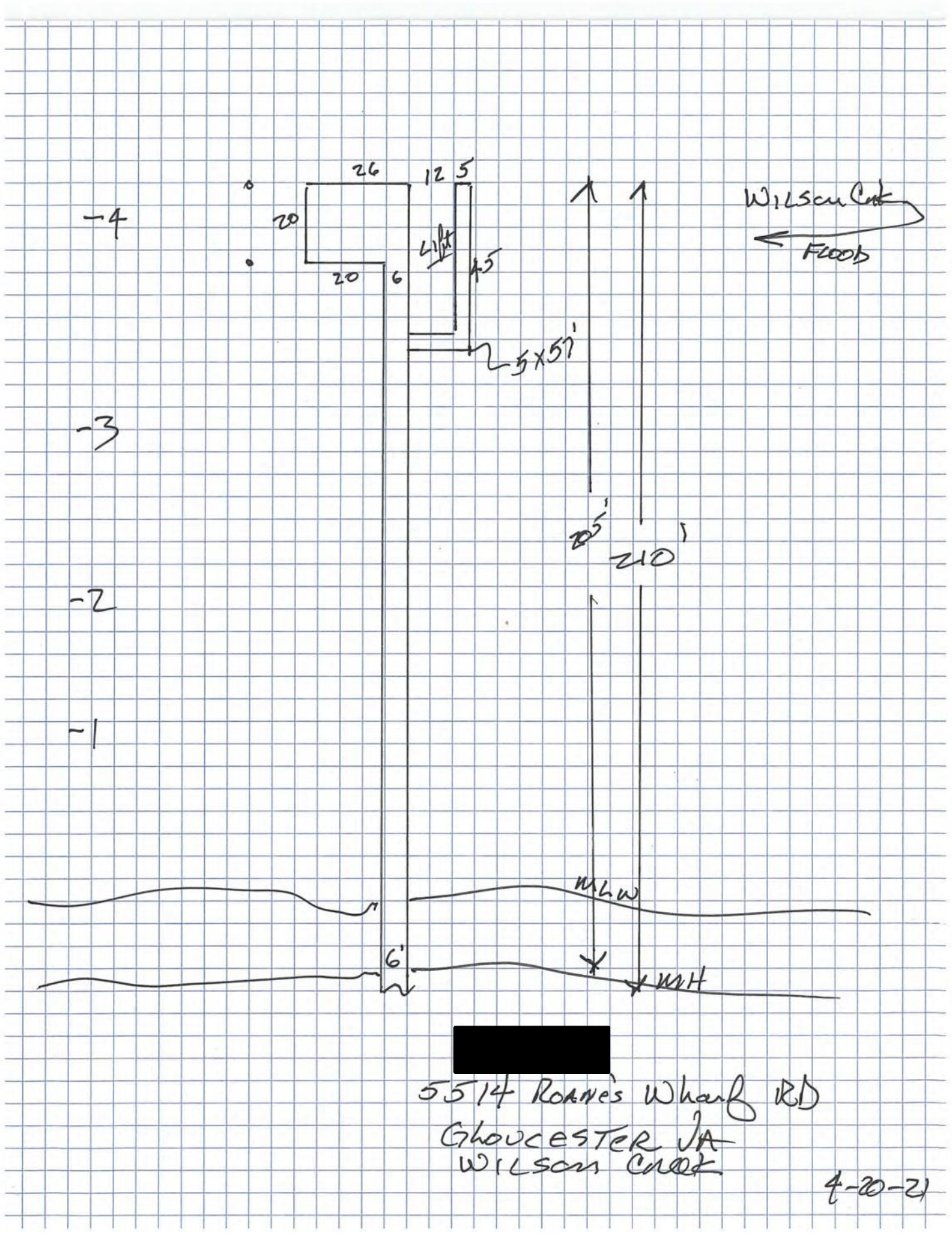
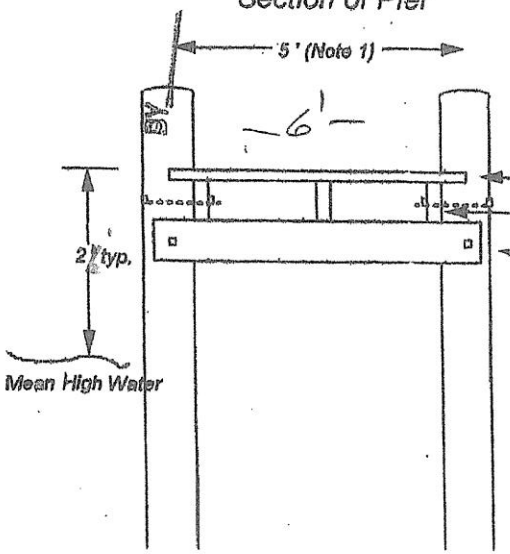


Received by VMRC May 3, 2021 /blh

Section of Pier



Pilings: 10" at butt end, 8" at top, treatment CCA 2.5; butt end driven down 8' to 10' depending on bottom; span between pilings 8' to 10'

bolts 3/8" hardened, nails 20d hardened HDG

Note 1: 6' deck will have 4 joists, 8' will have 5 joists;

Boat Lift: Ace "Overhead Beam" type w/ No-notch adapter kit; Motors and beams mounted at least 7' off the deck

Courtesy of [redacted]
Jeff Watkins
P.O. Box 513
Gloucester, VA 23061
(804) 642-2020

815-0813

Received by VMRC May 3, 2021 /blh

Virginia Marine Resources Commission
Permit Application 20211009
Printed: Friday August 13, 2021 9:33 PM

Applicant: [redacted]
5514 Roanes Wharf Road
Gloucester, VA 23061

Application Number:	20211009	**Engineer:**	Mike Johnson
Application Date:	May 3, 2021	**Locality:**	Gloucester
Permit Type:	VMRC Subaqueous	**Waterway:**	Wilson Creek
Permit Status:	Issued	**Expiration Date:**	July 31, 2024
Wetlands Board Action:	Approved as Proposed	**Public Hearing Date:**	June 9, 2021

Project Description: Lift/Pier/Riprap

Project Dimensions:

Sill: 240 Linear Feet
Living Shoreline: 270 Linear Feet

Virginia Marine Resources Commission
Photos for Permit Application 20211009
Printed: Friday August 13, 2021 9:33 PM

Date Photo Taken: 2021:06:07 10:11:54

Date Photo Taken: 2021:06:07 10:09:26

Virginia Marine Resources Commission
Photos for Permit Application 20211009
Printed: Friday August 13, 2021 9:33 PM

Date Photo Taken: 2021:06:07 10:09:24

Date Photo Taken: 2021:06:07 10:10:00

DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NORFOLK DISTRICT
FORT NORFOLK
803 FRONT STREET
NORFOLK VA 23510-1011

August 13, 2021

Northern Virginia Regulatory Section
NAO-2021-0161/ VMRC#21-1009 (Wilson Creek)

[redacted]
5514 Roane's Wharf Rd
Gloucester, VA 23061

Ms. [redacted]:

This is in reference to the Department of the Army application NAO-2021-0161/ VMRC#21-1009 you have submitted to create a living shoreline by installing a 240-foot-long rock sill with clean sand back fill and plantings of native vegetation and repair 95-linear feet of riprap revetment. You submitted the RP17 checklist correctly filled out and signed. The signed checklist serves as your permit verification for the proposed pier. Therefore, you will not receive any further authorization from the ACOE for the proposed pier. All work will be completed at 5514 Roane's Wharf Rd, Gloucester, Virginia (37.3638633, -76.469438). Your proposed project as described above and depicted on attached drawings entitled "Proposed Project" in three sheets dated and stamped as received by our office on June 9, 2021 satisfies the terms and conditions of Norfolk District's Regional Permit 19 (18-RP-19). Provided that you follow the general and permit specific conditions of 18-RP-19, as well as any additional special conditions that have been included below; no further authorization will be required from the Corps.

The permittee understands and agrees that, if future operations by the United States require the removal, relocation, or other alteration, of the structure or work herein authorized, or if, in the opinion of the Secretary of the Army or his authorized representative, said structure or work shall cause unreasonable obstruction to the free navigation of the navigable waters, the permittee will be required, upon due notice from the Corps of Engineers, to remove, relocate, or alter the structural work or obstructions caused thereby, without expense to the United States. No claim shall be made against the United States on account of any such removal or alteration.

Incidents where any individuals of sea turtles, Atlantic sturgeon, or any species listed by NOAA Fisheries under the Endangered Species Act appear to be injured or killed as a result of discharges of dredged or fill material into waters of the United States or structures or work in navigable waters of the United States authorized by this RP shall be reported to NOAA Fisheries, Office of Protected Resources at (301) 713-1401 and the Regulatory Office of the Norfolk District of the U.S. Army Corps of Engineers at 757-201-7652. The finder should leave the animal alone, make note of any circumstances likely causing the death or injury, note the location and number of individuals involved and, if possible, take photographs. Adult animals should not be disturbed unless circumstances arise where they are obviously injured or killed by

discharge exposure, or some unnatural cause. The finder may be asked to carry out instructions provided by NOAA Fisheries, Office of Protected Resources, to collect specimens or take other measures to ensure that evidence intrinsic to the specimen is preserved.

Enclosed is a "compliance certification" form, which must be signed and returned within 30 days of completion of the project. Your signature on this form certifies that you have completed the work in accordance with the regional permit terms and conditions.

This verification is valid until the RP is modified, reissued, or revoked. RPs (2, 15, 17, 18, 19 and 22) are scheduled to be modified, reissued, or revoked on September 5, 2023. Activities which have commenced (i.e. under construction) or are under contract to commence in reliance upon this RP will remain authorized provided the activity is completed within twelve (12) months of the date of the RP's expiration, modification, or revocation, unless discretionary authority has been exercised on a case-by-case basis to modify, suspend, or revoke the authorization. Activities completed under the authorization of the RP which was in effect at the time the activity was completed continue to be authorized by that RP.

The State Water Control Board provided unconditional §401 Water Quality Certification for this RP. Therefore, the activities that qualify for this RP meet the requirements of the Department of Environmental Quality's (DEQ) Virginia Water Protection Permit Regulation, provided that the permittee abides by the conditions of this RP. You will not be required to obtain a separate §401 Water Quality Certification from DEQ. This authorization does not relieve your responsibility to comply with local requirements pursuant to the Chesapeake Bay Preservation Act (CBPA), nor does it supersede local government authority and responsibilities pursuant to the Act. You should contact your local government before you begin work to find out how the CBPA applies to your project.

Pursuant to the Coastal Zone Management Act (CZMA) of 1972, the Virginia Department of Environmental Quality Virginia Coastal Zone Management Program (VCP) completed its review of the Federal Consistency Determination (FCD) for this RP on August 16, 2018 and provided concurrence that this RP is consistent with the VCP. Therefore, no further coordination with the VCP is required. Authorizations under this RP do not supersede State or local government authority or responsibilities pursuant to any State or local laws or regulations.

In granting an authorization pursuant to this permit, the Norfolk District has relied on the information and data provided by the permittee. If, subsequent to notification by the Corps that a project qualifies for this permit, such information and data prove to be materially false or materially incomplete, the authorization may be suspended or revoked, in whole or in part, and/or the Government may institute appropriate legal proceedings. Please note that you should obtain all required State and local authorizations before you proceed with the project.

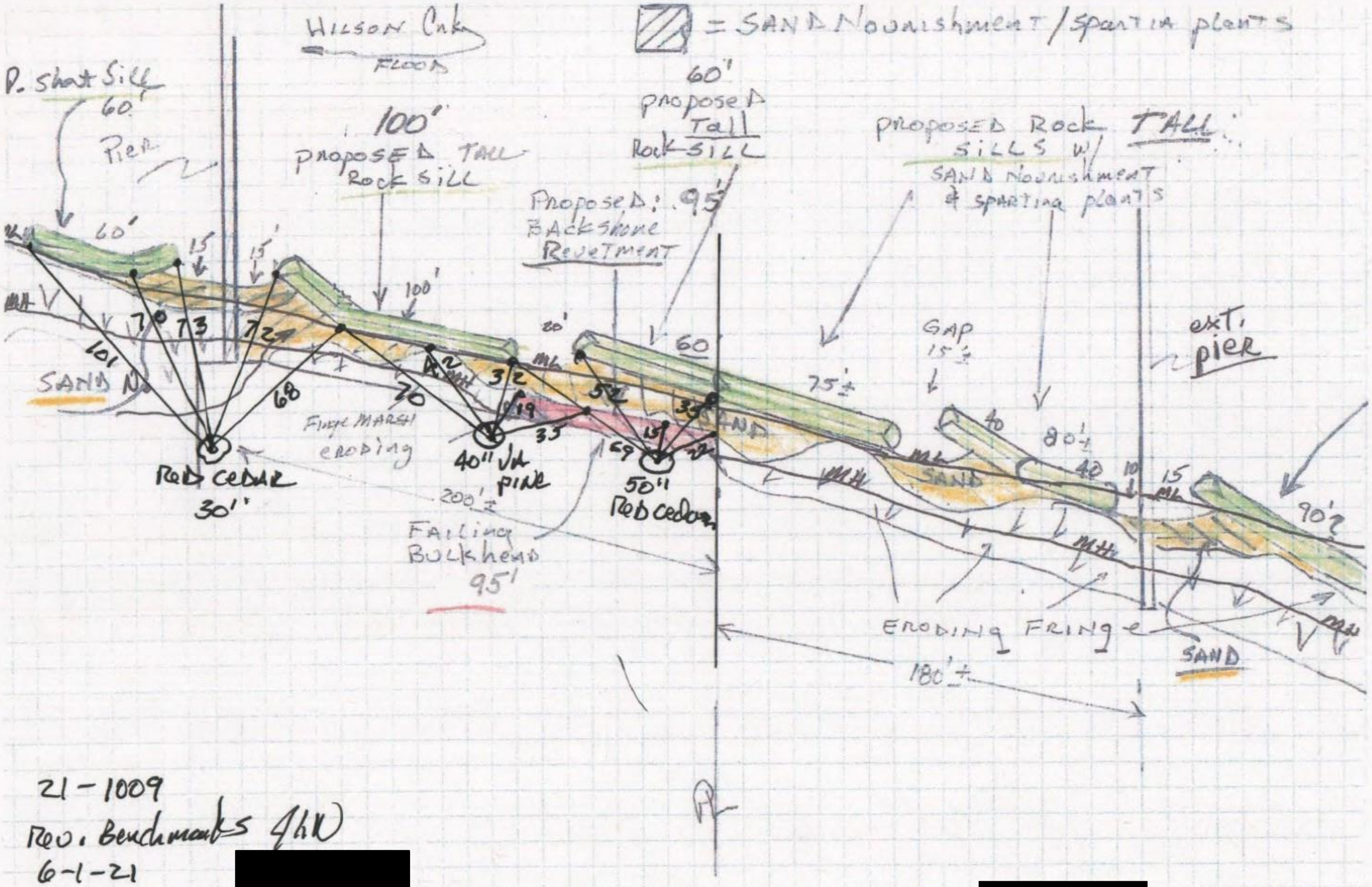
If you have any questions and/or concerns about this permit authorization, please contact Jaime Longo via phone at 757-201-7551 or email at Jaime.Parello@usace.army.mil.

Sincerely,

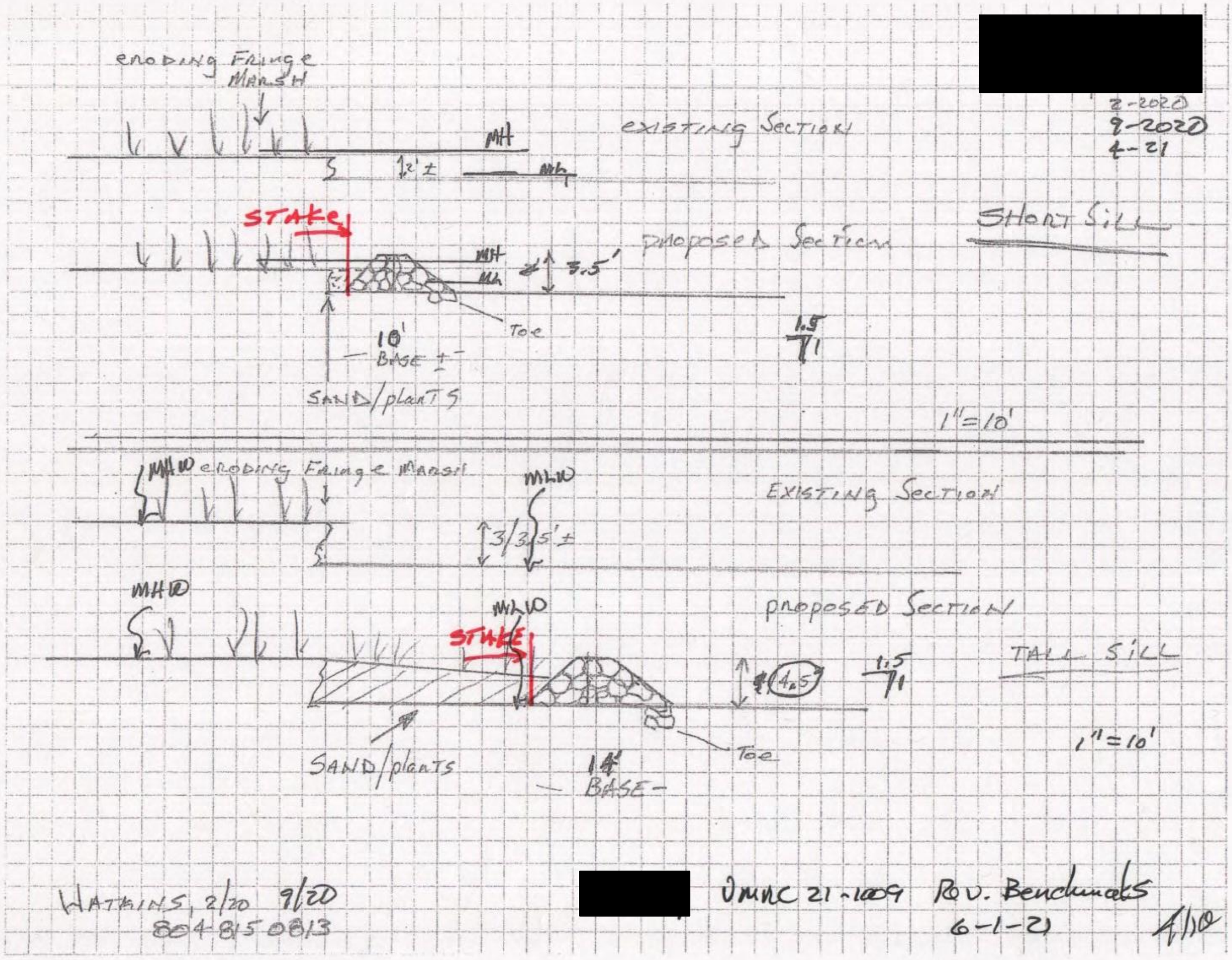
Jaime P. Longo

Jaime Longo
Northern Virginia
Regulatory Section

Proposed Project



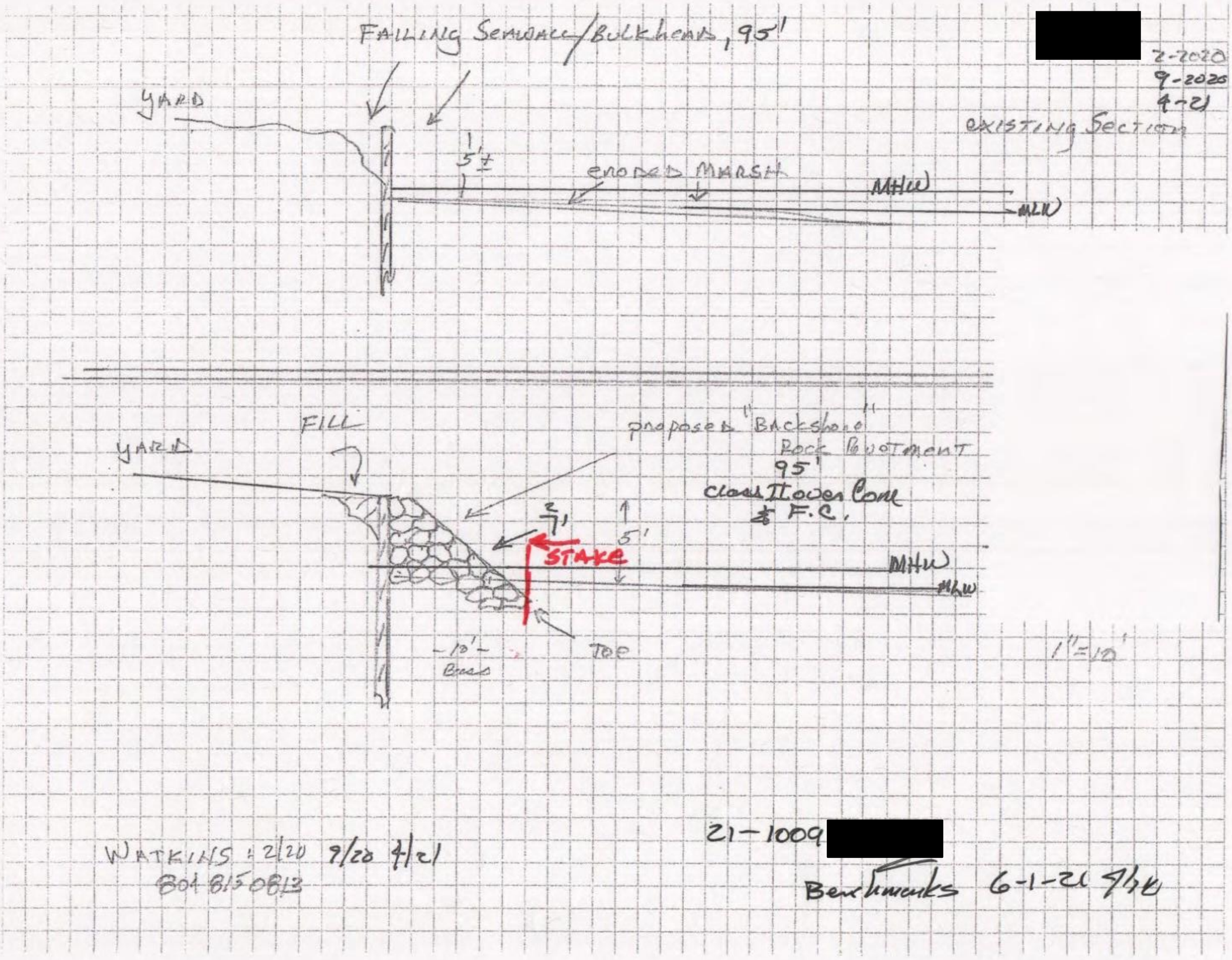
Proposed Project



Received by VMRC May 3, 2021 /blh

ADDITIONAL INFORMATION/REVISIONS Received by VMRC June 7, 2021 /blh

Proposed Project



U.S. Army Corps
Of Engineers
Norfolk District

CERTIFICATE OF COMPLIANCE WITH ARMY CORPS OF ENGINEERS PERMIT

Permit Number: NAO-2021-01261

VMRC Number: 21-1009

Corps Contact: Jaime P. Longo

Name of Permittee: [redacted]

Date of Issuance: August 13, 2021

Permit Type: Norfolk District's Regional Permit 19 (18-RP-19)

Within 30 days of completion of the activity authorized by this permit and any mitigation required by the permit, sign this certification and return it to the following address:

US Army Corps of Engineers - Norfolk District
CENAO-WR-R
Attn: Jaime P. Longo
803 Front Street
Norfolk, VA 23510-1096

Or scan and send via email to Jaime.Parello@usace.army.mil

Please note that your permitted activity is subject to a compliance inspection by a U.S. Army Corps of Engineers representative. If you fail to comply with this permit you are subject to permit suspension, modification or revocation.

I hereby certify that the work authorized by the above referenced permit has been completed in accordance with the terms and conditions of the said permit, and required mitigation has been completed in accordance with the permit conditions.

_____ _____

Signature of Permittee Date

COMMONWEALTH OF VIRGINIA
MARINE RESOURCES COMMISSION
PERMIT

The Commonwealth of Virginia, Marine Resources Commission, hereinafter referred to as the Commission, on this 30th day of July 2021 hereby grants unto:

[redacted]

5514 Roanes Wharf Road
Gloucester, VA 23061

hereinafter referred to as the Permittee, permission to:

X Encroach in, on, or over State-owned subaqueous bottoms pursuant to Chapter 12, Subtitle III, of Title 28.2 of the Code of Virginia.

___ Use or develop tidal wetlands pursuant to Chapter 13, Subtitle III, of Title 28.2 of the Code of Virginia.

Permittee is hereby authorized to install 220 linear feet of rock sill with clean sand backfill and plantings of native wetland vegetation along Wilson Creek at 5514 Roanes Wharf Road in Gloucester County. All activities authorized herein shall be accomplished in conformance with the plans and drawings dated received May 3, 2021, and revised drawings dated received June 7, 2021, which are attached and made a part of this permit.

This permit is granted subject to the following conditions:

(1) The work authorized by this permit is to be completed by **July 31st, 2024.** The Permittee shall notify the Commission when the project is completed. The completion date may be extended by the Commission in its discretion. Any such application for extension of time shall be in writing prior to the above completion date and shall specify the reason for such extension and the expected date of completion of construction. All other conditions remain in effect until revoked by the Commission or the General Assembly.

(2) This permit grants no authority to the Permittee to encroach upon the property rights, including riparian rights, of others.

(3) The duly authorized agents of the Commission shall have the right to enter upon the premises at reasonable times, for the purpose of inspecting the work being done pursuant to this permit.

(4) The Permittee shall comply with the water quality standards as established by the Department of Environmental Quality, Water Division, and all other applicable laws, ordinances, rules and regulations affecting the conduct of the project. The granting of this permit shall not relieve the Permittee of the responsibility of obtaining any and all other permits or authority for the projects.

(5) This permit shall not be transferred without written consent of the Commissioner.

(6) This permit shall not affect or interfere with the right vouchsafed to the people of Virginia concerning fishing, fowling and the catching of and taking of oysters and other shellfish in and from the bottom of acres and waters not included within the terms of this permit.

(7) The Permittee shall, to the greatest extent practicable, minimize the adverse effects of the project upon adjacent properties and wetlands and upon the natural resources of the Commonwealth.

(8) This permit may be revoked at any time by the Commission upon the failure of the Permittee to comply with any of the terms and conditions hereof or at the will of the General Assembly of Virginia.

(9) There is expressly excluded from the permit any portion of the waters within the boundaries of the Baylor Survey.

(10) This permit is subject to any lease of oyster planting ground in effect on the date of this permit. Nothing in this permit shall be construed as allowing the Permittee to encroach on any lease without the consent of the leaseholder. The Permittee shall be liable for any damages to such lease.

(11) The issuance of this permit does not confer upon the Permittee any interest or title to the beds of the waters.

(12) All structures authorized by this permit, which are not maintained in good repair, shall be completely removed from State-owned bottom within three (3) months after notification by the Commission.

(13) The Permittee agrees to comply with all of the terms and conditions as set forth in this permit and that the project will be accomplished within the boundaries as outlined in the plans attached hereto. Any encroachment beyond the limits of this permit shall constitute a Class 1 misdemeanor.

(14) This permit authorizes no claim to archaeological artifacts that may be encountered during the course of construction. If, however, archaeological remains are encountered, the Permittee agrees to notify the Commission, who will, in turn notify the Department of Historic Resources. The Permittee further agrees to cooperate with agencies of the Commonwealth in the recovery of archaeological remains if deemed necessary.

(15) The Permittee agrees to indemnify and save harmless the Commonwealth of Virginia from any liability arising from the establishment, operation or maintenance of said project.

The following special conditions are imposed on this permit:

(16) The placard accompanying this permit document must be conspicuously displayed at the work site.

(17) Permittee agrees to notify the Commission upon the start of the activities authorized by this permit.

Description of Fees	Amount	Unit of Measure	Rate	Total	Frequency	After-The-Fact
Permit Fee				$300.00	One-Time	
Total Permit Fees				**$300.00**		

This permit consists of 7 Pages

PERMITTEE(S)

[X] BY CHECKING THIS BOX, I certify that I am the Permittee OR the certified agent acting on behalf of all Permittees, that I have read and understood the permit as drafted and accept all of the terms and conditions herein. I agree and understand that checking the box has the same legal authority as a written signature. The provisions of the permit authorization shall be binding on any assignee or successor in interest of the original Permittee(s). In cases where the Permittee is a corporation, agency or political jurisdiction, I certify I have proper authorization to bind the organization to the financial and performance obligations which result from activity authorized by this permit.

PERMITTEE OR CERTIFIED AGENT

[redacted]
Print Your Name Here

DATE TERMS ACCEPTED

July 29, 2021

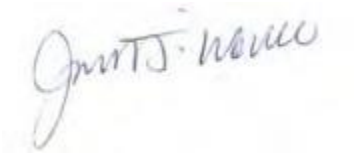
PERMITEE

[redacted]
5514 Roanes Wharf Road
Gloucester, VA 23061

AGENT
Shoreline Structures
Jeff Watkins
Post Office Box 515
Gloucester, Va 23061

COMMISSION

This permit is executed on behalf of the Commonwealth of Virginia, Marine Resources Commission by the undersigned:



Justin Worrell
Environmental Engineer, Habitat Management

DATE SIGNED
30th day of July 2021

Attachment 8: Property #2 JPA, Design, and Permit Package

From: Gloucester Office Supply
To: jpa.permits@mrc.virginia.gov; Jeffrey G. Watkins
Subject: two new applications
Date: Monday, May 3, 2021 10:54:21 AM
Attachments: DOC065.PDF
DOC064.PDF

Please let Jeff know you received this.
Thanks

Office Supply of Gloucester 6754 Main Street Edgehill Town Center Gloucester, VA 23061 Phone: 804-693-4155 Fax: 804-693-2270 gloofficesupply@yahoo.com

- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
6	JPA # 21-1008

Application Revised: eptember 2018

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☐ NWP # _____ *(For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned)*	Regional Permit 17 (RP-17) ☐	

County or City in which the project is located: Gloucester

Waterway at project site: Wilson Creek

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre-application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial

Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

[redacted]
PO Box 376
White March VA 23183

Home (804) 694-7557
Work (___)_____
Fax (___)_____
Cell (___)_____
e-mail jshrvyst@cox.net

State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

Home (___)_____
Work (___)_____
Fax (___)_____
Cell (___)_____
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable): Contact Information:

JEFF WATKINS
PO Box 515
Gloucester VA 23061

Home (___)_____
Work (___)_____
Fax (___)_____
Cell (804 815083
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

Rock Sills: 245 L.F.
Sand Nourishment 500 cyds.
Spartina plantings : 1200 S.F.

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? ✓ Yes* ___ No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)

Contractor's name* and complete mailing address:

Shoreline Structures LLC.
PO Box 515
Gloucester VA 23061

Contact Information:
Home (___)_____
Work (___)_____
Fax (___)_____
Cell (804) 815-0813
email JWatkins49@cox.net

State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

Name and complete mailing address:

Telephone number
(___) _____

7. Give the following project location information:
Street Address (911 address if available) 5518 Roanes Wharf Rd
Lot/Block/Parcel# 40-169 Selden, Parcel 2
Subdivision _____
City / County Gloucester ZIP Code 23061
Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
_____ / -_____ (Example: 36.41600/-76.30733)

If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

Rt 17 N. Right on Featherbed Lane. Right on Robins Neck Rd. Left on Roanes Wharf Rd. House will be on the left.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

Control erosion

Part 1 - General Information (continued)

9. Proposed use (check one):
   - ✓ Single user (private, non-commercial, residential)
   - ___ Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes ✓No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $ 95,000
    Approximate cost of that portion of the project that is channelward of mean low water:
    $_____

13. Completion date of the proposed work:_____-_____

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

[redacted]
5514 Roanes Wharf Rd
Gloucester VA 23061

Kim Lawlor (5552 Roanes Wharf)
7612 Timberly Ct
McLean VA 22102

Part 2 - Signatures

1. **Applicants and property owners (if different from applicant).**
   NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

[redacted]
Applicant's Legal Name (printed/typed)

[redacted]
(Use if more than one applicant)

[redacted]
Applicant's Signature

[redacted]
(Use if more than one applicant)

4/20/21
Date

[redacted]
Property Owner's Legal Name (printed/typed)
(If different from Applicant)

[redacted]
(Use if more than one owner)

[redacted]
Property Owner's Signature

[redacted]
(Use if more than one owner)

4/20/21
Date

Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we), [redacted], hereby certify that I (we) have authorized J. WATTS, JR'S
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

[redacted]
(Agent's Signature)

(Use if more than one agent)

4-25-21
(Date)

[redacted]
(Applicant's Signature)

[redacted]
(Use if more than one applicant)

4-25-21
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), [redacted] have contracted Shoreline Structures LLC
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated 4/20/21.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

Shoreline Structures LLC
Contractor's name or name of firm

POB 515 Glo. VA 23061
Contractor's or firms address

Contractor's signature and title

Contractor's License Number

[redacted]
Applicant's signature

[redacted]
(use if more than one applicant)

4-25-21
Date

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS.

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at** http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

Rock Sills: 245 L.F. Class I & II over core
Sand Nourishment: 500 cyds.
Spartina planting: 1200 S.F.

2. What is the maximum encroachment channelward of mean high water? 40 feet.
   Channelward of mean low water? 22 feet.
   Channelward of the back edge of the dune or beach? NA feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands 0 square feet — Rock = 700, Sand = 950
   - Non-vegetated wetlands _____ square feet
   - Subaqueous bottom _____ square feet — Rock = 1320, Sand = 250
   - Dune and/or beach NA square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? ____ Yes ____ No.

Received by VMRC May 3, 2021 /blh

Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

quarry stone

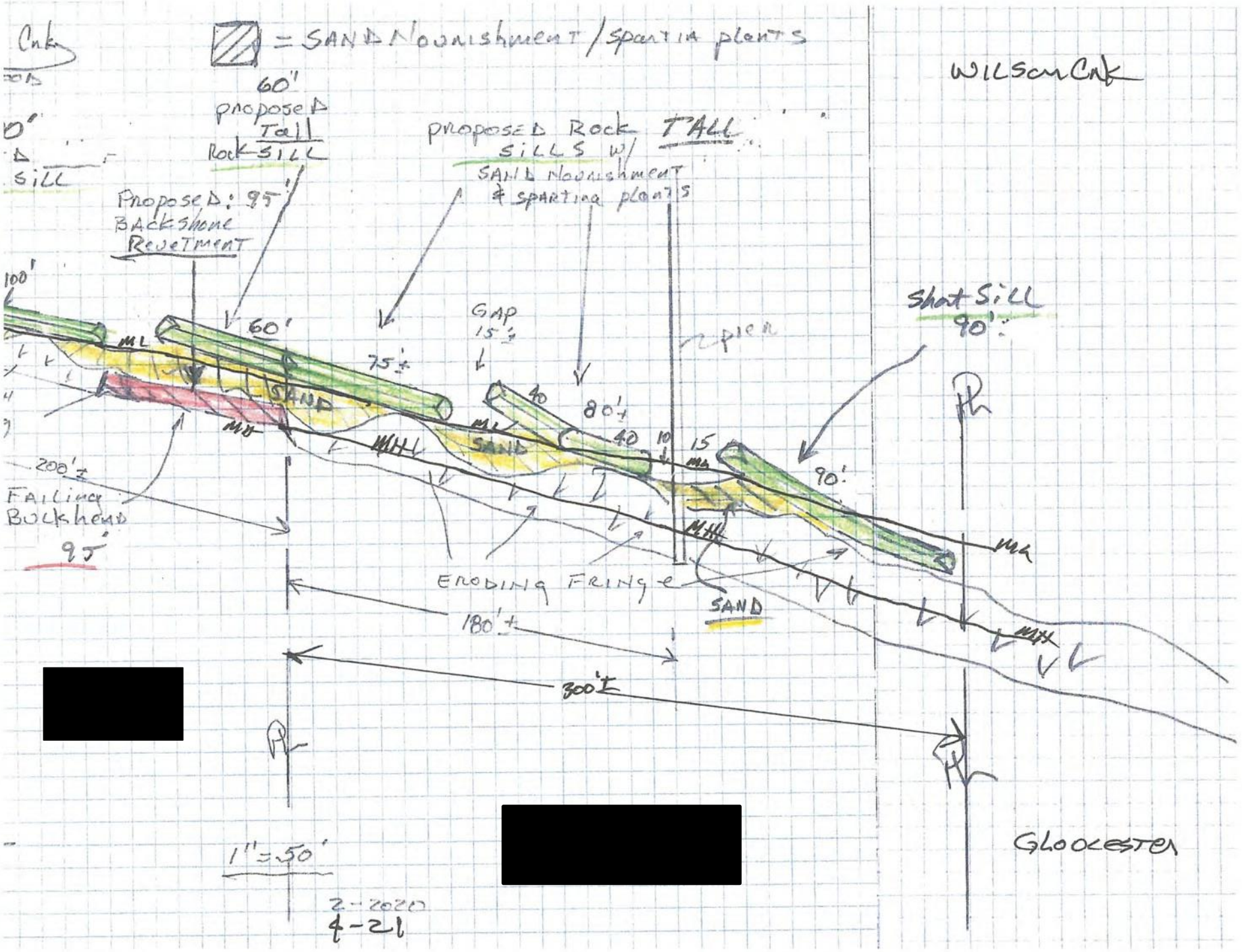
6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
Core (inner layer) material 10-20 pounds per stone Class size 6-12"
Armor (outer layer) material 150-1500 pounds per stone Class size I & II

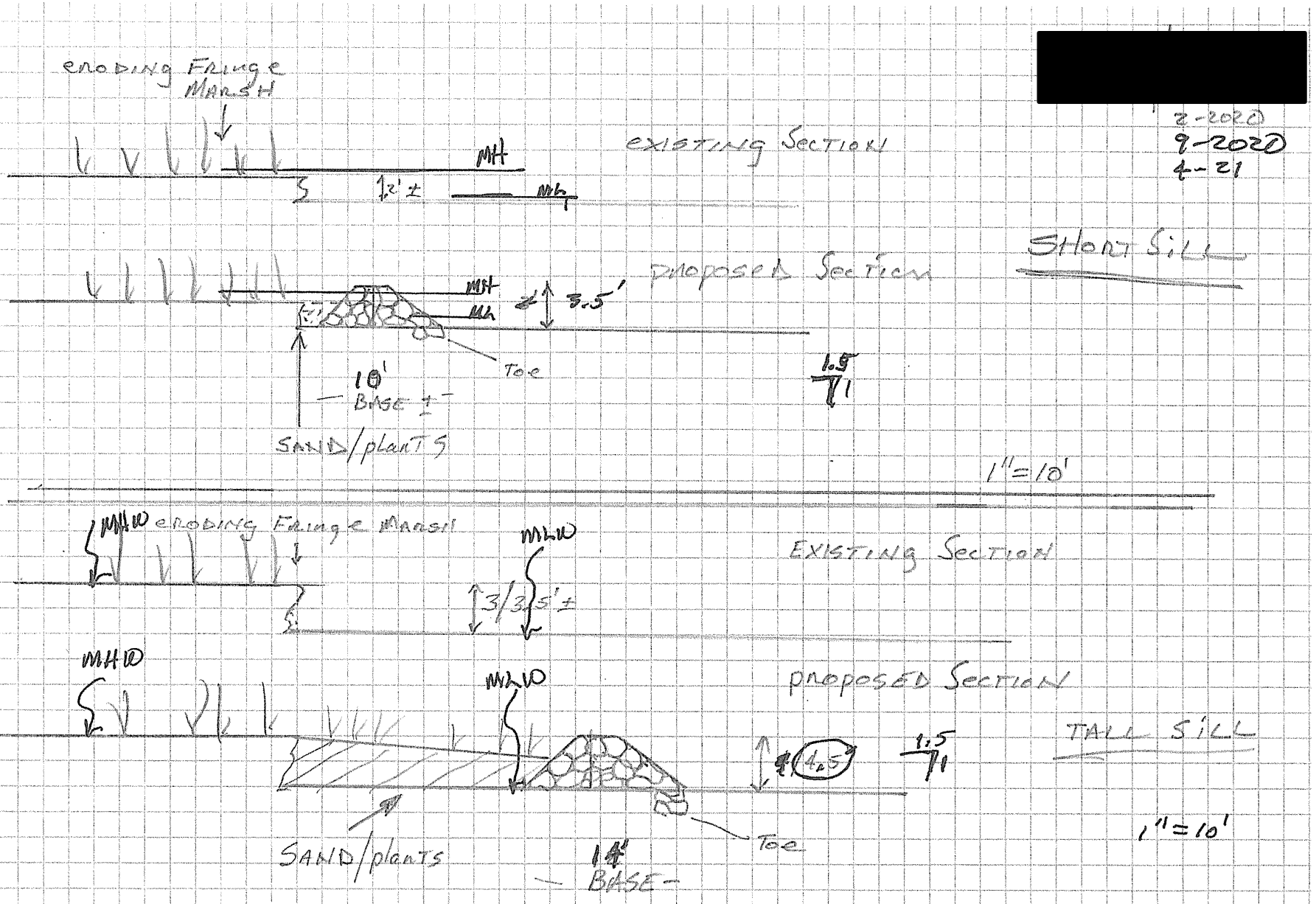
7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

- Volume of material
  - 50 cubic yards channelward of mean low water
  - 450 cubic yards landward of mean low water
  - 500 cubic yards channelward of mean high water
  - 0 cubic yards landward of mean high water
- Area to be covered
  - 250 square feet channelward of mean low water
  - 950 square feet landward of mean low water
  - _____ cubic yards channelward of mean high water
  - _____ cubic yards landward of mean high water
- Source of material, composition (e.g. 90% sand, 10% clay): 90% sand
- Method of transportation and placement:

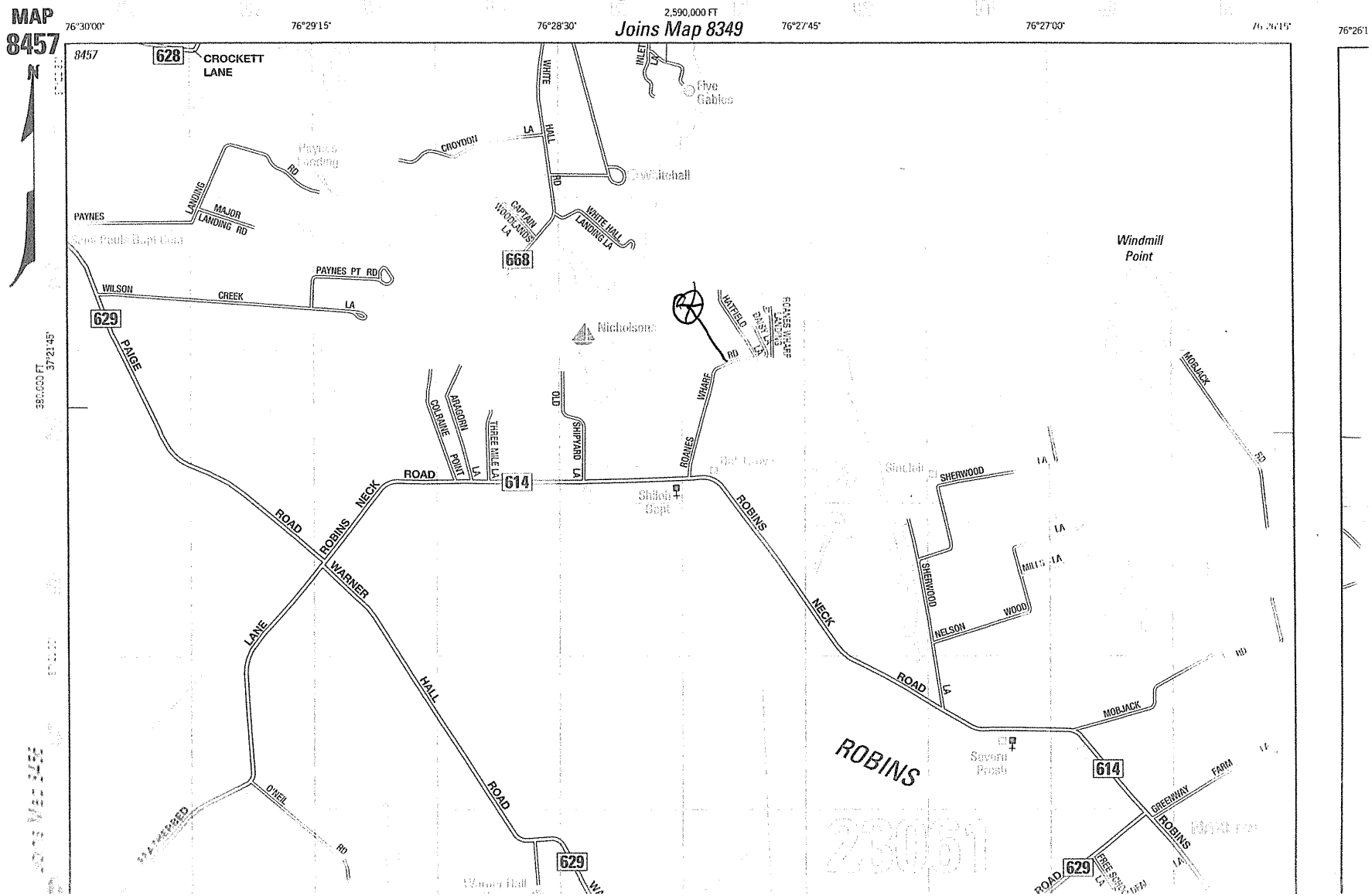
_____

- Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:





HATKINS, 2/20 9/20
804-815-0813



Attachment 9: Flood Prevention Project and its Relevance to Other Projects

MPPDC staff have worked throughout the years to understand the policy, research and impacts of flooding (ie. 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 & Sea Level Rise (2009 to 2012)
The MPPDC 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, MPPDC 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.
Phase 1: Middle Peninsula Climate Change Adaptation: Facilitation of Presentations and Discussions of Climate Change Issues with Local Elected Officials and the General Public
Phase 2: Climate Change III: Initiating Adaptation Public Policy Development
Phase 3: Phase 3 Climate Change: Initiating Adaptation Public Policy Development

Emergency Management - Hazard Mitigation Planning (2009 to Present): Since 2009, the Middle Peninsula Planning District Commission 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* (ie. Mean High Higher Water and the 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, OSDS management, storm water management, TMDLs, etc, staff from the Middle Peninsula Planning District Commission (MPPDC) 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 Onsite Sewage Disposal System (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 Virginia Department of Conservation and Recreation 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 MPPDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The MPPDC 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): MPPDC 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 VSMP.

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 MPPDC developed the MPPDC 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 MPPDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~$500,000 in VRA loan funding and ~$400,000 in NFWF grant funding. Living Shoreline construction cost to date range per job $14,000-$180,000. MPPDC 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): VIMS Shoreline Studies Program worked with the 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 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.

Attachment 10: Project cost estimates

Shoreline Structures, LLC
Jeff Watkins
VA Class A 2705095843 CBC RBC
P.O. Box 515
Gloucester, VA 23061

8-12-21

Shoreline Erosion Control Project:

Property #1: 5514 Roanes Wharf Rd.
Gloucester, VA 23061.

Revised Estimate: Increased rock prices and fuel surcharges are the reason for this revision. We have not increased our labor charges.

- 60 L.F. of short sill, ...$ 9,500.
- 160 L.F. of tall sill:.....$ 38,870.
- 95 L.F. of revetment:.....$ 23,996.
- Sand Nourishment, 550 c.yds.....$ 15,880.
- Timber mats for equipment in marsh.....$ 2,500.
- Spartina plantings.....$ 1,400.
- Environmental permits, fees etc.....$ 750 +/-
- Access and yard repair.....$? TBD ?

This project is completely permitted by all three agencies and is ready for construction.

Jeff Watkins
Shoreline Structures, LLC.

Shoreline Structures, LLC
Jeff Watkins
VA Class A 2705095843 CBC RBC
P.O. Box 515
Gloucester, VA 23061

8-12-21

Shoreline Erosion Control Project: VMRC 21-1008

Property #2: 5518 Roanes Wharf Rd.
Gloucester, VA 23061.

Revised Estimate: Increased rock prices and fuel surcharges are the reason for this revision. We have not increased our labor charges.

- 155 L.F. of tall sill (two parts).....$ 36,580.
- 90 L.F. of short sill (right side of pier).....$ 14,000.
- Sand Nourishment, 550 c.yds.....$ 15,880.
- Timber mats for equipment in marsh.....$ 2,500.
- Spartina plantings.....$ 1,200.
- Environmental permits, fees etc.....$ 750 +/-
- Access and yard repair.....$? TBD ?

This project is completely permitted by all three agencies and is ready for construction.

Jeff Watkins
Shoreline Structures, LLC.

Attachment 11: Match Commitment Letters

August 14, 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 5514 Roanes Wharf Road, Gloucester, Va. 23061. 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 804-758-2311 should you have any questions and they will be able to contact me to coordinate a response. I can be reached by phone at 703-989-8882 or by email at [redacted]

Sincerely,

[redacted]

August 15, 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 5518 Roanes Wharf Rd, Gloucester VA 23061. 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 804-758-2311 should you have any questions and they will be able to contact me to coordinate a response. I can be reached by phone at 804-694-7557 or by email at [redacted]

Sincerely,

[redacted]

Attachment 12: Authorization to request for funding

MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

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).

Saluda Professional Center • 125 Bowden Street • PO Box 286 • Saluda, Virginia 23149
(Phone) 804 758-2311 • (Fax) 804 758-3221 • (Email) pdcinfo@mppdc.com
http://www.mppdc.com

MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

October 22, 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,

We are pleased to respond to DCR's October 20, 2021 request to amend Round 1 application based on the two concerns noted in the letter from Darryl Glover, Deputy Director. Our response follows for the [redacted] application. As we have offered multiple times, if DCR would provide guidance as to what you desire for applications related to issue areas, we will gladly incorporate into future proposals. We consider helping both public and private entities manage flooding a critical and essential function of government.

Issue #1

DCR questions how properties valued with a stated range can be qualified as low income.

Response: As previously provided by MPPDC legal counsel to DCR, ***"The statute and guidance are clear that the criteria deals with areas, not people. To ignore its plain language or utilize unreliable measures such as property value for grants would be arbitrary and certainly inconsistent with the law.***

Nevertheless, the applicant has voluntarily elected to be reclassified as residing in a non-low-income area designation even though they reside in a low-income area. As such, the applicant has voluntarily elected to change the budget request from 80% to 70% in grant funding, which means the applicant will need to cover 10% more of the project costs than what was originally budgeted for. The applicant has authorized this modification which is included in this letter as well as a new proposed project budget.

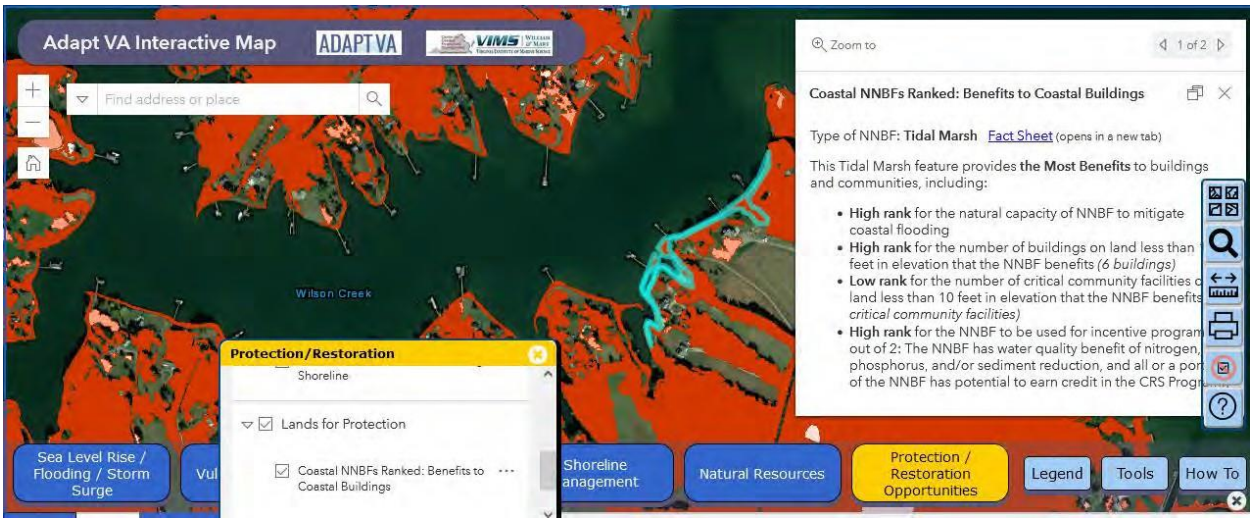
Issue #2

DCR questions how the submitted project relates to priority being given to community scale activities; benefit to the greater community; and adverse impact to other neighboring properties.

Response: The state may have some basis to give preference to projects larger in scale than those affecting one parcel or property owner. Va. Code § 10.1-603.25(E) states, "Priority shall be given to projects that implement community-scale hazard mitigation activities that use nature-based solutions to reduce flood risk. However, this would not provide a basis for *rejecting* applications for one parcel or property owner as projects of all sizes are expressly to be considered. The issue is how the guidance defines "Community Scale project" which means a project that provides demonstrable flood reduction benefits at the US census block level or greater. A census block is the smallest US Census geography, but in rural application in many instances represents an extremely large area covering in excesses of 3,000 acres and almost 5 square miles, while an urban block may be as small as 2 acres or .003 of one acre in size. If the basis for approving rural projects is based singularly on proving "demonstrable flood reduction" benefit, rural areas will never compete.

MPPDC believes that proposing nature-based flood mitigation projects at the parcel scale and where possible, partnering with neighbors can accomplish more in terms of linear shoreline protected than urban areas which have smaller sized parcels. Therefore, consistent with the General Assembly directive to VMRC that every VMRC permitted living shoreline project is the preferred solution, we believe submissions of each nature-based project is essentially a nature- based "brick in the wall" and over time the cumulative impact of this approach will be realized. The alternative is hardening of the shoreline, which is counter to the desires of the General Assembly.

Additionally, Adapt VA contains a data layer illustrating areas of less than 10 feet in elevation that show locations in the Middle Peninsula that offer benefits of NNBF to coastal buildings, habitat, and community protection. All Round 1 applications from the Middle Peninsula have multiple community protection benefits which include combinations of mitigating coastal flooding, protecting buildings/community facilities and CRS credit



Concerning adverse impacts. MPPDC recognizes that VMRC is the permit issuing authority for all shoreline projects and by statute the local wetlands board and VMRC Commission must utilize the best available science when evaluating each project including how the project impacts up stream and down steam impacts. This might include modifying any aspect of a Flood Fund design to ensure that impacts are mitigated. With that said, MPPDC proposes that prior to requesting final reimbursement from DCR for any design proposal funded under the Flood Fund, MPPDC staff will send the proposed design to the Shoreline Erosion Advisory Service (SEAS) for review. This will require DCR SEAS staff to work directly with the private project designer to address impacts that DCR staff has concerns with to ensure that impacts stemming from any design permitted by VMRC are lessened to a degree that is satisfactory by DCR.

Applicant Voluntarily Selection: Multi Parcel

From: [redacted]
Sent: Thursday, October 21, 2021 1:40 PM
To: Dawn Mantell <Dmantell@mppdc.com>
Subject: Re: Flood Fund Round 1 Application - Status Update

Although disappointing, I elect to go with option one and I will pay the additional 10% needed for the improvements and be re-classified as a non-low income area. Please make the changes on my application and proceed with round two.

Thank you
[redacted]

From: Dawn Mantell
Sent: Thursday, October 21, 2021 4:45 PM
To: Lewis Lawrence
Subject: FW: Flood Fund Round 1 Application - Status Update

From: [redacted]
Sent: Thursday, October 21, 2021 4:40 PM
To: Dawn Mantell <Dmantell@mppdc.com>
Subject: Re: Flood Fund Round 1 Application - Status Update

Hello Lewie,

I am responding to your email about the 'reclassification' for the anticipated Grant. Of course I would accept and reapply for a 70% Grant as opposed to the original 80% Grant. ANY money is most welcomed to help me financially offset this severe erosion problem on my waterfront. Therefore, I am voluntarily electing to be reclassified as residing in a non-low income area and recognize how this changes the financial Grant terms from 80% to 70% funding.

I have to say that while I heartily welcome any financial assistance, this news has deeply upset me. I am a retired school teacher on a set income and paying the 30% remainder will be a hardship. I also find it interesting how this area is not considered a low income area. First of all, I HAVE A LOW INCOME since being on a state pension! Secondly, when I drive to my home, I am reminded daily of the low income properties I have to pass with old trailers and broken vehicles strewn about the yard. It is a FAR CRY from living in Fairfax, where I moved from. two years ago. However, I chose to retire here due to the waterfront. And with that, comes waterfront maintenance and the associated expenses of it. My first reaction was, I admit, was to put my property on the market immediately and move to Williamsburg- off from the water. However, I love my property and can't envision going through another move. Therefore, I am willing to work with any financial assistance available.

If there is anything else I need to do, please let me know.

Dissappointed, yet hopeful,
[redacted]

Amended Budget Request

DCR Funding:	$ 143,304
Owner:	$ 61,414
Total	$ 204,719

Flood Fund Budget Requirement Page No.	Budget Narrative (Category D)							Budget (Cat. D)
						[redacted]		
	Personnel Salaries/Wages		**DCR %**	**Match %**	**Annual Salary**	**DCR**	**Owner**	**Total**
	Staff		22.25%	5.57%	$70,000	$13,802	$5,915	$19,718
	Personnel	*Lewie's Cheat Sheet*			**DCR**	**Owner**	$13,802	$5,915	$19,717
				Total	*70%*	*30%*			
	Fringe, 26.21% salaries;			**$165,906**	116,134.20	49,771.80	$3,618	$1,550	$5,168
			15%	24,885.90	17,420.13	7,465.77			
	Total Personnel			**190,791.90**	**133,554.33**	**57,237.57**	$17,420	$7,465	$24,885
8.12.est [redacted]	**SubAward/SubContract Agreements**						**70%**	**30%**	
[redacted] 5514	*Shoreline Structures*	*60 LF Short Sill*				$9,500	$6,650	$2,850	$9,500
5514	*Shoreline Structures*	*160 LF Tall Sill*				$38,870	$27,209	$11,661	$38,870
5514	*Shoreline Structures*	*95 LF Revetment*				$23,996	$16,797	$7,199	$23,996
5514	*Shoreline Structures*	*Sand Nourishment 550 cyds*				$15,880	$11,116	$4,764	$15,880
5514	*Shoreline Structures*	*Timber Mats*				$2,500	$1,750	$750	$2,500
5514	*Shoreline Structures*	*Spartina Plantings*				$1,400	$980	$420	$1,400
5514	*Shoreline Structures*	*Environmental permits, fees, etc*			" +/- "	$750	$525	$225	$750
5514	*Shoreline Structures*	*Access and yard repair*			TBD	$300	$210	$90	$300
- 551	*Shoreline Structures*	*155 LF tall Sill*				$36,580	$25,606	$10,974	$36,580
- 551	*Shoreline Structures*	*90 LF short Sill*				$14,000	$9,800	$4,200	$14,000
- 551	*Shoreline Structures*	*Sand Nourishment 550 cyds*				$15,880	$11,116	$4,764	$15,880
- 551	*Shoreline Structures*	*Timber Mats*				$2,500	$1,750	$750	$2,500
- 551	*Shoreline Structures*	*Spartina Plantings*				$1,200	$840	$360	$1,200
- 551	*Shoreline Structures*	*Environmental permits, fees, etc*			" +/- "	$750	$525	$225	$750
- 551	*Shoreline Structures*	*Access and yard repair*			TBD	$300	$210	$90	$300
8.12est	*Procurement*					$1,500	$1,050	$450	$1,500
							$0	$0	$0
						$165,906			
	SUBTOTAL: Direct Costs						$133,554	$57,237	$190,791
	Indirect/IDC/Facilities & Administrative Costs				**27.92%**	$13,928	$9,750	$4,178	$13,928
	Total						**$143,304**	**$61,415**	**$204,719**
	Other Match:								
	Source of Match						$0	$0	$0
	GRAND TOTAL						**$143,304**	**$61,415**	**$204,719**

Saluda Professional Center • 125 Bowden Street • PO Box 286 • Saluda, Virginia 23149
(Phone) 804 758-2311 • (Fax) 804 758-3221 • (Email) pdcinfo@mppdc.com
http://www.mppdc.com

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund
Flood Prevention and Protection Project

PROJECT TITLE: Historic Antioch Rosenwald School Flood Protection
Name of Local Government: Middle Peninsula Planning District Commission

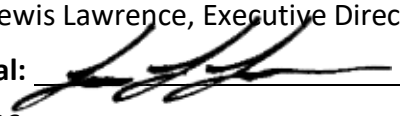
Category of Grant Being Applied for (check one):

_____Capacity Building/Planning X Project _____Study

NFIP/DCR Community Identification Number (CID): Mathews County (510096)

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: (804) 758-2311 Cell Phone Number: (804) 832-6747
Email Address: llawrence@mppdc.com

Contact Person (If different from authorized official): Curtis Smith
Mailing Address (1): PO Box 286
Mailing Address (2): 125 Bowden Street
City: Saluda **State:** VA **Zip:** 23149
Telephone Number: (804) 758-2311 **Cell Phone Number:** (804) 384-7509
Email Address: csmith@mppdc.com

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

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): Mathews County – Please see the attached corresponding maps for this application
NFIP Community Identification Number (CID#): 510096

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): N/A
Flood Insurance Rate Map Number(s) (If Applicable): 51115C0130E

Total Cost of Project: **$141,438**

Total Amount Requested: **$99,007**

INTRODUCTION –

This proposal requests funding to assist the Antioch Baptist Church with designing and implementing stormwater protection activities to preserve and enhance the historic Antioch Rosenwald School property in Mathews County, which continues to serve a minority community which has historically been underserved regarding flood protection assistance. The efforts to mitigating the stormwater challenges faced at the property are a critical step towards the broader effort to convert the historic property into a community center and museum which can provide much needed assistance and create much needed opportunities for the underserved citizens of this vulnerable community as well as help preserve the rich minority history of the property and the community. The project will construct a stormwater collection system on the Rosenwald School focusing on the roof and managing runoff utilizing approved stormwater BMPs, as well as designing a suite of landscape-focused stormwater BMPs which can be implemented over time to ensure that the property grounds themselves can once again be restored to a useable and functional condition to meet the needs of the community.

FEMA, Virginia General Assembly, DCR's Floodplain Management Program, and the Middle Peninsula 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 and work there. These hazards include flooding, drought, hurricanes, landslides, wildfires and more. 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 (www.FightTheFloodVA.com). This proposal intends to implement nature-based solutions which utilize and incorporate sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. Further, this proposal incorporates natural features and processes in efforts to combat climate change, reduce flood risks, improve water quality, protect coastal property, restore, and protect wetlands, reduce heat, add recreational space, preserve historic structures, provide resilience-related educational opportunities and more. Nature-based solutions offer significant benefits, monetary and otherwise, often at a lower cost than more traditional infrastructure. 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 (*FEMA Building Community Resilience with Nature Based Solutions,* June 2021).

- *A link to the Middle Peninsula PDC'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 notates the need to respond to emerging flood challenges.*
- *Middle Peninsula All Hazards Mitigation Plan (2016): 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 Mathews' Comprehensive Plan can be found at: https://www.mathewscountyva.gov/196/Comprehensive-Plan*

PROJECT LOCATION INFORMATION –

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 REGIONAL MAP SHOWING PROJECT LOCATION

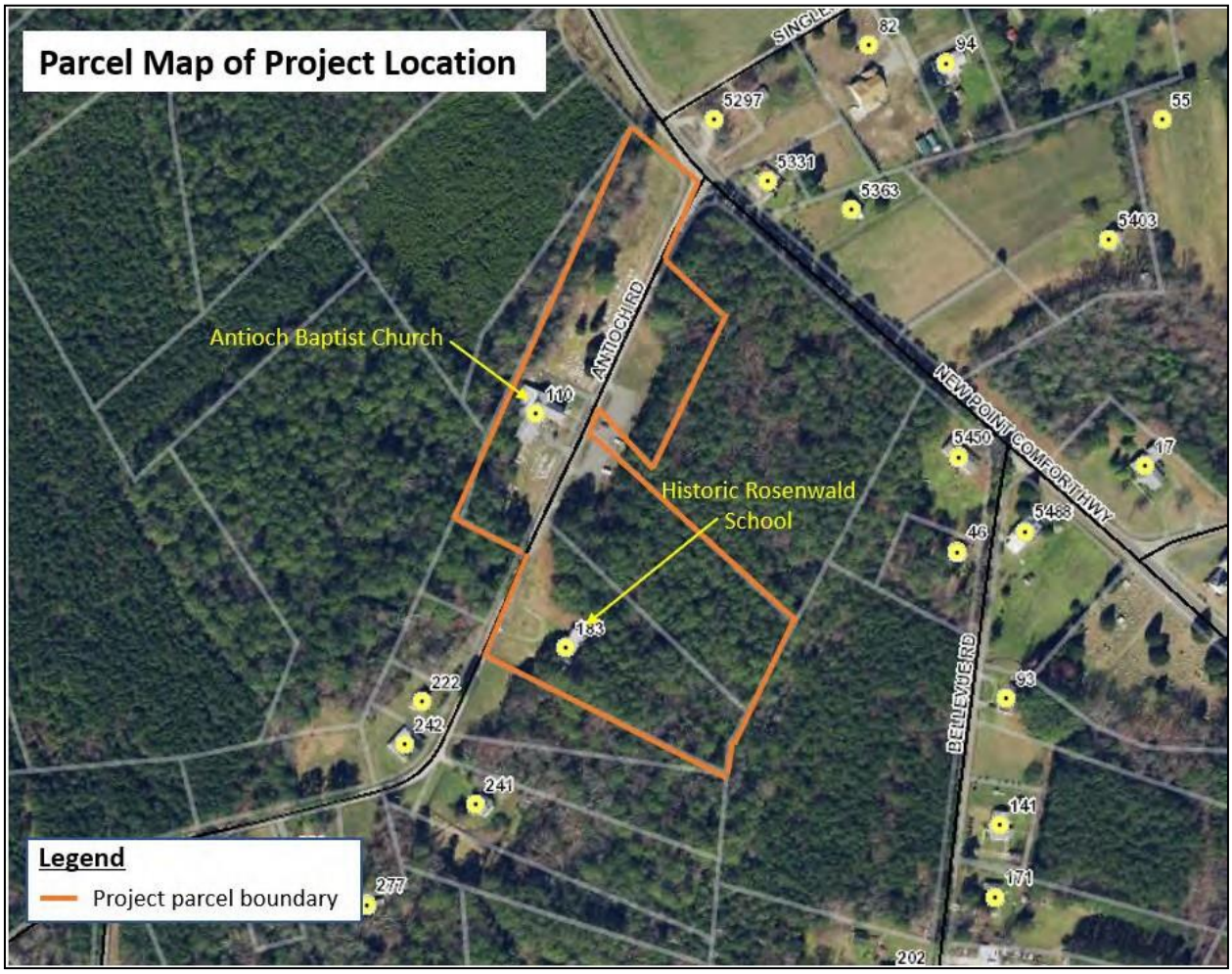
FIGURE 2. MIDDLE PENINSULA POPULATION

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 design and implement stormwater flooding solutions on four private parcels of land constituting approximately 10.5 acres of land located in the historically minority and underserved community of Susan in Mathews County as found in **Figures 3 and 4**. The property is owned by the Antioch Baptist Church, which has served for nearly 100 years as a religious, community, cultural, and educational center for the historically underserved African American citizens of Mathews County. The property consists of the historic Antioch Rosenwald School, the Antioch Baptist Church, the church cemetery, and several wooded, grassy, and parking areas.

FIGURE 3: COUNTY MAP OF PROJECT LOCATION.

FIGURE 4: PARCEL MAP OF PROJECT LOCATION.



The Antioch Baptist Church congregation and other supporters throughout the community are currently attempting to preserve the historic Rosenwald School for restored use as a museum and cultural and community center. However, the school building and the property grounds experience regular and increasingly problematic amounts of stormwater flooding which has proved to be a great challenge to the preservation and revitalization of the property. Fundraising efforts in recent years have been successful; however, funds that were raised with the intent to revitalize the structure and reignite the functionality of the building as a community center and museum have instead needed to go to efforts to secure the building's foundation, which had degraded due to stormwater-related issues throughout the years. This same scenario is occurring once again as the roof of the building has begun to fail resulting in significant leaks and damages to the building and contents.

Church leadership have reported that stormwater flooding impacts the daily use of the properties including needing to regularly delay funerals for congregation members and alter parking accommodations due to standing water following both extreme and relatively smaller precipitation events. Many of these flooding issues are believed to be as result of the soil type, lack of elevation, local topographic influence, and overall lack of comprehensive stormwater

management of impervious surfaces and drainage ditches at the property; however, the problem has not been investigated by an environmental engineer to date.

This proposal intends to design and construct a stormwater collection system and vegetated green roof at the historic Rosenwald School building and design a number of landscaping related BMPs on the Church-owned parcels, which can be implemented over time to ensure that the historic property and community hub remain in operation for generations to come and serve as a model for flooding resiliency for historic structures and similar properties across the Commonwealth.

The Antioch Rosenwald School was constructed in 1927 and is the last remaining Rosenwald School in Mathews County. Between 1912 and 1932, through a unique collaboration between Sears & Roebuck President Julius Rosenwald and Tuskegee Institute's Booker T. Washington, almost 5,000 wood frame school buildings were built throughout the South to provide public education for African Americans. Typically located in proximity to African American Churches, these schools were built incorporating the latest ideas in education and health, including instructional needs, lighting, heating, and sanitation, in an effort to create a positive and healthy environment for learning. The Rosenwald Schools building program created a model for all rural schools in this country. Constructed in 1927 as a two-teacher pattern school (**Figures 5 and 6**) the Antioch School was in service a little over 20 years, until 1948, at which time the County closed the school and relocated the remaining students to the Thomas Hunter School in Mathews. In the years since, Antioch Church has used building for various uses including using the north classroom half of the building as a 3-bedroom dwelling/Parsonage, and the south classroom half as a fellowship hall for parishioners. Around 1970, the building was remodeled into its current appearance. The building which is currently vacant has an original roof that is leaking in several places and is need of replacement to stop further damage

FIGURE 5: ORIGINAL RENDERING & FLOOR PLAN FOR THE ANTIOCH ROSENWALD SCHOOL.

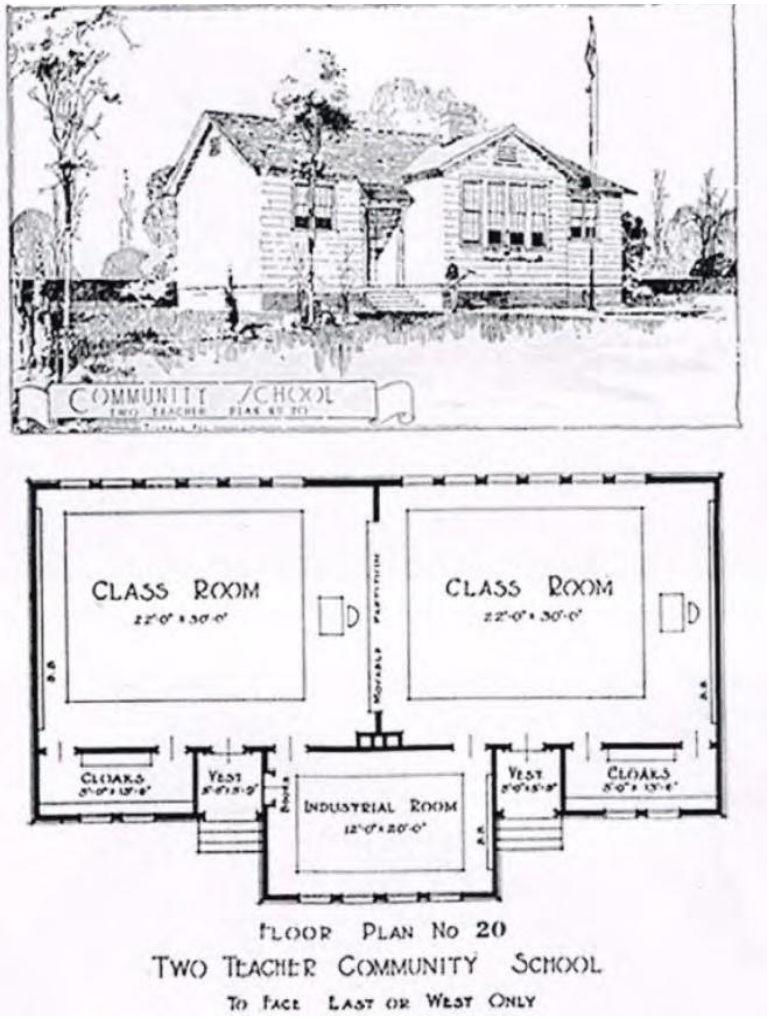


FIGURE 6: FRONT OF THE ANTIOCH ROSENWALD SCHOOL DURING CONSTRUCTION IN 1927.

to the structure. Most of the items and artifacts have been removed and stored to protect them from rain damage. The Church's Board of Trustees has adopted a vision for the school to transform the school building into a community center which can provide educational, entrepreneurship, or workforce training center as well as a museum to preserve the property and community's invaluable history and culture.

Mathews County is located at Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 86 square miles of land 166 miles of shorelines. Based on 2020 Census Data, Mathews County's population totals 8,533 which makes it the largest Middle Peninsula locality. According to DCR guidelines, a portion of the County is considered a low-income geographic area.

In **Figure 7,** 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.

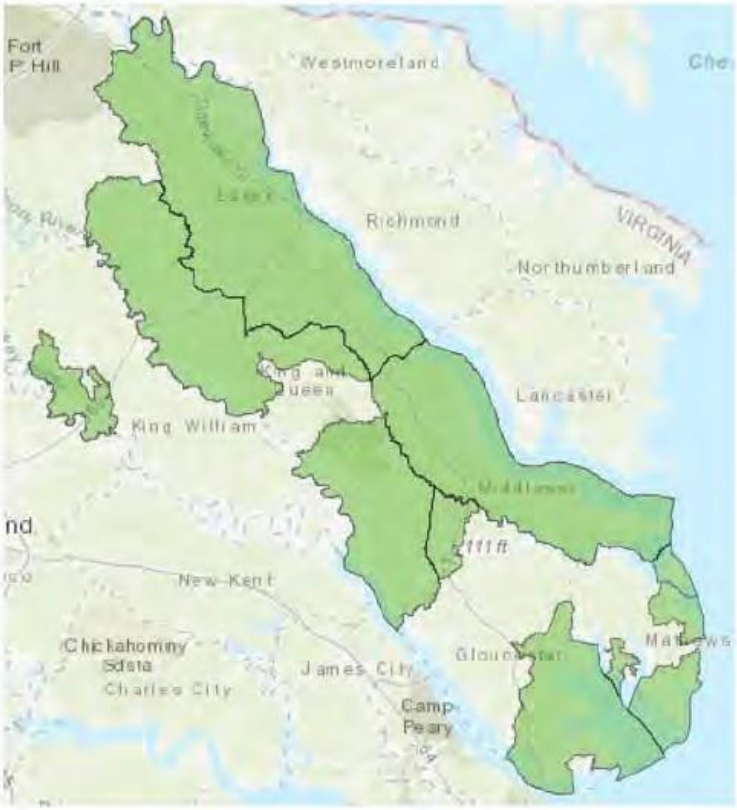
FIGURE 7: MAP OF MIDDLE PENINSULA LOW INCOME GEOGRAPHIC AREAS QUALIFYING PER DCR GUIDELINES.

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

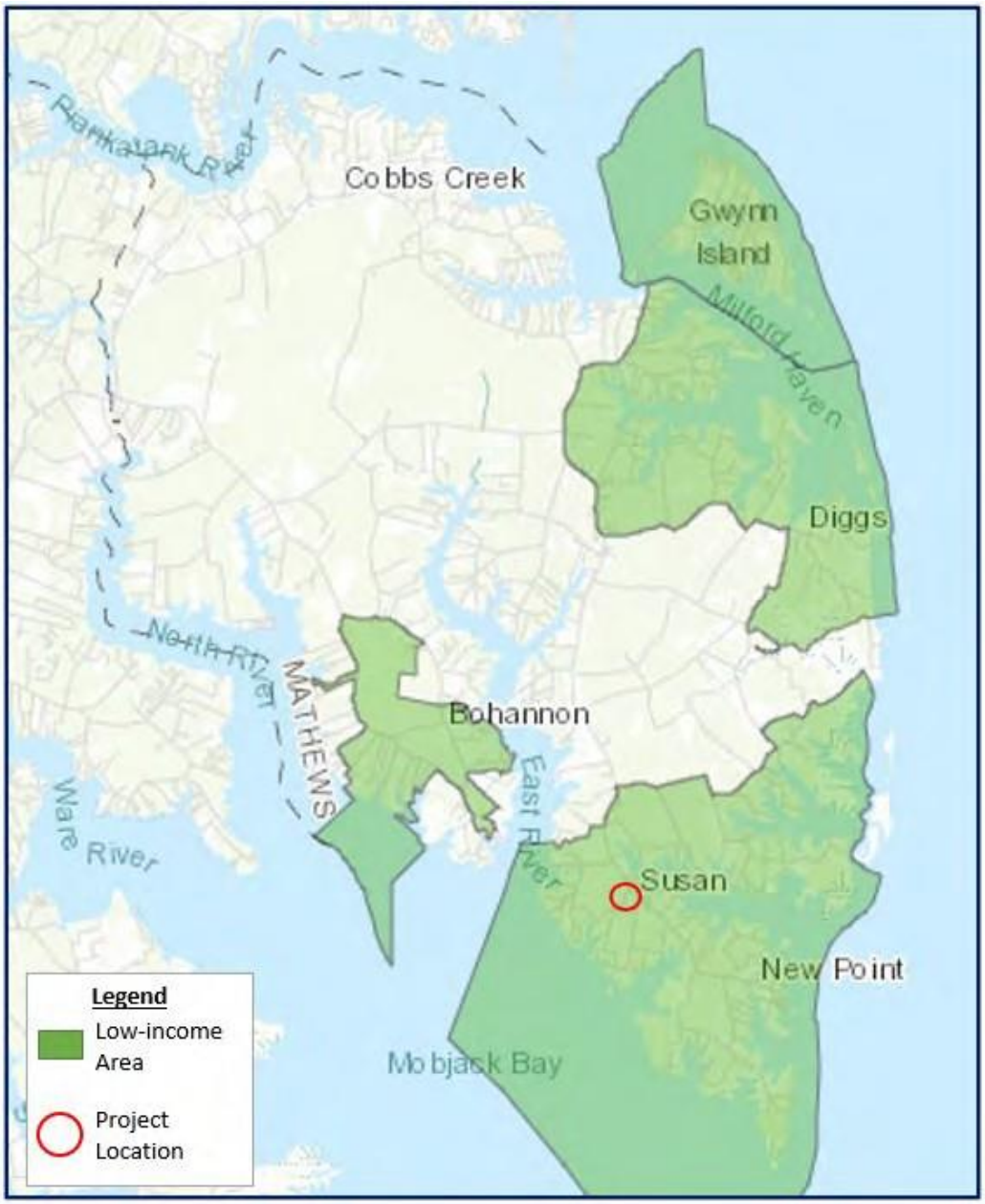
Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

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 8** for a zoomed in map of the project location and the green low-income area overlay. This shows that the project location is within the low-income area.

FIGURE 8: 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 9**; 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 track level, the social vulnerability is considered relatively moderate level of vulnerability as seen in **Figure 10.**

FIGURE 9. VIRGINIA'S SOCIAL VULNERABILITY INDEX SCORE MAP OF THE PROJECT LOCATION

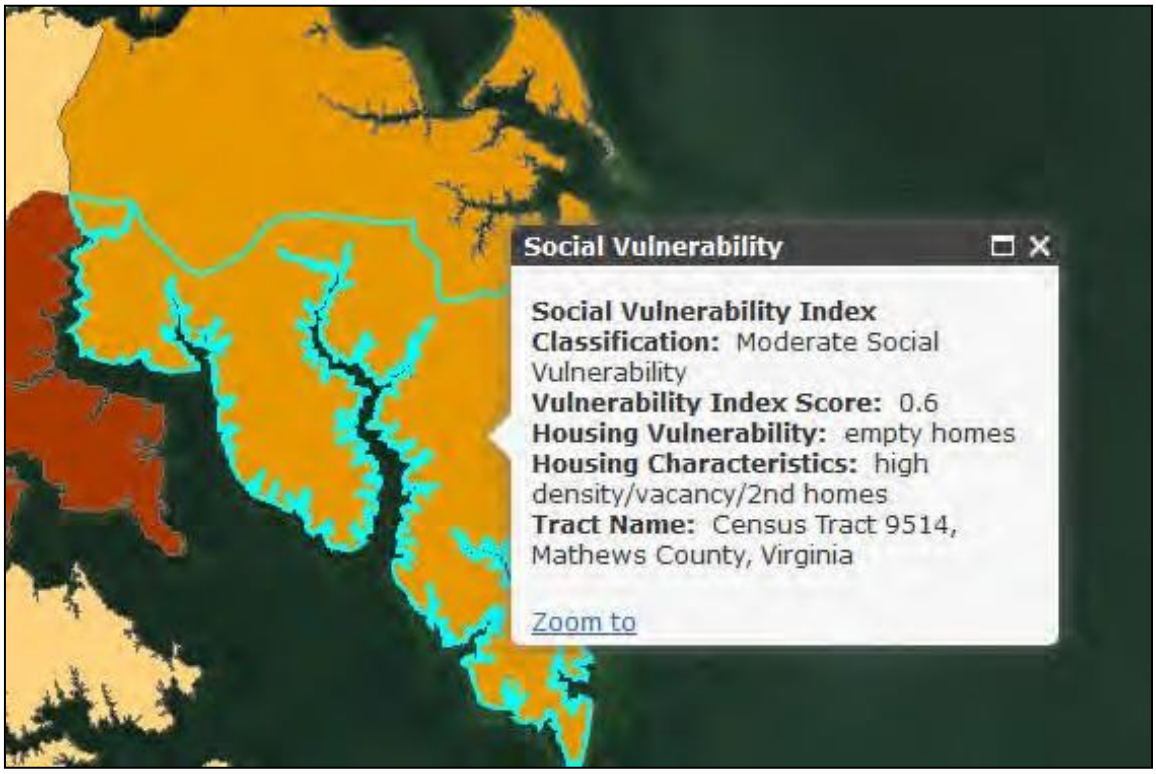
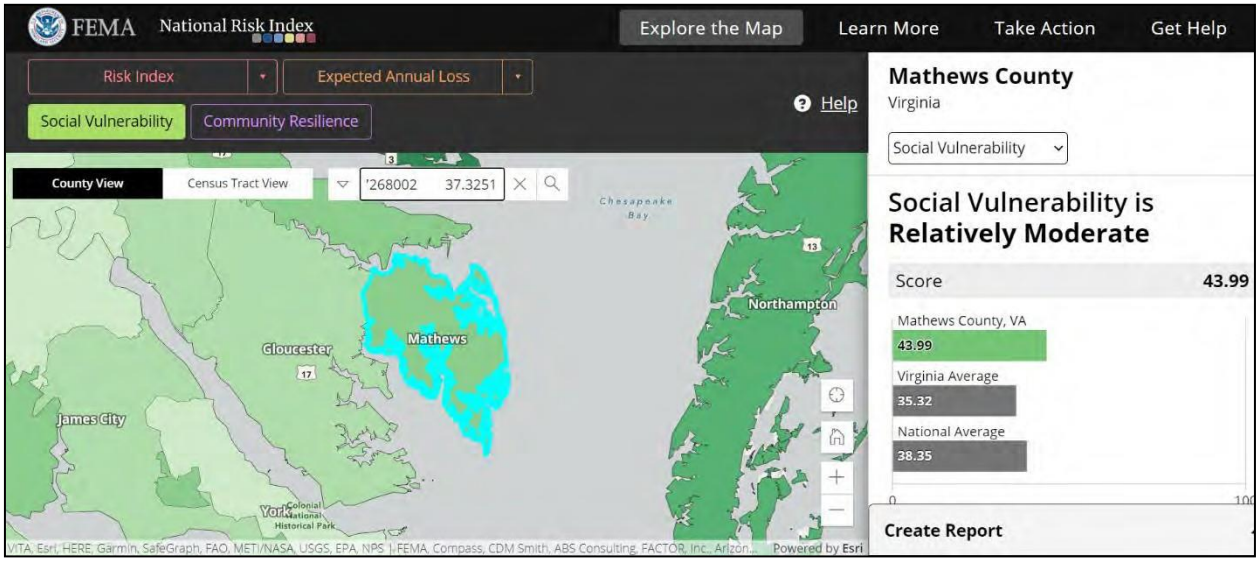
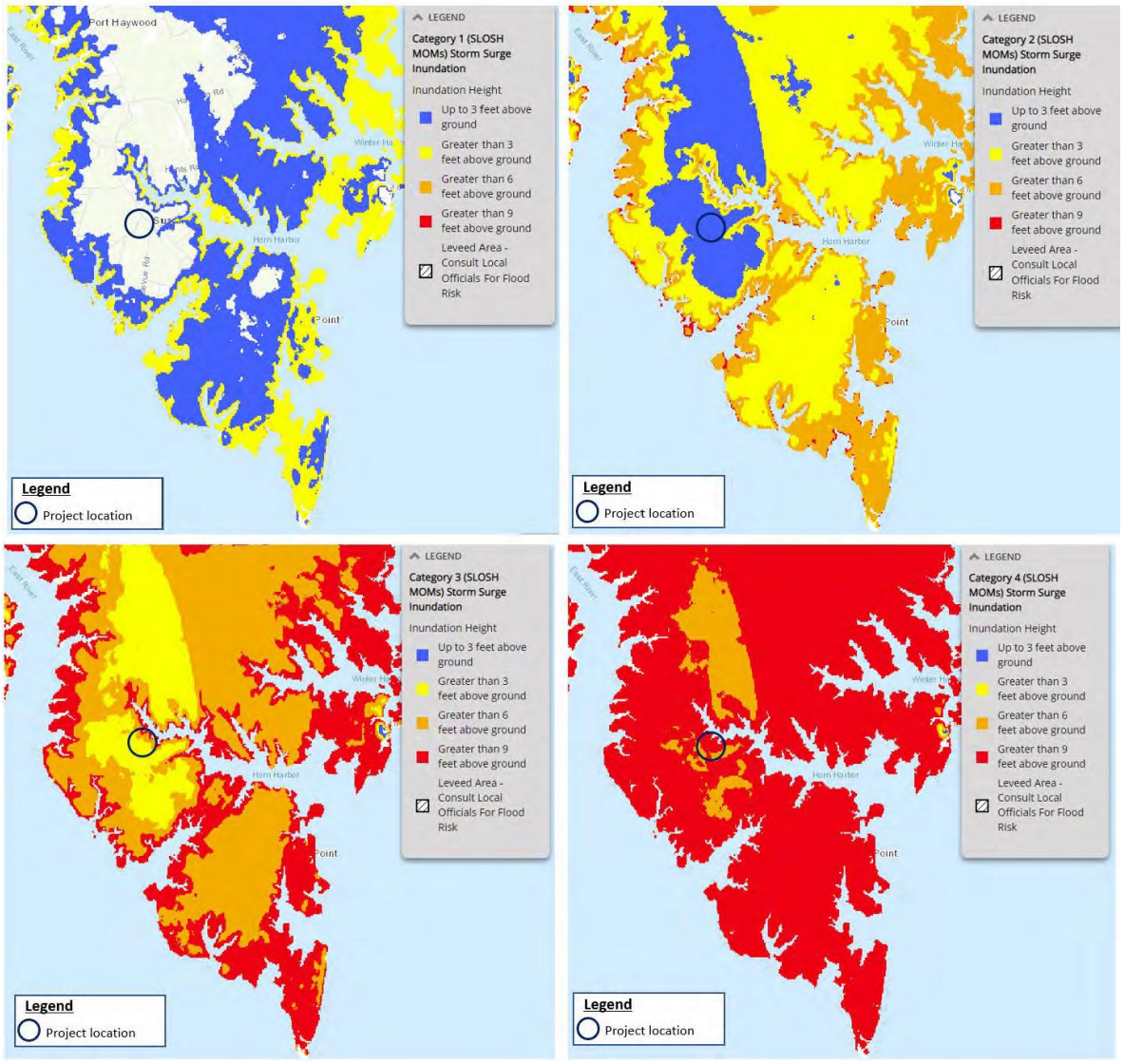


FIGURE 10. FEMA NATION RISK INDEX OF CENSUS TRACK OF PROJECT LOCATION



The four subject parcels are not located within a designated FEMA Flood Zone but are vulnerable to coastal flooding from tropical and sub-tropical storm surge (**Figure 11** and **Attachment 2** *(FIRMette last mapped 12/19/2014)*) and nor-easters.

FIGURE 11. NOAA STORM SURGE HAZARD MAPS



Above: Category 1 (top left), Category 2 (top right), Category 3 (bottom left) and Category 4 (bottom right) storm surge levels projected for the Antioch Church properties from the National Storm Surge Hazard Maps produced by NOAA (https://www.nhc.noaa.gov/nationalsurge/).

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. The proposed stormwater protection solutions will take coastal flooding and long-range sea-level rise into consideration where and as appropriate. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Attachment 3** lists 81 storm events and provides a map with the project location. 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 Mathews County's current floodplain ordinance can be found at: https://www.mathewscountyva.gov/172/National-Flood-Insurance-Program-NFIP*

NEED FOR ASSISTANCE –

The Middle Peninsula Planning District Commission (MPPDC) is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 to provide solutions to problems of greater than local significance and cost-savings through economies of scale. The MPPDC serves nine localities of the Middle Peninsula including Essex, Gloucester, King & Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna.

MPPDC is staffed using multiple methods including co-operative procurement, hourly, and burdened staff. MPPDC staff consists of Executive Director, Deputy Director, Chief Financial Officer, Senior Project Planner, clerical support staff; co-operative procured Director of Planning, General Planner, Certified Flood Plain Manager, Transportation Planner, Emergency Planner; Hourly staff for Housing, Community Development Planner and Public relations. The PDC staffing team assists localities with long-term and/or regional planning efforts. The MPPDC Executive Director, Deputy Director, and Chief Financial Officer have decades of experience in managing and administering project grants at multiple scale from grants in excess of $1,000,000 to very small grants. MPPDC is an entrepreneurial based government agency with an annual operating budget ranging from $750,000 to over $1,000,000. The MPPDC manages annually 25-30 concurrent federal and state grants utilizing industry standard Grants Management Software. Staff utilize GIS and all Microsoft software as well as other software as required by different grants. The MPPDC operates service centers in the topical areas of coastal zone management, emergency planning, housing, transportation planning and transportation demand management, economic development, social assistance, small business development, general planning and technical assistance and other areas as determined by the Commission. MPPDC has over 25 years of experience managing multiple revolving loan programs. In the 25 years that the Executive Director has been employed by the Commission no audit findings have occurred.

The proposed project will 1) design and construct a stormwater collection system utilizing established stormwater Best Management Practices (BMP) where feasible including new gutters and roof to both preserve and protect the structure from further deterioration and 2) design landscape-related stormwater BMPs to serve as a comprehensive stormwater protection approach for the structures and property.

The need for assistance is two-fold. First and regarding to the Rosenwald School, a unique opportunity has presented itself to preserve and protect one of the most historic properties in Mathews County which has and will continue to serve as a community hub for the historically underserved African American citizens and congregation of the Antioch Baptist Church. The school building's impervious surfaces are a major contributing factor to the stormwater

flooding impacts occurring at the property and the same stormwater is beginning to deteriorate the structure itself. The Antioch Church Board of Trustees need immediate financial assistance to implement solutions that will most importantly prevent further deterioration of the building as well as provide broader and longer-range stormwater BMPs which will ensure that the properties are useable for the community in the face of increasing precipitation volumes and frequencies.

Secondly, landscape-related stormwater BMP designs are needed to provide a holistic and comprehensive approach to managing stormwater at the properties. These designs will complement the Rosenwald School impervious surface BMPs by targeting solutions which will make the other areas of the properties which are critical to daily operations at this community hub such as parking areas and the cemetery. If improvements were to be made only to the Rosenwald School building and BMPs focusing on stormwater management issues were neglected, then the current challenges for utilizing the properties would persist.
These designs will also incorporate and build upon previous efforts by the MPPDC to research and advance roadside ditch management solutions for Mathews County (Mathews County Ditch Mapping and Database (mppdc.com). This study was completed in 2017 at the request of Mathews County, which recognized the need of enhanced ditch maintenance as a critical component in the effort to mitigate stormwater flooding across the County. The ditches along Antioch Road and adjacent to the Antioch Baptist Church properties were included in this study. Since the study, Mathews County has cleaned several of the ditches near the Antioch Baptist Church properties where it was determined the County had maintenance responsibilities. The County's efforts are representative of the magnitude of the stormwater flooding problems and the County's commitment to preserving and protecting this vulnerable community center; however, they have not provided a long-lasting solution to the overall problem and additional and more holistic solutions are needed. **Figure 12** includes photographs demonstrating the need for assistance to mitigate stormwater flooding issues at the Antioch Baptist Church properties.

FIGURE 12: PHOTOS OF ANTIOCH BAPTIST CHURCH PROPERTIES

Photograph showing the current exterior front of the Historic Antioch Rosenwald School building. The current asphalt shingled roof is failing and is proposed to be replaced with a vegetated green roof or other stormwater collection roofing system.

Photograph showing recent stormwater-related damages to the Antioch Rosenwald School building interior. Immediate assistance is needed to prevent further damages from the failing roof.

Photograph locations depicted in red where stormwater is intruding the roof of historic Antioch Rosenwald School building interior. Immediate assistance is needed to prevent further damages from the failing roof.

A separate location depicted in red where stormwater is intruding the roof of historic Antioch Rosenwald School building interior. Immediate assistance is needed to prevent further damages from the failing roof.

	
Southward facing view along Antioch Road taken from in front of the Antioch Rosenwald School. The photograph was taken recently following a nominal rain event with less than 0.5" precipitation and is representative of the regular conditions at the site. The level of ponding in the roadside ditches and the yard in front of the school building are a constant challenge for daily operations at the site.	*Northward facing view along Antioch Road taken from in front of the Antioch Rosenwald School. The photograph was taken recently following a nominal rain event with less than 0.5" precipitation and is representative of the regular conditions at the site. The level of ponding in the roadside ditches and the yard in front of the school building are a constant challenge for daily operations at the site.*

ALTERNATIVES –

Several alternatives have been considered and are proposed regarding this project:

- Do Nothing Scenario – Should DCR not award the proposal. The Antioch Baptist Church Board of Trustees will continue its fundraising efforts to protect and preserve the last remaining Rosenwald School in Mathews County. However, the Church lacks the funds to address the immediate repair needs to the structure and continued stormwater flooding and damages will continue to degrade the historic structure, potentially to a point where the damages are beyond the ability of the Church to repair them. Should the Church be successful in repairing the roof, it is likely that the continued challenges in parking and daily use of the properties will continue to hamper the group's efforts to restore the school and reinvigorate it as a community center and museum.
- Rosenwald School Alternatives – (Note that the desired alternatives are subject to approval by relevant permitting authorities prior to implementation)
    1. Rosenwald School Vegetated/Green Roof (Alternative A) – As the most expensive alternative, the request for funding has been developed to be able to support the construction of a vegetated/green roof at the Rosenwald School as part of stormwater collection system to mitigate stormwater flooding at the property and preserve the historic structure. A qualified engineer experienced in these types of roofs will first assess the structure and deem whether a green roof is feasible and appropriate considering the age of the building, pitch of the roof, and potential for mitigating stormwater flooding at the property. Should the engineer deem Alternative A to not be feasible, then the project will shift to accomplishing Alternative B.
    2. Rosenwald School Traditional Roof and Stormwater Collection System (Alternative B) – Should a vegetated roof be deemed not feasible, then the stormwater resulting from the roof at the school will be managed by constructing a traditional non- vegetated roof and incorporating additional stormwater collection BMPs intended to capture or slow the roof runoff. Replacing the failing roof immediately to prevent further damage to the historic structure is of the utmost importance. Utilizing a traditional roof will accomplish this. A qualified stormwater engineer will be utilized to design the stormwater collection system which will be installed at the school. The system will involve components such as but not limited to cisterns and rain gardens.
- Antioch Properties Landscape BMPs – Designs for additional landscape and drainage focused BMPs will consider many alternatives. A qualified stormwater engineer will first assess the drainage conditions at the properties and create a customized stormwater management plan involving BMPs designed to make the property better equipped to handle the increased levels of precipitation forecast in coming years. The MPPDC and Mathews County are prepared to assist the Antioch Baptist Church Board of Trustees with securing future funding to implement the designs completed as part of the proposed project.

GOALS AND OBJECTIVES –

This project will implement nature-based solutions to mitigate stormwater flooding on the historic Antioch Rosenwald School as deemed feasible and appropriate by a qualified engineer and create a stormwater management plan including a suite of nature-based stormwater BMP designs on the nearly 10.5-acre site. The proposed activities will result in the preservation and enhancement of the building and property as the owners strive to reinvigorate the property as a community hub and museum for the historically underserved community.
The goals and objectives of this project are as follows -

Goal 1: Improve flood preparedness and resiliency within a minority and historically disadvantaged and underserved community in Mathews County 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 approach.
Objective B: Manage stormwater-related flooding to ensure that the historic Antioch Rosenwald School may continue to serve and prosper as a community hub and museum and in turn, so that the County's tax base does not erode.

Goal 2: Improve water quality.
Objective A: Construct a living shoreline to capture nitrogen, phosphorus, and sediment.

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.
The MPPDC anticipates that the stormwater BMPs installed at and designed for this project location will:

1. **Prevent continued degradation of the historic Antioch Rosenwald School building through waterproofing the structure**. According to the VA Department of Environmental Quality, vegetated roofs are alternative roof surfaces that typically consist of waterproofing and drainage materials and an engineered growing media that is designed to support plant growth. Vegetated roofs capture and temporarily store stormwater runoff in the growing media before it is conveyed into the storm drain system. A portion of the captured stormwater evaporates or is taken up by the plants, which helps reduce runoff volumes, peak runoff rates, and pollutant loads on development sites. Should a qualified engineer deem a vegetated roof as a feasible and applicable alternative, a vegetated roof will be constructed. Conversely, should a vegetated roof not be feasible, then a traditional metal or asphalt roof connected to a stormwater collection system will be installed.

   The proposed project was confirmed for the MPPDC by Matthew C. Burnette PG, PH, CFM or Holly White AICP, CFM.

2. **Provide ecosystem services to the community.** Since this project is proposing the installation of stormwater BMPs, this project will have nutrient and sediment reduction

benefits to local waters. According to DEQ stormwater design specifications, the BMPs being considered have significant ability for removing nitrogen, phosphorous and sediment as described in the tables included in **Attachment 4**.

According to DEQ Stormwater Design Specification #5 for Vegetated Roofs, vegetated roofs are an acceptable runoff reduction practice for the coastal plain, but they have a limited water quality function since rooftops are not a major loading source for nutrients or bacteria. DEQ recommends that plant materials that can tolerate drought and salt spray be utilized for optimal performance.

In addition to water quality improvements, stormwater BMPS may offer new or enhanced habitat for wildlife and birds.

APPROACH, MILESTONES, AND DELIVERABLES –
As explained in the previous "Alternative" section, at least one stormwater BMP will be designed and implemented to preserve and protect the historic Antioch Rosenwald School from continued and future degradation resulting from stormwater flooding. This will involve constructing a new roof, vegetated or traditional, on the 2,050 square foot building and associated stormwater collection system components as determined by a qualified engineer. A separate site-wide Stormwater Management Plan will be developed by a qualified engineer or consultant to identify a suite of additional stormwater BMP solutions which may be implemented over time to ensure comprehensive and holistic stormwater management which can ensure the property is accessible and can support the community's needed daily uses as the property is transformed into a community hub/center and museum.

Concerning Adverse Impacts
Additionally, the applicant and the property owner recognize the importance to do no harm to land owned by the Commonwealth nor the adjacent property owners as result of the construction elements of this project. The proposed project will be constructed under the auspices of experienced contractors who understand that adverse impacts must be avoided and considered in the design and implementation of the project. The proposed project will work with the permitting agency, designers, and contractors to ensure that the project is built to and functions at the level of the design specifications to ensure that no adverse impacts will occur.

It is anticipated that the proposed project will commence January 2023 and be completed by June 2023. The anticipated timeline for this project could be as quick as 6 months, but no more than one year. The timeline range is due to the potential delays in the construction industry or delays caused by COVID, including supply shortages. Having a one-year timeline will offer potential windows for planting the vegetated roof or other stormwater BMPs involving vegetation. To explain, the Chesapeake Bay Foundation recommends that perennials and grasses should be planted during peak growing season (in mid-to-late summer) to allow enough time for their root systems to become established before they go dormant in the late Fall. Trees and shrubs should be planted in Spring and Fall when there is adequate rainfall to help them

develop strong roots and leafy growth.

Below is the project timeline and project milestones for this project.

Action Item	M1	M2	M3	M4	M5	M6
Phase 1 – Environmental Scan and Solution Design						
Hold administrative project kick off meeting	X					
Select engineer(s) and/or contractor(s) to provide potential nature-based or hybrid design solutions	X					
Coordinate with property owner and contractor on project expectations	X	X	X	X	X	
Discuss nature-based or hybrid design solutions with contractor and property owner (for Rosenwald School Building and properties)		X	X			
Select which nature-based or hybrid design solution is most appropriate (for Rosenwald School construction only)		X	X			
Have contractor develop selected nature-based or hybrid design solution (for Rosenwald School construction only)		X	X			
Apply for any necessary permits (for Rosenwald School construction only)		X	X			
Phase 2 – Strategic Implementation						
Implement the nature-based or hybrid solution upon the Rosenwald School					X	
Complete the Stormwater Management Plan with specific designs for enhancing overall flood protection at the targeted properties.					X	X
Provide a digital close out report and copy of the completed nature-based or hybrid design solution along with the property-wide Stormwater Management Plan						X
Hold administrative project close out meeting						X

The construction and Stormwater Management Plan contractor(s) will be contracted in accordance with the Virginia Public Procurement Act and the MPPDC's Small Purchase Policy.

RELATIONSHIP TO OTHER PROJECTS –
For over 40 years the Middle Peninsula Planning District Commission (MPPDC) 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.

The proposed project is a priority project generated from the Middle Peninsula Regional Flood Resilience Plan, which was approved by DCR during August 2021. The Flood Resiliency Plan serves as the MPPDC's guiding document for its flood resiliency programs and is comprised of two primary MPPDC-approved policy documents which form the implementation and foundation of the Middle Peninsula flood protection approach and are indirectly and directly supported by multiple specific regional planning documents, both approved by various required federal, regional, or local partners as required by statute.

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 (MPPDC Website)
- 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, MPPDC Approved March 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan - MPPDC Approved ~annually

Short Term Implementation

- Middle Peninsula Planning District Commission Fight the Flood Program Design MPPDC Commission (approved June 2020 Chairman approved 8/6/21 update)
- Middle Peninsula Planning District Commission Living Shoreline Resiliency Incentive Funding Program-Virginia Revolving Loan Fund Program Design and Guidelines (approved 2015)

As the MPPDC has continuously worked on flooding and coastal resiliency topics, **Attachment 5** lists the projects and short description of relevant projects. 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 MPPDC 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 MPPDC Commission authorized staff

to develop the **Middle Peninsula Fight the Flood (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, MPPDC staff have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their flood protection need.

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.

Community Scale Benefits -
The state may have some basis to give preference to projects larger in scale than those affecting one parcel or property owner. Va. Code § 10.1-603.25(E) states, "Priority shall be given to projects that implement community-scale hazard mitigation activities that use nature-based solutions to reduce flood risk. However, this would not provide a basis for rejecting applications for one parcel or property owner as projects of all sizes are expressly to be considered. The issue is how the guidance defines "Community Scale project" which means a project that provides demonstrable flood reduction benefits at the US census block level or greater. A census block is the smallest US Census geography, but in rural application in many instances represents an extremely large area covering in excesses of 3,000 acres and almost 5 square miles, while an urban block may be as small as 2 acres or .003 of one acre in size. If the basis for approving rural projects is based singularly on proving "demonstrable flood reduction" benefit, rural areas will never compete.

MPPDC believes that proposing nature-based flood mitigation projects at the parcel scale and where possible, partnering with neighbors can accomplish more in terms of flood protection protected than urban areas which have smaller sized parcels. Therefore, we believe submissions of each nature-based project are essentially a nature-based "brick in the wall" and over time, the cumulative impact of this approach will be realized. Reducing the amount of impervious surface is critical for stormwater management in rural areas, especially those which are essentially of flat or little topographic relief.

This specific proposal presents a unique proposal for a community-wide stormwater mitigation solution. The stormwater BMPs designed and implemented will occur directly on four different parcels totaling nearly 10.5 acres which are owned by the Antioch Baptist Church. The community-scale benefits; however, will stretch far beyond the boundaries of those parcels.

The proposed activities will greatly serve to preserve one of Mathews County and the Middle Peninsula's most unique and sensitive cultural properties, which is the historic Antioch Rosenwald School. While it is imperative that stormwater flooding be managed to ensure that it does not claim the last remaining Rosenwald School in Mathews County, it is equally important that the designs allow for the property and facility to thrive and prosper as the Antioch Baptist Church Board of Trustees works to reinvent the property as a community center and cultural and historical museum that not only celebrates the rich minority history of

the community but creates opportunities for minority youth and young adults.

Additionally, Adapt VA contains a data layer illustrating areas of less than 10 feet in elevation that show locations in the Middle Peninsula that offer benefits of NNBF to coastal buildings, habitat, and community protection as seen in **Figure 13**. All Round 1 and 2 applications from the Middle Peninsula have multiple community protection benefits which include combinations of mitigating coastal flooding, protecting buildings/community facilities and CRS credit.

FIGURE 13: ADAPT VA MAP OF PROJECT LOCATION AND PROSPECTS FOR NNBF BENEFITS

MAINTENANCE PLAN –

It is important to ensure that the public investment of DCR CFPF funding be protected should the project not withstand future conditions. As such, MPPDC staff will work with legal counsel to develop an agreement to be signed by each party which outlines the terms necessary to ensure the public investment is maintained over the duration of the project. The Antioch Baptist Church Board of Trustees is committed to not only revitalizing the Rosenwald School as a community center and museum but also ensuring the long-term maintenance of the facility and property.

CRITERIA –

Describe how the project meets each of the applicable scoring criteria contained in Appendix B and provide the required documentation where necessary. Documentation can be incorporated into the Scope of Work Narrative or included as attachments to the application. Appendix B must be completed and submitted with the application.

For local governments that are not towns, cities, or counties, the documentation provided for

the criteria below should be based on the local government or local governments in which the project is located and/or directly impacts.

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?**
   YES - 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?**
   YES - Please see **Attachment 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 project proposal is awarded as seen in **Attachment 7.**
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 establishing stormwater BMPs—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.

BUDGET NARRATIVE -

For applications submitted under MPPDC Round 2 proposals that reside in a low-income area or opportunity zone, the following applies to the submitted budget. If the applicant does not reside in a low-income area or opportunity zone, then the following does not apply.

For projects within low-income areas and opportunity zones, the budgets are being submitted with budgets that reflect a 70:30 grant to match ratio even though the program manual states that these projects are eligible for 80:20 match for being located in low-income areas and opportunity zones. In response to the DCR letter addressed to the MPPDC dated October 20, 2021, which eliminated the ability of MPPDC applicants who reside in a low-income area or

opportunity zone to request 80% state funding. We respectfully request that DCR reconsider applying the determination required for Round 1 proposals on the MPPDC Round 2 proposals since the grant manual states that all applicants who reside in a low-income area or opportunity zone should be funded at the level that they qualify for. Should DCR agree to award projects located in low-income areas or opportunity zones at the levels indicated within the grant manual, the budgets can be adjusted when contracts are awarded to ensure consistency with the grant manual.

Title: Historic Antioch Rosenwald School Flood Protection							
							Budget (Cat. D)
					Applicant 2		
Personnel Salaries/Wages	**DCR**	**Match %**	**Annual Salary**		**DCR**	**Owner**	**Total**
Staff	9.62%	2.35%	$70,000		$9,385	$4,022	$13,408
Personnel	*Lewie's Cheat Sheet*		**DCR**	**Owner**	$9,385	$4,022	$13,407
		Total	*70%*	*30%*			
Fringe, 26.21% salaries;		$112,813	78,969.10	33,843.90	$2,460	$1,054	$3,514
	15%	16,921.95	11,845.37	5,076.59			
Total Personnel		**129,734.95**	**90,814.47**	**38,920.49**	$11,845	$5,076	$16,921
Direct Cost: SubAward/SubContract Agreements					**70%**	**30%**	
Stormwater Engineer School Stormwater Collection System design & Stormwater BMP landscape designs				$10,000	$7,000	$3,000	$10,000
Rosenwald School Stormwater Collection System construction (budgeted cost is for most expensive stormwater				$100,313	$70,219	$30,094	$100,313
Legal Procurement				$2,500	$1,750	$750	$2,500
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
0				$0	$0	$0	$0
Project financial services (50000/50500/55900/56100)				$7,150	$5,005	$2,145	$7,150
Facility services (52100/52200/52400/54200/54500)				$2,038	$1,427	$612	$2,038
Communication services (52250/52255/55150/57100/57300)				$642	$449	$193	$642
Data services (53100/53101/53200/57900)				$193	$135	$58	$193
Material services (53400/53500/57200/57500)				$758	$531	$227	$758
Consulting services (55100/56300/56400/56700)				$923	$646	$277	$923
				$124,517			
SUBTOTAL: Direct Costs					$99,007	$42,431	$141,438
Total					**$99,007**	**$42,431**	**$141,438**
Other Match:							
Source of Match					$0	$0	$0
GRAND TOTAL					**$99,007**	**$42,431**	**$141,438**

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%. Direct charges are costs associated with overall projects costs consistent with general accounting principles.

Please note that the cost estimates for the construction element of this project are based upon the most expensive cost estimate for the stormwater collection system, which was supplied by Storybound Construction, LLC. and is included in **Attachment 6**. The most expensive option was a component of the Storybound Construction cost estimate, which was $75,312.60 for a historically accurate Victorian style metal roof. An additional $25,000 was included in the construction element cost to cover additional elements of a stormwater collection system such as a cistern, rain garden, etc. should it be needed. Also, please note that DEQ estimates construction of a vegetated roof to cost between $12 and $25 per square foot. For the 2,050 square foot Rosenwald School, this equates to $51,250. So, the primary alternative, Alternative A, would be easily afforded under the proposed budget amount.

Costs to support legal counsel development of procurement documents to ensure compliance with the Virginia Public Procurement Act are included as well and will be utilized as necessary.

In summary:

***Estimated total project cost*:**	$141,438
***Amount of funds requested from the Fund (70% project total)*:**	$99,007
***Amount of cash funds available (30% project total)*:**	$42,431

Please see the match commitment letter from the property owner in **Attachment 7** and the authorization to request for funding in **Attachment 8.**

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

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

Applicant Name:	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 a town, city, or county</u>, 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	☑ 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 or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	**50**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool ☐ Dam removal ☐ Stream bank restoration or stabilization. ☐ Restoration of floodplains to natural and beneficial function. ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	**45**	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		123

Appendix D: Checklist All Categories

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

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

Attachment 1: Community Support Letter

County Administration

January 27, 2022

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 Lewie,

Mathews County supports all eligible applications requesting funding under the DCR Flood Preparedness Fund. Proposals submitted by MPPDC on behalf of our constituents is a necessary governmental function and 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 Program serves as the regions flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC Fight the Flood Program Design provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs, especially MPPDC Fight the Flood (FTF) program recognizes the need to better secure the tax base of coastal localities and the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types and the relationship between at-risk waterfront real estate values and funding of essential governmental services.

The Fight the Flood program and the Living Shoreline program exists to help flood-prone property owners access programs and services to better manage challenges posed by flood water and directs 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 based on the terms and conditions associated with flood risk necessary 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 804-725-7172.

Sincerely,

David Schlosser
Interim County Administrator

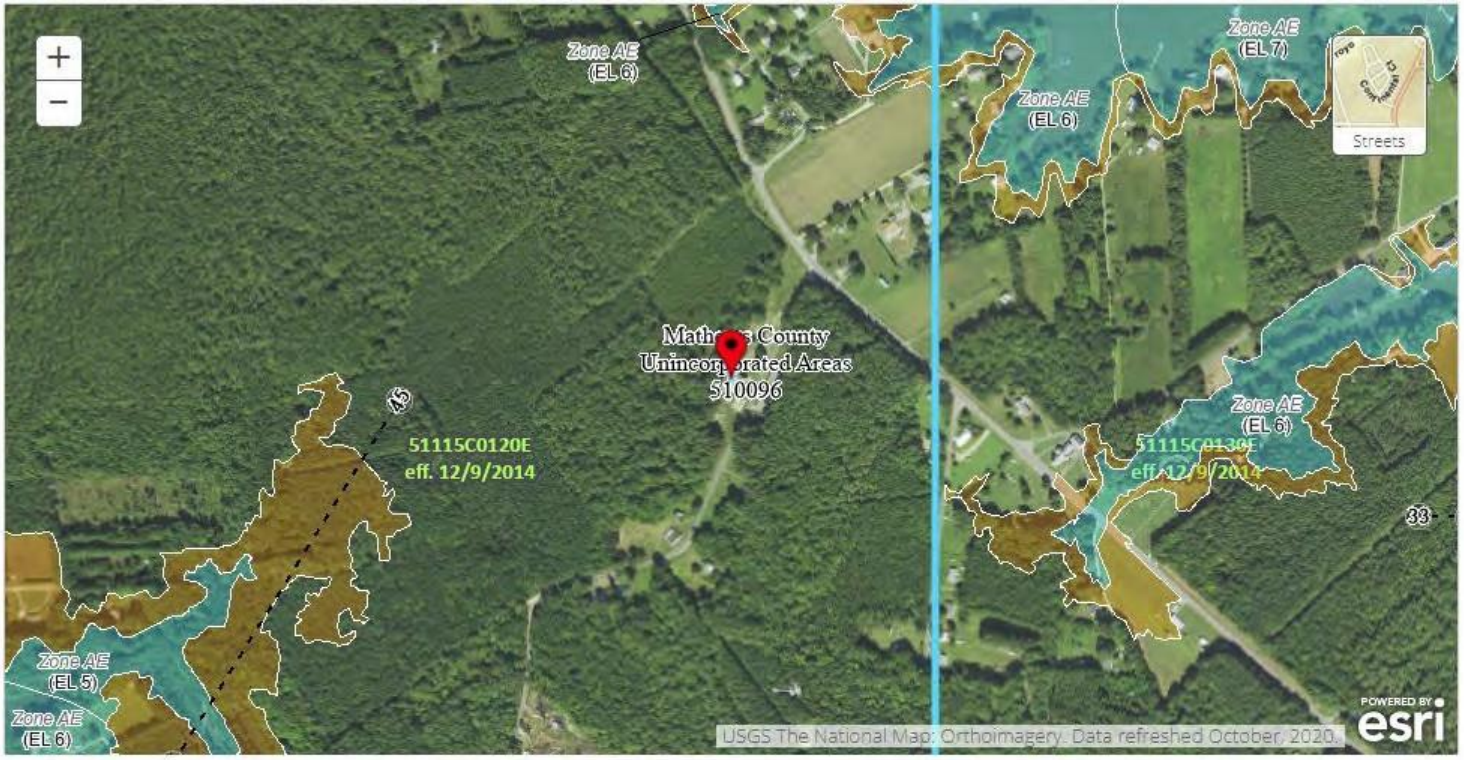
804.725.7172 office
804.725.7805 fax
mathewscountyva.gov

50 Brickbat Road | P.O. Box 839 | Mathews, VA 23109

BE HERE MATHEWS

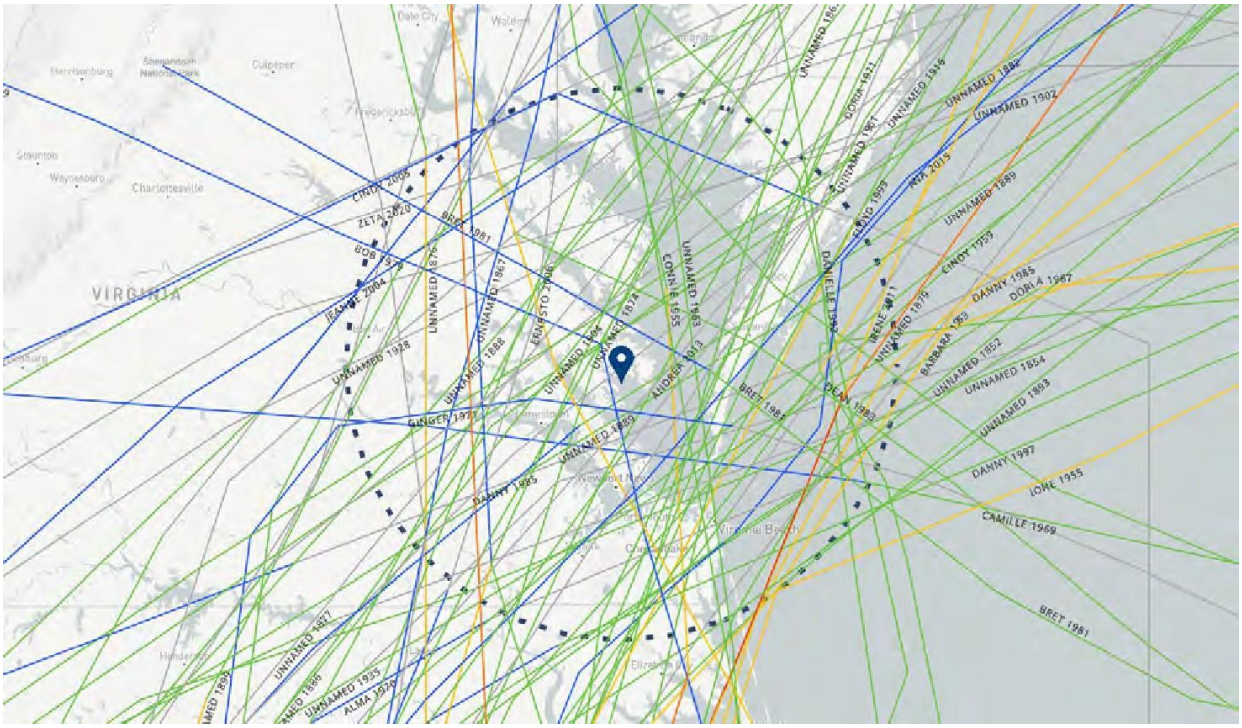
Attachment 2: Project Location FIRMette

(FIRMette #: 5115C012OE)



Attachment 3: List of historic hurricanes impacting the project area.

Hurricane List



Search Filter Criteria

Location: 37.41985, -76.40677

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
ZETA 2020	Oct 24, 2020 to Oct 30, 2020	100	970	H3
ISAIAS 2020	Jul 28, 2020 to Aug 05, 2020	80	986	H1
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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 to Jul 11, 2005	65	991	H1
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
HELENE 2000	Sep 15, 2000 to Sep 25, 2000	60	986	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 27, 1997	70	984	H1
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
GINGER 1971	Sep 06, 1971 to Oct 05, 1971	95	959	H2
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 12, 1959	65	995	H1
IONE 1955	Sep 10, 1955 to Sep 27, 1955	120	938	H4
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 04, 1934	45	-1	TS
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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
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 1893	Jun 12, 1893 to Jun 20, 1893	65	-1	H1
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 to Oct 01, 1874	80	980	H1

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1
UNNAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
UNNAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
UNNAMED 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
UNNAMED 1858	Aug 11, 1858 to Aug 20, 1858	45	994	TS
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
UNNAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
UNNAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS

Attachment 4: DEQ Stormwater BMP Efficiencies

Best Management Practice	Efficiency		Avg Cost	Unit	BMP Efficiency & Cost References
	TN	TP			
Stormwater BMPs – VA BMP Clearinghouse All efficiencies from: http://www.vwrrc.vt.edu/swc/PostConstructionBMPs.html					
Rooftop Disconnection (HSG Soils Group A&B/C&D)	50% / 25%	50% / 25%			
Sheetflow to Conservation Area (HSG Soils Group A&B/C&D)	75% / 50%	75% / 50%			
Sheetflow to Vegetated Filter (HSG Soils Group A&B/C&D)	50% / 50%	50% / 50%			
Grass Channel without Compost Amendment (HSG Soils Group A&B/C&D)	36% / 28%	32% / 24%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Grass Channel with Compost Amendment (HSG Soils Group A&B/C&D)	36% / 36%	32% / 32%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Vegetated Roof (Level 1/Level 2)	45% / 60%	45% / 60%			
Rainwater Harvesting	variable, up to 90%	variable, up to 90%	$100,000		Cost – Spout Run IP (2014)
Permeable Pavement (Level 1/Level 2)	59% / 81%	59% / 81%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Infiltration (Level 1/Level 2)	57% / 92%	63% / 93%	$60,000	/treated acre	Cost – Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx
Bioretention (Level 1/Level 2)	64% / 90%	55% / 90%	$10,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Urban Bioretention (Rain Garden)	40%	55%	$5,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Dry Swale (Level 1/Level 2)	55% / 74%	52% / 76%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Wet Swale (Level 1/Level 2)	25% / 35%	20% / 40%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)

Best Management Practice	Efficiency		Avg Cost	Unit	BMP Efficiency & Cost References
	TN	TP			
Filtering Practice (Level 1/Level 2)	30% / 45%	60% / 65%	$58,100	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Constructed Wetland (Level 1/Level 2)	25% / 55%	50% / 75%	$2,900	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Wet Pond (Level 1/Level 2)	30% (20%)[1] 40% (30%)[2]	50% (45%)[1] 75% (65%)[2]	$8,350	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Extended Detention Pond (Level 1/Level 2)	10% / 24%	15% / 31%	$3,800	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Manufactured BMPs http://www.vwrrc.vt.edu/swc/ProprietaryBMPs.html	varies, see BMP Clearinghouse	varies, see BMP Clearinghouse	$20,000	/treated acre	Cost - Spout Run IP (2014)
Chesapeake Bay Program BMPs All efficiencies from: http://www.chesapeakebay.net/content/publications/cbp_13369.pdf					
Wet Ponds and Wetlands (new)	20%	45%	$24, 115	/treated impervious acre	Cost: Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx
Wet Ponds and Wetlands (retrofit)	20%	45%	$64,000	/treated impervious acre	Cost: Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx

Best Management Practice	Efficiency		Avg Cost	Unit	BMP Efficiency & Cost References
	TN	TP			
Dry Detention Ponds & Hydrodynamic Structures	5%	10%	Dry Detention Pond = $39,000 Hydro-dynamic Structure = $42,000	/treated impervious acre	Cost: Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx
Dry Extended Detention Ponds	20%	20%	$3,800	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Infiltration Practices without Sand, Veg.	80%	85%	$6,000	/treated acre	Cost - James River IP (2014)
Infiltration Practices with Sand, Veg.	85%	85%	$6,000	/treated acre	Cost - James River IP (2014)
Filtering Practices	40%	60%	$58,100	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Bioretention C/D Soils, Underdrain	25%	45%	$10,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Bioretention A/B Soils, Underdrain	70%	75%	$10,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Bioretention A/B Soils, No Underdrain	80%	85%	$10,000	/treated acre	Cost -Cooks Creek and Blacks Run IP (2006)
Vegetated Open Channels C/D Soils, No Underdrain	10%	10%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)
Vegetated Open Channels A/B Soils, No Underdrain	45%	45%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices cited in Roanoke River IP (2015)

Best Management Practice	Efficiency		Avg Cost	Unit	BMP Efficiency & Cost References
	TN	TP			
Bioswale Vegetated Open Channels A/B Soils, No Underdrain	70%	75%	$42,000	/treated impervious acre	Cost: Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx
Permeable Pavement without Sand, Veg. C/D soils, Underdrain	10%	20%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Permeable Pavement without Sand, Veg. A/B Soils, Underdrain	45%	50%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Permeable Pavement without Sand, Veg. A/B soils, No Underdrain	75%	80%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Permeable Pavement with Sand, Veg. C/D Soils, Underdrain	20%	20%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Permeable Pavement with Sand, Veg. A/B Soils, Underdrain	50%	50%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Permeable Pavement with Sand, Veg. A/B soils, No Underdrain	80%	80%	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Wetland Restoration (Appalachian Plateau Siliciclastic Non-Tidal)	7%	12%	$15,000	/acre	Cost - Spout Run IP (2014)
Wetland Restoration (Coastal Plain Dissected Uplands Non-Tidal; Coastal Plain Dissected Uplands Tidal; Coastal Plain Lowlands Tidal; Coastal Plain Uplands Tidal; Coastal Plain Lowlands Non-Tidal; Coastal Plain Uplands Non-Tidal)	25%	50%	$15,000	/acre	Cost - Spout Run IP (2014)
Wetland Restoration (Blue Ridge Non-Tidal; Mesozoic Lowlands Non-Tidal; Valley and Ridge Carbonate Non-Tidal; Piedmont Crystalline Non-Tidal; Piedmont Carbonate Non-Tidal; Valley and Ridge Siliciclastic Non-Tidal)	14%	26%	$15,000	/acre	Cost - Spout Run IP (2014)

Best Management Practice	Efficiency		Avg Cost	Unit	BMP Efficiency & Cost References
	TN	TP			
Other Stormwater BMPs					
Urban Riparian Forest Buffer - 435 Bare Root Seedlings/Acre - 300 Potted Trees/Acre	25%	50%	$1529 $2060	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – www.chesapeakebay.net/content/publications/cbp_13369.pdf
Street Sweeping	0.025 lbs/yr of dry weight collected	0.01 lbs/yr of dry weight collected	$520	/curb mile	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – Roanoke River IP (2015)
Land Use Change Pervious Non-Tree Vegetation or Impervious Area without Buildings and Roads to Trees	varies based on basin and LU changes	varies based on basin and LU changes	$3,500	/acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – Roanoke River IP (2015)
Urban Stream Restoration	0.075/lin. ft stream restored	0.068/ lin. ft stream restored	$300	/lin. ft	Interim approved removal rates as indicated in the Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – Roanoke River IP (2015)
Urban Nutrient Management on Unregulated Land (by Site Risk) - High - Low - Unknown (Blended)	 20% 6% 9%	 10% 3% 4.5%	$5,500	/turf acre treated	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost - Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx

*Nutrients - No state water quality standards, potential stressors for benthic impairments.

[1]Number in parentheses is slightly lower EMC removal rate in the coastal plain (or any location) if the wet pond is influenced by groundwater, see design specification and CSN Technical Bulletin No. 2 (2009).

[2]Credit is variable and determined using the Cistern Design Spreadsheet. Credit up to 90% is possible if all water from storms with rainfall of one-inch or less is used through demand, and the tank is sized such that no overflow from this size event occurs. The total credit may not exceed 90%.

Best Management Practice	Efficiency	Avg Cost	Unit	BMP Efficiency & Cost References
Stormwater BMPs – VA BMP Clearinghouse (Actual efficiencies would be based on site-specific calculations.) http://www.vwrrc.vt.edu/swc/PostConstructionBMPs.html				
Rooftop Disconnection (HSG Soils Group A&B/C&D)	See Chesapeake Bay Retrofit Equation for TSS	$100 per down-spout		Cost - Roanoke River IP (2015)
Sheetflow to Conservation Area (HSG Soils Group A&B/C&D)	See Chesapeake Bay Retrofit Equation for TSS			
Sheetflow to Vegetated Filter (HSG Soils Group A&B/C&D)	See Chesapeake Bay Retrofit Equation for TSS			
Grass Channel without Compost Amendment (HSG Soils Group A&B/C&D)	See Chesapeake Bay Retrofit Equation for TSS	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Grass Channel with Compost Amendment (HSG Soils Group A&B/C&D)	See Chesapeake Bay Retrofit Equation for TSS	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Vegetated Roof (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$10 - $20	square foot	Cost - EPA cited in Roanoke River IP (2015)
Rainwater Harvesting	See Chesapeake Bay Retrofit Equation for TSS	$100,000	/treated acre	Cost - Spout Run TMDL (2014)
Permeable Pavement (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$240,000	/treated acre	Cost - Roanoke River IP (2015)
Infiltration (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$6,000	/treated acre	Cost - James River IP (2014)
Bioretention (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$10,000	/treated acre	Cost -Cooks Creek and Blacks Run IP (2006)

BEST MANAGEMENT PRACTICE	EFFICIENCY	AVG COST	UNIT	BMP EFFICIENCY & COST REFERENCES
Urban Bioretention	See Chesapeake Bay Retrofit Equation for TSS	$5,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Dry Swale (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Wet Swale (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Filtering Practice (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$58,100	/treated acre	Cost -Center for Watershed Protection Urban Stormwater Retrofit Practices
Constructed Wetland (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$2,900	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Wet Pond (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$8,350	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Extended Detention Pond (Level 1/Level 2)	See Chesapeake Bay Retrofit Equation for TSS	$3,800	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Manufactured BMPs http://www.vwrrc.vt.edu/swc/ProprietaryBMPs.html	See Chesapeake Bay Retrofit Equation for TSS	$20,000	/treated acre	Cost - Spout Run IP (2014)
Chesapeake Bay Program BMPs All efficiencies from: www.chesapeakebay.net/content/publications/cbp_13369.pdf				
Wet Ponds	60%	$8,350	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Dry Detention Ponds & Hydrodynamic Structures	10%		/treated acre	www.chesapeakebay.net/content/publications/cbp_13369.pdf
Dry Extended Detention Ponds	60%	$3,800	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices

Best Management Practice	Efficiency	Avg Cost	Unit	BMP Efficiency & Cost References
Infiltration Practices without Sand, Veg.	95%	$6,000	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – James River IP (2014)
Infiltration Practices with Sand, Veg.	95%	$6,000	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – James River IP (2014)
Filtering Practices	80%	$58,100	/treated acre	Interim Approved Removal Rates as indicated in the Chesapeake Bay TMDL Special Condition guidance (5/18/2015) Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices, from Roanoke River TMDL I P (2015)
Bioretention C/D Soils, Underdrain	55%	$10,000	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost - Cooks Creek and Blacks Run IP (2006)
Bioretention A/B Soils, Underdrain	80%	$10,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Bioretention A/B Soils, No Underdrain	90%	$10,000	/treated acre	Cost - Cooks Creek and Blacks Run IP (2006)
Vegetated Open Channels C/D Soils, No Underdrain	50%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Vegetated Open Channels A/B Soils, No Underdrain	70%	$18,150	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Bioswale	80%	$24,000	/treated acre	Cost - Maryland Stormwater BMP Cost Worksheet, see http://www.mde.state.md.us/programs/Water/TMDL/TMDLImplementation/Pages/PhaseIIBayWIPDev.aspx
Permeable Pavement without Sand, Veg. C/D Soils, Underdrain	55%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Permeable Pavement without Sand, Veg. A/B Soils, Underdrain	70%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Permeable Pavement without Sand, Veg. A/B Soils, No Underdrain	85%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices

BEST MANAGEMENT PRACTICE	EFFICIENCY	AVG COST	UNIT	BMP EFFICIENCY & COST REFERENCES
Permeable Pavement with Sand, Veg. C/D Soils, Underdrain	55%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Permeable Pavement with Sand, Veg. A/B Soils, Underdrain	70%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Permeable Pavement with Sand, Veg. A/B soils, No Underdrain	85%	$240,000	/treated acre	Cost - Center for Watershed Protection Urban Stormwater Retrofit Practices
Wetland Restoration (Appalachian Plateau Siliciclastic Non-Tidal)	4%	$15,000	acre	Cost - Spout Run IP (2014)
Wetland Restoration (Coastal Plain Dissected uplands Non-Tidal; Coastal Plain Dissected Uplands Tidal; Coastal Plain Lowlands Tidal; Coastal Plain Uplands Tidal; Coastal Plain Lowlands Non-Tidal; Coastal Plain Uplands Non-Tidal)	15%	$15,000	acre	Cost - Spout Run IP (2014)
Wetland Restoration (Blue Ridge Non-Tidal; Mesozoic Lowlands Non-Tidal; Valley and Ridge Carbonate Non-Tidal; Piedmont Crystalline Non-Tidal; Piedmont Carbonate Non-Tidal; Valley and Ridge Siliciclastic Non-Tidal)	8%	$15,000	acre	Cost - Spout Run IP (2014)
Other Stormwater BMPs				
Urban Riparian Forest Buffer	50%	$1529 - $2060	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – Chesapeake Bay Program – Best Management Practices for Sediment Control and Water Clarity Enhancement www.chesapeakebay.net/content/publications/cbp_13369.pdf
Street Sweeping	0.3 lbs/yr of dry weight collected	$40	/curb mile	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost - Schilling, J.G. 2005. Street Sweeping – Report No. 1, State of the Practice. Prepared for Ramsey-Washington Metro Watershed District (http://www.rwmwd.org). North St. Paul, Minnesota. June 2005

BEST MANAGEMENT PRACTICE	EFFICIENCY	AVG COST	UNIT	BMP EFFICIENCY & COST REFERENCES
Land Use Change	varies		$3,500	Chesapeake Bay TMDL Special Condition guidance (5/18/2015) Cost – Roanoke River IP (2015)
Urban Stream Restoration - Outside Coastal Plain - Coastal Plain	44.88 lbs /lin. ft 15.13lbs /lin. ft	$300	/treated acre	Chesapeake Bay TMDL Special Condition Guidance (5/18/2015) Cost – Roanoke River IP (2015)

*Sediment - No state water quality standard, potential stressor for benthic impairment.

Attachment 5: Flood Prevention Project and its Relevance to Other Projects

MPPDC staff have worked throughout the years to understand the policy, research and impacts of flooding (ie. 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 & Sea Level Rise (2009 to 2012)
The MPPDC 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, MPPDC 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.
Phase 1: Middle Peninsula Climate Change Adaptation: Facilitation of Presentations and Discussions of Climate Change Issues with Local Elected Officials and the General Public
Phase 2: Climate Change III: Initiating Adaptation Public Policy Development
Phase 3: Phase 3 Climate Change: Initiating Adaptation Public Policy Development

Emergency Management - Hazard Mitigation Planning (2009 to Present): Since 2009, the Middle Peninsula Planning District Commission 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* (ie. Mean High Higher Water and the 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, OSDS management, storm water management, TMDLs, etc, staff from the Middle Peninsula Planning District Commission (MPPDC) 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 Onsite Sewage Disposal System (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 Virginia Department of Conservation and Recreation 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 MPPDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The MPPDC 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): MPPDC 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 VSMP.

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 MPPDC developed the MPPDC 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 MPPDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~$500,000 in VRA loan funding and ~$400,000 in NFWF grant funding. Living Shoreline construction cost to date range per job $14,000- $180,000. MPPDC 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): VIMS Shoreline Studies Program worked with the 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 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.

Attachment 6: Project cost estimates

---------- Forwarded message ---------
From: **mrowe storyboundconstruction.com** <mrowe@storyboundconstruction.com>
Date: Tue, Oct 5, 2021, 8:38 AM
Subject: Roof replacement
To: Janice <janicefburgess4@gmail.com>
Cc: paul storyboundconstruction.com <paul@storyboundconstruction.com>, Michael Swiderski <mjswiderski@gmail.com>

Dear Ms. Burgess,
I have the prices for the roof replacement for the Antioch School House.
Each option includes facier and soffit repairs, but not any consealed damage under the existing roof.

Option 1. $ 75312.60
Metal roof similar to the one there, Victorian style, by Berridge

Option 2. $ 40260.00
Painted metal snap lock roof by Union Metals

Option 3. $ 12469.00
50 year asphalt roof

Thanks,
Mike Rowe, Storybound Construction

Prices good for 30 days

Attachment 7: Match Commitment Letter

Antioch Baptist Church

Established 1869
110 Antioch Road • P.O. Box 124
Susan, Virginia 23163
E-mail: antiochbc1869@gmail.com
Office: 804.725.3558

October 28, 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 Antioch Baptist Church's property at 183 Antioch Church Road in Mathews, Virginia. The Church is committed to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (MPPDC) revolving loan funds for this project to protect and preserve the historic Wales Rosenwald School 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 our behalf at 804-758-2311 should you have any questions, and they will be able to contact our Rosenwald Committee Chair, Janice Burgess to coordinate a response. She can be reached by phone at (202) 839-0797 or by email at janicefburgess4@gmail.com.

Sincerely,

Jacqueline Linares

Jacqueline Linares
Head of Trustee Board
Antioch Baptist Church

Attachment 8: Authorization to request for funding

MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

10/19/21

To: DCR Staff

From: Lewie Lawrence, MPPDC Executive Director

REF: Authorization to request for funding

Matching funds for all construction and design projects provided under any DCR application round of the Community Flood Preparedness Fund are provided by the property owner for which the project is proposed, unless otherwise noted. The match commitment letter acknowledges that the owner of the projects (landowner) 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).

Saluda Professional Center * 125 Bowden Street * PO Box 286 * Saluda, Virginia 23149
(Phone) 804 758-2311 * (Fax) 804 758-3221 * (Email) pdcinfo@mppdc.com
http://www.mppdc.com

Virginia Department of Conservation and Recreation Virginia Community Flood Preparedness Fund
Flood Prevention and Protection Project

PROJECT TITLE: North River Property Resiliency Construction Project
Name of Local Government: Middle Peninsula Planning District Commission

Category of Grant Being Applied for (check one):

_____Capacity Building/Planning X Project _____Study

NFIP/DCR Community Identification Number (CID): Mathews County (510096)

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: (804) 758-2311 Cell Phone Number: (____)
Email Address: llawrence@mppdc.com

Contact Person (If different from authorized official): Jackie Rickards
Mailing Address (1): PO Box 286
Mailing Address (2): 125 Bowden Street
City: Saluda **State:** VA **Zip:** 23149
Telephone Number: (804) 758-2311 **Cell Phone Number:** (215) 264-6451
Email Address: jrickards@mppdc.com

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

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): Mathews County
NFIP Community Identification Number (CID#) (See appendix F): 510096

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): VE Zone
Flood Insurance Rate Map Number(s) (If Applicable): 51115C0085E

Total Cost of Project: **$125,715**

Total Amount Requested: **$88,000**

INTRODUCTION –

This project proposes to construct a nature-based solution on private property located on the North River in Mathews County. The nature-based solution will involve modifying and removing a dilapidated failed wooden bulkhead and the installation of 80 linear feet of living shoreline, 60 linear feet of a bioengineered structure, 900 square feet of fill and plantings and 103 linear feet of rip rap. The applicant also submitted a Round 1 proposal for design needed on a second portion of the project site and therefore this request is not duplicative.

FEMA, Virginia General Assembly, DCR's Floodplain Management Program, and the Middle Peninsula 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 and work there. These hazards include flooding, drought, hurricanes, landslides, wildfires and more. 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 (www.FightTheFloodVA.com). This proposal is a Nature-based solution which utilizes and incorporates sustainable planning, design, environmental management, and engineering practices that weave natural features or processes into the built environment to promote adaptation and resilience. Further, this proposal incorporates natural features and 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. 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 (*FEMA Building Community Resilience with Nature Based Solutions,* June 2021).

This project will be a partnership between the MPPDC and one private property owner and is supported by Mathews County (See the community support letter in **Attachment 1**).

- A link or copy to the approved resilience plan: https://fightthefloodva.com/wp-content/uploads/2021/08/Approved-8_19_DCR-packet_letterandplan.pdf
- Middle Peninsula All Hazards Mitigation Plan (2016): https://www.mppdc.com/articles/reports/AHMP_2016_FEMA_Approved_RED.pdf within the plan please see Section 4 (page 25). This Section includes historical hazard data within the region.
- Here's a link to the Mathews County Comprehensive Plan: https://www.mathewscountyva.gov/DocumentCenter/View/621/2030-Comprehensive- Plan-Updated-2018?bidId=

PROJECT LOCATION INFORMATION – This project proposes to install living shorelines on one private property on the North River in Mathews County (**Figure 1 and 2**). The property was purchased in 2012. Since then, it has endured countless storm events. The storm in August 2020 pushed the 80-foot wooden bulkhead wall along waterfront back toward property where

there is significant erosion behind the bulkhead. The force of the water pushing the bulkhead back snapped the bolts that attached the pilings to the bulkhead. The filter cloth attached to the bulkhead was forced out of place, so the owners have continued erosion of soil through the bulkhead into the bay. Also, the riprap in front on the bulkhead has slumped down. Their house is approximately 10 feet from the bulkhead, so this presents significant ramifications.

FIGURE 1: COUNTY MAP OF PROJECT LOCATION.

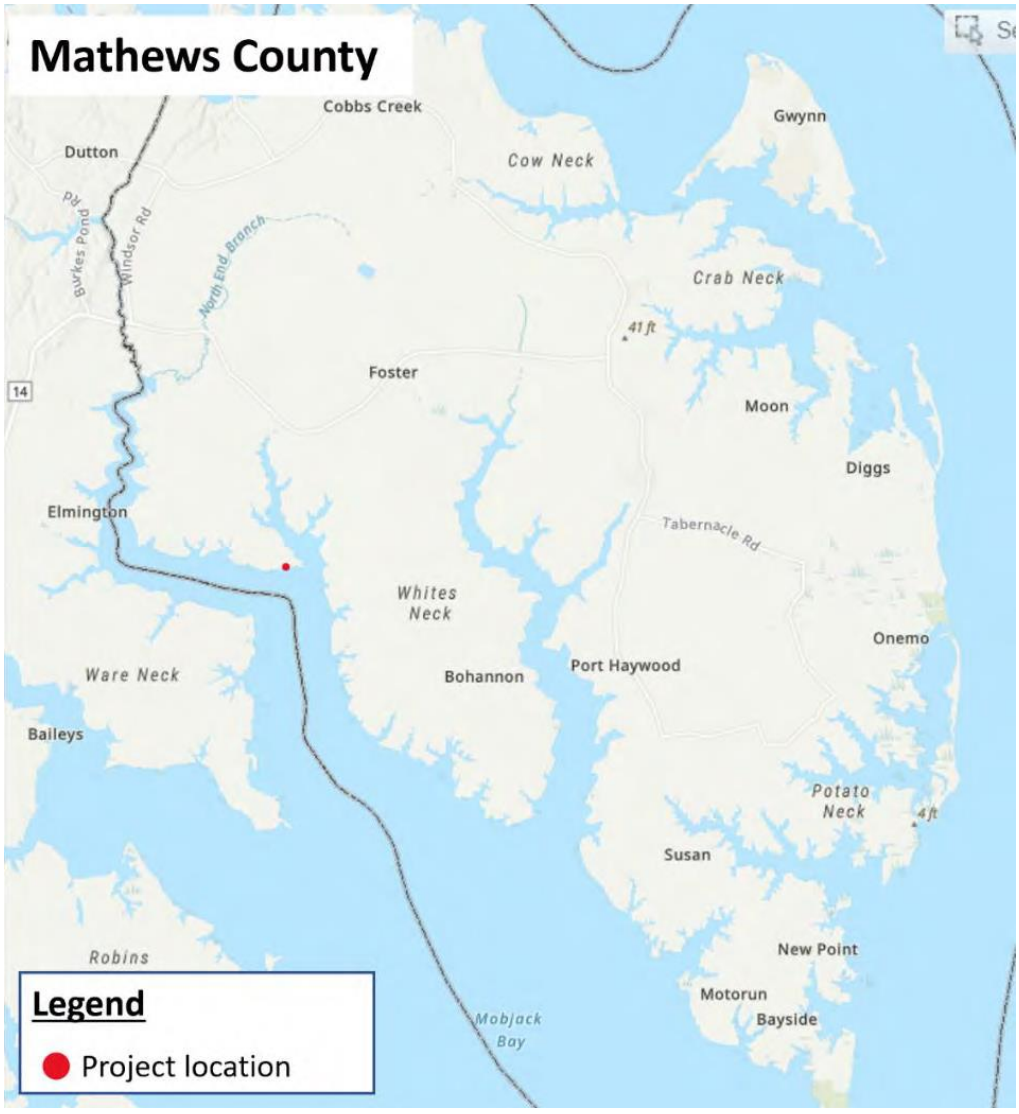


FIGURE 2: PARCEL MAP OF PROJECT LOCATION.

Mathews County is located at Virginia's Middle Peninsula and is an agriculture, forestry, and water-based economy. The County is comprised of 86 square miles of land 166 miles of shorelines. Based on 2020 Census Data, Mathews County's population totals 8,533 which makes it the largest Middle Peninsula locality. According to DCR guidelines, a portion of the County is considered a low-income geographic area. In **Figure 3** 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.

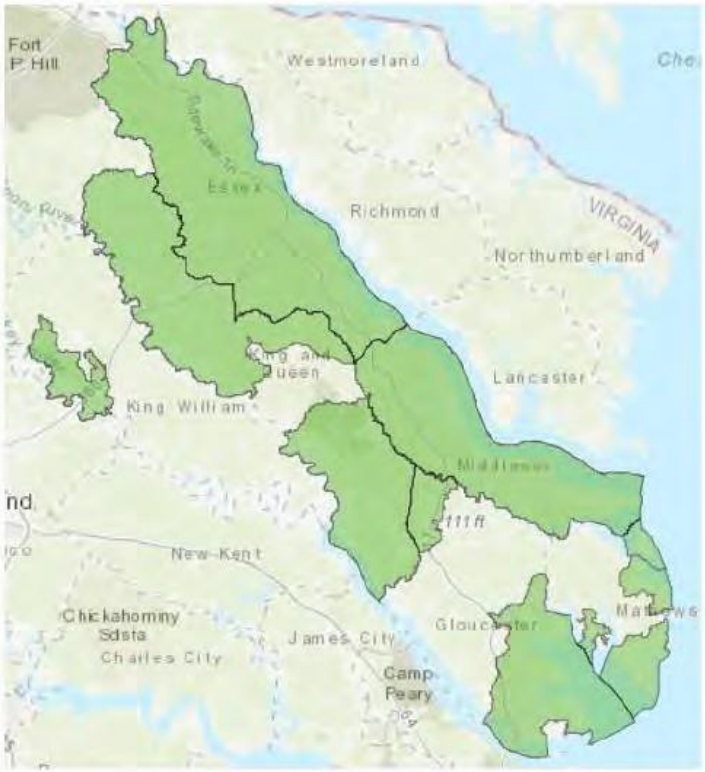
FIGURE 3: MAP OF MIDDLE PENINSULAS LOW INCOME GEOGRAPHIC AREAS QUALIFYING UNDER DCR GUIDELINES.

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

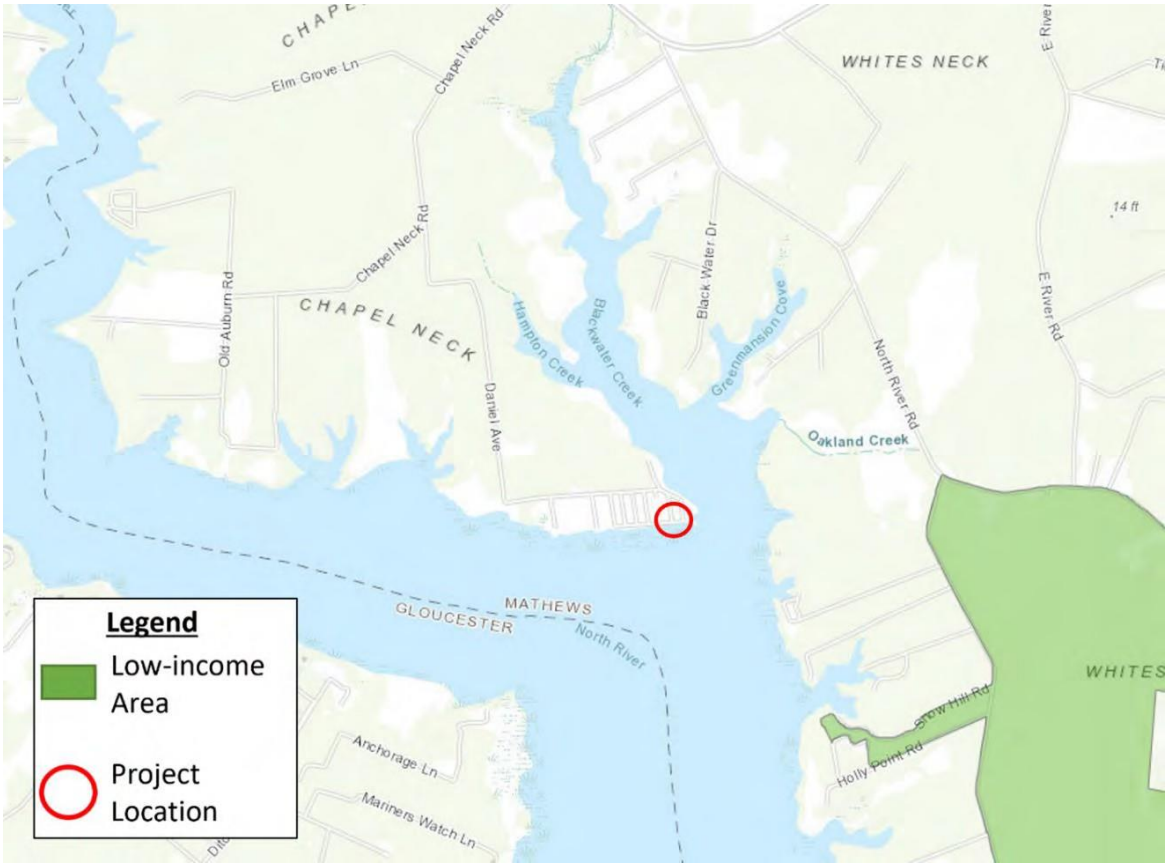
Note: Per 7/15/2021 DCR Webinar, comparing state Household income to locality is permissible to determine if the entire locality is LMI.

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 4** 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 4: MAP OF THE PROJECT LOCATION AND THE GREEN LOW-INCOME AREA.



According to the VDAPT Virginia's Social Vulnerability Index Score, this project location has a moderate social vulnerability score (**Figure 5**). MPPDC is perplexed by the designation of the project area being automatically recognized as low income under the Community Flood Preparedness Fund Guidelines as an Opportunity Zone (**Figure 6**), identifying census tracts in the most in need, economically distressed and low-income communities while simultaneously the VA Social Vulnerability score of the exact same area reports a low social vulnerability score of -.03. MPPDC assumes the Opportunity Zone designation trumps the VA Social Vulnerability score in this case.

FIGURE 5: VIRGINIA'S SOCIAL VULNERABILITY INDEX SCORE MAP FOR THE PROJECT LOCATION.

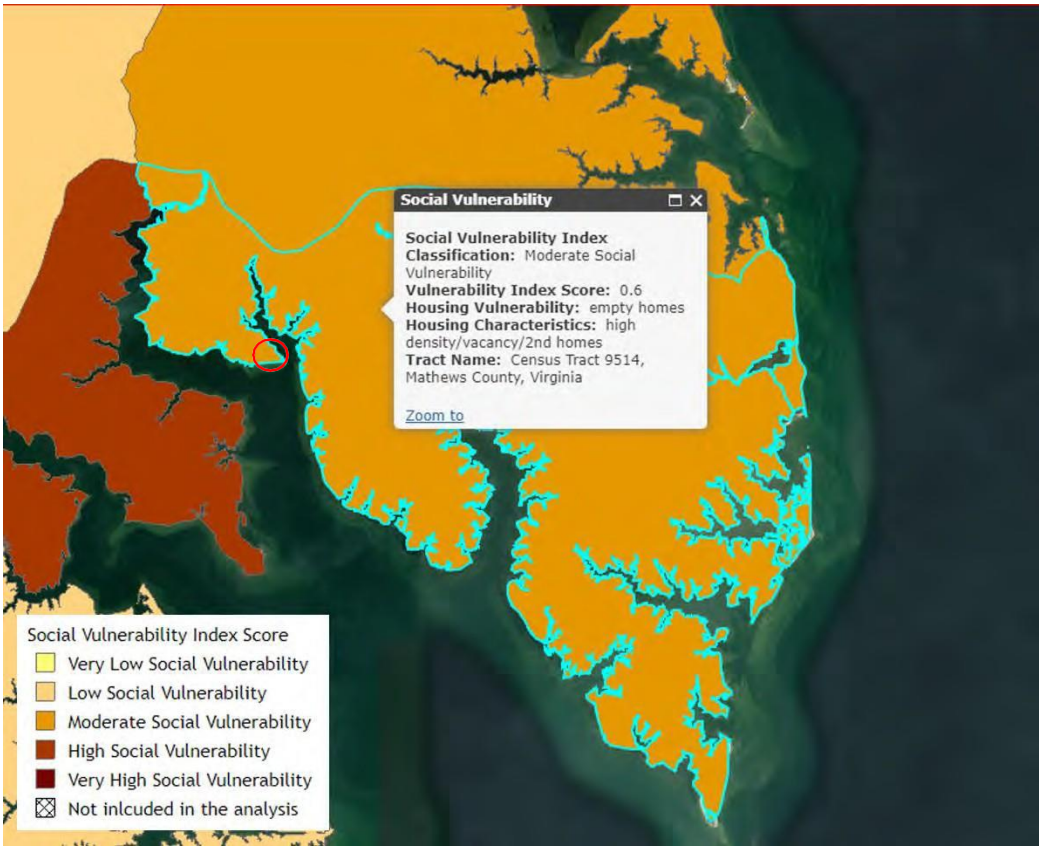
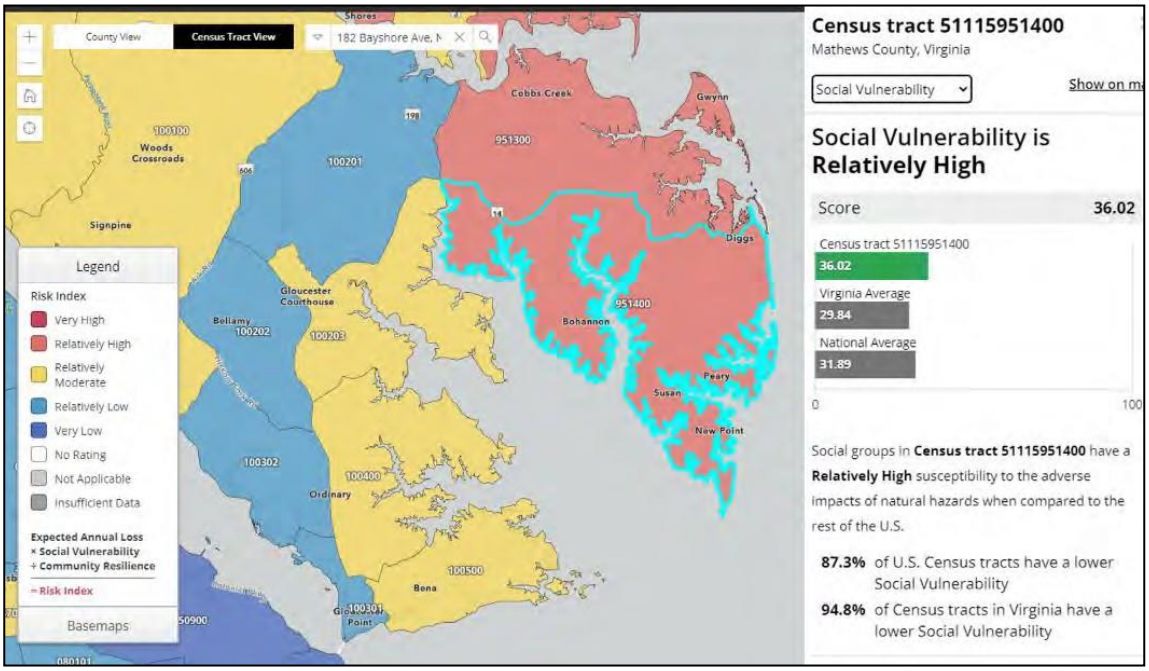


FIGURE 6: FEMA NATION RISK INDEX OF CENSUS TRACK WHERE THE PROJECT LOCATION.



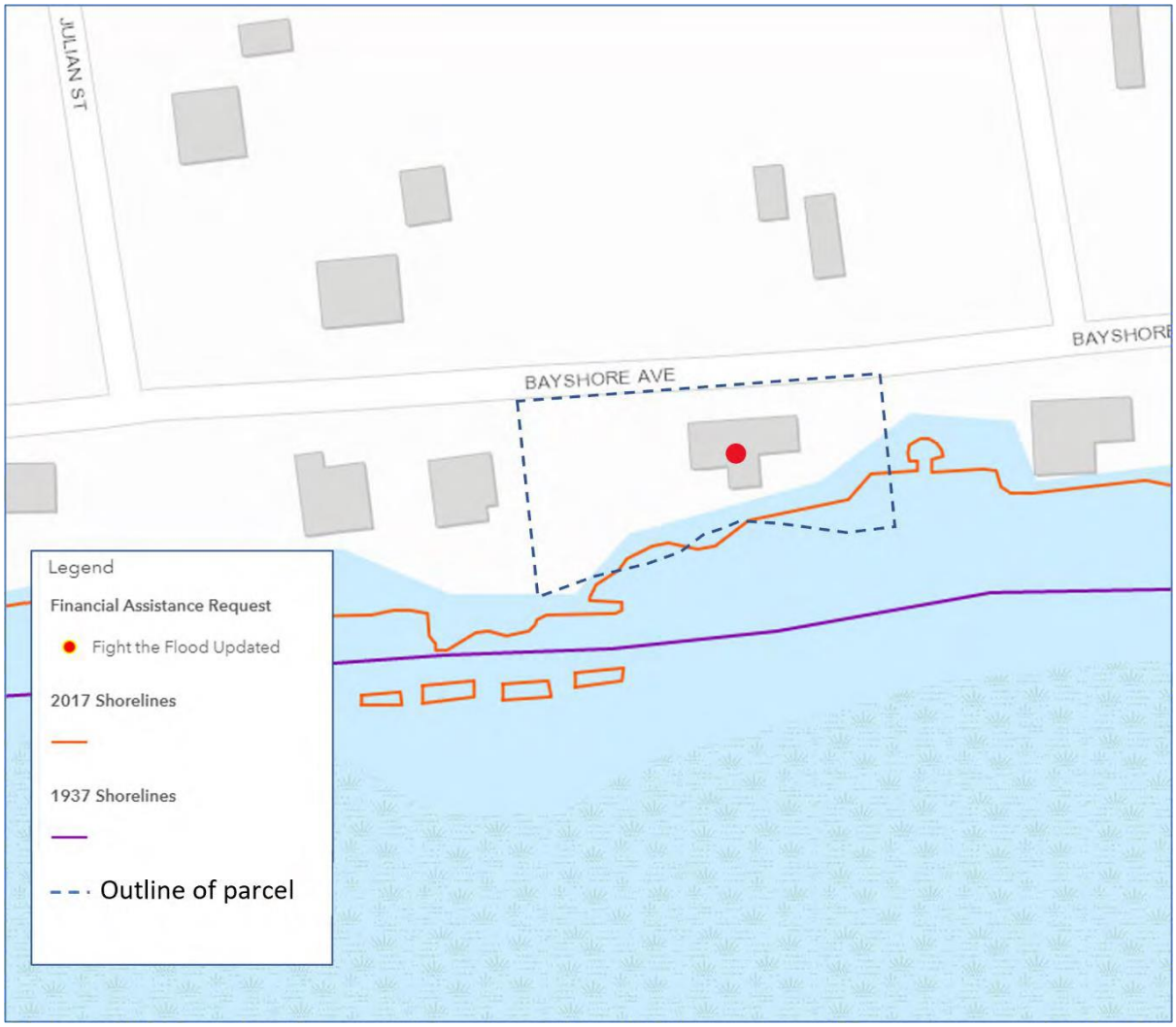
The project is located at 182 Bayshore Ave. North, VA 23128 (37.41985, -76.40677). A total of 60 linear feet of Flexamat with plantings, 103 linear feet of Class II stone, and 80 linear feet of living shoreline will be constructed on this property. Additionally, the bulkhead on this property is failing and will be addressed in tandem with the nature-based solution design. This nature-based solution, **which is approximately 8 feet from the residential structure on the property**, will help to stabilize the shoreline. The structures on this property are not identified as severe repetitive loss structure or repetitive loss structures. This site is located within the VE flood zone (**Figure 7**). Please see **Attachment 2** for the FIRMettes (last mapped 12/9/2014).

FIGURE 7: 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 8** 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 8,032.2 square feet of shoreline. The project location has and continues to be impacted by tropical, sub-tropical, and nor'easter events. **Attachment 3** lists 82 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

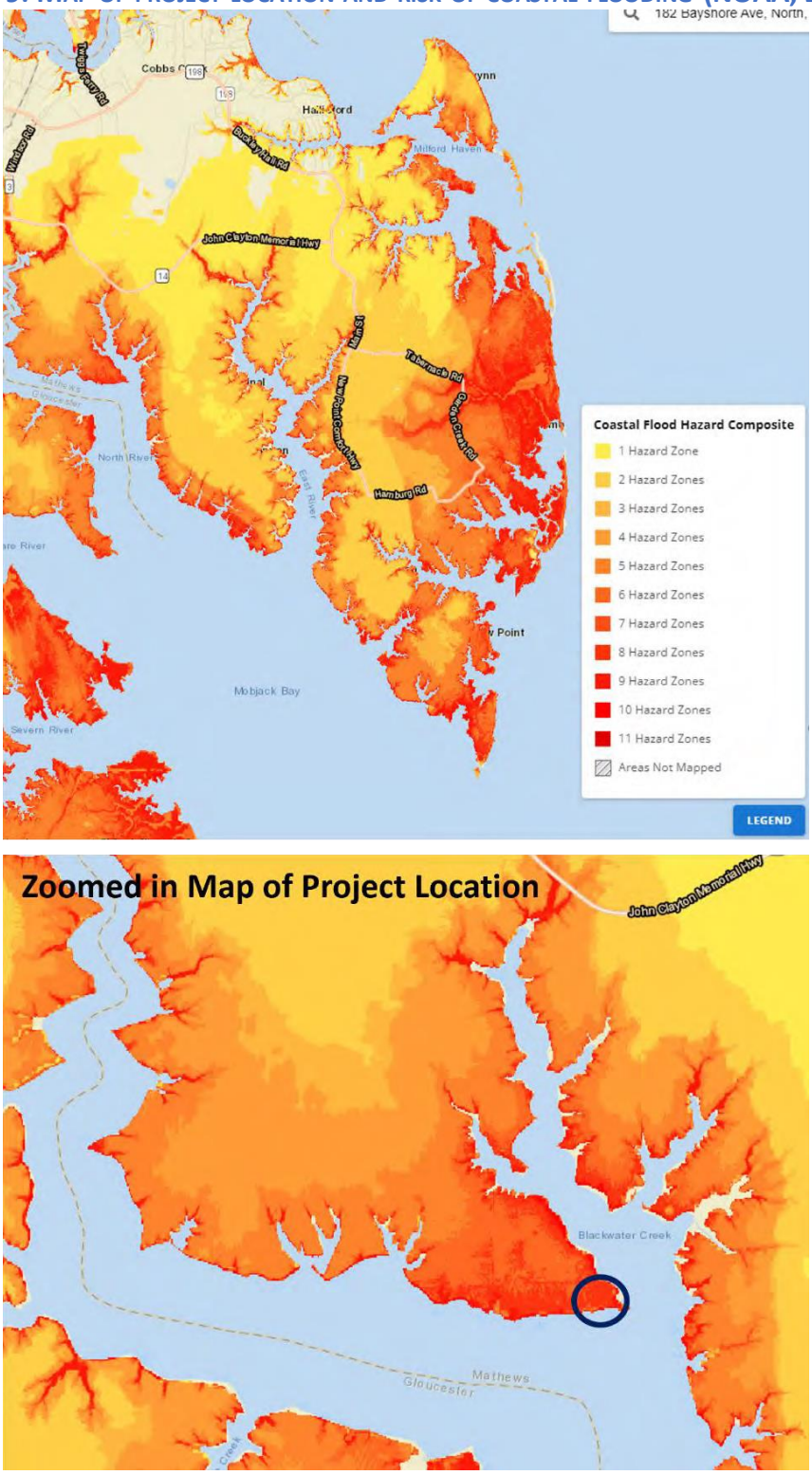
the environment and revenue loss to the local tax base.

FIGURE 8: PROJECT LOCATION AND MAP OF THE SHORELINE CHANGE BETWEEN 1937 AND 2017. PLEASE NOTE THAT THE PROJECT AREA PARCEL IS OUTLINED IN WHITE.



Finally, according to NOAA's Coastal Flood Mapper, this project is at the highest risk of coastal flooding (**Figure 9**).

FIGURE 9: MAP OF PROJECT LOCATION AND RISK OF COASTAL FLOODING (NOAA, 2021).



For more information about this project area please see:

- The Middle Peninsula All Hazards Mitigation Plan identifies all hazards that impact the

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

- Mathews County Planning Department administers the NFIP. Here is the link to the current floodplain ordinance: http://mathewsco-va.elaws.us/code/coor_ch63

NEED FOR ASSISTANCE –

The Middle Peninsula Planning District Commission (MPPDC) is a political subdivision of the Commonwealth of Virginia formed under VA Code §15.2-4203 to provide solutions to problems of greater than local significance and cost-savings through economies of scale. The MPPDC serves nine localities of the Middle Peninsula including Essex, Gloucester, King & Queen, King William, Mathews, and Middlesex Counties as well as the Towns of Tappahannock, West Point, and Urbanna.

MPPDC is staffed using multiple methods including co-operative procurement, hourly, and burdened staff. MPPDC staff consists of Executive Director, Deputy Director, Chief Financial Officer, Senior Project Planner, clerical support staff; co-operative procured Director of Planning, General Planner, Certified Flood Plain Manager, Transportation Planner, Emergency Planner; Hourly staff for Housing, Community Development Planner and Public relations.

The PDC staffing team assists localities with long-term and/or regional planning efforts. The MPPDC Executive Director, Deputy Director, and Chief Financial Officer have decades of experience in managing and administering project grants at multiple scale from grants in excess of $1,000,000 to very small grants. MPPDC is an entrepreneurial based government agency with an annual operating budget ranging from $750,000 to over $1,000,000. The MPPDC manages annually 25-30 concurrent federal and state grants utilizing industry standard Grants Management Software. Staff utilize GIS and all Microsoft software as well as other software as required by different grants. The MPPDC operates service centers in the topical areas of coastal zone management, emergency planning, housing, transportation planning and transportation demand management, economic development, social assistance, small business development, general planning and technical assistance and other areas as determined by the Commission. MPPDC has over 25 years of experience managing multiple revolving loan programs. In the 25 years that the Executive Director has been employed by the Commission no audit findings have occurred.

The need for assistance is two-fold.

First, Mathews County's proximity to the Chesapeake Bay and numerous tidal rivers, coupled with the County's low elevation, creates an area at high risk of coastal flooding, sea-level rise, and storm surge. Based on tidal gauge data from the Virginia Institute of Marine Science (VIMS), relative sea level rise rates ranging from 0.11-0.23 in./yr. (2.9-5.8 mm/yr.; period: 1976-2007; 10 stations) within the Chesapeake Bay region, which are the highest rates reported along the U.S. Atlantic coast (Boon et al. 2010). In addition to sea level rise, Mathews County has a history of being impacted by hurricanes, tropical storms, and recurrent flooding. As storms pass over or near the coast the atmospheric pressure drops, causing a large volume of

sea water to build up, eventually being pushed ashore by the storm's winds causing a storm surge. Additionally, when a storm makes landfall at high tide, the storm surge and the added water from the tidal fluctuation combine to create a "storm tide". In Mathews County, tidal waters fluctuate twice daily from 1.2 feet above mean sea level to 1.2 feet below mean sea level (FEMA 1987, 6). Thus, if a severe hurricane were to make landfall during high tide, an additional 1.2 feet of water would be added to the highest storm surge possible, which could create a storm tide of 16.2 feet (Rygel, 2005). Nor'easters, like hurricanes and tropical storms, can dump heavy amounts of rain and produce hurricane-force winds that push large amounts of sea water inland.

According to a study conducted by the Center for Coastal Resources Management (CCRM), a one-and-a-half-foot rise in sea level coupled with a three-foot storm surge, like what would be experienced in a strong tropical storm, could lead to 29% of Mathews County land mass being flooded. Also, this could potentially flood 139 miles of roads within the county. As a result, the County implements several preventative measures, property protection policies, public information activities, and emergency service measures to decrease impacts on the community. Getting projects such as the proposed constructed creates a more resilient community as flooding impacts persist and increase in intensity and frequency.

Second, at this project location, the shoreline is experiencing erosion and undercutting of the bulkhead. The waterfront of the property was severely damaged during the Isaias storm in August 2020. The wooden bulkhead wall was pushed back toward the house with significant soil erosion behind it on the house side. The property owners have tried to quell the erosion behind the bulkhead until a suitable repair can be implemented. However, the erosion is still occurring behind the bulkhead. Additionally, the erosion on either side of the bulkhead has been addressed with a living shoreline application completed under APA #20-1593. This phase called for installation of Flexamat on the left and right sides of our property. The central portion of the property was permitted to have riprap overlain over the existing inadequate riprap to protect a deteriorating bulkhead, which is allowing erosion of yard soil into the North River and Mobjack Bay. There would have to be excavation behind the failing bulkhead to install new filter cloth. The loss of soil is so close to the house behind the bulkhead, approximately 8 feet, which represents a severe threat to the property. The homeowners' efforts to pack sand into voids have fallen short and fail to protect from soil erosion with each passing high tide and storm. Please see **Figure 10** for project location photos and **Attachment 4** for more photos.

FIGURE 10: PHOTOS OF THE PROJECT LOCATION.

ALTERNATIVES –
Alternatives are not applicable to this project. A living shoreline is feasible at this location and therefore required per VMRC regulations. This project employs a nature-based solution, and this project cost is not greater than $3 Million.

GOALS AND OBJECTIVES –
This project will install a nature-based solution consisting of 60 linear feet of Flexamat with plantings, 103 linear feet of Class II stone, and 80 linear feet of living shoreline (i.e., clean sand nourishment and spartina plantings). Additionally, the bulkhead on this property will be repaired. This project will reduce erosion and stabilize the shoreline. The installation of a nature-based solution will also help to protect the residential home from falling into the North River. The nature-based solution will be installed as designed and permitted through the JPA process. Please note that the design work for 80 linear feet of living shorelines was submitted through Round 1 of the DCR Community Flood Preparedness Fund. Please see the permit package for the remaining elements of this project in **Attachment 5**.

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 approach.
- Objective B: Stabilize the shoreline to ensure that the County's tax base does not erode.

Goal 2: Improve water quality

- Objective A: Construct a living shoreline to capture nitrogen, phosphorus, and sediment.

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.

The MPPDC anticipates that the living shoreline installed at this project location will:

1. **Stabilize the shoreline and reduce the overall erosion rate at the project location**. 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. 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.

2. **Provide ecosystem services to the community.** Since this project is proposing the installation of living shorelines, this project 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 243 linear feet of living shoreline this has the ability of removing 2.95974 pounds of nitrogen per year, 2.09223 pounds of phosphorus per year and 508.41189 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.

3. **Prevent loss of property and life.** 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 Gloucester County, which is local government.

   The proposed project was confirmed for the MPPDC by Matthew C. Burnette PG, PH, CFM or Holly White AICP, CFM.

APPROACH, MILESTONES, AND DELIVERABLES –

This project will follow the designs outlined and approved in the Joint Permit Application. Upon issuance of the permits for this project, VMRC has analyzed the upstream and downstream impacts of this project using the best available science, as per state law. Please see **Attachment 5** for the JPA application, Design, and Permit Package. The below table outlines the components of the nature-based solution and what will be installed at the project location, as permitted by Virginia Marine Resource Commission (VMRC). Please note the living shoreline design was proposed in Round 1 of DCR Community Flood Preparedness funding and will not be included in the attached JPA.

	Total Project Location Specifications
Bioengineered Structure	60 Linear Feet
Rip Rap	103 Linear Feet
Fill/Plantings	900 Square Feet
Living Shorelines	80 linear Feet

The anticipated timeline for this project could be as quick as 1 year, but no more than two years. The timeline range is due to the potential delays in the construction industry or delays caused by COVID, including supply shortages. Having a two-year timeline will offer potential windows for planting the living shoreline. To explain, the Chesapeake Bay Foundation recommends that perennials and grasses for living shorelines should be planted during peak growing season (in mid-to-late summer) to allow enough time for their root systems to become established before they go dormant in the late Fall. Trees and shrubs should be planted in Spring and Fall when there is adequate rainfall to help them develop strong roots and leafy growth.

Below is the project timeline and project milestones for this project.

Receive funding notice - March 2023
Coordinate with property owners and the project contractor R & W Marine Construction, Inc to review project timeline and project expectations – March 2023
Initiate site preparation at the project location - April 2023 to September 2023
Construction of the living shoreline – October 2023 to December 2023
Project Close out – December 2023

Concerning Adverse Impacts

Additionally, the applicant and the property owner recognize the importance to do no harm to land owned by the Commonwealth nor the adjacent property owners as result of the construction elements of this project. The proposed project will be constructed under the auspices of experienced contractors who understand that adverse impacts must be avoided and considered in the design and implementation of the project. The proposed project will work with the permitting agency, designers, and contractors to ensure that the project is built to and functions at the level of the design specifications to ensure that no adverse impacts will occur.

RELATIONSHIP TO OTHER PROJECTS –

For over 40 years the Middle Peninsula Planning District Commission (MPPDC) 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.

The proposed project is a priority project generated from the Middle Peninsula Regional Flood Resilience Plan, which was approved by DCR during August 2021. The Flood Resiliency Plan serves as the MPPDC's guiding document for its flood resiliency programs and is comprised of two primary MPPDC-approved policy documents which form the implementation and foundation of the Middle Peninsula flood protection approach and are indirectly and directly supported by multiple specific regional planning documents, both approved by various required federal, regional, or local partners as required by statute.

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 (MPPDC Website)
- 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, MPPDC Approved March 2021
- Middle Peninsula VDOT Rural Long Range Transportation Plan - MPPDC Approved ~annually

Short Term Implementation

- Middle Peninsula Planning District Commission Fight the Flood Program Design MPPDC Commission (approved June 2020 Chairman approved 8/6/21 update)
- Middle Peninsula Planning District Commission Living Shoreline Resiliency Incentive Funding Program-Virginia Revolving Loan Fund Program Design and Guidelines (approved 2015)

As the MPPDC has continuously worked on flooding and coastal resiliency topics, **Attachment 6** lists the projects and short description of relevant projects. 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 MPPDC 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 MPPDC Commission authorized staff to develop the **Middle Peninsula Fight the Flood (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, MPPDC staff have partnered with private property owners that have registered for the FTF program to assist them in finding funding for their shoreline.

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 –
It is important to ensure that the public investment of DCR CFPF funding be protected should the project not withstand future conditions. As such, MPPDC staff will work with legal counsel to develop an agreement to be signed by each party which outlines the terms necessary to ensure the public investment is maintained over the duration of the project.

CRITERIA –
Describe how the project meets each of the applicable scoring criteria contained in Appendix B and provide the required documentation where necessary. Documentation can be incorporated into the Scope of Work Narrative or included as attachments to the application. Appendix B must be completed and submitted with the application.

For local governments that are not towns, cities, or counties, the documentation provided for the criteria below should be based on the local government or local governments in which the project is located and/or directly impacts.

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?**
   YES.
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?**
   YES. Here's the 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?**
   YES. Please see **Attachment 1**
4. **Has the applicant provided evidence of an ability to provide the required match funds?**
   YES. Please see the match commitment letter in **Attachment 8**
5. **Has the applicant demonstrated to the extent possible, the positive impacts of the project or study on prevention of flooding?**
   YES.

BUDGET NARRATIVE -

For applications submitted under MPPDC Round 2 proposals that resides in a low-income area or opportunity zone the following applies to the submitted budget. If the applicant does not, then the following does not apply: For projects within low-income areas and opportunity zones, the budgets are being submitted with budgets that reflect a 70:30 grant to match ratio even though the program manual states that these projects are eligible for 80:20 match for being located in low-income areas and opportunity zones. In response to the DCR letter addressed to the MPPDC dated October 20, 2021, which eliminated the ability of MPPDC applicants who reside in a low-income area or opportunity zone to request 80% state funding, we respectfully request that DCR reconsider applying the determination required for Round 1 proposals on the MPPDC Round 2 proposals since the grant manual states that all applicants who reside in a low-income area or opportunity zone should be funded at the level that they qualify for. Should DCR agree to award projects located in low-income areas or opportunity zones at the levels indicated within the grant manual, the budgets can be adjusted when contracts are awarded to ensure consistency with the grant manual.

Flood Fund Budget Requirement Page No.	Budget Narrative (Category D)							Budget (Cat. D)
						Applicant 1		
	Personnel Salaries/Wages	**DCR %**	**Match %**	**Annual Salary**		**DCR**	**Owner**	**Total**
	Staff	22.25%	5.57%	$70,000		$8,288	$3,552	$11,840
	Personnel	*Lewie's Cheat Sheet*		**DCR**	**Owner**	$8,288	$3,552	$11,840
			Total	*70%*	*30%*			
	Fringe, 26.21% salaries;		$99,620	69,734.00	29,886.00	$2,172	$931	$3,103
		15%	14,943.00	10,460.10	4,482.90			
	Total Personnel		**114,563.00**	**80,194.10**	**34,368.90**	$10,460	$4,483	$14,943
	SubAward/SubContract Agreements					**70%**	**30%**	
	Livingshoreline Cost Estimate				$72,070	$50,449	$21,621	$72,070
	Ribrap/ excavating backfull with sand and plants and grass				$22,550	$15,785	$6,765	$22,550
	Legal Procurement and Financing/deeds of trust				$5,000	$3,500	$1,500	$5,000
					$0	$0	$0	$0
					$0	$0	$0	$0
					$0	$0	$0	$0
					$0	$0	$0	$0
					$0	$0	$0	$0
					$99,620			
	SUBTOTAL: Direct Costs					$80,194	$34,369	$114,563
	Indirect/IDC/Facilities & Administrative Costs			**27.92%**	$11,152	$7,806	$3,346	$11,152
	Total					**$88,000**	**$37,715**	**$125,715**
	Other Match:							
	Source of Match					$0	$0	$0
	GRAND TOTAL					**$88,000**	**$37,715**	**$125,715**

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%. Direct charges are costs associated with overall projects costs consistent with general accounting principles.

Also please note that the cost estimates for the construction of this project were supplied by the contractor, R & W Marine Construction, Inc. Please see **Attachment 7**.

In summary:
Estimated total project cost: $ 125,715
Amount of funds requested: $ 88,000

Finally, please see the authorization to request for funding in **Attachment 9.**

Appendix B: Scoring Criteria for Flood Prevention and Protection Projects

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

Applicant Name:	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 a town, city, or county</u>, 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	☐ 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 or regional plan for purposes of allowing inundation, retreat, or acquisition of structures.	**50**	
☐ Wetland restoration, floodplain restoration ☐ Living shorelines and vegetated buffers. ☐ Permanent conservation of undeveloped lands identified as having flood resilience value by *ConserveVirginia* Floodplain and Flooding Resilience layer or a similar data driven analytic tool ☐ Dam removal ☐ Stream bank restoration or stabilization. ☐ Restoration of floodplains to natural and beneficial function. ☐ Developing flood warning and response systems, which may include gauge installation, to notify residents of potential emergency flooding events.	**45**	45
1.b. any other nature-based approach	**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		88

Appendix D: Checklist All Categories

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

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

Attachment 1: Community Support Letter

County Administration

January 27, 2022

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 Lewie,

Mathews County supports all eligible applications requesting funding under the DCR Flood Preparedness Fund. Proposals submitted by MPPDC on behalf of our constituents is a necessary governmental function and 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 Program serves as the regions flood resiliency coordination program. The MPPDC Living Shoreline Program Design and the MPPDC Fight the Flood Program Design provide the operational and administrative oversite for resiliency planning, coordination and implementation for our constituents suffering from flooding challenges. These programs, especially MPPDC Fight the Flood (FTF) program recognizes the need to better secure the tax base of coastal localities and the inherent risk to the delivery of essential governmental services, including public safety, posed by coastal storms and recurrent flooding of all types and the relationship between at-risk waterfront real estate values and funding of essential governmental services.

The Fight the Flood program and the Living Shoreline program exists to help flood-prone property owners access programs and services to better manage challenges posed by flood water and directs 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 based on the terms and conditions associated with flood risk necessary 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 804-725-7172.

Sincerely,

David Schlosser
Interim County Administrator

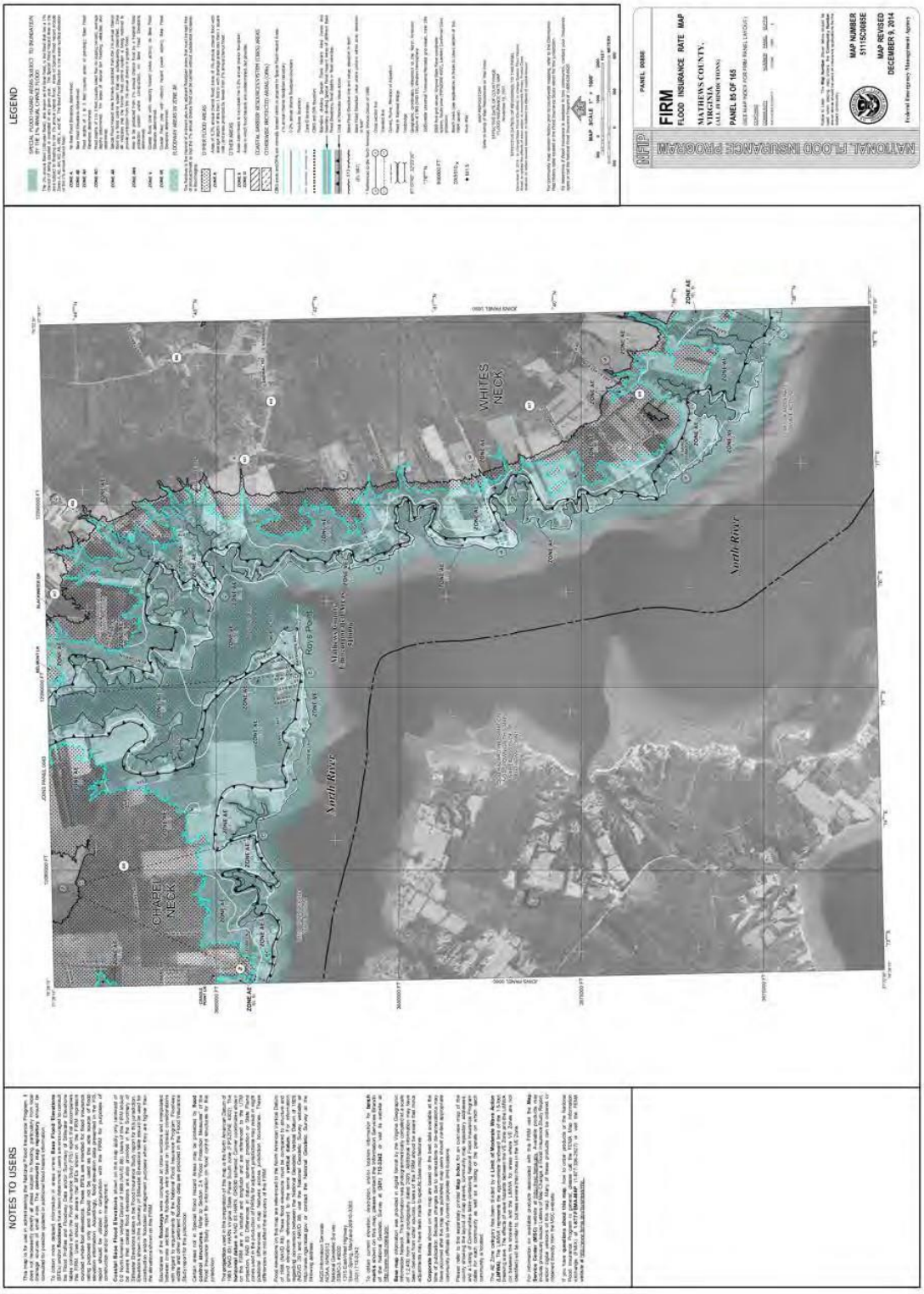
804.725.7172 office
804.725.7805 fax
mathewscountyva.gov

50 Brickbat Road | P.O. Box 839 | Mathews, VA 23109

BE HERE MATHEWS

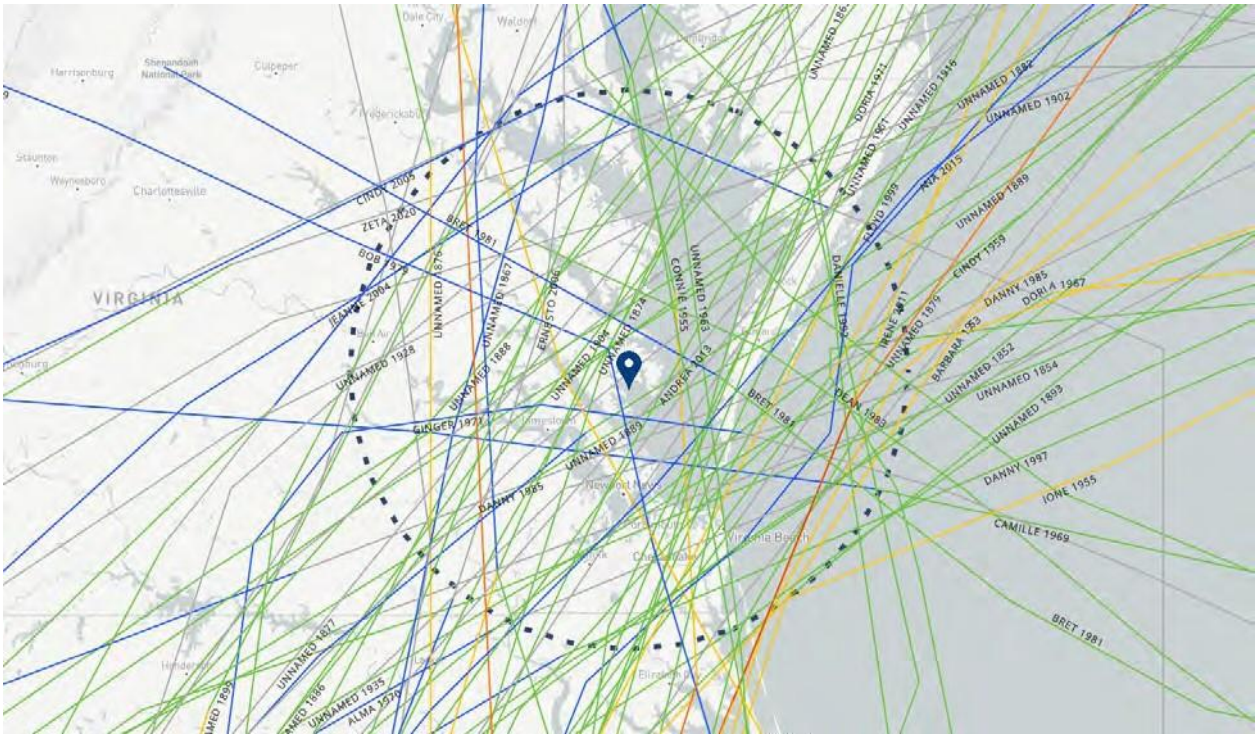
Attachment 2: Project Location FIRMette

(FIRMette #: **51115C0085E**)



Attachment 3: List of historic hurricanes impacting the project area.

Hurricane List



Search Filter Criteria

Location: 37.41985, -76.40677

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
ZETA 2020	Oct 24, 2020 to Oct 30, 2020	100	970	H3
ISAIAS 2020	Jul 28, 2020 to Aug 05, 2020	80	986	H1
NESTOR 2019	Oct 17, 2019 to Oct 21, 2019	50	996	TS
MICHAEL 2018	Oct 06, 2018 to Oct 15, 2018	140	919	H5

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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 to Jul 11, 2005	65	991	H1
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
HELENE 2000	Sep 15, 2000 to Sep 25, 2000	60	986	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 27, 1997	70	984	H1
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
GINGER 1971	Sep 06, 1971 to Oct 05, 1971	95	959	H2
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 12, 1959	65	995	H1
IONE 1955	Sep 10, 1955 to Sep 27, 1955	120	938	H4
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 04, 1934	45	-1	TS
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

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
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
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 1893	Jun 12, 1893 to Jun 20, 1893	65	-1	H1
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 to Oct 01, 1874	80	980	H1

STORM NAME	DATE RANGE	MAX WIND SPEED	MIN PRESSURE	MAX CATEGORY
UNNAMED 1872	Oct 22, 1872 to Oct 28, 1872	70	-1	H1
UNNAMED 1867	Aug 10, 1867 to Aug 18, 1867	45	-1	TS
UNNAMED 1864	Jul 23, 1864 to Jul 26, 1864	35	-1	TS
UNNAMED 1863	Sep 16, 1863 to Sep 19, 1863	60	-1	TS
UNNAMED 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
UNNAMED 1858	Aug 11, 1858 to Aug 20, 1858	45	994	TS
UNNAMED 1856	Aug 19, 1856 to Aug 21, 1856	50	-1	TS
UNNAMED 1854	Sep 10, 1854 to Sep 14, 1854	65	-1	H1
UNNAMED 1854	Sep 07, 1854 to Sep 12, 1854	110	938	H3
UNNAMED 1852	Aug 28, 1852 to Aug 31, 1852	50	-1	TS

Attachment 4: Photos of the shoreline on property location.

Severe shoreline erosion and damaged stone sill on property.

Date Photo Taken: 2020:09:30 15:59:36

Date Photo Taken: 2020:09:30 15:59:37

Photo eroding shoreline within close proximity to the house (approximately 8 ft) and remanence of bulkhead.

Date Photo Taken: 2020:09:30 16:00:03

Date Photo Taken: 2020:09:30 16:01:16

Attachment 5: Project JPA, Design, and Permit Package

From: Chris Davis
To: jpa.permits@mrc.virginia.gov
Subject: [redacted] JPA attached
Date: Monday, August 31, 2020 7:08:50 AM
Attachments: [redacted] JPA 8-30-20.pdf

Signature pages to follow later this morning.

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- DEQ: Permit application fees required for Virginia Water Protection permits – while detailed in 9VAC25-20 – are conveyed to the applicant by the applicable DEQ office (http://www.deq.virginia.gov/Locations.aspx). Complete the Permit Application Fee Form and submit it per the instructions to the address listed on the form. Instructions for submitting any other fees will be provided to the applicant by DEQ staff.
- VMRC: An application fee of $300 may be required for projects impacting tidal wetlands, beaches and/or dunes when VMRC acts as the LWB. VMRC will notify the applicant in writing if the fee is required. Permit fees involving subaqueous lands are $25.00 for projects costing $10,000 or less and $100 for projects costing more than $10,000. Royalties may also be required for some projects. The proper permit fee and any required royalty is paid at the time of permit issuance by VMRC. VMRC staff will send the permittee a letter notifying him/her of the proper permit fees and submittal requirements.
- LWB: Permit fees vary by locality. Contact the LWB for your project area or their website for fee information and submittal requirements. Contact information for LWBs may be found at http://ccrm.vims.edu/permits_web/guidance/local_wetlands_boards.html.

FOR AGENCY USE ONLY	
	Notes:
	JPA # **20-1593**

APPLICANTS
Part 1 – General Information

PLEASE PRINT OR TYPE ALL ANSWERS: If a question does not apply to your project, please print N/A (not applicable) in the space provided. If additional space is needed, attach 8-1/2 x 11 inch sheets of paper.

Check all that apply		
Pre-Construction Notification (PCN) ☒ NWP # 19 (*For Nationwide Permits ONLY - No DEQ-VWP permit writer will be assigned*)	Regional Permit 17 (RP-17) ☐	

County or City in which the project is located: Mathews

Waterway at project site: North River

PREVIOUS ACTIONS RELATED TO THE PROPOSED WORK (Include all federal, state, and local pre application coordination, site visits, previous permits, or applications whether issued, withdrawn, or denied)

Historical information for past permit submittals can be found online with VMRC - https://webapps.mrc.virginia.gov/public/habitat/ - or VIMS - http://ccrm.vims.edu/perms/newpermits.html

Agency	Action / Activity	Permit/Project number, including any non-reporting Nationwide permits previously used (e.g., NWP 13)	Date of Action	If denied, give reason for denial
	NA			

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Part 1 - General Information (continued)

1. Applicant's legal name* and complete mailing address: Contact Information:

[redacted]
100 Hamlin Drive
Fredericksburg, VA
22405

Home (_)_____
Work (_)_____
Fax (_)_____
Cell (_) 540 373 5572
e-mail [redacted]

State Corporation Commission Name and ID Number (if applicable) _____

2. Property owner(s) legal name* and complete address, if different from applicant: Contact Information:

Home (_)_____
Work (_)_____
Fax (_)_____
Cell (_)_____
e-mail _____

State Corporation Commission Name and ID Number (if applicable) _____

3. Authorized agent name* and complete mailing address (if applicable):

Chris Davis (ReadyReef Inc)
504 Smoketree Ct
North Chesterfield, VA 23236

Contact Information:
Home (_)_____
Work (_)_____
Fax (_)_____
Cell (_) 804 338-3103
e-mail chris.readyreef@gmail.com

State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple applicants, property owners, and/or agents, each must be listed and each must sign the applicant signature page.**

4. Provide a detailed description of the project in the space below, including the type of project, its dimensions, materials, and method of construction. Be sure to include how the construction site will be accessed and whether tree clearing and/or grading will be required, including the total acreage. If the project requires pilings, please be sure to include the total number, type (e.g. wood, steel, etc), diameter, and method of installation (e.g. hammer, vibratory, jetted, etc). If additional space is needed, provide a separate sheet of paper with the project description.

The project consists of installing a total of 60LF of Flexamat on the eroding bank of the Applicant's two lots. The mat will be planted with new marsh grass sprigs. All work is above MLW. A small living shoreline of clean sand and plants will be installed in place of invasive phragmities in the east basin. There will be a net gain in marsh grass.
A second phase consists of installing 103LF of Class 2 stone up and over existing, decaying bulkhead as a splashblock. Access will be through the yard.

Part 1 - General Information (continued)

5. Have you obtained a contractor for the project? X Yes* ___No. *If your answer is "Yes" complete the remainder of this question and submit the Applicant's and Contractor's Acknowledgment Form (enclosed)

Contractor's name* and complete mailing address:

ReadyReef Inc
504 Smoketree Ct
North Chesterfield, VA
23236

Contact Information:
Home (_)_____
Work (_)_____
Fax (_)_____
Cell (_) 804 338-3103
email chris.readyreef@gmail.com

State Corporation Commission Name and ID Number (if applicable) _____

*** If multiple contractors, each must be listed and each must sign the applicant signature page.**

6. List the name, address and telephone number of the newspaper having general circulation in the area of the project. Failure to complete this question may delay local and State processing.

Name and complete mailing address:
Gazette-Journal
PO Box 2060
Gloucester, VA 23061

legals@gazettejournal.net

Telephone number
(804) 693-3101

7. Give the following project location information:
Street Address (911 address if available) 182 Bayshore Avenue North
Lot/Block/Parcel# 24A-1-2-10 and 24A-1-2-11
Subdivision _____
City / County North, VA ZIP Code 23128
Latitude and Longitude at Center Point of Project Site (Decimal Degrees):
37.418415 / -76.405924 (Example: 36.41600/-76.30733)

If the project is located in a rural area, please provide driving directions giving distances from the best and nearest visible landmarks or major intersections. *Note: if the project is in an undeveloped subdivision or property, clearly stake and identify property lines and location of the proposed project. A supplemental map showing how the property is to be subdivided should also be provided.*

From Gloucester Court House, take Rt. 14 East towards Mathews. After crossing the North River Bridge, turn right onto Rt. 620 (Chapel Neck Rd).
At fork in the road where the hard surface road takes a sharp right, go straight on the dirt road (Daniel Ave). Go to the end at Bayshore Community. Turn right onto Allview Street, then left onto Bayshore Ave. House #182 is on the right.

8. What are the *primary and secondary purposes of and the need for* the project? For example, the primary purpose may be "to protect property from erosion due to boat wakes" and the secondary purpose may be "to provide safer access to a pier."

The primary purpose of the project is to prevent erosion of the property's bank and to repair the protection system at the decaying bulkhead. The bulkhead has been compromised and is leaking sediment from behind it.
The secondary purpose is to install living plants in such a way that they can migrate upslope if forced by Relative Sea Level Rise, thus preventing the existing Living shoreline from being "squeezed out" at the backslope area.

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Part 1 - General Information (continued)

9. Proposed use (check one):
   X Single user (private, non-commercial, residential)
   ___Multi-user (community, commercial, industrial, government)

10. Describe alternatives considered and the measures that will be taken to avoid and minimize impacts, to the maximum extent practicable, to wetlands, surface waters, submerged lands, and buffer areas associated with any disturbance (clearing, grading, excavating) during and after project construction. *Please be advised that unavoidable losses of tidal wetlands and/or aquatic resources may require compensatory mitigation.*

    All work will be done from upland lawn areas and above MHW. There will be no impact on sensitive areas. At the bottom edge of the west Flexamat installation, existing marsh grass will be flipped up seaward while the mat gets tucked in behind and below it. The grass will then be laid back down in place. There will be a net gain in grass.

11. Is this application being submitted for after-the-fact authorization for work which has already begun or been completed? ___Yes X No. If yes, be sure to clearly depict the portions of the project which are already complete in the project drawings.

12. Approximate cost of the entire project (materials, labor, etc.): $_____
    Approximate cost of that portion of the project that is channelward of mean low water:
    $ 0

13. Completion date of the proposed work: July 30 - 2021

14. Adjacent Property Owner Information: List the name and complete **mailing address**, including zip code, of each adjacent property owner to the project. (NOTE: If you own the adjacent lot, provide the requested information for the first adjacent parcel beyond your property line.) Failure to provide this information may result in a delay in the processing of your application by VMRC.

    Daniel and Susan Warren
    PO Box 35796
    Richmond, VA
    23235-0796

    James Brockenbrough
    7262 Spring Hill Farm Rd
    Hanover, VA
    23069

Part 2 - Signatures

1. Applicants and property owners (if different from applicant).
NOTE: REQUIRED FOR ALL PROJECTS

PRIVACY ACT STATEMENT: The Department of the Army permit program is authorized by Section 10 of the Rivers and Harbors Act of 1899, Section 404 of the Clean Water Act, and Section 103 of the Marine Protection Research and Sanctuaries Act of 1972. These laws require that individuals obtain permits that authorize structures and work in or affecting navigable waters of the United States, the discharge of dredged or fill material into waters of the United States, and the transportation of dredged material for the purpose of dumping it into ocean waters prior to undertaking the activity. Information provided in the Joint Permit Application will be used in the permit review process and is a matter of public record once the application is filed. Disclosure of the requested information is voluntary, but it may not be possible to evaluate the permit application or to issue a permit if the information requested is not provided.
CERTIFICATION: I am hereby applying for all permits typically issued by the DEQ, VMRC, USACE, and/or Local Wetlands Boards for the activities I have described herein. I agree to allow the duly authorized representatives of any regulatory or advisory agency to enter upon the premises of the project site at reasonable times to inspect and photograph site conditions, both in reviewing a proposal to issue a permit and after permit issuance to determine compliance with the permit. **In addition, I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.**

Applicant's Legal Name (printed/typed) _____ (Use if more than one applicant)

Applicant's Signature _____ (Use if more than one applicant)

Date _____

Property Owner's Legal Name (printed/typed) (If different from Applicant) _____ (Use if more than one owner)

Property Owner's Signature _____ (Use if more than one owner)

Date _____

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Part 2 – Signatures (continued)

2. Applicants having agents (if applicable)

CERTIFICATION OF AUTHORIZATION

I (we),_____, hereby certify that I (we) have authorized _____
(Applicant's legal name(s)) (Agent's name(s))
to act on my behalf and take all actions necessary to the processing, issuance and acceptance of this permit and any and all standard and special conditions attached.

We hereby certify that the information submitted in this application is true and accurate to the best of our knowledge.

_____ _____
(Agent's Signature) (Use if more than one agent)

_____
(Date)

_____ _____
(Applicant's Signature) (Use if more than one applicant)

_____
(Date)

3. Applicant's having contractors (if applicable)

CONTRACTOR ACKNOWLEDGEMENT

I (we), _____, have contracted_____
(Applicant's legal name(s)) (Contractor's name(s))
to perform the work described in this Joint Permit Application, signed and dated_____.

We will read and abide by all conditions set forth in all Federal, State and Local permits as required for this project. We understand that failure to follow the conditions of the permits may constitute a violation of applicable Federal, state and local statutes and that we will be liable for any civil and/or criminal penalties imposed by these statutes. In addition, we agree to make available a copy of any permit to any regulatory representative visiting the project to ensure permit compliance. If we fail to provide the applicable permit upon request, we understand that the representative will have the option of stopping our operation until it has been determined that we have a properly signed and executed permit and are in full compliance with all terms and conditions.

_____
Contractor's name or name of firm

_____
Contractor's or firms address

_____ _____
Contractor's signature and title Contractor's License Number

_____ _____
Applicant's signature (use if more than one applicant)

_____
Date

Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ABOUT THE PROJECT.

I DO NOT OBJECT _____TO THE PROJECT.

I OBJECT _____TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

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Part 2 – Signatures (continued)

ADJACENT PROPERTY OWNER'S ACKNOWLEDGEMENT FORM

I (we), _____, own land next to (across the water
(Print adjacent/nearby property owner's name)

from/on the same cove as) the land of_____.
(Print applicant's name(s))

I have reviewed the applicant's project drawings dated _____
(Date)

to be submitted for all necessary federal, state and local permits.

I HAVE NO COMMENT_____ABOUT THE PROJECT.

I DO NOT OBJECT _____TO THE PROJECT.

I OBJECT _____TO THE PROJECT.

The applicant has agreed to contact me for additional comments if the proposal changes prior to construction of the project.

(Before signing this form, be sure you have checked the appropriate option above).

_____
Adjacent/nearby property owner's signature(s)

_____
Date

Note: If you object to the proposal, the reason(s) you oppose the project must be submitted in writing to VMRC. An objection will not necessarily result in denial of the project; however, valid complaints will be given full consideration during the permit review process.

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APPENDIX B

U.S. Army Corps Of Engineers
Norfolk District

REGIONAL PERMIT 17 CHECKLIST
Expires: September 5, 2023

Please review the 18-RP-17 enclosure before completing this form and note 18-RP-17 can only be used for proposed PRIVATE USE structure(s) that comply with the terms and conditions of 18-RP-17. Copies can be obtained online at http://www.nao.usace.army.mil/Missions/Regulatory/RBregional/.

YES☐ NO☐ **(1)** Has the permittee reviewed the 18-RP-17 enclosure and verified that the proposed structure(s) is in compliance with all the terms, conditions, and limitations of 18-RP-17?

YES☐ NO☐ **(2)** Does the proposed structure(s) extend no more than one-fourth of the distance across the waterway measured from either mean high water (MHW) to MHW (including all channelward wetlands) or ordinary high water (OHW) to OHW (including all channelward wetlands)?

YES☐ NO☐ **(3)** Does the proposed structure(s) extend no more than 300 feet from MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(4)** Does the proposed structure(s) attach to the upland at a point landward of MHW or OHW (including all channelward wetlands)?

YES☐ NO☐ N/A☐ **(5)** If the proposed structure(s) crosses wetland vegetation, is it an open-pile design that has a maximum width of five (5) feet and a minimum height of four (4) feet between the decking and the wetland substrate?

YES☐ NO☐ N/A☐ **(6)** Does the proposed structure(s) include no more than two (2) boatlifts and no more than two (2) boat slips?

YES☐ NO☐ N/A☐ **(7)** Is the open-sided roof structure designed to shelter a boat ≤ 700 square feet and/or is the open sided roof structure or gazebo structure designed to shelter a pier ≤ 400 square feet?

YES☐ NO☐ N/A☐ **(8)** Are all piles associated with the proposed structure(s) non-steel, less than or equal to 12" in diameter, and will less than or equal to 25 piles be installed channelward of MHW?

YES☐ NO☐ N/A☐ **(9)** Is all work occurring behind cofferdams, turbidity curtains, or other methods to control turbidity being utilized when operationally feasible and federally listed threatened or endangered species may be present?

YES☐ NO☐ N/A☐ **(10)** If the proposed structure(s) is to be located within an anadromous fish use area, the prospective permittee will adhere to the anadromous fish use area time of year restriction (TOYR) prohibiting in-water work from occurring between February 15 through June 30 of any given year if (1) piles are to be installed with a cushioned impact hammer and there is less than 492 feet between the most channelward pile and mean low water (MLW) on the opposite shoreline or (2) piles are to be installed with a vibratory hammer and there is less than 384 feet between the most channelward pile and MLW on the opposite shoreline.

YES☐ NO☐ **(11)** Is all work occurring outside of submerged aquatic vegetation (SAV) mapped by the Virginia Institute of Marine Sciences' (VIMS) most recent survey year and 5 year composite?

YES☐ NO☐ **(12)** Has the permittee ensured the construction and/or installation of the proposed structure(s) will not affect federally listed threatened or endangered species or designated critical habitat?

YES☐ NO☐ **(13)** Will the proposed structure be located outside of Broad Creek in Middlesex County, Fisherman's Cove in Norfolk, or the Salt Ponds in Hampton?

YES☐ NO☐ **(14)** Will the proposed structure(s) be located outside of the waterways containing a Federal Navigation Project listed in Permit Specific Condition 12 of 18-RP-17 and/or will all portions of the proposed structure(s) be located more than 85 feet from the Federal Navigation Project?

YES☐ NO☐ **(15)** Will the proposed structure(s) be located outside a USACE Navigation and Flood Risk Management project area?

YES☐ NO☐ **(16)** Will the proposed structure(s) be located outside of any Designated Trout Waters?

YES☐ NO☐ N/A☐ **(17)** If the proposed structure(s) includes flotation units, will the units be made of materials that will not become waterlogged or sink if punctured?

YES☐ NO☐ N/A☐ **(18)** If the proposed structure(s) includes flotation units, will the floating sections be braced so they will not rest on the bottom during periods of low water?

YES☐ NO☐ **(19)** Is the proposed structure(s) made of suitable materials and practical design so as to reasonably ensure a safe and sound structure?

YES☐ NO☐ **(20)** Will the proposed structure(s) be located on the property in accordance with the local zoning requirements?

YES☐ NO☐ N/A☐ **(21)** If the proposed structure(s) includes a device used for shellfish gardening, will the device be attached directly to a pier and limited to a total of 160 square feet?

YES☐ NO☐ N/A☐ **(22)** If the proposed structure(s) includes a device used for shellfish gardening, does the permittee recognize this RP does not negate their responsibility to obtain an oyster gardening permit (General Permit #3) from Virginia Marina Resources Commission's Habitat Management Division?

YES☐ NO☐ **(23)** Does the permittee recognize this RP does not authorize any dredging or filling of waters of the United States (including wetlands) and does not imply that future dredging proposals will be approved by the Corps?

YES☐ NO☐ **(24)** Does the permittee understand that by accepting 18-RP-17, the permittee accepts all of the terms and conditions of the permit, including the limits of Federal liability contained in the 18-RP-17 enclosure? Does the permittee acknowledge that the structures permitted under 18-RP-17 may be exposed to waves caused by passing vessels and that the permittee is solely responsible for the integrity of the structures permitted under 18-RP-17 and the exposure of such structures and vessels moored to such structures to damage from waves? Does the permittee accept that the United States is not liable in any way for such damage and that it shall not seek to involve the United States in any actions or claims regarding such damage?

IF YOU HAVE ANSWERED "NO" TO ANY OF THE QUESTIONS ABOVE, REGIONAL PERMIT 17 (18-RP-17) DOES NOT APPLY AND YOU ARE REQUIRED TO OBTAIN WRITTEN AUTHORIZATION FROM THE CORPS PRIOR TO PERFORMING THE WORK.

IF YOU HAVE ANSWERED "YES" (OR "N/A", WHERE APPLICABLE) TO ALL OF THE QUESTIONS ABOVE, YOU ARE IN COMPLIANCE WITH REGIONAL PERMIT 17 (18-RP-17). PLEASE SIGN BELOW, ATTACH, AND SUBMIT THIS CHECKLIST WITH YOUR COMPLETED JOINT PERMIT APPLICATION (JPA). THIS SIGNED CERTIFICATE SERVES AS YOUR LETTER OF AUTHORIZATION FROM THE CORPS. YOU WILL NOT RECEIVE ANY OTHER WRITTEN AUTHORIZATION FROM THE CORPS; HOWEVER, YOU MAY NOT PROCEED WITH CONSTRUCTION UNTIL YOU HAVE OBTAINED ALL OTHER NECESSARY STATE AND LOCAL PERMITS.

I CERTIFY THAT I HAVE READ AND UNDERSTAND ALL CONDITIONS OF THE REGIONAL PERMIT 17 (18-RP-17), DATED SEPTEMBER 2018, ISSUED BY THE US ARMY CORPS OF ENGINEERS, NORFOLK DISTRICT REGULATORY BRANCH (CENAO-WRR), NORFOLK, VIRGINIA.

Proposed work to be located at:

_____

Signature of Property Owner(s) or Agent

_____

Date_____

VMRC Number: _____

Part 3 – Appendices

Please complete and submit the appendix questions applicable to your project, and attach the required vicinity map(s) and drawings to your application. If an item does not apply to your project, please write "N/A" in the space provided.

Appendix A: (TWO PAGES) Projects for Access to the water such as private and community piers, boathouses, marinas, moorings, and boat ramps. Answer all questions that apply.

1. **Briefly describe your proposed project**.

2. **For private, noncommercial piers:**
   Do you have an existing pier on your property? _____Yes_____No
   If yes, will it be removed? _____Yes ____No
   Is your lot platted to the mean low water shoreline? _____Yes ____No
   What is the overall length of the proposed structure? _____feet.
   Channelward of Mean High Water? _____feet.
   Channelward of Mean Low Water? _____feet.
   What is the area of the piers and platforms that will be constructed over
   Tidal non-vegetated wetlands _____square feet.
   Tidal vegetated wetlands _____square feet.
   Submerged lands _____square feet.
   What is the total size of any and all L- or T-head platforms?_____sq. ft.
   For boathouses, what is the overall size of the roof structure? _____sq. ft.
   Will your boathouse have sides?_____Yes_____No.

   NOTE: All proposals for piers, boathouses and shelter roofs must be reviewed by the Virginia Marine Resources Commission (Commission or VMRC), however, pursuant to § 28.2-1203 A 5 of the Code of Virginia a VMRC permit may not be required for such structures (except as required by subsection D of § 28.2-1205 for piers greater than 100 feet in length involving commercially productive leased oyster or clam grounds), provided that (i) the piers do not extend beyond the navigation line or private pier lines established by the Commission or the United States Army Corps of Engineers (USACE), (ii) the piers do not exceed six feet in width and finger piers do not exceed five feet in width, (iii) any L or T head platforms and appurtenant floating docking platforms do not exceed, in the aggregate, 400 square feet, (iv) if prohibited by local ordinance open-sided shelter roofs or gazebo-type structures shall not be placed on platforms as described in clause (iii), but may be placed on such platforms if not prohibited by local ordinance, and (v) the piers are determined not to be a navigational hazard by the Commission. Subject to any applicable local ordinances, such piers may include an attached boat lift and an open-sided roof designed to shelter a single boat slip or boat lift. In cases in which open-sided roofs designed to shelter a single boat, boat slip or boat lift will exceed 700 square feet in coverage or the open-sided shelter roofs or gazebo structures exceed 400 square feet, and in cases in which an adjoining property owner objects to a proposed roof structure, permits shall be required as provided in § 28.2-1204.

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Part 3 – Appendices (continued)

3. **For USACE permits**, in cases where the proposed pier will encroach beyond one fourth the waterway width (as determined by measuring mean high water to mean high water or ordinary high water mark to ordinary high water mark), the following information must be included before the application will be considered complete. For an application to be considered complete:

   a. The USACE MAY require depth soundings across the waterway at increments designated by the USACE project manager. Typically 10-foot increments for waterways less than 200 feet wide and 20-foot increments for waterways greater than 200 feet wide with the date and time the measurements were taken and how they were taken (e.g., tape, range finder, etc.).
   b. The applicant MUST provide a justification as to purpose if the proposed work would extend a pier greater than one-fourth of the distance across the open water measured from mean high water or the channelward edge of the wetlands.
   c. The applicant MUST provide justification if the proposed work would involve the construction of a pier greater than five feet wide or less than four feet above any wetland substrate.

4. Provide the type, size, and registration number of the vessel(s) to be moored at the pier or mooring buoy.

   Type Length Width Draft Registration #

   _____

   _____

   _____

5. For **Marinas, Commercial Piers, Governmental Piers, Community Piers and other non-private piers**, provide the following information:
   A) Have you obtained approval for sanitary facilities from the Virginia Department of Health?_____(required pursuant to Section 28.2-1205 C of the Code of Virginia).
   B) Will petroleum products or other hazardous materials be stored or handled at your facility?_____.
   C) Will the facility be equipped to off-load sewage from boats?_____.
   D) How many wet slips are proposed?_____. How many are existing?_____.
   E) What is the area of the piers and platforms that will be constructed over
      Tidal non-vegetated wetlands _____square feet
      Tidal vegetated wetlands _____square feet
      Submerged lands _____square feet

6. For **boat ramps**, what is the overall length of the structure?_____feet.
   From Mean High Water?_____feet.
   From Mean Low Water?_____feet.

   Note: drawings must include the construction materials, method of installation, and all dimensions. If tending piers are proposed, complete the pier portion.
   Note: If dredging or excavation is required, you must complete the Standard Joint Point Permit application.

Received by VMRC August 31, 2020 /blh

Part 3 – Appendices (continued)

Appendix B: Projects for Shoreline Stabilization in tidal wetlands, tidal waters and dunes/beaches including riprap revetments and associated backfill, marsh toe stabilization, bulkheads and associated backfill, breakwaters, beach nourishment, groins, jetties, and living shoreline projects. Answer all questions that apply. Please provide any reports provided from the Shoreline Erosion Advisory Service or VIMS**.**

NOTE: It is the policy of the Commonwealth that living shorelines are the preferred alternative for stabilizing tidal shorelines (Va. Code § 28.2-104.1). **Information on non-structural, vegetative alternatives (i.e., Living Shoreline) for shoreline stabilization is available at http://ccrm.vims.edu/coastal_zone/living_shorelines/index.html.**

1. Describe each **revetment, bulkhead, marsh toe, breakwater, groin, jetty, other structure, or living shoreline project** separately in the space below. Include the overall length in linear feet, the amount of impacts in acres, and volume of associated backfill below mean high water and/or ordinary high water in cubic yards, as applicable:

   Two 8' x 30' rolls of Flexamat will be used, with about half in the RPA zone and half in the upper part of the 1.5x Tide Range zone.

   3 cuyds of clean sand will be used to grade a 3:1 slope under the Flexamat.
   The balance of 1 truckload of sand will be put into the eastern basin to achieve a 10:1 slope overtop of where phragmities will be treated. Then this area will be planted with new marsh grass sprigs.

2. What is the maximum encroachment channelward of mean high water? 0 feet.
   Channelward of mean low water? 0 feet.
   Channelward of the back edge of the dune or beach? 3 feet.

3. Please calculate the square footage of encroachment over:
   - Vegetated wetlands 0 square feet
   - Non-vegetated wetlands 280 square feet
   - Subaqueous bottom 0 square feet
   - Dune and/or beach 0 square feet

4. For bulkheads, is any part of the project maintenance or replacement of a previously authorized, currently serviceable, existing structure? _____Yes_____No.

   If yes, will the construction of the new bulkhead be no further than two (2) feet channelward of the existing bulkhead? _____Yes ____No.

   If no, please provide an explanation for the purpose and need for the additional encroachment.

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Part 3 – Appendices (continued)

5. Describe the type of construction and **all** materials to be used, including source of backfill material, if applicable (e.g., vinyl sheet-pile bulkhead, timber stringers and butt piles, 100% sand backfill from upland source; broken concrete core material with Class II quarry stone armor over filter cloth).
NOTE: **Drawings must include construction details, including dimensions, design and all materials, including fittings if used**.

   Clean sand from upland pit meeting USACE sand specifications.
   Nursery grown marsh grass plants.
   Flexamat specifications provided as an attachment.

   Steel Rebar anchors for the Flexamat.

6. If using stone, broken concrete, etc. for your structure(s), what is the average weight of the:
   Core (inner layer) material_____pounds per stone Class size _____
   Armor (outer layer) material _____pounds per stone Class size _____

7. For **beach nourishment**, including that associated with breakwaters, groins or other structures, provide the following:

   - Volume of material
     0 cubic yards channelward of mean low water
     7 cubic yards landward of mean low water
     7 cubic yards channelward of mean high water
     3 cubic yards landward of mean high water

   - Area to be covered
     0 square feet channelward of mean low water
     600 square feet landward of mean low water
     300 cubic yards channelward of mean high water
     300 cubic yards landward of mean high water

   - Source of material, composition (e.g. 90% sand, 10% clay): 93% sand, 7% clay
   - Method of transportation and placement:
     Truck transport from Middlesex pit, dump on client lot, skid steer transport over yard to deposition site for grading and packing.
   - Describe any proposed vegetative stabilization measures to be used, including planting schedule, spacing, monitoring, etc. Additional guidance is available at http://www.vims.edu/about/search/index.php?q=planting+guidelines:

     Flexamat will be planted one foot on center with the elevation appropriate Spartina Grass.

     Grasses will be monitored three times in the first year and twice in the second year. They are covered under contractor warranty for two years.

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Virginia Marine Resources Commission
Permit Application 20201593
Printed: Friday October 22, 2021 1:41 PM

Applicant: [redacted]
100 Hamlin Drive
Fredericksburg, VA 22405

Application Number:	20201593	**Engineer:**	Mike Johnson
Application Date:	August 31, 2020	**Locality:**	Mathews
Permit Type:	No VMRC Permit Nec.	**Waterway:**	North River
Permit Status:	No Permit Nec	**Expiration Date:**	
Wetlands Board Action:	Approved as Proposed	**Public Hearing Date:**	October 7, 2020

Project Description: Living Shoreline

Project Dimensions:

Bioengineered Structure: 60 Linear Feet
Fill/Plantings: 900 Square Feet

Virginia Marine Resources Commission
Photos for Permit Application 20201593
Printed: Friday October 22, 2021 1:41 PM

Date Photo Taken: 2020:09:30 15:59:36

Date Photo Taken: 2020:09:30 15:59:37

Virginia Marine Resources Commission
Photos for Permit Application 20201593
Printed: Friday October 22, 2021 1:41 PM

Date Photo Taken: 2020:09:30 16:00:03

Date Photo Taken: 2020:09:30 16:01:16

Attachment 6: Flood Prevention Project and its Relevance to Other Projects

MPPDC staff have worked throughout the years to understand the policy, research and impacts of flooding (ie. 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 & Sea Level Rise (2009 to 2012)

The MPPDC 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, MPPDC 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.

Phase 1: Middle Peninsula Climate Change Adaptation: Facilitation of Presentations and Discussions of Climate Change Issues with Local Elected Officials and the General Public
Phase 2: Climate Change III: Initiating Adaptation Public Policy Development
Phase 3: Phase 3 Climate Change: Initiating Adaptation Public Policy Development

Emergency Management - Hazard Mitigation Planning (2009 to Present): Since 2009, the Middle Peninsula Planning District Commission 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* (ie. Mean High Higher Water and the 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, OSDS management, storm water management, TMDLs, etc, staff from the Middle Peninsula Planning District Commission (MPPDC) 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 Onsite Sewage Disposal System (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 Virginia Department of Conservation and Recreation 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 MPPDC are required to address stormwater quality as stipulated by the Chesapeake Bay TMDL Phase II Watershed Implementation Plan and the Virginia Stormwater Regulations. The MPPDC 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): MPPDC 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 VSMP.

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 MPPDC developed the MPPDC 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 MPPDC Living Shoreline Revolving Loan program, 8 living shorelines have been financed and built to date encumbering ~$500,000 in VRA loan funding and ~$400,000 in NFWF grant funding. Living Shoreline construction cost to date range per job $14,000- $180,000. MPPDC 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): VIMS Shoreline Studies Program worked with the 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 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.

Attachment 7: Project cost estimates

R & W MARINE CONSTRUCTION, INC.

MARINE CONSTRUCTION AND EXCAVATION
P.O. BOX 229 COBBS CREEK, VIRGINIA 23035
PHONE (804) 725-7516
rwmarineconstruction@gmail.com

August 24, 2021

[redacted]
100 Hamlin Drive
Fredericksburg, VA 22405

Re: Riprap repair and backfill. Property located at 182 Bayshore Ave, Mathews, VA.

Dear [redacted]

We appreciate the opportunity to quote on your proposed marine project.

R & W MARINE CONSTRUCTION, INC. proposes the work mentioned below:

1. Adding ½ ton of class II riprap to 80' of existing riprap. Excavating 3'x 5'x 80' behind existing wall, installing filter cloth and backfilling with a clay/sand material. Cover with topsoil and grass seed 20,550.00

TOTAL COST $20,550.00

Should you have any questions concerning this proposal, please contact our office.

Sincerely,

Laura Morgan

Laura Morgan
Project Manager

From: [redacted] fou w cks@aol.com
Date: Friday, October 29, 2021 at 3:36 PM
To: Jackie Rickards <ir!. !!f9 @!.':'.P.P. -- .9.i:i:>.>
Subject: Re: **FTF** Grant Application Development - Introduction and Invoice_Round 2

Received the detailed estimate from our living shoreline contractor. He has adjusted his quote. See new number and details below:

Reefs: $13,500
Barge fee: 51000
Crane Truck: 53000
Dock Work: $1500
Extra Anchors for Flexamat: $600
Flexamat: $33,120
Sand (15 truckloads): 55850
Sand Distribution: $3500
Sand Packing: $600
Sub- Total: $62,670
Total with General Contractor Margin added: $72,070

Let us know if you need additional information.

[redacted]

Attachment 8: Match Commitment Letters

August 17, 2021

[redacted]
100 Hamlin Drive
Fredericksburg, VA 22405

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

Re: Property Located at 182 Bayshore Avenue, Mathews, VA 23128

Dear Mr. Clyde Cristman,

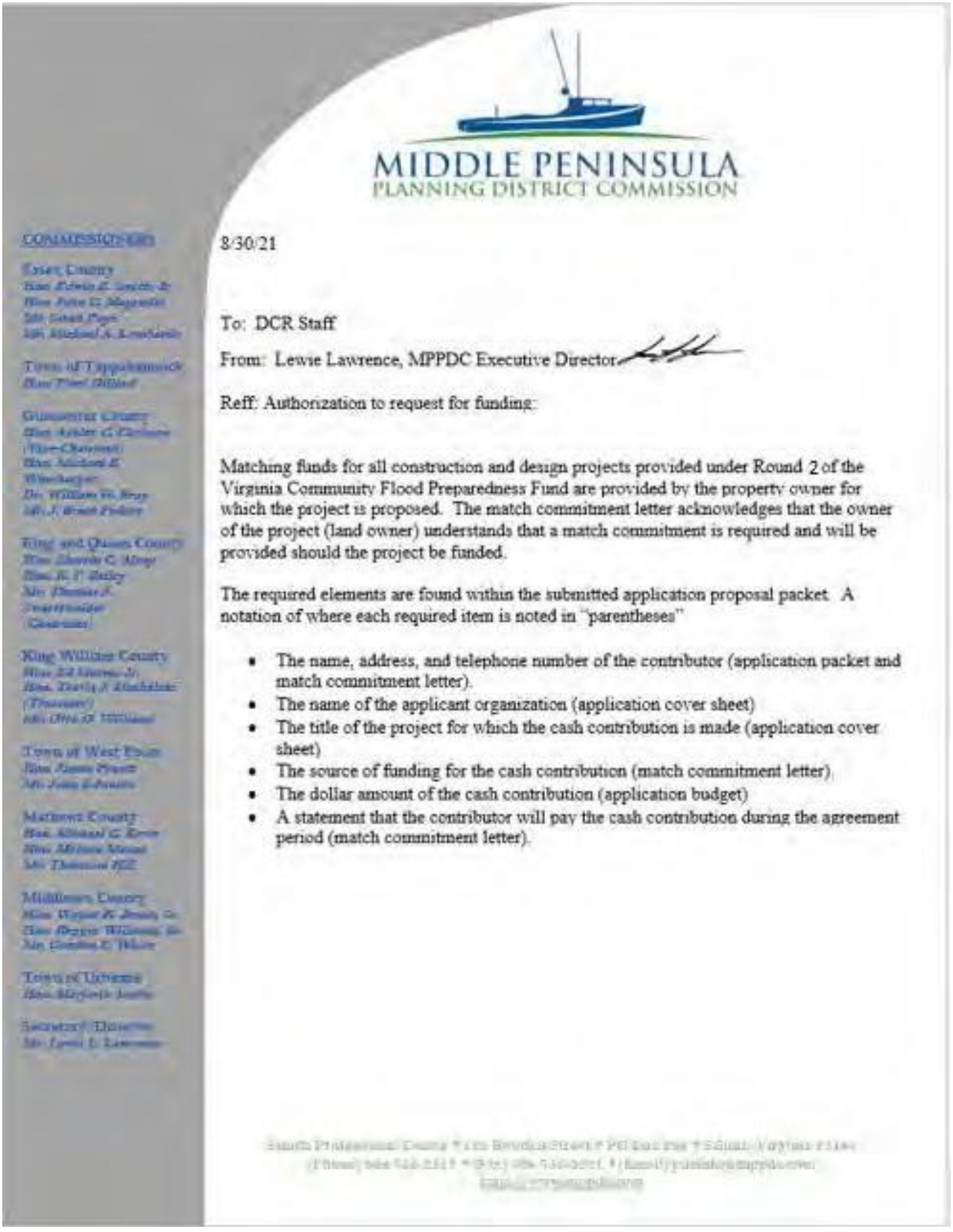
Thank you for considering the application to the Virginia Community Flood Preparedness Fund, involving necessary flood mitigation activities on my property at 182 Bayshore Avenue Mathews, VA 23128. I am committed to provide the matching funds necessary in cash or Middle Peninsula Planning District Commission (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 804-758-2311 should you have any questions and they will be able to contact me to coordinate a response. I can be reached by phone at (540)373-5572 or by email at [redacted].

Sincerely,

[redacted]

Attachment 9: Authorization to request for funding



MIDDLE PENINSULA
PLANNING DISTRICT COMMISSION

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 2 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).