ANNE ARUNDEL COUNTY
MARYLAND

Prepared for:

Anne Arundel County
Department of Public Works

Current Park Water Access Study For Non-Vessel Uses

July 2025

Prepared by:

BayLand Consultants & Designers, Inc.

"Integrating Engineering and Environment"

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1. INTRODUCTION

The Anne Arundel County (the County) Department of Public Works (DPW), in partnership with the Department of Recreation and Parks (DRP), contracted BayLand Consultants & Designers, Inc. (BayLand) to perform a feasibility study on 14 County-owned parks, to determine potential recreational activities other than launching of vessels. The parks include Brewer Pond Natural Area, Davidsonville Park, Hancock's Resolution Historic Farm Park, Henry & Jeanette Weinberg Park, Homeport Farm Park, Jack Creek Park, Jonas and Anne Catharine Green Park, Patuxent Wetlands Park, Rose Haven Memorial Park, Shady Cove Natural Area, Shady Side Park, Sullivan Park, Thomas Point Park, and Wootons Landing Park (Figure 1).

The following report provides the results from the Current Park Water Access Study for Non-Vessel Uses performed by BayLand. This includes a site assessment based on a desktop analysis and field investigations. For each site, a conceptual design of potential recreational amenities or other park features was developed with an itemized cost estimate for project implementation.

1.1. Background

The County has approximately 533 miles of shoreline along the Chesapeake Bay and its major rivers and smaller creeks. The County has an ongoing initiative to provide and enhance water access opportunities within existing County parks to bring residents to the waters of Anne Arundel County. As part of this initiative, the Department of Recreation and Parks (DRP) operates and manages numerous community parks, regional parks and natural areas which offer water access to the public. DRP currently offers 19 locations for launching nonmotorized vessels such as canoes and kayaks and three (3) public boat ramps to launch larger sail and motorboats.

There are, however, other possible activities which the public could enjoy in the County's waterfront parks, including swimming, fishing, paddle-in sites, and simply enjoying water views. This initiative hopes to bring these non-vessel water access activities to the waters of the Chesapeake Bay and its tributaries.

1.2. Assessment Methodologies

Each of the 14 County parks underwent a series of assessments and reviews to determine the feasibility of constructing new non-vessel launching water access amenities on site. County and state mapping data was compiled to identify environmental resources and potential regulatory obstacles within each park. As part of the desktop analysis, trilogy letters were sent to the United States Fish and Wildlife Services (USFWS), the Maryland Department of Natural Resources (DNR), and the Maryland Historic Trust (MHT) to solicit comments regarding sensitive review areas that may affect future development. These agencies are key to understanding potential resources on a given site, avoiding potential project impacts to sensitive species in the early stages of concept development.

Anne Arundel County Water Access; Non-Vessel Park Use Feasibility Study Vicinity Map

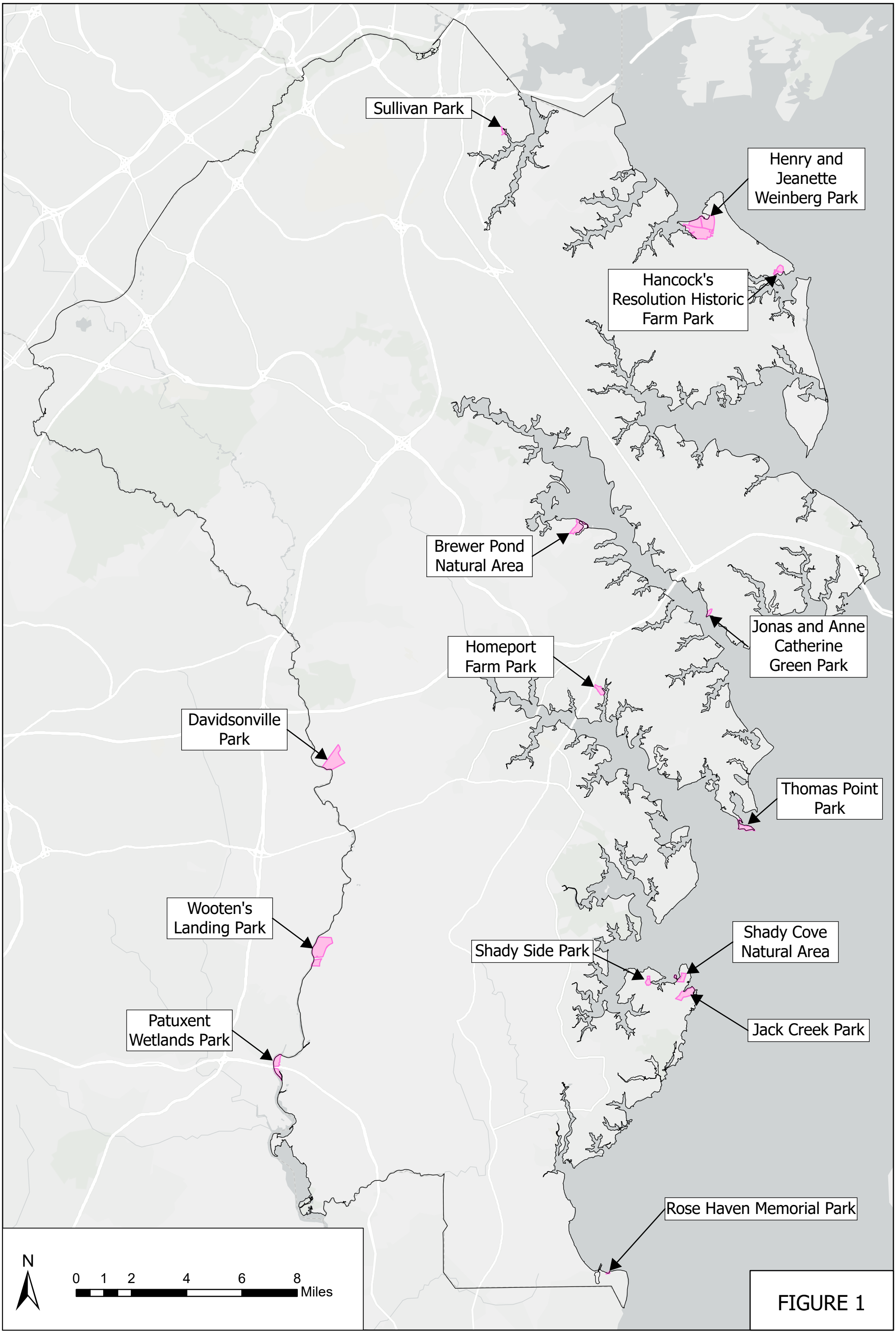


FIGURE 1

A team of engineers and scientists conducted field assessments of the 14 parks to verify existing site features, including current waterway access locations, and to identify potential site constraints for implementation of additional amenities. Field assessments included explorations from both land and water to facilitate the selection of potential feature locations. Protection of natural resources and potential permitting requirements guided the development of the concept plans and cost estimates. The initial concepts present a potential layout of water access amenities, parking requirements and infrastructure, and surrounding community impacts taken into consideration. Intermittent meetings, correspondences, and reviews by DPW and DRP ensured that these proposed concepts and cost estimates met the County's initiatives and are not in conflict with current park activities. Any available park masterplans were reviewed to ensure potential amenities were not in direct conflict with the plan of the park. When necessary, secondary assessments were conducted.

Below is a full review of the methods and factors assessed for this study.

1.2.1. Existing Park Features

Field reconnaissance included site visits from both land and water to identify existing park features and explore potential locations for possible recreational amenities. Analysis of existing conditions helped to verify or refute the findings of the desktop analysis. Assessments focused on park access, water access, accessibility within the park, topography, and vegetation. Locations deemed unfavorable consisted of steep slopes, heavily wooded areas, no water views, and unnavigable water access for paddlers. The site investigations via water examined recreational use, access points, tidal conditions, and access to the park. At each site, site photos were taken, and constraints were documented.

1.2.2. Environmental Analysis

Initial review of the County parks included a desktop analysis to gather information regarding environmental site constraints. During the preliminary assessment, BayLand utilized the Maryland Environmental Resources and Land Information Network (MERLIN)[1] to identify resources or areas of concern within each park. These resources include, but are not limited to: wetlands, Sensitive Species Review Areas, Forest Interior Dwelling Species, Critical Area, Conservation Properties, DNR Lands, Federal Lands, and Agricultural Lands. Additional analyses of each site focused on potential waterway constraints using Maryland Coastal Atlas[2] such as submerged aquatic vegetation (SAV), fish habitats, and waterfowl areas.

Environmental assessment maps were developed for each site to highlight any mapped environmental resource and regulatory constraints that may affect future development of a water access amenity. The environmental assessment maps developed for each site are in each site's respective Environmental Analysis sections.

[1] MERLIN-Maryland's Environmental Resource & Land Information Network (arcgis.com)
[2] Maryland Coastal Atlas (md.gov)

To gather additional information on environmental concerns that may be present within the parks, a trilogy letter was submitted to DNR for each site. This letter requested any information regarding rare, threatened, or endangered species, and critical habitats within the site. The inquiry specifically stated the parks were being evaluated for non-vessel dependent water access amenities such as swimming, fishing, paddle-in sites, and simply enjoying water views.

The USFWS online IPaC system[3] was used to identify USFWS managed resources and conservation measures that can be taken within each site. Responses were generated regarding threatened or endangered species in the area.

1.2.3. Cultural & Historical Analysis

Maryland's Cultural Resource Information System (MEDUSA)[4] was referenced to gather information regarding architectural and archaeological resources such as Maryland Historic Trust (MHT) preservation easements, National Register of Historic Places, Maryland Inventory of Historic Properties, and Maryland Heritage Areas. A trilogy letter was then submitted to MHT for each park requesting additional information concerning historical, cultural, architectural, or archaeological resources in the park.

1.2.4. Concept Development

BayLand developed conceptual plans for each park. Each plan was based on the findings from the desktop analysis and field reconnaissance to address the constraints and requirements of each site. Additional considerations were made to incorporate Americans with Disabilities (ADA) standards where feasible.

[3] IPaC: Home (fws.gov)
[4] MEDUSA, Maryland's Cultural Resource Information System- Version 1.6

2. PARK ASSESSMENTS

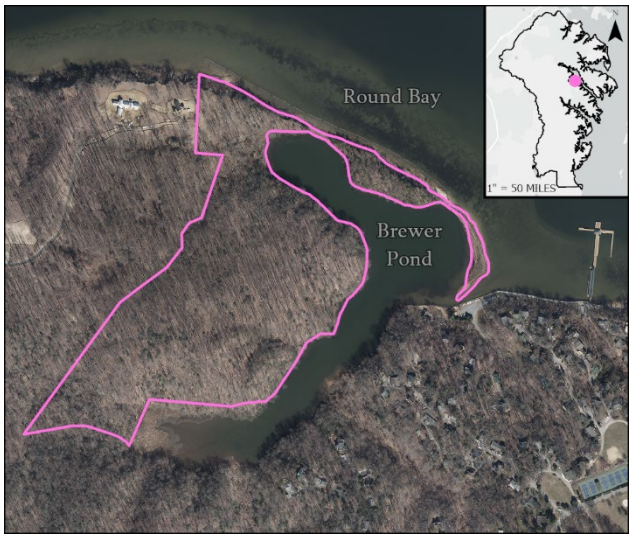
The following section provides a full review of the assessment performed at the 14 County-owned parks including results of the desktop analysis, field reconnaissance, environmental assessment maps, site photos, concept plans and cost estimates. These parks, as presented in Figure 1, include Brewer Pond Natural Area, Davidsonville Park, Hancock's Resolution Historic Farm Park, Henry and Jeanette Weinberg Park, Homeport Farm Park, Jack Creek Park, Jonas and Anne Catharine Green Park, Patuxent Wetlands Park, Rose Haven Memorial Park, Shady Cove Natural Area, Shady Side Park, Sullivan Park, Thomas Point Park, and Wootons Landing Park.

2.1. Site 1: Brewer Pond Natural Area

Location:
Sherwood Forest Road
Annapolis, MD 21405

Location (waterside):
South Shore of Round Bay

Nearest major body of water:
Severn River



Vicinity Map
1" = 1,500'

2.1.1. Introduction

Brewer Pond Natural area is located in central Anne Arundel County on the shore of Severn River in an area referred to locally as 'Round Bay'. It is a 50-acre parcel with approximately 2,200 linear feet of shoreline along Round Bay and 4,800 linear feet of shoreline along Brewer Pond. The nearest water access launching point to Brewer Pond Natural Area is down river at Jonas and Anne Catharine Green Park on the Severn River or Tucker Street Boat Ramp on Weems Creek.

2.1.2. Park Features

Brewer Pond Natural Area can be accessed by paddlers from the Severn River and Round Bay. Sahlin Farm Road provides land access to the western side of the site and services approximately 12 residential homes. White-capped posts (Photo 1) mark a public access right of way (R.O.W.) to follow to the park entrance (Photo 2).

The site can also be accessed by water from Beach Road in Sherwood Forest. There is a small parking lot and kayak launch off Beach Road that provides direct access to Brewer Pond, though this is a private community and is only accessible to Sherwood

Forest residents. The closest public launch points at Jonas and Anne Catharine Green Park and Tucker Street are a little over four miles down river in Annapolis, MD.

The site is completely forested. The northern portion of the site is located on the Severn River and contains approximately 600 feet of marsh grasses that begin at the mouth of Brewer Pond and are protected by stone structures (Photo 3). Heading west on the Severn River, the site contains a small sandy beach area (Photo 4), and the rest of the shoreline is characterized by very steep eroding banks with falling trees (Photos 5 & 6).

The section of shoreline that runs along Brewer Pond is forested with tall, eroding banks that do not provide easy access to the water from the site. The headwaters of the pond contain marsh grasses (Photo 7) and other areas of natural shoreline (Photo 8).

Photo 1 – Park R.O.W. delineated by white-capped posts

Photo 2 – Park Entrance

Photo 3 – Submerged sills along Severn River shoreline

Photo 4 – Beach area along Severn River

Photo 5 – Steep banks along Severn River

Photo 6 – Typical shoreline along Brewer Pond

Photo 7 – Phragmites Marsh along Brewer Pond shoreline

Photo 8 – Natural Shoreline within Brewers Pond.

2.1.3. Environmental Analysis

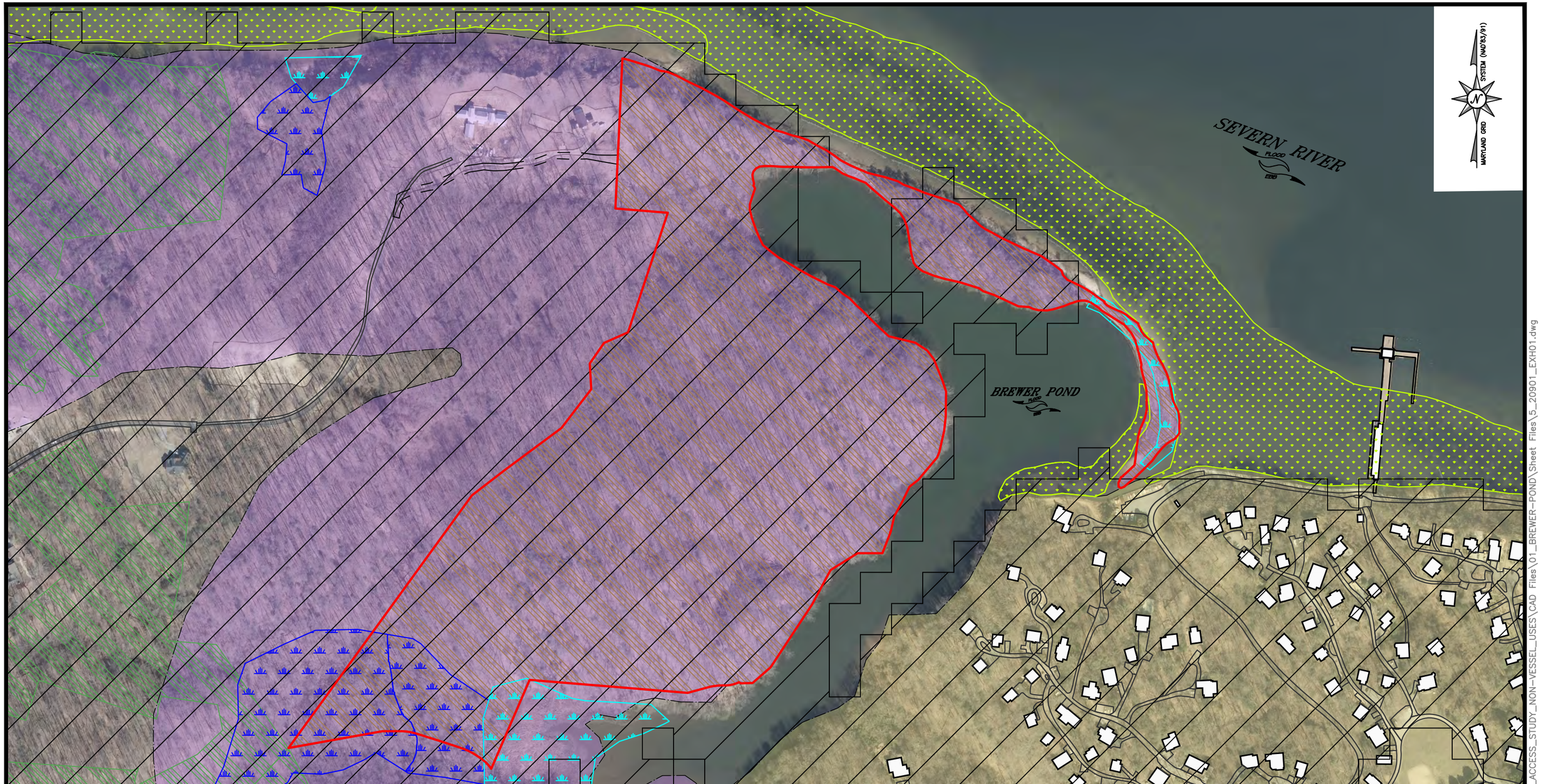
The park is located on an environmental trust easement (Figure 2). This means that the land is to be permanently protected as natural habitat and preserved as open space for the public to enjoy. The park also lies in a Resource Conservation Area (RCA). These are natural environments or areas where resource-utilization activities, such as agriculture, forestry, fisheries, and aquaculture activities take place and are considered protected. Review of VIMS SAV shows that SAV has been present since 1990 and before that, between 1978 and 1979. The northwest and southeast corner of the park contain mapped wetlands classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P). The southern portion of the park also contains forested, non-tidal wetlands covered with broad-leaf deciduous plants that are temporarily flooded (PFO1R) or seasonally flooded from tidal influences (PFO1A). Data from the DNR MERLIN online resource classifies the majority of the park as having Forest Interior Dwelling Species (FIDS). Maryland Coastal Atlas shows

Brewer Pond is habitat for juvenile herring and white perch, as well as adult tidal finfish. Brewer Pond and the entirety of the Severn River are an oyster sanctuary.

Available data shows the property is an Environmental Trust Easement. According to the property deed, any conversion of land use may be approved only after the county replaces the land with land of at least equivalent area and of equal recreation or open space value.

To gather additional information regarding rare, threatened, or endangered species, and critical habitats within the site, a trilogy letter was submitted to DNR with the site boundary and a description of the possible non-vessel dependent water activities. DNR determined that there are no official State or Federal records for listed plant or animal species within the site, but their remote analysis suggests that the forested area on the property contains Forest Interior Dwelling Bird habitat.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. There may be additional considerations during the federal permitting process to account for these species.



LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 2
BREWER POND
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/14/24	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 10/14/24	

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2.1.4. Cultural & Historical Analysis

MEDUSA shows no historic properties on site. MHT's response to further inquiry confirms there are no historic properties of concern.

2.1.5. Concept

The proposed concept for Brewer Pond is shown in Figure 3 and intends to formalize a Severn River Water Trail (Figure 4). There is a sandy area along the Severn River that is an easy landing for those passing (Photo 4). There are two other low points along Brewer Pond that could be informal landing spots (Photos 9, 10). A formalized landing spot can be denoted with additional sand fill and signage. Blazed nature trails to reach the rest of the park can be forged.

Increased land access is possible with the creation of a few parking spots in the R.O.W. (Photo 11). A small fence to delineate angle-in parking would be enough to satisfy the demand of this park. Improved signage and larger posts will help park users in staying within the R.O.W. to access the park. Immediately inside the park boundary, there is a possible amenity area where picnic tables or benches could be added for users to enjoy nature and water views (Photo 12). Regular mowing and maintenance would be required to keep the area clear. Blazed nature trails from the clearing can provide access to the water.

LEGEND

- PARK BOUNDARY
- PR. KAYAK LANDING
- PR. AMENITY AREA (PICNIC TABLES, BENCHES)
- PR. NATURE TRAIL
- PR. PARKING

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 3
BREWER POND
CONCEPT PLAN

DRAWN BY: GK	DATE: 01/10/25	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 01/10/25	

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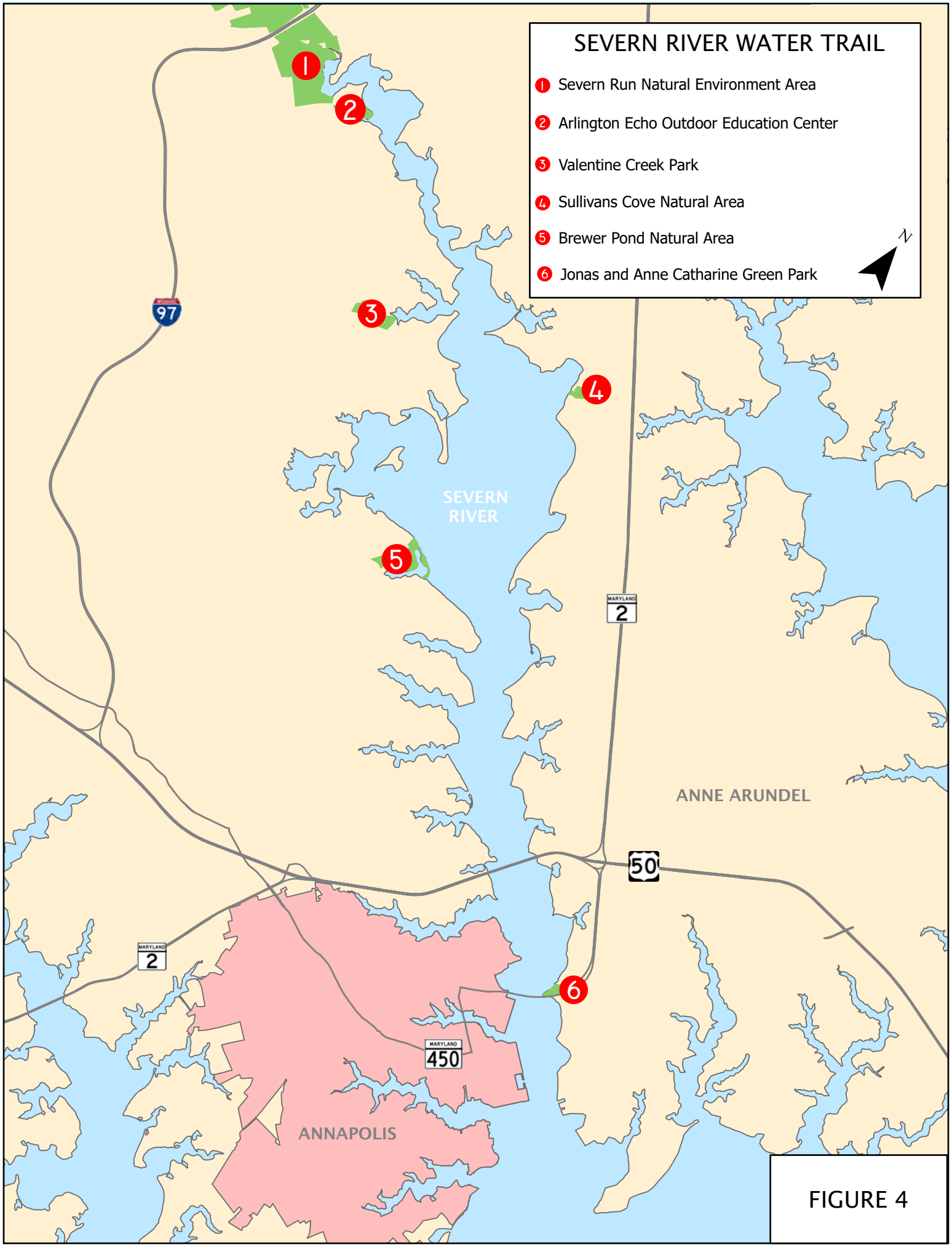

SEVERN RIVER WATER TRAIL
1 Severn Run Natural Environment Area
2 Arlington Echo Outdoor Education Center
3 Valentine Creek Park
4 Sullivans Cove Natural Area
5 Brewer Pond Natural Area
6 Jonas and Anne Catharine Green Park
N
SEVERN RIVER
ANNE ARUNDEL
ANNAPOLIS
97
MARYLAND 2
MARYLAND 2
50
MARYLAND 450

FIGURE 4

Photo 9 – Low point for possible landing

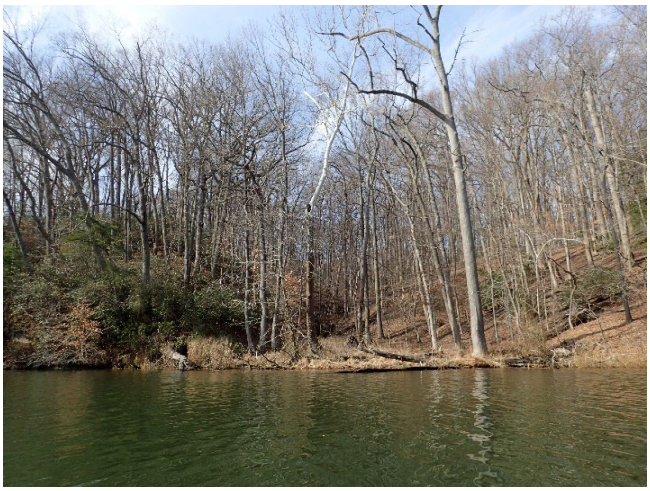


Photo 10 – Low point for possible landing

Photo 11 – Proposed parking area within R.O.W.

Photo 12 – Clearing for picnic tables and benches

2.1.6. Project Constraints

After an initial review of the project site and scope of work, DNR stated that due to the presence of FIDS within the park, any site development will need to consider *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area* and development impacting the resources in these sensitive areas will require mitigation. Since the proposed park features do not involve any tree clearing or development, mitigation would not be necessary. The natural environment would remain preserved.

As stated in the environmental analysis, two endangered species were listed in the park; the Northern Long-eared Bat and Monarch Butterfly. The proposed concept would not impact the habitat of the northern long-eared bat, therefore, no further consultation would be required. For the Monarch Butterfly, further coordination with the Chesapeake Bay Ecological Services Field Office would be required to determine if the project may result in impacts.

2.1.7. Cost Estimate

Costs associated with this park, shown in Table 1, include the various amenities and sand required to delineate a landing area. Blazed trails are anticipated to be completed by park staff utilizing park resources. Mowing the clearing and the subsequent maintenance mowing is also anticipated to be completed by park staff utilizing park resources.

Table 1 – Brewer Pond Natural Area Cost Estimate				
Description	**Estimated Quantity**		**Unit Cost**	**Cost**
Bench	2	EA	$2,000	$4,000
Picnic Table	2	EA	$3,000	$6,000
Sand Fill	100	CY	$150	$15,000
			Subtotal	**$25,000**
			20% Contingency	$5,000
			Total	**$30,000**

**Includes 30% Allowance for Permitting and Design*

2.1.8. Conclusion

Brewer Pond Natural Area is an undeveloped, natural park that can be accessed from Sahlin Farm Road or by water from the Severn River and Brewer Pond. The park currently has no official water access amenities and rarely receives visitors.

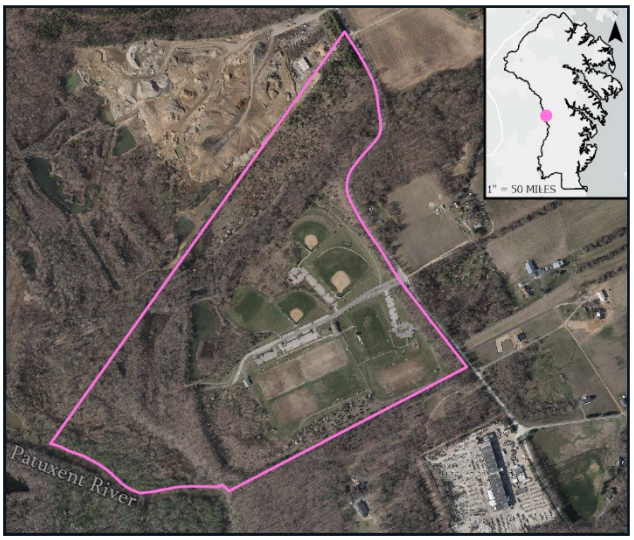
There are three areas of opportunity to create formalized kayak landing spots and a large clearing that could be enhanced with a picnic table and benches for park visitors to utilize and enjoy water views. Nature trails could be blazed from the clearing to provide access to the kayak landings on the water. The proposed concept would attract visitors to enjoy this park's water views and would create minimal environmental disturbance, as no tree clearing or grading would be required.

2.2. Site 2: Davidsonville Park

Location:
3042 Patuxent River Rd
Davidsonville, MD 21035

Location (waterside):
North Shore of Patuxent River

Nearest major body of water:
Patuxent River



Vicinity Map
1" = 2,000'

2.2.1. Introduction

Davidsonville Park is a 128-acre park on the north shore of the mid-river section of the Patuxent River. There is approximately 1,500 linear feet of shoreline along the Patuxent River. The shoreline is forested and consists of steep, eroding banks. The park features a car top boat launch and access along the Patuxent River Water Trail (Appendix A).

2.2.2. Park Features

Patuxent River Road leads to Bob Bradshaw Way, the main road through Davidsonville Park. The park features baseball fields, soccer fields, a playground, picnic pavilions, and restrooms; port-a-potties in the offseason. A paved trail loops around the park (Photo 13). From the southern-most parking area, the trail splits to the north and to the south. Following the trail north loops around a pond (Photo 14) filled with turtles and other wildlife, but it is not stocked by DNR for fishing opportunities.

Following the trail to the south connects to the car top boat launch, with a staircase and a kayak slide to the banks of the Patuxent River (Photos 15 & 16). From the parking area to the staircase is approximately a quarter mile. The access point is a narrow, low point along the shoreline surrounded by banks vary from 3 to 5 feet tall (Photos 17 & 18).

Photo 13 – Paved trail to car top boat Launch (L) Paved trail to pond (R)

Photo 14 – Small pond in SW corner of park

Photo 15 – Staircase to boat launch with kayak slide

Photo 16 – Dirt path from stairs to water

Photo 17 – Car top boat launch

Photo 18 – High banks along river

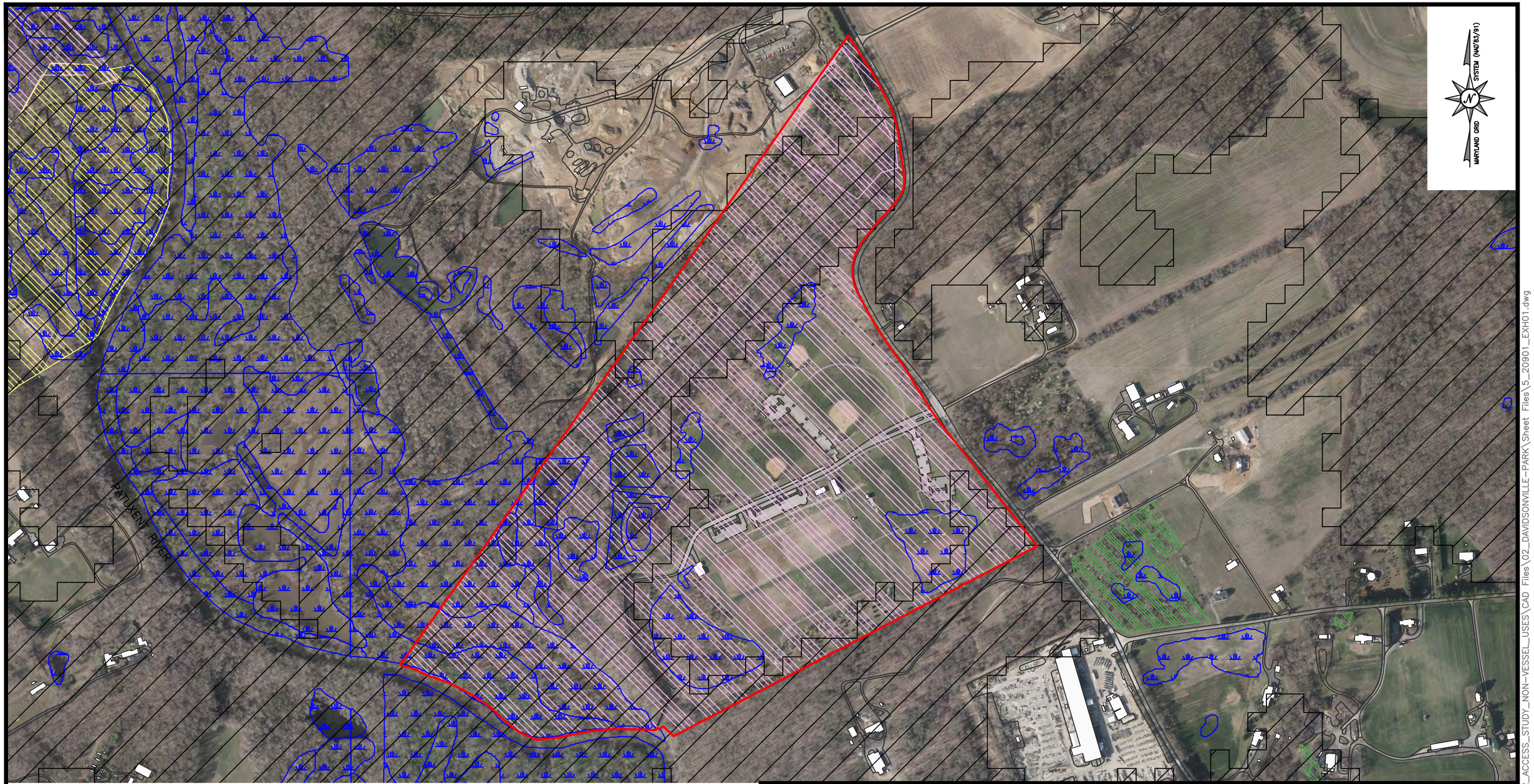
2.2.3. Environmental Analysis

Davidsonville Park is classified as a local protected land by the County, protecting it from future development (Figure 5). Local protected lands are parcels that are subject to a preservation easement and are owned by federal, state, or local government.

Review of VIMS SAV data shows there is no SAV present between 1971 and 2021. Immediately along the Patuxent River within the park, there are mapped wetlands classified as PFO1C and PFO1A. These are forested, non-tidal wetlands covered with broad-leaf deciduous plants that are seasonally flooded (PFO1C) or seasonally flooded from tidal influences (PFO1A). Data from the DNR MERLIN online resource classifies the forested areas of the park as having Forest Interior Dwelling Species (FIDS) (Figure 5).

To further the search with DNR beyond the data provided from the MERLIN online tool, a trilogy letter was submitted with the site boundary and a description of the possible recreational activities. The response from DNR indicates no additional area of concern outside of those found in MERLIN. According to their response, the conservation of FIDS throughout Maryland is strongly encouraged by the Wildlife and Heritage Service.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. There may be additional considerations during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.



LEGEND

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- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 250 500 1000

(IN FEET)

1 inch = 500 feet

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FIGURE 5
DAVIDSONVILLE PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 08/12/24	SCALE: 1" = 500'
CHECKED BY: CR	DATE: 08/12/24	

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2.2.4. Cultural & Historical Analysis

MEDUSA was referenced to gather details regarding historical and cultural resources within the site in addition to an inquiry to MHT. A search from the interactive map revealed that the majority of the park, with the exception of the shoreline along the Patuxent River, falls within the National Register of Historic Places. It was also found that the site contains archeological deposits of importance to understanding the evolution of the American Indian Society in the Mid- Atlantic region. Due to these cultural and historic resources identified within the property, further review would be required prior to any construction within the park.

An inquiry to MHT was submitted for additional information regarding the site. MHT responded to inquiry, confirming that this property would require further review prior to any construction due to prehistoric and historic archeological sites being identified within the study area.

2.2.5. Concept

Davidsonville Park is a marked stop along the Patuxent River Water Trail. The concept plan (Figure 6) shows the park has plenty of amenities, but only two water access spots: one at the pond and one at the existing car top boat launch. The loop around the pond can be improved with informational signs teaching park users about local wildlife and native plants. Additional observation piers in the pond can bring park users even closer to the water. If the pond were to be stocked with fish by DNR, these could be built as fishing platforms and provide park users with an accessible opportunity to fish, as the only existing fishing area is currently at the riverbank.

Improvements to the car top boat launch site using sand fill to widen it and make it more uniform in depth would make launching easier. It may also be helpful to paddlers to include a larger map of the Patuxent River Water Trail at the site. From the kayak launch, a small boardwalk could be built to cross an outfall to the river and onto the riverbank (Figure 6). A half mile nature trail through the meadows on the riverbank would introduce park users to different wildlife and water views (Photos 19 & 20). No tree clearing would be required but fallen trees and wood debris would need to be cleaned up along this area to make it a walkable path.

EX. CONDITIONS AT AREA OF PR. BOARDWALK

PR. BOARDWALK (IMAGE CREATED WITH PHOTOSHOP)

PR. BOARDWALK

PR. OBSERVATION PLATFORMS

PATUXENT RIVER RD

PATUXENT RIVER

0.46 MILE NATURE TRAIL

IMPROVE EX. KAYAK LAUNCH

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- EX. KAYAK LAUNCH
- PR. NATURE TRAIL
- EX. NATURE TRAIL
- PR. BOARDWALK

GRAPHIC SCALE

0 250 500 1000

(IN FEET)

1 inch = 500 feet

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FIGURE 6
DAVIDSONVILLE PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 10/10/24	SCALE: 1" = 500'
CHECKED BY: CR	DATE: 10/10/24	

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Photo 19 – Area of proposed nature trail

Photo 20 – Area of proposed nature trail

2.2.6. Project Constraints

No tree clearing would be required for the proposed kayak launch improvements. The proposed nature trail and observation platforms may require mitigation, as both features would be within non-tidal wetlands and FIDS. Impacts to the wetlands would be minimal, as the proposed trail is on the edge of the parcel where there is currently a walkable grass path. No tree clearing would be required for any of the proposed features.

As stated in the environmental analysis, two endangered species were listed in the park; the Northern Long-eared Bat and Monarch Butterfly. The proposed concept would not impact the habitat of the northern long-eared bat, therefore, no further consultation would be required. For the Monarch Butterfly, further coordination with the Chesapeake Bay Ecological Services Field Office would be required to determine if the project may result in impacts.

Findings from the cultural and historical analysis also suggest possible constraints. With a large portion of the park falling within the National Register of Historic Places and evidence of historical archeological deposits, further review with MHT including a submittal of the proposed park features is necessary and may result in the need for field investigations.

2.2.7. Cost Estimate

The cost estimate for this park (Table 2) includes three (3) observation platforms, a timber bridge, one (1) bench, and adding sand to the cartop boat launch. The blazed nature trail along the water is anticipated to be completed by park staff utilizing park resources. There will be additional operational costs if the pond is stocked with fish.

Table 2 – Davidsonville Park Cost Estimate				
Description	**Estimated Quantity**		**Unit Cost**	**Cost**
Timber Observation Platform* (N)	425	SF	$150	$63,750
Timber Observation Platform* (Center)	400	SF	$150	$60,000
Timber Observation Platform* (S)	400	SF	$150	$60,000
Timber Bridge*	750	SF	$200	$63,750
Bench	1	EA	$2,000	$2,000
Sand Fill	30	CY	$150	$4,500
			Subtotal	**$254,000**
			20% Contingency	$50,800
			Total	**$304,800**

**Includes 30% Allowance for Permitting and Design*

2.2.8. Conclusion

Davidsonville Park receives a fair amount of use on its paved trails and sports fields, but currently provides minimal opportunities to enjoy the water from its shoreline and pond. The proposed concept includes enhancements to the pond including informational signs, observation piers and possible fishing opportunities. The existing car top boat launch could be improved to make launching easier by widening it and a nature trail could be made along the Patuxent River utilizing the existing cleared grassy path.

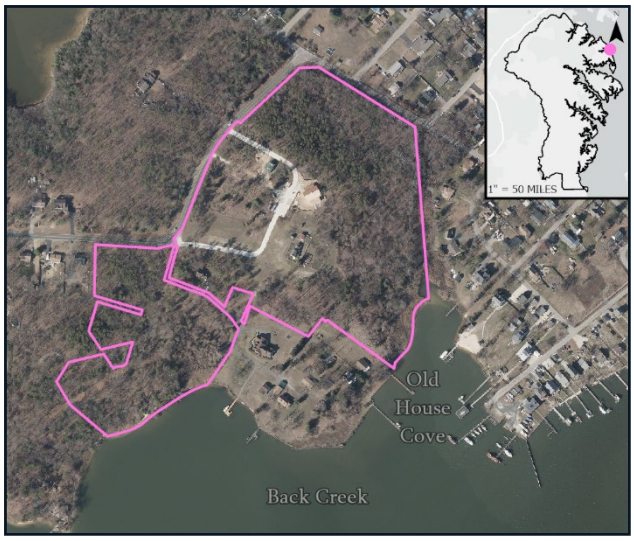
With the park being a designated spot on the Patuxent River Water Trail, these enhancements would attract more visitors to enjoy the pond and the 1,500 feet of shoreline that the park has to offer.

2.3. Site 3: Hancock's Resolution Historic Farm Park

Location:
2795 Bayside Beach Road
Pasadena, MD 21123

Location (waterside):
Old House Cove/North shore of Back Creek

Nearest major body of water:
Patapsco River/Chesapeake Bay



Vicinity Map
1" = 1,000'

2.3.1. Introduction

Hancock's Resolution Historic Farm Park is 26 acres segmented into two parcels with approximately 800 linear feet of shoreline divided between the two parcels. It is in NE Anne Arundel County along the shores of Back Creek.

Water access to the park is possible from Downs Park, approximately 1.4 miles south of the site, or Fort Smallwood Park, 2.5 miles north of the site. From Downs Park, paddlers can launch from Locust Cove and paddle through Bodkin Creek or Bay Side Beach and paddle up the Chesapeake Bay. From Fort Smallwood Park, paddlers would travel south along the Patapsco River from either of its two launches.

2.3.2. Park Features

Hancock's Resolution Historic Farm Park is a popular destination due to its rich history of early English settlers in the region. The entrance to the park is from Bayside Beach Road. There is a parking lot approximately 500 feet from the entrance. The new visitors center (Photo 21) sits in the northeast corner of the gravel parking area. In the center of the park, south of the visitors' center, is the original farmhouse and surrounding gardens (Photo 22). The farmhouse is open to the public and provides educational opportunities on the lives of early English settlers in the area. The water access is approximately 500' southeast of the main house along an existing path. Throughout the park, there are numbered posts to help lead parkgoers on a self-guided tour. Post 7 leads to the car top boat launch (Photo 23). The existing launch area is a small sandy beach (Photo 24).

The sign at the car top boat launch has "Launch" covered in blue tape, indicating that the park may not want visitors launching from this location (Photo 25). It appears that this spot may be designated as a kayak landing, though this is unclear from the

signage. South of the car top boat launch is the edge of the park property. North of the launch is a natural area of coastal shrubs and wetlands.

The southern half of the park has additional water access opportunities. Before the entrance to the main area of the park on Bayside Beach Road, there is a parcel off Point Lookout Cove Road. Point Lookout Cove Road is a narrow dirt road, with Private Drive/Do Not Enter Signs past the park property (Photo 26). There are two existing paths leading to a beach area. Besides a small sandy area, the remaining shoreline in this area of the park is wetlands (Photos 27 & 28).

2.3.3. Environmental Analysis

Hancock's Resolution Historic Farm Park is a local protected land owned by Anne Arundel County and is subject to preservation easements. This land classification protects the park from future development. Review of VIMS SAV shows presence of SAV between 2017 and 2022, and historically between 2004 and 2009. Mapped wetlands show E2EM1P in Old House Cove. These are characterized by higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water. Data from the DNR MERLIN online resource classifies the entirety of the park as having Forest Interior Dwelling Species (FIDS). Maryland Coastal Atlas shows Back Creek and Old House Cove are habitats for juvenile herring and white perch, as well as adult tidal finfish. The same waters are also a documented waterfowl area. Figure 7 highlights the areas identified above.

For information regarding rare, threatened, or endangered species, and critical habitats, the trilogy letter submitted to DNR with the site boundary and a description of the possible non-vessel dependent water activities indicated the presence of FIDS and two watchlist native plant species; *Galactia volubilis* and *Lespedeza stuevei*.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed two endangered species and one at-risk species in the park; Indiana Bat, Northern Long-eared Bat, and Monarch Butterfly, respectively. Additional coordination during the federal permitting process to account for these species will be required should a project be initiated. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

BOYD POND

BACK CREEK

FLOOD

EBB

MARYLAND GRID SYSTEM (NAD83/91)

N

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 7
HANCOCK'S RESOLUTION PARK ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 08/12/24	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 08/12/24	

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2.3.4. Cultural & Historical Analysis

A search of the property on the MEDUSA online interactive map revealed the site falls entirely within a Maryland Heritage Area. Part of the property also falls within an MHT Preservation Easement and the National Register of Historic Places. There are two buildings on the property listed on Maryland's Inventory of Historic Places. The inquiry to MHT requesting additional information confirms that this property would require further review prior to any construction due to prehistoric and historic archeological sites being identified within the study area.

Photo 21 – Visitors center

Photo 22 – Rear of main house

Photo 23 – Self-guided tour post 7

Photo 24 – Car top boat launch area

Photo 25 – Car top boat launch sign

Photo 26 – Sign along Point Lookout Cove Road


Photo 27 – Small beach area in south parcel


Photo 28 – Wetlands along shoreline in south parcel

2.3.5. Concept

The concept plan (Figure 8) shows proposed amenities to increase recreation. Adding picnic tables to the waterfront (Photo 29) would provide a spot for picnicking while taking a break from exploring the Park's historical amenities. The addition of a small pier and a dry dock area for car top vessels would make this park a destination for paddlers from surrounding neighborhoods. There is also a public kayak launch at Downs Park that would provide paddlers an approximate 1.5-mile kayak route through calm waters of Bodkin Creek and Old House Cove.

Additional amenities could be added to the southern parcel of the park. As there is no close parking available, access to the beach would require walking blazed trails (Photo 30). A looped nature trail through this area would let park users access the beach and enjoy water views. The small pier could be added to this portion of the park to create additional water access.

Photo 29 – Area for picnic tables

Photo 30 – Blazed trail in south parcel

LEGEND

- PARK BOUNDARY
- EX. KAYAK LAUNCH
- PR. NATURE TRAIL
- EX. NATURE TRAIL
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 8
HANCOCK'S RESOLUTION PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 01/10/25	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 01/10/25	

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2.3.6. Project Constraints

There are a few concerns that were identified in the environmental and historical analysis that should be taken into consideration prior to moving forward with the concept. As noted previously, the site contains FIDS and two watchlist native plant species; *Galactia volubilis* and *Lespedeza stuevei*. Any site development will need to consider *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*. Development impacting the resources in these sensitive areas will require mitigation.

With the property being categorized as a historic preservation easement, any work conducted within the property must be reviewed by MHT's Easement Committee and approved by its director. This process requires a "Change or Alteration Application Form" during the permitting process.

2.3.7. Cost Estimate

The costs for this park, shown in Table 3, include picnic tables to be placed near the existing car top boat launch. The concept plan details two possible locations for the pier. Additional blazed trails through the southern portion of the park are anticipated to be created by park staff using park resources.

Table 3 – Hancock's Resolution Historic Farm Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fixed Pier*	700	SF	$150	$105,000
Picnic Table	2	EA	$3,000	$6,000
			Subtotal	**$111,000**
			20% Contingency	$22,200
			Total	**$133,200**

**Includes 30% Allowance for Permitting and Design*

2.3.8. Conclusion

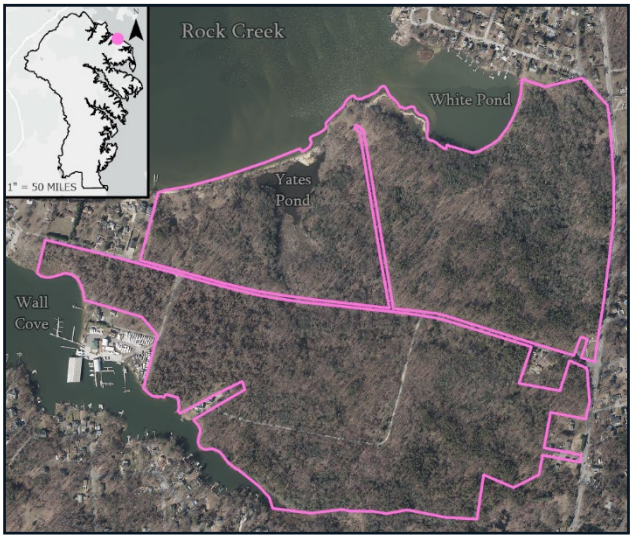
Hancock's Resolution Historic Farm Park is a popular destination and has various opportunities along its 800 feet of shoreline to increase water access. The concept includes adding picnic tables to the waterfront, a small pier, and a blazed trail. These proposed features would enhance the existing waterfront areas without disrupting the environment or historical structures.

2.4. Site 4: Henry and Jeanette Weinberg Park

Location:
582-598 River View Road
Pasadena, MD 21122

Location (waterside):
South shore of Rock Creek

Nearest major body of water:
Patapsco River



Vicinity Map
1" = 2,000'

2.4.1. Introduction

Henry and Jeanette Weinberg Park is located in NE Anne Arundel County and has 233 acres segmented into five parcels. The south boundary of the park has 2,000 feet of shoreline along Wall Cove and the north boundary of the park has 3,900 feet of shoreline along Rock Creek and White Pond. Access by water to the park is possible from nearby Fort Smallwood Park, approximately 0.5 miles north of the site.

2.4.2. Park Features

Fairview Beach Road is a paved road that runs through the middle of the park. At Honolulu Lane, there is a primary gate and a secondary gate leading into the park (Photo 31). When the primary gate is open, there is off-street parking available for approximately 10 cars. On either side of the gate there are roughly 6 street spots. From the secondary gate to the clearing at the end of Honolulu Lane (Photo 32) is a quarter mile walk down the dirt road.

The shoreline along at the clearing at the end of Honolulu Lane is armored with stone (Photo 33). West of Honolulu Lane, there is a staircase leading to a path to the water (Photo 34). Marsh plantings and woody debris mark the shoreline. After roughly 230 feet, the shoreline opens to Yates Pond (Photo 35). West of Yates Pond the shoreline consists of marsh plantings that lead to steep, eroded banks (Photo 36) littered with woody debris. Approximately 1,000 feet past Yates Pond, the high banks give way to a sandy beach with easy access to the clearing at the end of Dause Lane (Photo 37). Dause Lane is a dirt road with a gate off Fairview Beach Road.

East of Honolulu Lane, there is a small sandy shoreline to be used as an informal car top boat launch, but no signage (Photo 38). This is the section of shoreline closest to the parking and most accessible to car top vessels. East of the launch, there is a section of marsh plantings, then a small beach (Photo 39) before more marsh leading to the edge of the park.

Access to the small beach is available from the vast network of trails in the northern half of the park. There are small trailheads numbered 1-10 that interconnect throughout the park (Photo 40). Trails 1 and 2 originate from Fairview Beach Road. There are no sidewalks along the road. Trails 3 and 4 originate from the west side of Honolulu Lane. Trails 5-10 are in the northeast corner of the park. There are entrances to trails off Fort Smallwood Road, near the intersections of Arundel Road and Fort Smallwood Road, as well as across from a private driveway north of North Ave, but south of the intersection of Cremen Road and Fort Smallwood Road.

There is no parking to access the southern parcel of the park along Wall Cove nor any trails to explore the area. The areas of shoreline on this side of the park are mostly comprised of phragmites marsh (Photos 41 & 42) with a few natural beach areas in Wall Cove (Photo 43).

Photo 31 – Honolulu Lane looking north

Photo 32 – Clearing at end of Honolulu Lane

Photo 33 – Stone revetment along northern point

Photo 34 – Existing path to Yates Pond

Photo 35 – Yates Pond meeting with Rock Creek

Photo 36 – Higher banks at west of Yates Pond

Photo 37 – Beach area at end of Dause Lane

Photo 38 – Informal car top boat launch

Photo 39 – Small beach at White Pond

Photo 40 – Trailhead marker

Photo 41 – View of SW shoreline from Fairview Marina

Photo 42 – View of SE shoreline from Fairview Marina

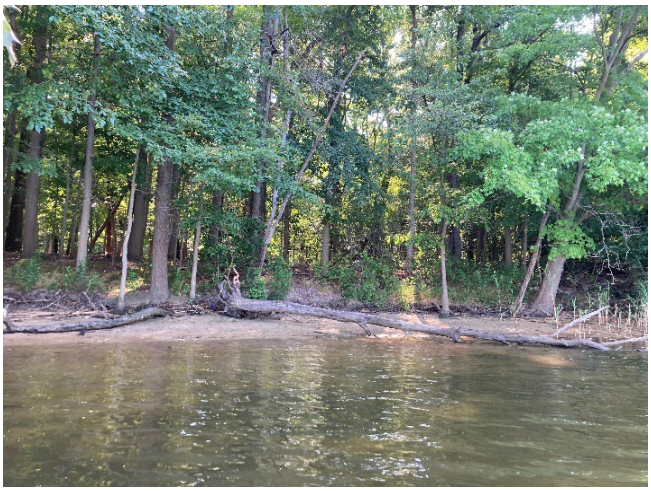
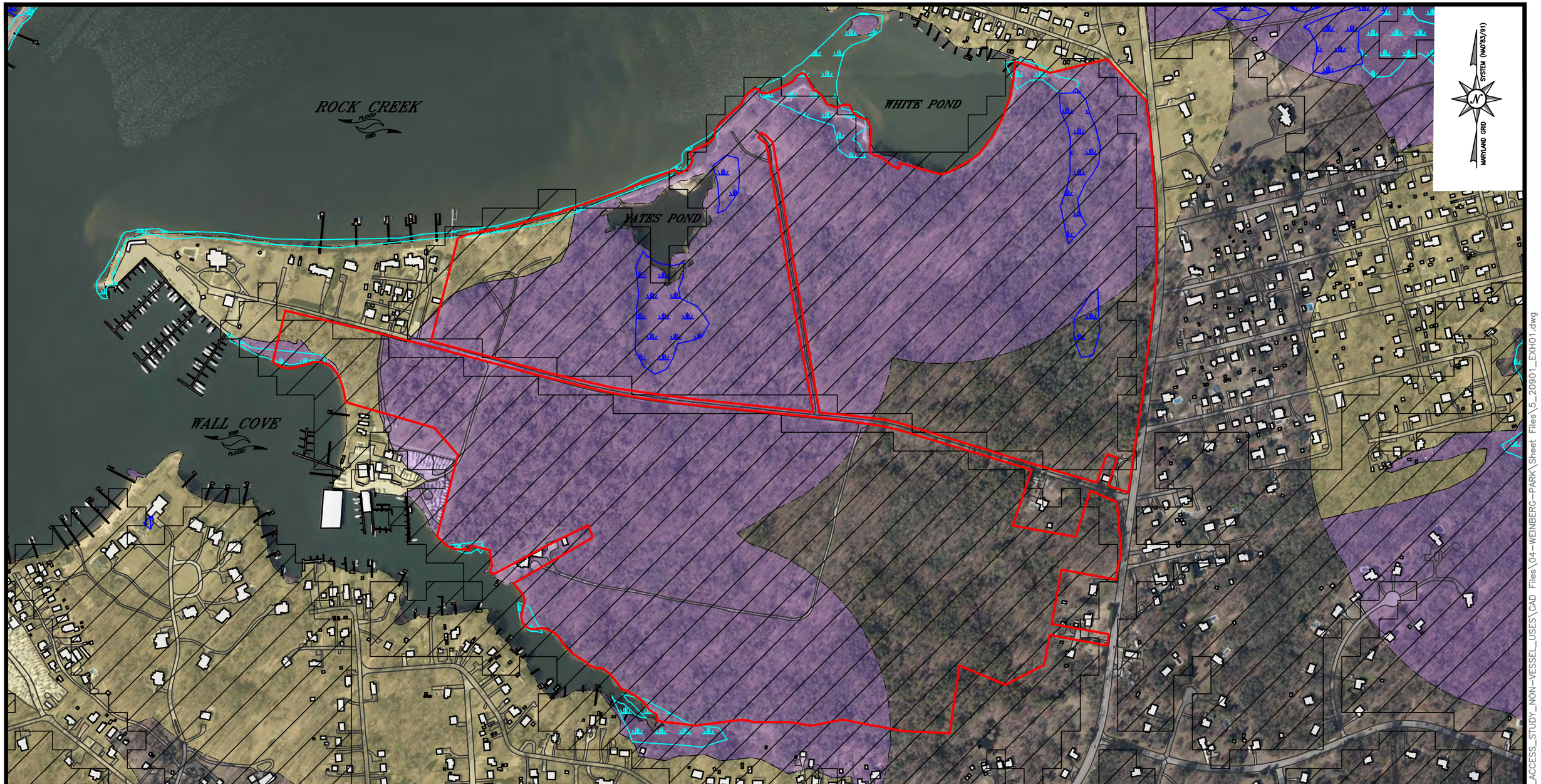


Photo 43 – Natural beach area in Wall Cove

2.4.3. Environmental Analysis

The majority of the park lies within a Resource Conservation Area (RCA), while smaller portions of the park lie within a Limited Development Area (LDA) (Figure 9). This limits development to a low or moderate intensity, allowing for redevelopment of land that is consistent with the prevailing character of land use. Review of VIMS SAV show that SAV was historically present intermittently, but not since 2005. Data from the DNR MERLIN online resource classifies the entirety of the park as having Forest Interior Dwelling Species (FIDS). As with the previous sites, a trilogy letter was submitted to DNR to request more information regarding species and critical habitats within the site. DNR's response confirms the site contains FIDS.

Data from Maryland Coastal Atlas shows the surrounding waterways provide habitat to multiple species. Specifically, Rock Creek, White Pond, and Wall Cove provide habitat for juvenile White Perch and herring. Wall Cove and Rock Creek provide habitat for adult tidal finfish, and Rock Creek is a documented waterfowl concentration area.



LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE
0 250 500 1000
(IN FEET)
1 inch = 500 feet

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FIGURE 9
HENRY & JEANETTE WEINBERG PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 08/12/24	SCALE: 1" = 500'
CHECKED BY: CR	DATE: 08/12/24	

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Wetlands mapped along Wall Cove and White Pond are classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P). Wetlands along Rock Creek and the majority of the northern shoreline of the park are classified as intertidal on a sandy, unconsolidated shore that is irregularly flooded (E2US2P). Surrounding Yates Pond are mapped wetlands classified as seasonally flooded, non-tidal, persistent emergent marshes (PEM1E). Throughout the park, there are also forested, non-tidal wetlands covered with broad-leaf deciduous plants that is seasonally flooded (PFO1E) or seasonally flooded from tidal influences (PFO1R).

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly, respectively. There may be additional coordination needed during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

2.4.4. Cultural & Historical Analysis

Utilizing MEDUSA showed no areas of concern within the property. Additional information requested from MHT stated that this property would require further review prior to any construction due to prehistoric and historic archeological sites being identified within the study area.

2.4.5. Concept

The concept plan for this park highlights the concentration of amenities north of Fairview Beach Road (Figure 10). The existing informal car top boat launch, east of Honolulu Lane, can be formalized by maintaining a wider access path and adding signage. In addition to this car top boat launch, there are a few areas in Weinberg Park that could serve as landing areas. A formalized water trail connecting Fort Smallwood and Weinberg Park showing these landings, like Figure 11, can be posted online and at the parks.

The largest section of shoreline for a kayak landing is west of Honolulu Lane along Yates Pond. This area currently has limited launching capability as there is only a narrow path through the marsh from Honolulu Lane after the quarter mile walk from the parking area to the water. To formally launch from the site, the path would need to be widened and cleared to make it a more accessible area.

The clearing at the end of Honolulu Lane could benefit from amenities such as picnic tables, benches, and port-a-potties. The addition of a pier in this area will provide fishing opportunities but can also be used as transient docking which would allow people to access the park by boat.

Another potential kayak landing is at the far NW corner of the car. The beach at the end of Dauses Lane is wide and easily accessible. The clearing at the end of Dauses Lane would benefit from amenities such as picnic tables, benches, and port-a-potties.

LEGEND

- PARK BOUNDARY
- PR. NATURE TRAIL
- PR. BOARDWALK
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)
- PR. KAYAK LANDING
- PR. PARKING
- EX. NATURE TRAIL

GRAPHIC SCALE
0 250 500 1000
(IN FEET)
1 inch = 500 feet

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FIGURE 10
HENRY & JEANETTE WEINBERG PARK
CONCEPT PLAN

DRAWN BY: GK/JH	DATE: 01/10/25	SCALE: 1" = 500'
CHECKED BY: CR	DATE: 01/10/25	

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Figure 11 – Proposed Weinberg Water Trail

A third potential kayak landing in the north half of the park is east of Honolulu Lane at the small beach on White Pond (Photo 39). The beach is sheltered and has calmer water.

A kayak landing on the south shoreline of the park would expand paddling opportunities into Wall Cove. The natural beach (Photo 43) is a low spot where paddlers could land easily. The southern half of the park does not have trails or clearings where amenities could be easily provided.

The trail system at Weinberg Park could be improved. The first recommendation is to formalize the trail system with larger markers, posted maps and interactive online maps to show recommended loops and respective distances. An addition of a boardwalk connecting endpoints of the trails around Yates Pond would increase water views and potential for bird watching. It would also connect to the northwest area of the park, currently only accessible by trails along Fairview Beach Road to the rest of the park.

Various shoreline improvement projects could slow erosion and provide habitat. Figure 12 shows a living shoreline along the northwest shoreline with headland structures and marsh plantings. A larger beach at Yates Pond would increase water access for both paddlers and swimmers. Figure 13 shows the proposed vegetated headland structures and marsh plantings along White Pond to protect the shoreline. The proposed path through the marsh on both concepts will provide water views and birding opportunities and further connect the park.

LEGEND

PARK BOUNDARY

NOTE: CONCEPT CREATED WITH PHOTOSHOP

GRAPHIC SCALE

0 50 100 200

(IN FEET)

1 inch = 100 feet

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FIGURE 12
HENRY & JEANETTE WEINBERG PARK
NW CONCEPT PLAN

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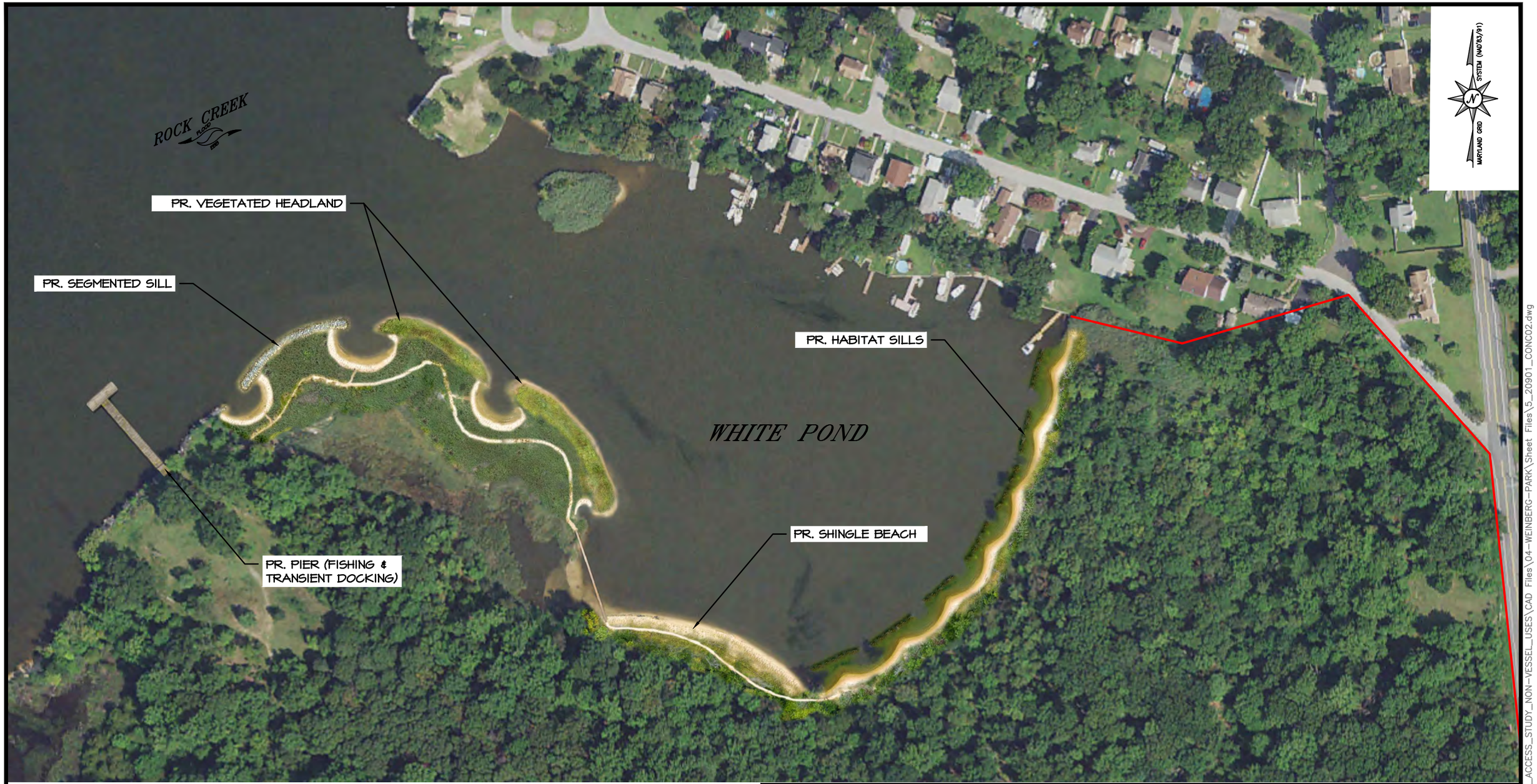
CHECKED BY: CR	DATE: 10/30/24	



LEGEND

PARK BOUNDARY

NOTE: CONCEPT CREATED WITH PHOTOSHOP

GRAPHIC SCALE
0 50 100 200
(IN FEET)
1 inch = 100 feet

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FIGURE 13
HENRY & JEANETTE WEINBERG PARK
NE CONCEPT PLAN

DRAWN BY: GK/JH	DATE: 10/30/24	SCALE: 1" = 100'
CHECKED BY: CR	DATE: 10/30/24	

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2.4.6. Project Constraints

Concerns raised by DNR and USFWS during the initial environmental analysis may affect any future construction. Since the site contains FIDS, any site development will need to consider *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*. Development impacting the resources in these sensitive areas will require mitigation. To comply with the Endangered Species Act, further coordination with the Chesapeake Bay Ecological Services Field Office to determine if the project may cause prohibited take to the Monarch Butterfly is required.

2.4.7. Cost Estimate

The cost estimate for all proposed projects in this park totals $4,700,400, as shown in Table 4.

Table 4 – Henry & Jeanette Weinberg Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fishing Pier*	1,400	SF	$150	$210,000
Timber Bridge*	2,150	SF	$200	$430,000
Bench	6	EA	$2,000	$12,000
Picnic Table	4	EA	$3,000	$12,000
Living Shoreline*	3,250	LF	$1,000	$3,250,000
Sand Fill	20	CY	$150	$3,000
			Subtotal	**$3,917,000**
			20% Contingency	$783,400
			Total	**$4,700,400**

**Includes 30% Allowance for Permitting and Design*

2.4.8. Conclusion

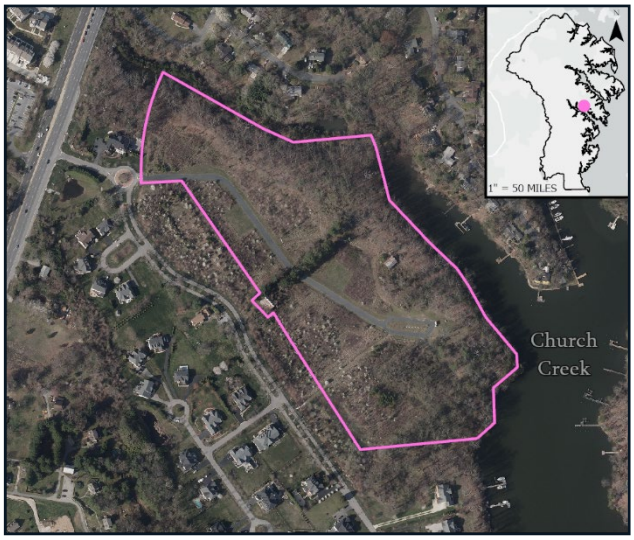
Henry & Jeanette Weinberg Park's nearly 6,000 feet of shoreline has potential for multiple kayak landing spots that could be part of a formalized water trail to connect the park to Fort Smallwood Park. Simple improvements to the existing car top boat launch, the addition of picnic tables and benches in the park's cleared areas, and shoreline improvements, would make the park a destination to paddle from. With these enhancements, along with formalizing a trail system through the wooded portions more visitors would be drawn to enjoy the extensive water views and activities that this park has to offer.

2.5. Site 5: Homeport Farm Park

Location:
11 Homeport Drive
Edgewater, MD 21037

Location (waterside):
Western shore of Church Creek

Nearest major body of water:
South River



Vicinity Map
1" = 1,000'

2.5.1. Introduction

Homeport Farm Park is a 25-acre parcel of land along the west shore of Church Creek. There is approximately 1,400 feet of shoreline along Church Creek, mainly consisting of steep, forested banks.

2.5.2. Park Features

Homeport Drive is a gravel road that provides access to Homeport Farm Park. This is a gated park with a combination lock. Completion of the Gate Access Request Form from the county website provides a code for access into the park. There is a parking area with 20 spaces and two ADA-accessible spaces (Photo 44). There are also two clearings off Homeport Drive that can be used as overflow parking if needed. East of the parking area, there is a large clearing, port-a-potty stands, and two picnic tables. North of the parking area is a trail that loops through the middle of the park and connects back to Homeport Drive. Along the trail is an abandoned barn (Photo 45).

South of the parking area is a 450-foot gravel path, with a paved section, leading to the car top boat launch (Photos 46 & 47). At the foot of the ramp is a kayak storage rack for the Canton Kayak Club, where members can borrow kayaks from the rack and return them when finished for the day. The sandy launch is 20' wide with stone sills and marsh plantings on either side (Photo 48). The existing car top boat launch provides access for non-motorized vessels to Church Creek and South River. The shoreline along the rest of the site consists of steep, tall banks (Photo 49).

Photo 44 – Parking area

Photo 45 – Abandoned barn just off of trail

Photo 46 – Signage directing towards launch

Photo 47 – Gravel/Paved ramp to launch

Photo 48 – Tandem kayak placed on launch

Photo 49 – Typical shoreline

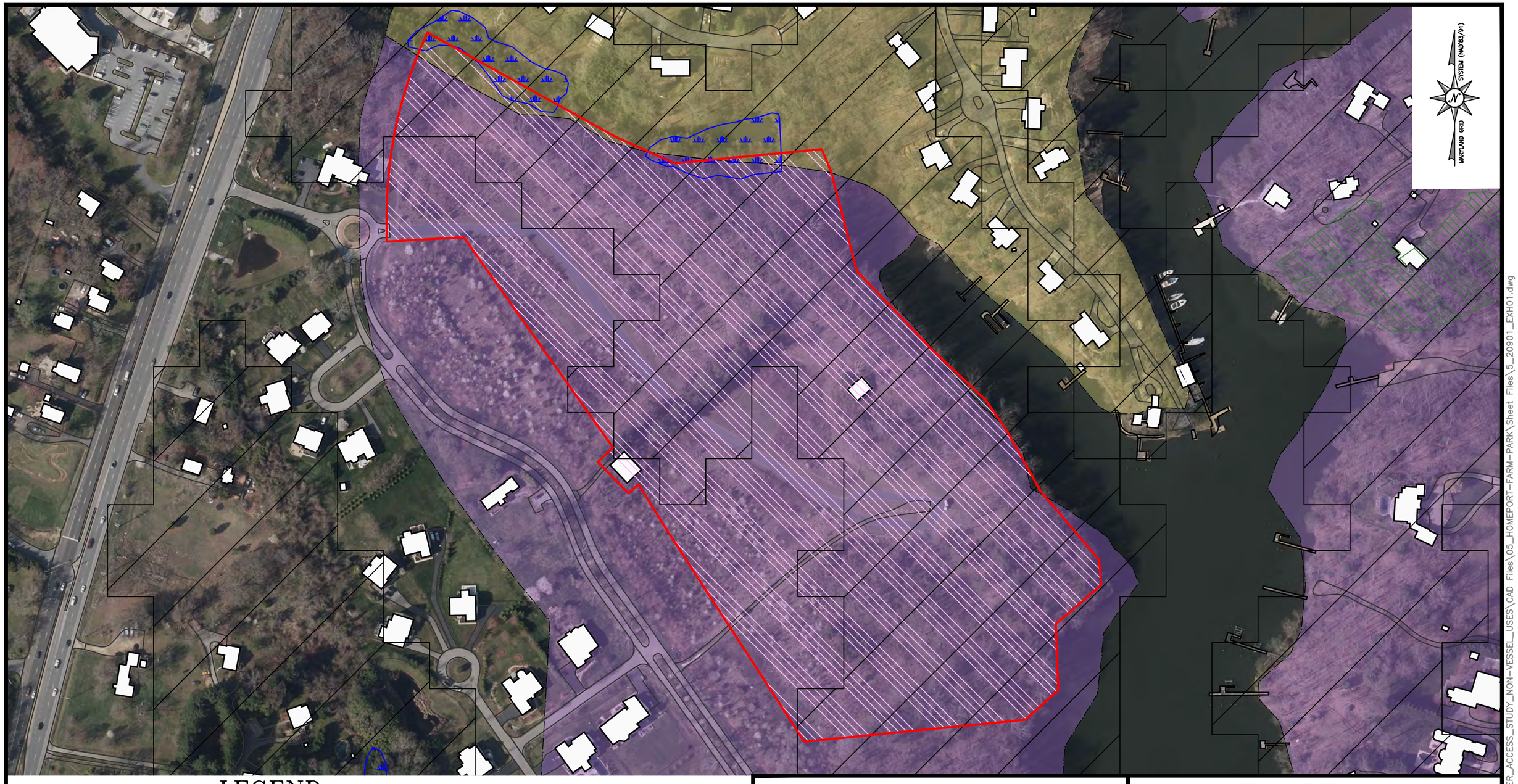
2.5.3. Environmental Analysis

Homeport Farm Park is a local protected land, protecting it from future development. It is within a Resource Conservation Area (RCA) (Figure 14), where resource-utilization activities, such as agriculture, forestry, fisheries, and aquaculture activities take place and are considered protected. Review of VIMS SAV shows no history of the presence of SAV. BayLand SAV survey conducted May 10, 2023 shows the presence of SAV. Data from the DNR MERLIN online resource classifies the majority of the park as having Forest Interior Dwelling Species (FIDS). Response from trilogy letters submitted to DNR confirms the presence of FIDS.

Maryland Coastal Atlas was used to gather information on the surrounding waterways. South River is an oyster sanctuary, as well as habitat for juvenile white perch, juvenile herring, and adult tidal finfish.

The northern edge of the park has mapped wetlands classified as PUBHh, non-tidal, unconsolidated bottom that is permanently flooded and was created or modified by a man-made barrier or dam that obstructs the inflow or outflow of water.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. Additional coordination during the federal permitting process to account for these species may be required. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.



LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE
0 100 200 400
(IN FEET)
1 inch = 200 feet

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FIGURE 14
HOMEPORT FARM PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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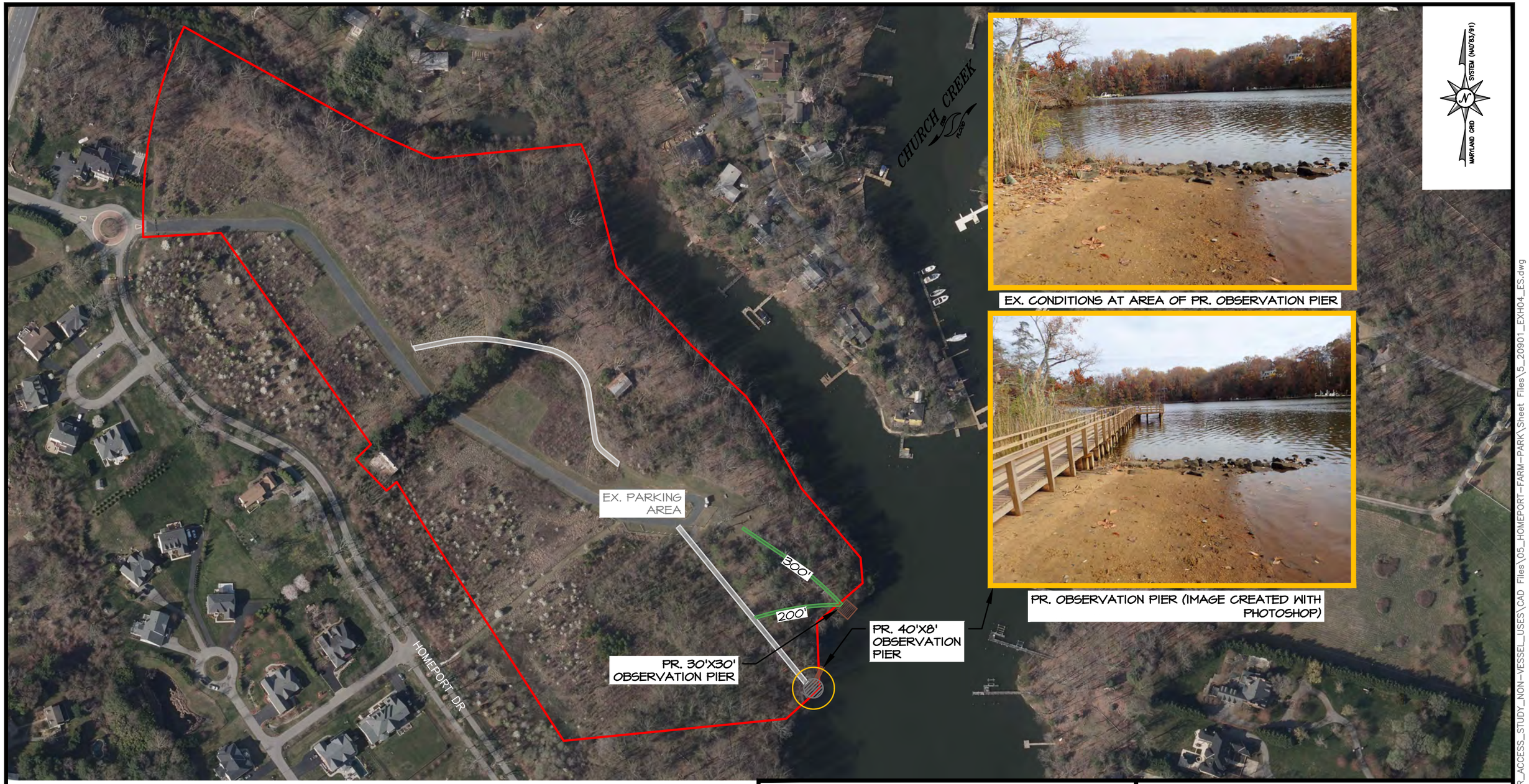
2.5.4. Cultural & Historical Analysis

MEDUSA was referenced to gather information regarding historical and cultural resources within the site. A search of the property on the online interactive map revealed that the park falls entirely within a Maryland Heritage Area and is part of the Maryland Inventory of Historic Properties.

The response from MHT to an inquiry for more information stated the property would require further review prior to any construction due to prehistoric and historic archaeological sites being identified within the study area.

2.5.5. Concept

The concept plan (Figure 15) shows that there is no other water access besides the existing car top boat launch with storage for the Canton Kayak Club. An observation pier can be placed along the edge of the park for wider views of Church Creek. A trail can connect the pier to the kayak launch and the clearing near the parking area. Another possible location for an observation pier is attached to the kayak launch to the north to provide a space out of the way of the launch right on the water (Figure 15).



EX. CONDITIONS AT AREA OF PR. OBSERVATION PIER

PR. OBSERVATION PIER (IMAGE CREATED WITH PHOTOSHOP)

LEGEND

- PARK BOUNDARY
- EX. KAYAK LAUNCH
- PR. BOARDWALK
- EX. NATURE TRAIL
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)

GRAPHIC SCALE
0 100 200 400
(IN FEET)
1 inch = 200 feet

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FIGURE 15
HOMEPORT FARM PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.5.6. Project Constraints

With the entire park falling within the RCA critical area, mitigation might be required. The proposed observation piers are located in cleared spaces near the existing kayak launch to limit environmental disturbances to the greatest extent possible.

It is also important to consider that with the presence of FIDS, any site development will need to consider *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*. Development impacting the resources in these sensitive areas will require mitigation. As with many of the previous parks, further coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the project may affect the species.

With the property falling entirely within a Maryland Heritage Area and being part of the Maryland Inventory of Historic Properties, further consultation with MHT is necessary to understand specific constraints that this could impose.

2.5.7. Cost Estimate

The cost estimate in Table 5 shows the quantity for both proposed piers. The proposed blazed trails connecting the north observation pier are anticipated to be completed by park staff utilizing park resources.

Table 5 – Homeport Farm Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fixed Observation Pier*	900	SF	$150	$135,000
Timber Fixed Observation Pier*	320	SF	$150	$48,000
			Subtotal	**$183,000**
			20% Contingency	$36,600
			Total	**$219,600**

**Includes 30% Allowance for Permitting and Design*

2.5.8. Conclusion

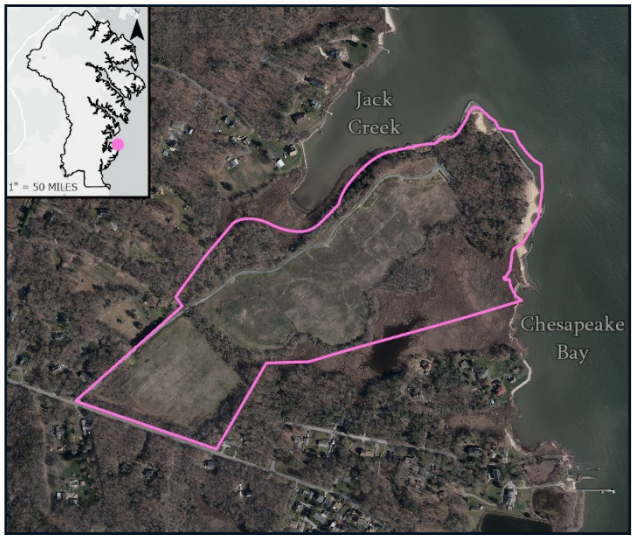
Homeport Farm Park's existing car top boat launch allows paddlers easy access to Church Creek. The waterfront property could be enhanced with an observation pier in two different locations for additional water access opportunities.

2.6. Site 6: Jack Creek Park

Location:
1600 Snug Harbor Road
Shady Side, MD 20764

Location (waterside):
South Shore of Jack Creek

Nearest major body of water:
Chesapeake Bay



Vicinity Map
1" = 1,500'

2.6.1. Introduction

Jack Creek Park is a 58-acre parcel in southern Anne Arundel County. There is approximately 1,300 feet of shoreline along Jack Creek and 1,300 feet along the Chesapeake Bay, most of which is protected by living shoreline.

2.6.2. Park Features

Snug Harbor Road leads to a dirt road that runs the length of the park. There is a small parking lot (Photo 51) at the beginning of the dirt road, and a secondary gate to continue into the park. The parking lot at the end of the road provides space for 20 vehicles and a loading/unloading zone for car top boats (Photo 50). The existing car top boat launch provides easy access to both Jack Creek and Chesapeake Bay (Photo 52).

Adjacent to the parking lot is a path to a shaded sandy area with a picnic table near the launch. A short dirt path leads to additional sandy areas at the mouth of the creek. Paddlers can easily launch from either sandy area to explore Jack Creek off the Chesapeake Bay.

The north edge of the park is comprised of a 400 ft revetment with open views of the Chesapeake Bay and the Chesapeake Bay Bridge (Photo 53). An unpaved trail follows the revetment to the eastern edge of the park where there is another sandy beach with a bench (Photo 54). The trail continues from the middle of this beach, through the wooded area, back to the parking lot.

Photo 50 – Parking Area

Photo 51 – Parking area before secondary gate to park

Photo 52 – Shaded area with picnic table and car top boat launch

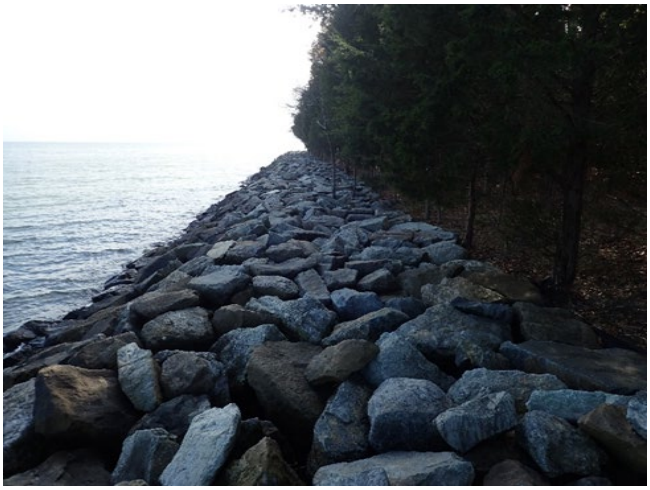


Photo 53 – Revetment along Chesapeake Bay

Photo 54 – Sandy area with bench and views of the open bay

2.6.3. Environmental Analysis

The park is a locally protected land by the County, prohibiting development. The waterfront areas of Jack Creek Park fall within the Critical Area designated as an RCA (Figure 16). Review of the VIMS SAV surveys indicated no SAV present along the shoreline of Jack Creek Park from 1971 to 2021. Two portions of the shoreline have mapped wetlands classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P). The park contains mapped forested, non-tidal wetlands covered with broad-leaf deciduous plants that are seasonally flooded (PFO1C). Maryland Coastal Atlas shows surrounding waters are an adult tidal finfish habitat and documented waterfowl concentration areas, which was confirmed by DNR's response to the trilogy letters.

USFWS listed the Monarch Butterfly as an endangered species within the project area. There are no impacts to critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one at-risk species in the park; the Monarch Butterfly. There may be additional coordination required during the federal permitting process to account for impacts to this species.

MARYLAND GRID SYSTEM (NAD83/91)

N

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 200 400 800

(IN FEET)

1 inch = 400 feet

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FIGURE 16
JACK CREEK PARK
ENVIRONMENTAL ANALYSIS

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CHECKED BY: CR	DATE: 10/30/24	

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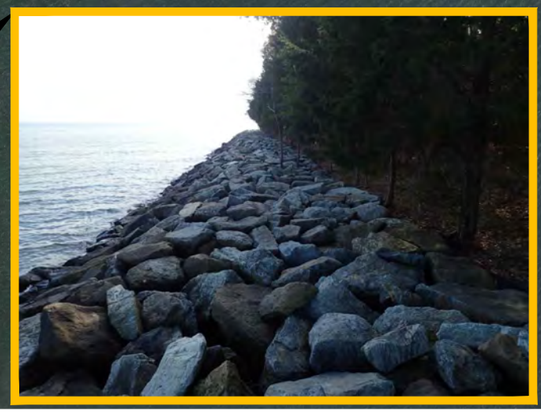
2.6.4. Cultural & Historical Analysis

A search of the property on MEDUSA's online interactive map revealed that the park falls entirely within a Maryland Heritage Area. Response to inquiry to MHT for information regarding historic properties on site stated that this park would require further review prior to any construction due to prehistoric and historic archeological sites being identified within the study area.

2.6.5. Concept

The existing amenities at Jack Creek Park make it a popular destination for park users in Shady Side. There is plenty of parking between the two parking lots. The creation of maintained trails throughout the park with an observation platform could provide views of Chesapeake Bay and bird watching opportunities (Photo 55). The addition of a fishing platform over the revetment will provide park users the opportunity to fish directly on Chesapeake Bay (Figure 17).

Photo 55 – Proposed location of wetlands viewing platform



EX. CONDITIONS AT AREA OF PR. FISHING PLATFORM

PR. FISHING PLATFORM (IMAGES CREATED WITH PHOTOSHOP)

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- EX. NATURE TRAIL
- PR. NATURE TRAIL
- PR. BOARDWALK

GRAPHIC SCALE
0 200 400 800
(IN FEET)
1 inch = 400 feet

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FIGURE 17
JACK CREEK PARK
CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 400'
CHECKED BY: CR	DATE: 10/30/24	

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2.6.6. Project Constraints

With the site being located adjacent to open waters that are known waterfowl concentration areas, construction of water-dependent facilities would require coordination with the Wildlife and Heritage Service. Further coordination would also be required from MHT based on the findings of prehistoric and historic archeological sites within the study area and the park being classified as a Maryland Heritage Area.

2.6.7. Cost Estimate

Table 6 details the costs associated with the proposed amenities at this park. The concept plan details two possible locations for each feature. It is anticipated that the proposed nature trails would require initial mowing, followed by periodic upkeep using park resources and park staff.

Table 6 – Jack Creek Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fishing Pier*	480	SF	$150	$72,000
Timber Observation Platform	400	SF	$150	$60,000
			Subtotal	**$132,000**
			20% Contingency	$26,400
			Total	**$158,400**

**Includes 30% Allowance for Permitting and Design*

2.6.8. Conclusion

Jack Creek Park's existing amenities make it a popular destination in the Shady Side community. The addition of observation platforms and fishing platforms would expand the opportunities for water access and give park visitors a variety of options to enjoy water views and fish.

2.7. Site 7: Jonas & Anne Catharine Green Park

Location:
2001 Baltimore Annapolis Boulevard
Annapolis, MD 21409

Location (waterside):
Eastern Shore of Severn River

Nearest major body of water:
Chesapeake Bay

Vicinity Map
1" = 1,000'

2.7.1. Introduction

Jonas and Anne Catharine Green Park is an 8- acre parcel at the foot of the Naval Academy Bridge. The park has approximately 200 feet of shoreline along the Severn River.

2.7.2. Park Features

Jonas and Anne Catharine Green Park is accessed from Baltimore Annapolis Boulevard, adjacent to the Naval Academy Bridge. The northern section of the parking lot has 27 parking spaces with 3 ADA-accessible spaces and the southern section has 30 parking spaces and 3 ADA-accessible spaces.

The northern section of the parking lot leads to a flat grassy area with picnic tables and grills (Photo 56). There is an ephemeral rill through the middle of the clearing with a small bridge. West of the grassy area, the park opens to a large, sandy beach on the Severn River (Photo 57). The beach provides easy water access for launching and loading of non-motorized vessels. Signage prohibits swimming and wading in the water (Photo 58).

The south end of the beach has stone structures and marsh plantings. A dirt path leads from the beach to connect to the paved path that goes along the southern area of the park. The path around the southern area of the park is roughly 900' long (Photos 59 & 60). There are informational signs along the path regarding history and natural resources.

The southern parking lot leads to a plaza outside the headquarters of the Friends of the Anne Arundel County Trails (Photo 61). There are bike racks on the plaza, as this park is the terminus of the B & A Trail; a 13.3 mile paved trail following the route of the

former Baltimore and Annapolis Railroad from Glen Burnie to Annapolis. The headquarters building features a year-round restroom facility and water fountains. From the plaza, there is a paved path to the fishing pier, which is the old Naval Academy Bridge (Photo 62). There are benches along the path for people to enjoy water views (Photo 63). There is no opportunity to fish at the end of the pier and few fishing pole holders in the concrete barriers. There is no seating on the fishing pier and a chain link fence marks the end of the pier.

2.7.3. Environmental Analysis

The majority of the site is within the RCA, but the south edge lies within an LDA (Figure 18). Data from the DNR MERLIN online resource classifies approximately half of the park as having Forest Interior Dwelling Species (FIDS). Maryland Coastal Atlas shows the Severn River is habitat to juvenile herring and adult tidal finfish, as well as an oyster sanctuary. There are historic (1958-1999) oyster plantings underneath the current fishing pier. Mapped wetlands along the north edge of the park are classified as permanently flooded, non-tidal with an unconsolidated bottom (PUBH), and forested, non-tidal wetlands covered with broad-leaf deciduous plants seasonally flooded from tidal influences (PFO1A). Review of VIMS SAV shows no SAV along the site.

Responses to trilogy submittals to USFWS and DNR indicate additional species of concern. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly, respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline. DNR indicated the site is adjacent to open waters that are documented waterfowl concentration areas.

Photo 56 – Grassy area with picnic tables, grills, and storm drainage

Photo 57 – Large beach for use as car top boat launch

Photo 58 – Signage for public access canoe/kayak launch

Photo 59 – Paved path behind marsh plantings towards eastern edge of park

Photo 60 – Paved path along western edge of park under Naval Academy Bridge

Photo 61 – Plaza looking towards fishing pier

Photo 62 – Fishing pier looking towards plaza

Photo 63 – Benches along walking path

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 18
JONAS & ANNE CATHARINE GREEN PARK
ENVIRONMENTAL ANALYSIS

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CHECKED BY: CR	DATE: 10/30/24	

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2.7.4. Cultural & Historical Analysis

MEDUSA was referenced to gather additional information regarding historical and cultural resources within the site. A search of the property on the online interactive map revealed that the park falls entirely within a Maryland Heritage Area. No historical properties were mapped. MHT confirmed there are no historic properties of concern and available data shows no Preservation Easements in the project area.

2.7.5. Concept

This park could benefit from upgrades to the fishing pier, as highlighted in the concept plan (Figure 19). The paved trail around the park provides views of the Severn River from all areas of the park and the beach could provide opportunities for swimming and wading, as appropriate. The concept plan proposes removing the chain link fence and large concrete barriers that restrict water views. The pier can be upgraded with wooden railings and additional fishing pole holders, as well as additional benches, planters, and a pavilion with picnic tables to provide shade (Figure 19). Artistic amenities matching the wooden heron statue near the building could be added. The improvements can include ADA compliant fishing stations to improve accessibility in the park.

EX. FISHING PIER

FISHING PIER WITH PR. AMENITIES (IMAGE CREATED WITH PHOTOSHOP)

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

PARK BOUNDARY

PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)

GRAPHIC SCALE
0 100 200 400
(IN FEET)
1 inch = 200 feet

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FIGURE 19 – JONAS & ANNE CATHARINE GREEN PARK CONCEPT PLAN

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CHECKED BY: CR	DATE: 10/30/24	

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2.7.6. Project Constraints

Similar to previous parks, there were environmental concerns raised by DNR and USFWS that would require additional review prior to any construction. The proposed concepts at this park are focused on the existing fishing pier and, therefore, would likely have minimal impacts on environmental resources.

2.7.7. Cost Estimate

Table 7 – Jonas & Anne Catharine Green Park Cost Estimate				
Description	**Estimated Quantity**		**Unit Cost**	**Cost**
Pavilion*	1	LS	$200,000	$200,000
Timber Railing	550	LF	$100	$55,000
Planter Boxes with Benches	5	EA	$2,400	$12,000
			Subtotal	**$267,000**
			20% Contingency	$53,400
			Total	**$320,400**

**Includes 30% Allowance for Permitting and Design*

2.7.8. Conclusion

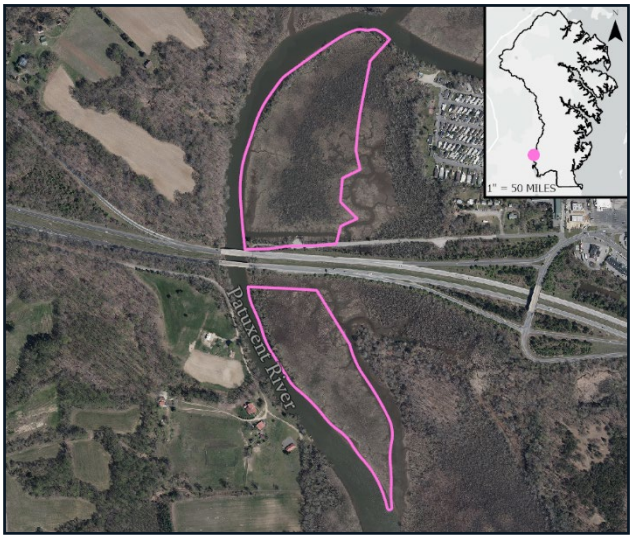
Jonas and Anne Catharine Green Park is already a popular fishing destination in the community. The existing pier could be improved with enhancements to increase fishing opportunities and make the space more comfortable and accommodating for those who want to enjoy the water views.

2.8. Site 8: Patuxent Wetlands Park

Location:
1426 Mt. Zion Marlboro Road
Lothian, MD 20711

Location (waterside):
Eastern Shore of Patuxent River

Nearest major body of water:
Patuxent River



Vicinity Map
1" = 2,000'

2.8.1. Introduction

Patuxent Wetlands Park is a 43-acre parcel in SW Anne Arundel County. The parcel is divided into a north and south section by MD State Rt. 4. There is approximately 4,000 feet of shoreline along the Patuxent River. The southern tip of the park encompasses an additional 1,400 feet of shoreline in Galloway Creek.

2.8.2. Park Features

The park can be accessed from MD State Rte. 4. The park features a car top boat launch, walking paths, a fishing pier, and a paved parking lot (Photo 64) that can be accessed from Marlboro Road.

A gate at the far edge of the parking lot blocks vehicle access to the fishing pier. A dirt path leads to the fishing pier until a boardwalk crosses the marsh and opens to the 400 square foot pier (Photo 65). The pier is lined with bench seating. There is also a paved section of sidewalk connected to the boardwalk that leads to the bridge footing of the northbound lanes of traffic. There is an unofficial pull-off area along southbound Rte. 4 where people can access the Patuxent River in the south half of the park. A path leads from the side of the road down to the water and runs along the Patuxent River, providing continuous water views and fishing opportunities.

The car top boat launch is at the northern edge of the parking lot on an unnamed tributary of the Patuxent River, a 400-foot paddle from the river. The launch consists of a 15 x 20-foot dock (Photos 66 & 67). At low tide, the dock is difficult to use because it is too high above the water, therefore, users will often use the adjacent shoreline. The shoreline along the river consists of natural marsh banks (Photo 68).

Photo 64 – Parking area

Photo 65 – Boardwalk to Fishing pier

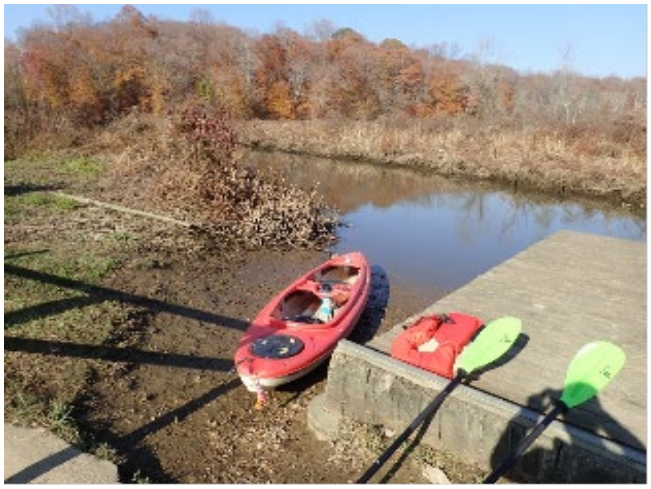


Photo 66 – Car top boat launch

Photo 67 – Car top boat launch from water

Photo 68 – Low, muddy banks

2.8.3. Environmental Analysis

The parcel of land where the park is located is designated as local protected lands, which limits allowable development (Figure 20). The site falls entirely within the Critical Area designated as an RCA. The DNR MERLIN online resource classifies the majority of the park as having Forest Interior Dwelling Species (FIDS). Review of VIMS SAV surveys indicate SAV has been observed in the Patuxent River along the site regularly until 2010, but no SAV was mapped in subsequent years. Maryland Coastal Atlas provides information on the surrounding waterways. The upper Patuxent River is an oyster sanctuary. The Patuxent River in this area is a spawning habitat for both Herring and White Perch. Around the south half of the park, the area is a documented waterfowl concentration area.

The north and south areas of the park, divided by MD State Rt. 4, contain different mapped wetlands. The northern portion has mapped wetlands classified as seasonally flooded, non-tidal, persistent emergent marshes (PEM1R) and seasonally flooded from tidal influences, non-tidal, persistent emergent marsh with a 30 to 50 percent cover of broad-leaved, deciduous shrubs (PSS1/EM1R). The southern portion has mapped wetlands classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P6) and some that feature the same characteristics but with a 30 to 50 percent cover of broad-leaved, deciduous shrubs (E2EM1/SSP6).

Responses to trilogy inquiries sent to USFWS and DNR indicate additional species of concern. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly, respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

Responses from DNR stated the site contains a Wetland of Special State Concern that is also designated as a Natural Heritage Area (NHA). Species within the NHA include Red Turtlehead, Lake-bank Sedge, and Pale Green Orchid. Activities within the NHA are highly regulated, so further coordination would be required to implement park improvements.

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 250 500 1000

(IN FEET)

1 inch = 500 feet

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FIGURE 20 – PATUXENT WETLANDS PARK ENVIRONMENTAL ANALYSIS

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CHECKED BY: CR	DATE: 10/30/24	

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2.8.4. Cultural & Historical Analysis

MEDUSA was referenced to gather additional information regarding historical and cultural resources within the site. A search of the property on the online interactive map revealed that the park falls within the Chesapeake Crossroads Heritage Area, one of Maryland's state heritage areas. MHT confirmed there are no historic properties of concern and available data shows no Preservation Easements in the project area.

2.8.5. Concept

This park is a popular fishing spot, especially when white perch are in season. To meet the demands of these busy times, formalized parallel parking along Marlboro Road will maximize the space. Extending the fishing pier north towards the mouth of the creek will provide additional space for fishing (Figure 21). North of the creek, there is no land access to the park. Landing a vessel in this area to access land is difficult due to the mud and brush along the shoreline.

To access the southern part of the park by land, a formal trail over the rocks under the underpass can be created so that park users can access from the parking area on Marlboro Road. Additional fishing piers can be constructed within the park boundaries in the south portion of the park. A kayak landing at a natural low area along the riverbank (Photo 69) can be improved with sand fill so it is no longer muddy. The existing trail south of the landing can be improved with sand fill or mulch to provide easier access to additional water views and fishing opportunities (Photo 70).

Nearby Glendening Nature Preserve can be connected to Patuxent Wetlands Park with a half mile trail from the Beaver-Rock Trail (Appendix B - Glendening Nature Preserve Trail Map). This proposed trail will provide wetland viewing opportunities for park users.

Photo 69 – Current informal landing area to where sand fill can be added

Photo 70 – Unofficial path accessed from informal landing area

EX. FISHING PIER

PR. FISHING PIER EXPANSION (IMAGE CREATED WITH PHOTOSHOP)

PR. PARALLEL PARKING

MARLBORO RD

PR. FISHING PIER EXTENSION

MD ROUTE 4

0.56 MI

0.32 MI

PR. FISHING PIER

PATUXENT RIVER

PR. CONNECTION TO GLENDENING NATURE PRESERVE

EX. TRAILS IN GLENDENING NATURE PRESERVE

MARYLAND GRID SYSTEM (NAD83/91)

N

LEGEND

- PARK BOUNDARY
- PR. NATURE TRAIL
- PR. KAYAK LANDING
- EX. NATURE TRAIL
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)
- EX. KAYAK LAUNCH

GRAPHIC SCALE

0 250 500 1000

(IN FEET)

1 inch = 500 feet

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FIGURE 21 – PATUXENT WETLANDS PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 500'
CHECKED BY: CR	DATE: 10/30/24	

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2.8.6. Project Constraints

The proposed trail connecting the park to the Glendening Nature Preserve trail would run through wetlands, the RCA critical area, and sensitive species review areas, which could result in some mitigation requirements.

Since the site contains a wetland of special state concern that is also designated as a Natural Heritage Area (NHA), further coordination is recommended as activities within the NHA are regulated. Any site development will need to consider *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*. Development impacting the resources in these sensitive areas will require mitigation.

Additionally, coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the project may affect the species.

2.8.7. Cost Estimate

Table 8 shows the costs of the proposed improvements. Blazed trails are anticipated to be created using park resources and park staff. Additional costs may include a boardwalk connecting Patuxent Wetlands Park to Glendening Nature Preserve, if needed.

Table 8 – Patuxent Wetlands Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fishing Pier* (N)	300	SF	$150	$45,000
Timber Fishing Pier* (S)	300	SF	$150	$45,000
Timber Fixed Pier Extension*	1,075	SF	$100	$107,500
Sand Fill	20	CY	$150	$3,000
			Subtotal	**$200,500**
			20% Contingency	$40,100
			Total	**$240,600**

**Includes 30% Allowance for Permitting and Design*

2.8.8. Conclusion

The park is commonly used for fishing but only has one small fishing pier and not enough parking during its peak times. Enhancements such as providing additional parking, the addition of a second fishing pier, as well as the expansion of the current pier, would maximize fishing opportunities at the park's busiest times. Adding a nature trail that connects to the adjacent Glendening nature trails would attract more visitors to enjoy parts of the park that are currently inaccessible while preserving the natural environment.

2.9. Site 9: Rose Haven Memorial Park

Location:
626 Walnut Ave
Rose Haven, MD 20714

Location (waterside):
South Shore of Herring Bay

Nearest major body of water:
Chesapeake Bay

Vicinity Map
1" = 500'

2.9.1. Introduction

Rose Haven Memorial Park contains seven parcels, totaling 1.8 acres in southern Anne Arundel County. The site features 700 feet of shoreline along Herring Bay and serves as the only public space in the community.

2.9.2. Park Features

Walnut Ave is the main road through Rose Haven, MD. Directly off Walnut Ave are two gravel parking for two cars each (Photo 71). The park features an open grassy space with sandy areas and sills along the shoreline. The eastern parking area leads to benches, picnic tables, a large shade tree and a steep slope down to the water (Photo 72). A car top boat launch provides easy access to Herring Bay and Chesapeake Bay. The west parking area is more conducive for use with the car top boat launch, with an approximate 100-foot walk through the grass to the water (Photos 73 & 74). A stormwater outfall is located in the western side of the park and is planted with native plants. A short boardwalk provides access to the grassy area on the other side.

Photo 71 – Eastern parking pad off Walnut Ave.

Photo 72 – Shaded picnic area in SE corner of park

Photo 73 – Path to water from W parking area

Photo 74 – View of park from west edge

2.9.3. Environmental Analysis

The majority of Rose Haven Memorial Park lies within an Intensely Developed Area (IDA), where little natural habitat occurs (Figure 22). Only the NE corner of the Park, which mainly consists of a wooded area, is within an LDA. Review of VIMS SAV data shows that SAV has not been mapped along the shoreline since 2002. Maryland Coastal Atlas showed the surrounding waterway is an oyster sanctuary and habitat for adult tidal finfish.

USFWS listed one at-risk species in the park; Northern Monarch Butterfly respectively. There may be additional coordination required during the federal permitting process to account for this species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

Response from DNR to the inquiry stated that the site is adjacent to open waters that are documented waterfowl concentration areas.

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 30 60 120

(IN FEET)

1 inch = 60 feet

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FIGURE 22 – ROSE HAVEN MEMORIAL PARK ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 60'
CHECKED BY: CR	DATE: 10/30/24	

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2.9.4. Cultural & Historical Analysis

MEDUSA's online map indicates the park is located within the Chesapeake Crossroads Heritage Area. Further coordination with MHT noted no historic properties of concern and available data shows no Preservation Easements in the project area.

2.9.5. Concept

The existing and proposed amenities can be seen on the concept plan (Figure 23). Figure 24 shows a rendering of the potential improvements proposed along the shoreline. These improvements include living shoreline enhancements, a fishing pier, step pool stormwater conveyance system and additional parking. The proposed shoreline enhancements would create a beach area on the eastern shore of the park and a vegetated dune and increase marsh plantings. The concept includes access to a fishing pier for better fishing opportunities over deeper water. Additional gravel parking areas could be added on Walnut Road. From these parking areas, blazed trails through the marsh and vegetated dunes would provide direct water access. Redesigning the existing storm drainage with a step-pool stormwater conveyance system would replace the channel through the park and better connect the two sides of the park.

LEGEND

- PARK BOUNDARY
- PR. PARKING
- PR. PIER
- PR. BREAKWATER EXTENSION

GRAPHIC SCALE

0 30 60 120

(IN FEET)

1 inch = 60 feet

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FIGURE 23 – ROSE HAVEN MEMORIAL PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 01/10/25	SCALE: 1" = 60'
CHECKED BY: CR	DATE: 01/10/25	

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PR. BREAKWATER

PR. FISHING PIER

CHESAPEAKE BAY

PR. BREAKWATERS

PR. STORMWATER UPGRADES

PR. BREAKWATER ENHANCEMENTS

PR. VEGETATED DUNE ENHANCEMENTS

PR. LAUNCH IMPROVEMENTS

PR. ADDITIONAL PARKING

PR. MARSH PLANTING ENHANCEMENTS

WALNUT AVE

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

PARK BOUNDARY

GRAPHIC SCALE

0 30 60 120

(IN FEET)

1 inch = 60 feet

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FIGURE 24 – ROSE HAVEN MEMORIAL PARK CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	
CHECKED BY: CR	DATE: 10/30/24	

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2.9.6. Project Constraints

Because the project is located with an IDA, there are significantly fewer environmental restrictions on development. DNR indicated that the construction of water-dependent facilities will need technical assistance from the Wildlife and Heritage Service due to waterfowl concentration areas adjacent to the site. Implementing these improvements would result in no other major concerns that would restrict implementing improvements.

2.9.7. Cost Estimate

Table 9 shows the cost estimate for this concept. Given the environmental uplift associated with these shoreline and stormwater management improvements, there are multiple grant funding opportunities that could provide funds for implementation.

Table 9 – Rose Haven Memorial Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fixed Pier*	1,400	SF	$150	$210,000
Living Shoreline Enhancements*	600	LF	$500	$300,000
Step Pool Stormwater Conveyance System*	205	LF	$1,400	$287,000
			Subtotal	**$797,000**
			20% Contingency	$159,400
			Total	**$956,400**

**Includes 30% Allowance for Permitting and Design*

2.9.8. Conclusion

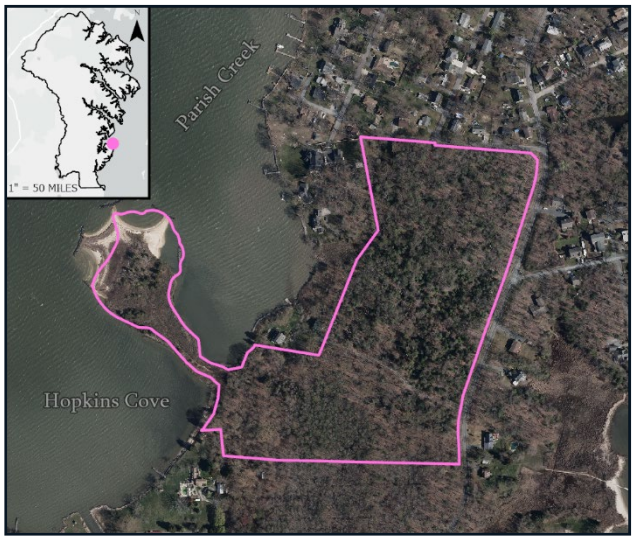
Rose Haven Memorial Park is the only public space in the community that offers scenic views of the Chesapeake Bay. Shoreline improvements, stormwater management enhancements, and the addition of a fishing pier would maximize the potential for visitors to enjoy the park.

2.10. Site 10: Shady Cove Natural Area

Location:
4876A Idlewilde Road
Shady Side, MD 20764

Location (waterside):
North shore Hopkins Cove,
East shore Parish Creek

Nearest major body of water:
West River



Vicinity Map
1" = 1,000'

2.10.1. Introduction

Shady Cove Natural Area is a 26-acre park in southern Anne Arundel County. The peninsula's headland has 1,000 feet of shoreline along Hopkins Cove and 1,300 feet along Parish Creek. Water access to the park is possible from the near by Discovery Village boat launch.

2.10.2. Park Features

The park consists of a small parking area, walking trails through forested areas, marsh vegetation and headland breakwaters with beaches. Idlewild Road provides access to a parking area with capacity for approximately 8 cars. Heading west from the parking area, the gravel drive transitions into a private road for the residences located west of the park. A walking trail is located at the entrance of the park and splits into two sections (Photo 75). The north section of the trail follows Idlewild Road and ends at Neale Ave. The south section of trail follows the southern boundary of the park, past the headland (Photo 76), and connects to the private drive leading back to the parking lot.

Due to the presence of dense marsh, there is no formal access to the beach portions of the headland by land (Photo 77). Paddle up access is possible after launching from adjacent areas (Photo 78). Marsh plantings are located adjacent to the beach areas.

2.10.3. Environmental Analysis

Shady Cove Natural Area is a local, protected land owned by the County. The majority of the park falls within the LDA critical area with the exception of the peninsula, which is in the RCA (Figure 25). Review of VIMS SAV data shows presence of SAV intermittently, most recently in 2016. Through the center of the park there are mapped wetlands classified as PFO1C. These are forested, non-tidal wetlands covered with broad-leaf deciduous plants that are seasonally flooded. The headland contains

mapped wetlands classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P). Maryland Coastal Atlas provides information on the surrounding waterways. Hopkins Cove and Parrish Creek are habitats to juvenile herring and adult tidal finfish.

Photo 75 – Hiking trail along Idlewild Rd

Photo 76 – Water view from trail

Photo 77 – Flooded blazed trail through marsh to headland

Photo 78 – Beach area only accessible from water

The USFWS and DNR responded to inquiries listing a few areas of concern. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline. According to DNR's response, the site is adjacent to open waters that are documented waterfowl concentration areas. There are no impacts to critical habitat or refuges/fish hatcheries in close proximity to the shoreline along the park.

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 25 – SHADY COVE NATURAL AREA ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.10.4. Cultural & Historical Analysis

A search of the property on MEDUSA revealed that it is located in the Chesapeake Crossroads Heritage Area. MHT indicated there are no historic properties of concern and available data shows no Preservation Easements in the project area.

2.10.5. Concept

Shady Cove Natural Area has existing parking and trails, seen in the concept plan (Figure 26), however, the two trails cannot be connected without significant clearing of trees (Photo 79). There is an existing clearing along the southern trail with water views where picnic tables and benches can be added. A formalized landing at the clearing (Photo 80) would provide paddlers easy access to the amenity area and trails in the park. The headland has a beach on the northeastern side that is currently only accessible by water. An elevated boardwalk built on the existing blazed trail will provide foot access between the headland and the park (Photo 81). The trail would remain in its existing footprint but improved with the addition of a boardwalk over the southern portion that is currently not walkable during high tide. The beach area (Photo 82) provides opportunities for vessel landings, wading, swimming, and fishing.

Photo 79 – Heavily wooded area between trails

Photo 80 – Possible landing near the clearing

Photo 81 – Path through the marsh from beach

Photo 82 – Protected beach area for wading and landing

LEGEND

- PARK BOUNDARY
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, ETC.)
- PR. BOARDWALK
- EX. NATURE TRAIL
- PR. KAYAK LANDING

GRAPHIC SCALE
0 100 200 400
(IN FEET)
1 inch = 200 feet

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FIGURE 26 – SHADY COVE NATURAL AREA CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.10.6. Project Constraints

The proposed improvements to the nature trail would fall within wetlands which could result in mitigation requirements for the impacts of the boardwalk.

Further coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the project may affect the species. With the presence of waterfowl in the open waters adjacent to the site, it should be noted that construction of water-dependent facilities would require coordination with the Wildlife and Heritage Service.

2.10.7. Cost Estimate

The cost estimate for the proposed amenities is shown below in Table 10.

Table 10 – Shady Cove Natural Area Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Fixed Boardwalk*	4,500	SF	$150	$675,000
Bench	2	EA	$2,000	$4,000
Picnic Table	2	EA	$3,000	$6,000
			Subtotal	**$685,000**
			20% Contingency	$137,000
			Total	**$822,000**

**Includes 30% Allowance for Permitting and Design*

2.10.8. Conclusion

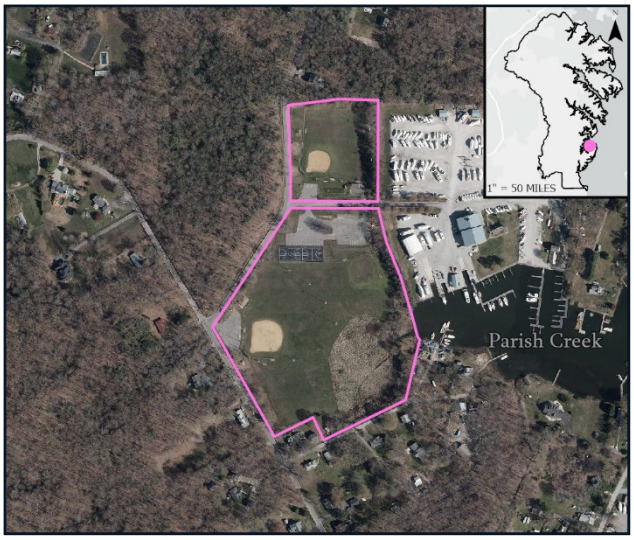
Improvements to the nature trail connecting the peninsula to the main section of the park would allow more people to enjoy the beach, as this section is currently only accessible by water. An official kayak landing spot would also make this a destination for visitors to paddle up and explore. Adding amenities such as picnic tables and benches in the clearing on the main section would enhance the forested section of the park while preserving the natural area.

2.11. Site 11: Shady Side Park

Location:
1355 East West Shady Side Road
Shady Side, MD 20764

Location (waterside):
Headwaters of Parish Creek

Nearest major body of water:
West River



Vicinity Map
1" = 1,000'

2.11.1. Introduction

Shady Side Park is a 16- acre park in southern Anne Arundel County with 150 feet of shoreline at the headwaters of Parish Creek.

2.11.2. Park Features

The park consists of 3 baseball diamonds, a basketball court, a large grassy area, meadow grasses, and a small car top boat launch. There are two parking lots. The smaller of the two is accessible from W Shady Side Road while the larger lot is off Ford Road. The car top boat launch is accessed by a grassy path at the west end of the larger parking lot, past a baseball diamond (Photo 83) and through a wooded area (Photo 84). There is a small clearing at the water access point (Photo 85). The existing car top boat launch (Photo 86) provides paddlers easy access to Parish Creek, West River, and Chesapeake Bay. Paddle up access is possible from nearby Discovery Village.

Photo 83 – Baseball diamond nearest car top boat launch

Photo 84 – Grassed path leading to water

Photo 85 – Clearing next to car top boat launch

Photo 86 – Car top boat launch

2.11.3. Environmental Analysis

As a local protected land owned by Anne Arundel County, Shady Side Park is protected from future development. The park is located within the RCA (Figure 27). Review of VIMS SAV surveys report no presence of SAV between 1971 and 2021. Maryland Coastal Atlas shows that the headwaters of Parish Creek are habitat for juvenile herring and adult tidal finfish.

Coordination with resources agencies indicates the presence of species of concern. USFWS listed one endangered species and one at-risk species in the park: the Northern Long-eared Bat and the Monarch Butterfly, respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

MARYLAND GRID SYSTEM (NAD83/91)

N

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 27
SHADY SIDE PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.11.4. Cultural & Historical Analysis

A search using MEDUSA shows that the property is in the Chesapeake Crossroads Heritage Area and there are no Preservation Easements in the project area. MHT stated there are no historic properties of concern within the park area.

2.11.5. Concept

The concept plan shows the existing trail, kayak launch and proposed waterfront amenities (Figure 28). The waterfront at this park has an empty, large, clearing that can be improved (Photos 87 & 88). Additional signage indicating the car top boat launch could publicize the area. Picnic tables and benches could be added for picnicking and enjoying the trails. A pier would provide additional opportunities for water views and an additional launch point if users prefer a dock launch to a beach launch (Figure 28).

Photo 87 – Clearing near waterfront for additional amenities

Photo 88 – Current launch area to be formalized

EX. CONDITIONS AT AREA OF PR. PIER

PR. PIER (IMAGE CREATED WITH PHOTOSHOP)

LEGEND

- PARK BOUNDARY
- EX. NATURE TRAIL
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, SHADE STRUCTURES, ETC.)
- EX. KAYAK LAUNCH

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 28
SHADY SIDE PARK
CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.11.6. Project Constraints

Further coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the project may affect the species, as stated in the USFWS inquiry.

2.11.7. Cost Estimate

Table 11 shows the cost estimate for the proposed amenities at this park.

Table 11 – Shady Side Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Pier*	150	SF	$200	$30,000
Bench	1	EA	$2,000	$2,000
Picnic Table	1	EA	$3,000	$3,000
			Subtotal	**$35,000**
			20% Contingency	$7,000
			Total	**$42,000**

**Includes 30% Allowance for Permitting and Design*

2.11.8. Conclusion

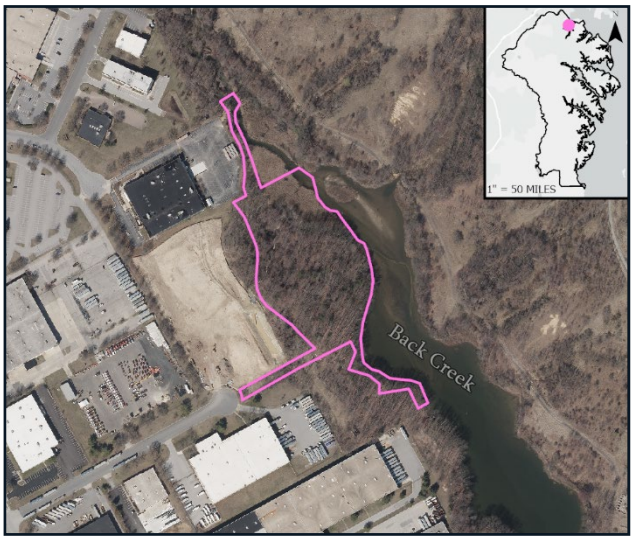
Though Shady Side Park only contains 150 feet of shoreline, there is potential to enhance the area to create better water access. Adding picnic tables and a pier near the existing kayak launch will create more opportunities for park visitors to enjoy the waterfront.

2.12. Site 12: Sullivan Park

Location:
6719 Dover Road
Glen Burnie, MD 21060

Location (waterside):
Headwaters of Back Creek

Nearest major body of water:
Curtis Creek



Vicinity Map
1" = 1,000'

2.12.1. Introduction

Sullivan Park is a 7- acre park at the headwaters and along the eastern shore of Back Creek in northern Anne Arundel County. There is 1,200 feet of shoreline in the park with water access to the park possible from the Solley Cove boat launch across Curtis Creek.

2.12.2. Park Features

There are no amenities at Sullivan Park. Dover Road provides access to the southern end, but there is no designated parking for visitors to the park (Photo 89). Surrounding parking areas belong to businesses in the immediate area. The easement connecting the park to the cul-de-sac has a wide mowed path that ends at the wooded area. Another mowed path, accessed from the Morris Tile Distributors' parking area leads further into the park (Photo 90).

There are currently no trails that connect the entrance of the park to the waterfront. High banks make water access difficult (Photo 91). The north shoreline in the park has dense, invasive phragmites (Photo 92). Paddle up access from water is possible from Back Creek, though may be restricted during low tide due to very shallow water depths.

2.12.3. Environmental Analysis

The site is classified as a local protected land, restricting future development. The park is in the RCA critical area designation (Figure 29). A review of VIMS SAV surveys indicated no SAV has been observed along the shoreline of Sullivan Park from 1971 to 2021. The northern portion of the shoreline has mapped wetlands classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P). The northern tip of the park also contains forested, non-tidal wetlands covered with broad-leaf deciduous plants that are seasonally flooded by tidal influences (PFO1S).

Photo 89 – Beginning of park at end of Dover Rd

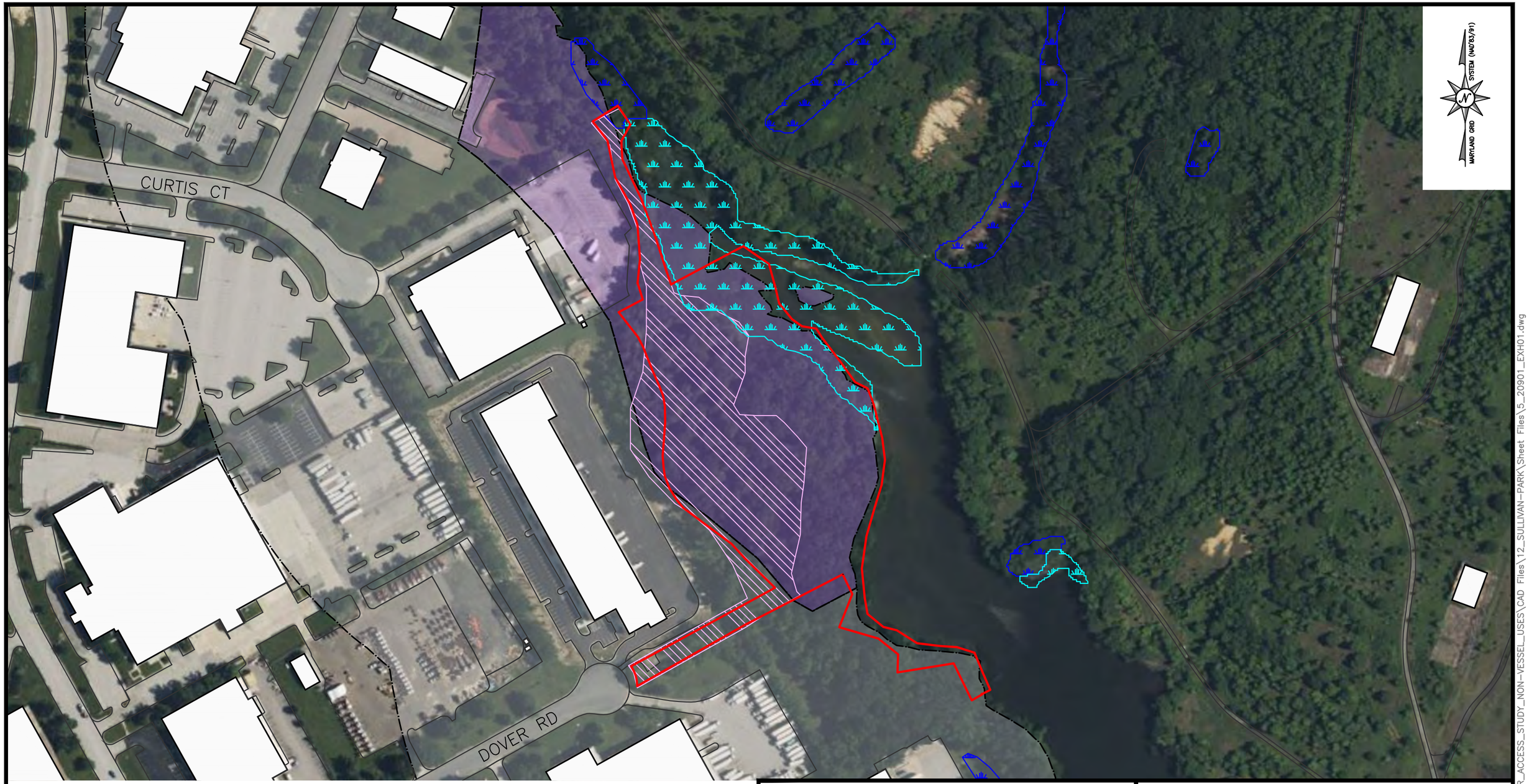
Photo 90 – Path from Morris Tile Distributors' parking area

Photo 91 – Shoreline along Back Creek

Photo 92 – Marsh along north shoreline

Maryland Coastal Atlas shows Back Creek is a spawning habitat for White and Yellow Perch. It also provides habitat for juvenile herring and adult tidal finfish.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly, respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.



LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 29
SULLIVAN PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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2.12.4. Cultural & Historical Analysis

A search of records on MEDUSA revealed no historical properties. MHT confirmed these findings. No Preservation Easements are located in the project area.

2.12.5. Concept

Due to the location of this park and lack of parking, the most frequent visitors would be workers in the industrial area throughout the week. Because the park is one of few locations that provide shade and green space in the area (Figure 30), amenities could be added to provide a picnic area and natural walking trails. Access to the park can be created with a mowed path through the easement from Dover Road. An additional path on the other side of the building would increase access to the park (Photo 93). The two entrances would be connected with a proposed 0.3-mile loop nature trail. A pier at the end of the trail from Dover Road (Photo 94) with picnic tables and benches would provide a picnic area with water views.

The park currently has no designated parking, and it appears that visitors walk to the area. The Park does not provide sufficient County-owned available area to expand the parking, therefore, the amenities proposed are aimed at serving the immediately adjacent areas and businesses.

Creating landing or launching opportunities for paddlers was not feasible due to accessibility issues from water. Water access to the park is limited during low tide due to shallow depths in the headwaters of Back Creek (Photos 95 & 96). The north shoreline consists of marsh grasses which would cause further complications in adding any paddle up spots to that portion. For these reasons, the concept was limited to a pier for enjoying water views only.

LEGEND

- PARK BOUNDARY
- PR. NATURE TRAIL
- PR. PIER

GRAPHIC SCALE

0 100 200 400

(IN FEET)

1 inch = 200 feet

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FIGURE 30
SULLIVAN PARK
CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 200'
CHECKED BY: CR	DATE: 10/30/24	

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Photo 93 – Proposed area of secondary entrance in NW corner of park

Photo 94 – Location of proposed pier

Photo 95 – Low tide in Back Creek

Photo 96 – Low tide in Back Creek

2.12.6. Project Constraints

Further coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the project may affect the species.

2.12.7. Cost Estimate

The costs associated with the proposed improvements to this park are shown below in Table 12. The blazed nature trail that loops through the park is anticipated to be created and maintained by park staff using park resources.

Table 12 – Sullivan Park Cost Estimate				
Description	**Estimated Quantity**		**Unit Cost**	**Cost**
Timber Pier*	2,000	SF	$150	$300,000
Bench	2	EA	$2,000	$4,000
			Subtotal	**$304,000**
			20% Contingency	$60,800
			Total	**$364,800**

**Includes 30% Allowance for Permitting and Design*

2.12.8. Conclusion

Sullivan Park is an undeveloped green space park that currently does not receive many visitors due to its location in an industrial area and its lack of parking. This park could be improved by the addition of a nature trail, pier and picnic area to provide visitors with water views.

2.13. Site 13: Thomas Point Park

Location:
3890 Thomas Point Road
Annapolis, MD 21403

Location (waterside):
Mouth of South River/Fishing Creek

Nearest major body of water:
Chesapeake Bay

Vicinity Map
1" = 1,500'

2.13.1. Introduction

Thomas Point Park is a 45- acre parcel at the mouth of the South River in central Anne Arundel County. Water access to the site is possible from Mayo Beach, on the south shore of South River, or Quiet Waters Park, north of the site along the northern shore of South River. The peninsula contains 8,800 feet of shoreline with easy access to South River, Fishing Creek, and Chesapeake Bay.

2.13.2. Park Features

Thomas Point Park features a pavilion, grills, picnic tables, trails, and fishing on the Chesapeake Bay. The entrance to Thomas Point Park is located at the end of Thomas Point Road. In the offseason, November through March, no pass is needed, and the entrance gate is unlocked (Photo 97). Between April and October, monthly or daily passes must be purchased in advance online.

Thomas Point Road is a narrow, gravel drive that runs through the park and along the shoreline in multiple areas providing water views. Along the southern shoreline, there is the Park Office, Ranger Residence, a parking lot for approximately 8 cars, and a second gate (Photo 98). In the offseason, the second gate is open. Between April and October, the second gate is locked, and only monthly pass holders have access to the rest of the road.

At the end of Thomas Point Road, the park opens up to a clearing (Photo 99) with uninterrupted views of the Chesapeake Bay and the Bay Bridge. There are roughly 8 parking spots at the point. Along the water, at the very end of the park is an open field with a few benches (Photo 100), informational signs, and a flag pole. The majority of the park shoreline is armored with stone protection, limiting the water access from land. From the clearing, following the shoreline west, there are benches to enjoy southern views. There are no fishing amenities or possible launch spots for car top vessels. Immediately behind the parking area is a large pavilion that can be reserved for large

gatherings (Photo 101). The pavilion has two grills and there is a waste bin for hot coals. North of the pavilion is a smaller picnic area with a grill (Photo 102).

Following Thomas Point Road north, there is a bulletin board containing information on fishing regulations and fish identification, park hours and regulations, and trails in the park. There is also a port-a-potty behind a wind shelter. Directly connected to this amenity area are existing trails through the southeast portion of the park that connect back to the road close to the second gate, providing a safer walk through the woods for people with daily passes.

From the amenity area, heading north along Thomas Point Road, there are two additional parking spots that lead to a campfire area with benches, picnic tables, grills, and a large clearing. There is a living shoreline along the northern part of the park with a desire path through the marsh to the water (Photo 103).

Continuing along Thomas Point Road, there is a small connector to the existing trails through the park. This small connector runs perpendicular to the main trail, crosses it, and continues to the water. There are benches built into the ground and a small clearing to enjoy the water views (Photo 104). The main trail meets just before the parking area outside the Park Office/Ranger's residence.

At a curve in the road, near the south shore, there is a pull-off spot for passing cars. From this spot, there is a desire path along the revetment (Photo 105). The path ends at a small pond within the park.

Continuing north up the road, there is another living shoreline and a small beach area with informational signs about the importance of these habitats. There is also a sign in the rocks stating the area is a prohibited area for harvesting oysters and other shellfish. The water here is relatively calm compared to the rest of the park as it is sheltered with the spit to the north. Signs urging to stay off marsh plantings dissuade visitors from accessing the beach area.

Photo 97 – Gated entrance to park

Photo 98 – Parking area and second gate

Photo 99 – Open space at point of park

Photo 100 – Benches NW of point

Photo 101 – Pavilion with picnic tables and grills

Photo 102 – Second amenity area

Photo 103 – Living shoreline in northern portion of the park

Photo 104 – Built-in benches along path

Photo 105 – Desire path along south shore

Photo 106 – Dinosaur sculpture along Thomas Point Road

2.13.3. Environmental Analysis

Thomas Point Park is local on protected land, limiting future development. The park is in the RCA critical area designation (Figure 31). Review of VIMS SAV data shows the intermittent historic presence of SAV but not since 1997. Mapped wetlands in the park are classified as higher elevation areas of brackish marsh that are flooded irregularly by tidal estuarine water (E2EM1P) and intertidal, unconsolidated, sandy shore that is regularly flooded (E2USN). A small pond within the park has mapped wetlands classified as non-tidal, unconsolidated bottom that is permanently flooded and was created or modified by a man-made barrier or dam that obstructs the inflow or outflow of water (PUBHh).

Maryland Coastal Atlas shows information about the surrounding waterways. This area is a documented waterfowl concentration area and habitat for adult tidal finfish. The water surrounding the south and west borders of the park is a habitat for juvenile herrings.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

MARYLAND GRID SYSTEM (NAD83/91)

N

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON–TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 31
THOMAS POINT PARK
ENVIRONMENTAL ANALYSIS

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 10/30/24	

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2.13.4. Cultural & Historical Analysis

A search of records on MEDUSA revealed no historical properties. MHT confirmed these findings. No Preservation Easements are located in the project area.

2.13.5. Concept

The concept, shown in Figure 32, proposes the creation of transient boat docking that can make the Park more accessible without increasing the parking capacity or number of passes. The dock is proposed on the north side of the park in calmer waters near the other existing amenities.

Fishing piers over the revetment in different locations would make fishing more accessible. Although multiple 'No Fishing' signs were observed, there are no ecological restrictions on fishing in the surrounding waters. Fishing piers will increase fishing opportunities in the county and encourage park users to take advantage of the park's location on the bay.

There is a potential kayak landing adjacent to the living shoreline in Fishing Creek (Photo 107). There is no direct path to the road from the beach, but a blazed trail could be formed. A path though the marsh would provide paddlers using the landing the opportunity to follow Thomas Point Road to the amenity area and utilize the park.

Photo 107 – Potential kayak landing

LEGEND

- PARK BOUNDARY
- EX. NATURE TRAIL
- PR. PIER
- PR. KAYAK LANDING

GRAPHIC SCALE

0 150 300 600

(IN FEET)

1 inch = 300 feet

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FIGURE 32
THOMAS POINT PARK
CONCEPT PLAN

DRAWN BY: GK	DATE: 10/30/24	SCALE: 1" = 300'
CHECKED BY: CR	DATE: 10/30/24	

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2.13.6. Project Constraints

The main constraint for adding Park amenities is limited parking and the requirement to purchase a monthly or daily passes in advance between April and October. Further coordination with park management is required to determine how much additional capacity is desired.

A few environmental concerns were noted from the resource agency coordination. Further coordination with the Chesapeake Bay Ecological Services Field Office regarding the monarch butterfly is recommended to determine how the proposed improvements may affect the species. DNR stated that the site is adjacent to open waters that are documented waterfowl concentration areas, therefore, construction of water-dependent facilities will require coordination with the Wildlife and Heritage Service.

2.13.7. Cost Estimate

Construction of the timber dock and additional timber fishing piers are the only costs associated with this park, shown in Table 13.

Table 13 – Thomas Point Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Timber Dock*	725	SF	$150	$108,750
Timber Fishing Pier* (E)	475	SF	$150	$71,250
Timber Fishing Pier* (W)	360	SF	$150	$54,000
			Subtotal	**$234,000**
			20% Contingency	$46,800
			Total	**$280,800**

**Includes 30% Allowance for Permitting and Design*

2.13.8. Conclusion

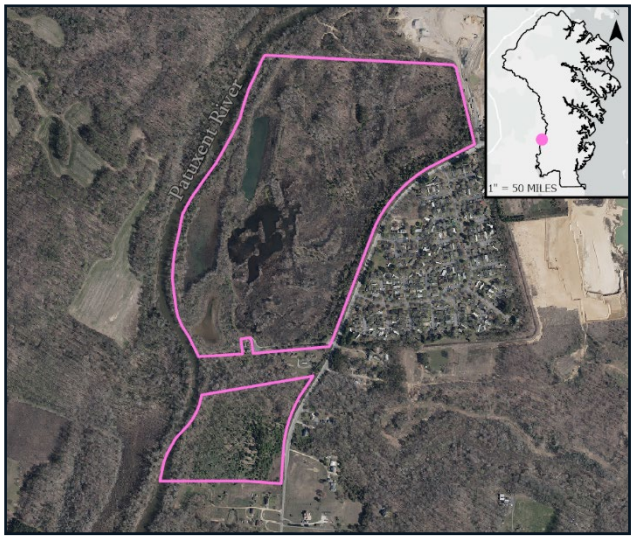
With 8,800 feet of shoreline and water access from South River, Fishing Creek, and the Chesapeake Bay, Thomas Point Park has plenty of water views and opportunities for additional water access activities. The creation of transient boat docking can increase the use of this park without increasing the parking capacity or number of passes. The addition of fishing piers and a kayak landing will give park users more opportunities to utilize the park with minimal environmental disruption.

2.14. Site 14: Wootons Landing Park

Location:
4550 Sands Road
Harwood, MD 20776

Location (waterside):
East shore of Patuxent River

Nearest major body of water:
Patuxent River



Vicinity Map
1" = 2,500'

2.14.1. Introduction

Wootons Landing Park is a 165-acre park divided amongst two parcels along the Patuxent River in southern Anne Arundel County. The Park has approximately 4,300 feet of shoreline along the Patuxent River.

2.14.2. Park Features

Wootons Landing Park features a boardwalk, scenic walking trails, and a car-top boat launch with access to the Patuxent River Water Trail. The park is accessible via Sands Road and a dirt road leads to a parking area for trail users. Continuing down this dirt road brings you to a clearing near the Patuxent River, where parking is available for 3 to 4 cars (Photo 108). This area provides a fishing area (Photo 109) and a floating dock for water access (Photo 110). There is also a small dirt path that leads to a natural shoreline, offering an additional spot for launching non-motorized vessels (Photo 111). The riverbanks are tall and vegetated, so the only access to the park from the river is at the designated launch point (Photo 112).

A marked hiking trail with a gated entrance (Photo 113) loops around the park, providing views of the wetlands and park interior. The trail provides access to the pond and a pier that overlooks the wetlands (Photo 114).

The southern parcel is inaccessible from Sands Road. It is bordered by a chain-link fence. The area is densely wooded except for a nature trail following the water and looping through the southwestern corner of the park (Photos 115 & 116).

Photo 108 – Parking area next to car top boat launch

Photo 109 – Current fishing area conditions

Photo 110 – Floating dock

Photo 111 – Launching area

Photo 112 – Vegetated banks along the river

Photo 113 – Gated entrance to hiking trail

Photo 114 – Boardwalk and pier along hiking trail

Photo 115 – Waterfront clearing in south parcel

Photo 116 – Existing trail in south parcel

2.14.3. Environmental Analysis

Wootons Landing Park is designated as a local protected land, limiting future development. It lies within an RCA Critical Area designation (Figure 33). Review of VIMS SAV survey reports show no SAV between 1971 and 2021. Data from the DNR MERLIN online resource classifies much of the park as supporting FIDS. Maryland Coastal Atlas shows that the Patuxent River in this area is a Herring and White Perch spawning habitat. It is also habitat for adult tidal finfish. The upper Patuxent River is an oyster sanctuary.

The park contains various types of wetlands, particularly in the northern portion, where two distinct wetland areas exist: one in the center of the trail and another along the river. These wetlands are mapped and classified as PUBHx and PEM1Cx. PUBHx represents non-tidal, unconsolidated bottom wetlands that are permanently flooded and excavated by humans, while PEM1Cx refers to non-tidal, persistent emergent wetlands that are seasonally flooded in an previously excavated area.

MARYLAND GRID SYSTEM (NAD83/91)

LEGEND

- PARK BOUNDARY
- LIMITED DEVELOPMENT AREA
- RESOURCE CONSERVATION AREA
- INTENSELY DEVELOPED AREA
- FOREST CONSERVATION ACT EASEMENTS
- AG. LAND PRESERVATION FOUNDATION EASEMENTS
- LOCAL PROTECTED LANDS
- ENVIRONMENTAL TRUST EASEMENTS
- 2021 VIMS SAV
- NON-TIDAL WETLANDS
- TIDAL WETLANDS
- FOREST INTERIOR DWELLING SPECIES
- SENSITIVE SPECIES REVIEW AREA

GRAPHIC SCALE

0 300 600 1200

(IN FEET)

1 inch = 600 feet

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FIGURE 33
WOOTONS LANDING PARK
ENVIRONMENTAL ANALYSIS

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CHECKED BY: CR	DATE: 10/30/24	

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The central wetland area also contains PSS1/EM1C, PEM1E, and PEM1Fx types. PSS1/EM1C represents seasonally flooded, non-tidal emergent marshes with a 30–50% cover of broad-leaved deciduous shrubs. PEM1E refers to seasonally flooded or saturated, non-tidal emergent marshes, while PEM1Fx is a semi-permanently flooded, non-tidal emergent marsh located in an area excavated by people.

Wetlands between the trail and the river include PFO1S, PFO1R, PABFx, and PEM1C. PFO1S and PFO1R represent forested, non-tidal wetlands dominated by broad-leaved deciduous plants that are either seasonally (PFO1S) or temporarily (PFO1R) flooded by tidal influences. PABFx refers to non-tidal, semi-permanently flooded wetlands with an aquatic bed in a human-excavated area, while PEM1C describes seasonally flooded, non-tidal emergent persistent wetlands.

The USFWS online IPaC system was used to identify USFWS managed resources and conservation measures within the project area. USFWS listed one endangered species and one at-risk species in the park; Northern Long-eared Bat and Monarch Butterfly respectively. There may be additional coordination required during the federal permitting process to account for these species. This area has not been identified as having any critical habitat or refuges/fish hatcheries in close proximity to the shoreline.

DNR response to inquiry indicated the presence of two rare bee species in the area. The Sunflower Sweat Bee is considered highly rare, while the other, Dieunomia nevadensis, is potentially rare.

2.14.4. Cultural & Historical Analysis

MEDUSA did not reveal any further evidence of historical properties within the Park boundaries. MHT was consulted and stated this property would require further review due to previous identification of prehistoric and historic archeological sites. Implementing park improvements will likely require cultural resources investigations depending on the location and extent of the proposed work.

2.14.5. Concept

The concept plan outlines both existing amenities and recommended upgrades for Wootons Landing Park (Figure 34). The proposed upgrade includes installing a dedicated fishing platform equipped with rod holders and benches. Formalizing the parking layout would maximize space, allowing more visitors to enjoy the fishing area. General road improvements along the dirt road following Sands Road may be necessary to facilitate formalized parking.

The existing loop nature trail around the wetlands could be enhanced to provide additional water access points. About 600 feet north of the entrance gate, there is an opportunity to create a new nature trail leading to the Patuxent River. Installing a fishing platform at the end of this trail would increase fishing opportunities, especially during busy times like the white perch season. Additionally, 800 feet further along the trail,

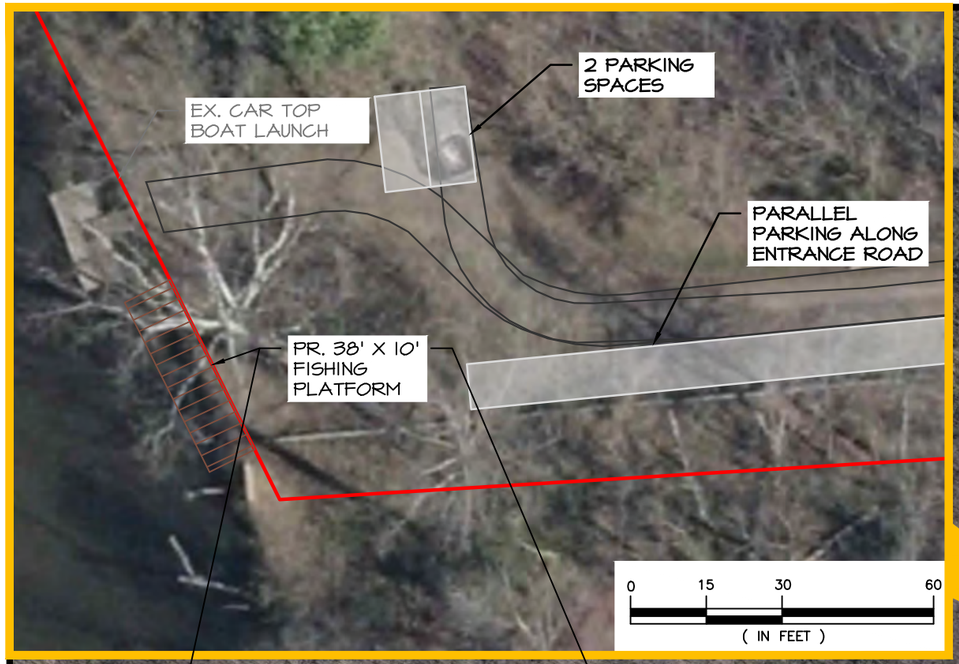
there is a pond to the west where an observation pier could be built, offering more scenic water views (Photo 117). Informational signs along the trail could educate visitors about native species and the importance of wetlands.

To create access to the park's southern parcel from Sands Road, some tree clearing would be required. At the existing clearing along the riverbank (Photo 118), there is potential to install another fishing platform. A kayak landing in this section of the park would also improve accessibility by water.

Photo 117 – Northwest pond where observation platform could be added

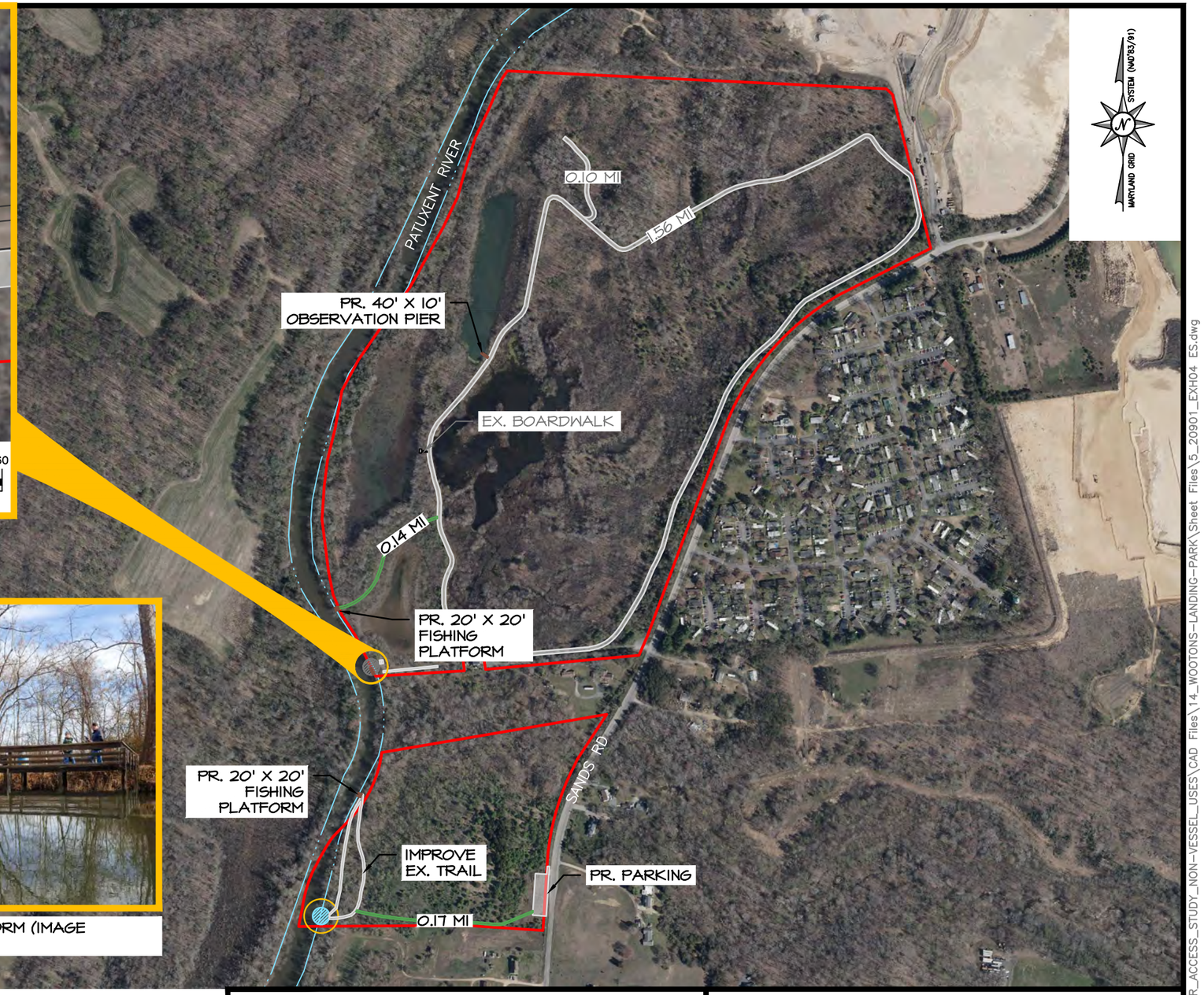
Photo 118 –Clearing in southern portion of park where amenities could be added

Photo 119 – Existing trail through southern portion of site



EX. FISHING PLATFORM

PR. UPGRADED FISHING PLATFORM (IMAGE CREATED WITH PHOTOSHOP)



LEGEND

- PARK BOUNDARY
- PR. AMENITY AREA (PICNIC TABLES, BENCHES, ETC.)
- EX. KAYAK LAUNCH
- PR. NATURE TRAIL
- PR. FISHING PLATFORM
- PR. KAYAK LANDING
- EX. NATURE TRAIL

GRAPHIC SCALE

0 300 600 1200

(IN FEET)

1 inch = 600 feet

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FIGURE 34
WOOTONS LANDING PARK CONCEPT PLAN

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CHECKED BY: CR	DATE: 10/31/24	

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2.14.6. Project Constraints

As previously mentioned, tree clearing would be necessary to create access to the southern parcel of the park from Sands Road. This could present permitting and mitigation challenges since the area is within an RCA, contains FIDS, and is fully forested. These impacts will likely require coordination with the Chesapeake Bay Ecological Services Field Office to assess potential effects on the monarch butterfly.

According to the DNR, the site is home to two bee species. Any site development must take into account the guidelines outlined in *A Guide to the Conservation of Forest Interior Dwelling Birds in the Chesapeake Bay Critical Area*. Any development affecting these sensitive areas will require appropriate mitigation.

2.14.7. Cost Estimate

The cost estimate in Table 14 combines square footage for all proposed piers in the concept plan. The blazed trail from the parking area to the river is anticipated to be completed by park staff utilizing park resources. Subsequent maintenance is also anticipated to be completed by park staff utilizing park resources.

Table 14 – Wootons Landing Park Cost Estimate

Description	Estimated Quantity		Unit Cost	Cost
Observation Pier*	400	SF	$150	$60,000
Fishing Platform*	400	SF	$150	$60,000
Fishing Platform*	380	SF	$150	$57,000
Fishing Platform*	400	SF	$150	$60,000
Sand Fill	25	CY	$150	$3,750
			Subtotal	**$240,750**
			20% Contingency	$48,150
			Total	**$288,900**

**Includes 30% Allowance for Permitting and Design*

2.14.8. Conclusion

Wootons Landing is already a popular fishing spot but could benefit from an upgraded fishing pier, which would enhance recreational opportunities in the area. Simple improvements to the existing nature trail, along with the addition of an observation pier, would provide more opportunities for visitors to enjoy the park.

3. CONCLUSION

As part of the County's initiative to increase water access opportunities in Anne Arundel County, BayLand performed a feasibility study on 14 County owned parks to determine how additional amenities could be added to support non-vessel launching activities.

Each of the 14 parks underwent a series of assessments and reviews to determine the feasibility of constructing new amenities on site. Field assessments were conducted to explore the existing park features from both land and water to determine potential project locations. Concepts were developed that focused on providing recreational amenities with minimal impacts on natural resources. For each concept developed, project constraints were analyzed as well as planning level costs provided for project implementation.

4. REFERENCES

Maryland's Environmental Resource & Land Information Network. Retrieved from: https://maryland.maps.arcgis.com/apps/webappviewer/index.html?id=434b195197364344a661da85c9bab3c9

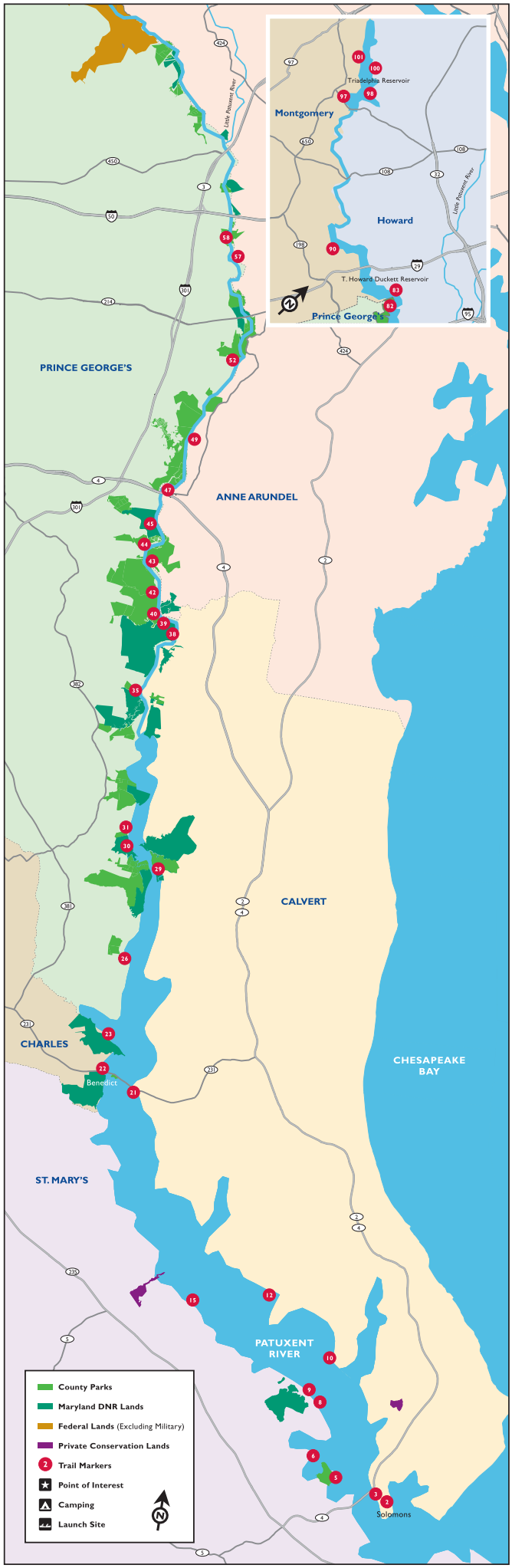
Maryland Coastal Atlas. Retrieved from: https://dnr.geodata.md.gov/CoastalAtlas/

U.S. Fish & Wildlife Service website, IPAC. Retrieved from: https://ipac.ecosphere.fws.gov/

Maryland Historical Trust, MEDUSA. Retrieved from: https://apps.mht.maryland.gov/MEDUSA/

APPENDIX A

Patuxent River Water Trail Map



Patuxent Water Trail

101 Triadelphia Recreation Area, 2600 Triadelphia Lake Rd., Brookeville MD 21036 / 301-774-9124 / GPS 39-14-00N 77-02-36W

100 Big Branch Ramp, 14810 Triadelphia Mill Rd., Dayton MD 21036 / 301-774-9124 / GPS 39-13-56N 77-01-42W

98 Pigtail Ramp, 6525 Greenbridge Rd., Dayton MD 21036 / 301-774-9124 / GPS 39-13-05N 77-00-23W

97 Greenbridge Ramp, 3310 Greenbridge Rd., Brookeville MD 20833 / 301-774-9124 / GPS 39-11-56N 77-00-47W

90 Browns Ridge Ramp, 220 Ednor Rd., Silver Spring MD 20905 / 301-774-9124 / GPS 39-08-43N 76-57-46W

83 Scotts Cove Ramp, 11004 Harding Road, Laurel MD 20707 / 301-774-9124 / GPS 39-08-04N 76-53-28W

82 Supplee Ramp, 16904 Supplee Lane, Laurel MD 20707 / 301-774-9124 / GPS 39-07-27N 76-53-02W

58 Governor Bridge Canoe Launch, 7600 Governor Bridge Rd., Bowie MD 20716 / 301-627-6074 / GPS 38-56-48N 76-41-41W

57 Davidsonville Park, 3042 Patuxent River Rd., Davidsonville MD 21035 / 410-222-7317 / GPS 38-55-56N 76-40-54W

52 Queen Anne Canoe Launch, 18405 Queen Anne Rd., Upper Marlboro MD 20774 / 301-627-6074 / GPS 38-53-03N 76-40-33W

49 Wooten's Landing, 4550 Sands Rd., Harwood MD 20776 / 410 741-9330 / GPS 38-51-22N 76-41-27W

47 Patuxent Wetlands Park, 1598 Southern Maryland Blvd., Lothian MD 20711 / 410 741-9330 / GPS 38-48-41N 76-42-37W

45 Iron Pot Landing, Patuxent River Park / reservations required, 301-627-6074 / GPS 38-47-45N 76-43-14W

44 Mt. Calvert Historical & Archaeological Park, 16801 Mt. Calvert Rd., Upper Marlboro, MD 20772 / 301-627-1286 / GPS 38-47-07N 76-42-48W

43 Jug Bay Wetlands Sanctuary, 1361 Wrighton Rd., Lothian MD 20711 / 410-741-9330 / GPS 38-46-17N 76-41-48W

42 Jackson's Landing, Patuxent River Park, 16000 Croom Airport Rd., Upper Marlboro MD 20772 / 301-627-6074 / GPS 38-46-23N 76-42-31W

40 Selby's Landing, 16000 Croom Airport Rd., Upper Marlboro MD 20772 / 301-627-6074 / GPS 38-45-09N 76-41-58W

39 White Oak Landing, Maryland Department of Natural Resources / reservations required, 301-888-1377 / GPS 38-44-33N 76-42-07W

38 Merkle Wildlife Sanctuary, 11704 Fenno Rd., Upper Marlboro MD 20772 / 301-888-1377 / GPS 38-43-44N 76-41-49W

35 Spice Creek, Patuxent River Park / reservations required, 301-627-6074 / GPS 38-41-30N 76-42-16W

31 Clyde Watson Boating Area, 17901 Magruder's Ferry Rd., Brandywine MD 20613 / 301-627-6074 / GPS 38-38-23N 76-41-38W

30 Milltown Landing, Maryland Department of Natural Resources / reservation required, 301-888-1410 / GPS 39-37-58N 76-41-27W

29 Kings Landing Park, 3255 Kings Landing Rd., Huntingtown MD 20639 / 410-535-2661 / GPS 38-37-31N 76-40-32W

26 Cedar Haven Fishing Area, 18400 Phyllis Weatley Blvd., Eagle Harbor MD 20608 / 301-627-6074 / GPS 38-34-34N 76-41-08W

23 Maxwell Hall Park, Charles County Recreation & Parks / reservations required, 301-932-3470 / GPS 38-32-05N 76-41-13W

22 Benedict Community Park, south side of Rt. 231 at the Benedict Bridge / 301-932-3470 / GPS 38-30-53N 76-40-26W

21 Hallowing Point, 6904 Hallowing Lane, Prince Frederick MD 20678 / 301-855-1748 / GPS 38-30-37N 76-39-52W

15 Holly Lane, 27290 Holly Lane, Mechanicsville MD 20659 / 301-475-4200 / GPS 38-25-05N 76-37-17W

12 Nan's Cove, 8081 Broomes Island Rd., Broomes Island MD 20615 / 410-535-2661 / GPS 38-25-29N 76-32-57W

10 Jefferson Patterson Park & Museum, 10515 Mackall Rd., St. Leonard MD 20685 / 410-586-8500 / GPS 38-24-04N 76-30-47W

9 Greenwell State Park, MD Department of Natural Resources, reservations required / 301-872-5688 / GPS 38-22-22N 76-31-56W

8 Greenwell State Park/Sotterley Plantation, 25410 Rosedale Manor Lane, Hollywood MD 20636 / 301-872-5688 / GPS 38-22-17N 76-31-36W

6 Forest Landing, 44600 Forest Landing Rd., Hollywood MD 20636 / 301 475-4200 / GPS 38-21-16N 76-31-56W

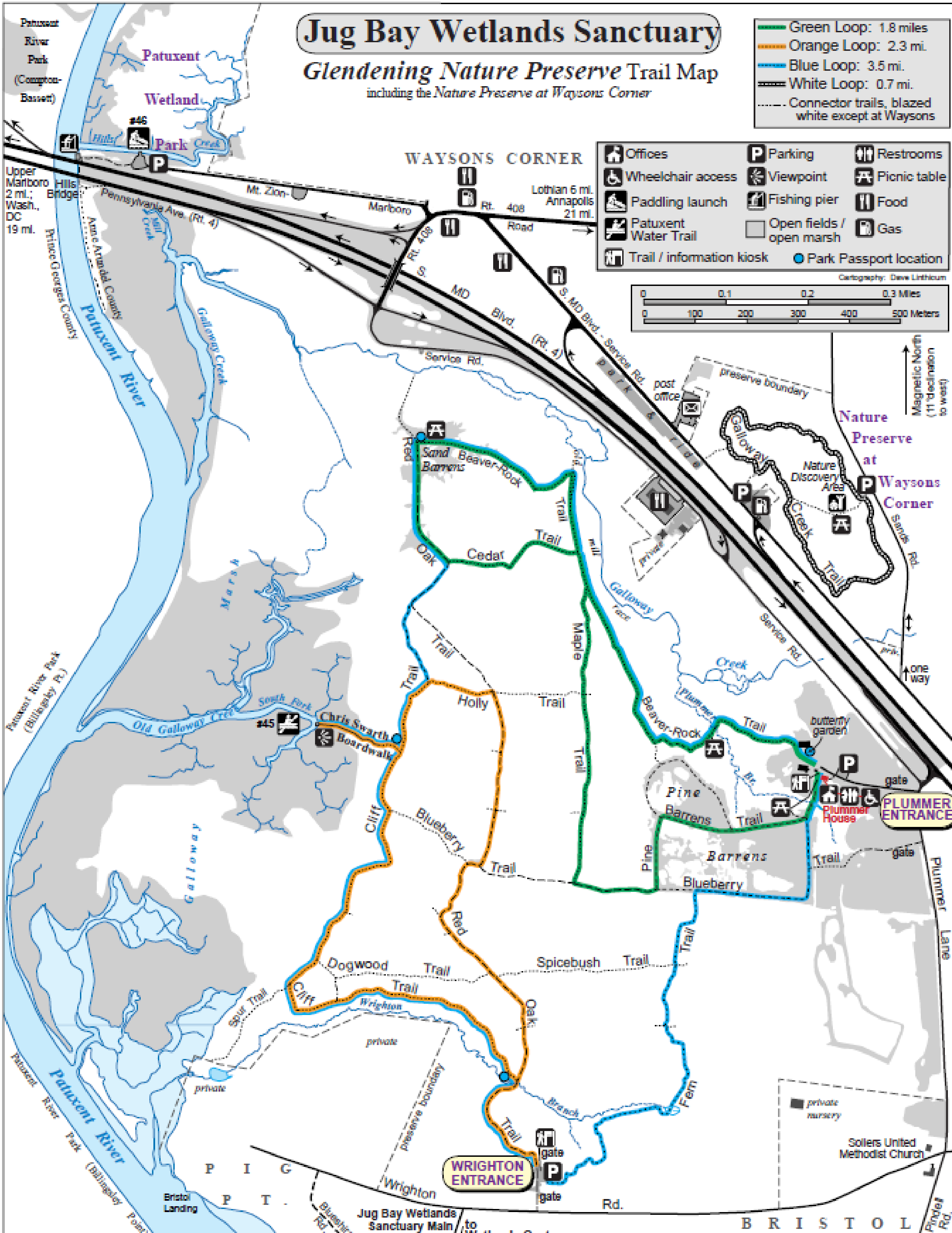
5 Clarks Landing, 45415 Clarks Landing Rd., Hollywood MD 20636 / 301-475-4200 / GPS 38-20-26N 76-30-13W

3 Solomons, 14448 Solomons Island Rd., Solomons MD 20688 / 301-855-1243, Ext. 2225 / GPS 38-19-29N 76-27-41W

2 Calvert Marine Museum, 14200 Solomons Island Rd., Solomons MD 20688 / 410-326-2042 / GPS 38-19-52N 76-27-49W

APPENDIX B

Glendening Nature Preserve Trail Map


Jug Bay Wetlands Sanctuary
Glendening Nature Preserve Trail Map
including the Nature Preserve at Waysons Corner
Green Loop: 1.8 miles
Orange Loop: 2.3 mi.
Blue Loop: 3.5 mi.
White Loop: 0.7 mi.
Connector trails, blazed white except at Waysons
Offices
Parking
Restrooms
Wheelchair access
Viewpoint
Picnic table
Paddling launch
Fishing pier
Food
Patuxent Water Trail
Open fields / open marsh
Gas
Trail / information kiosk
Park Passport location
Cartography: Dave Linthicum
0.1
0.2
0.3 Miles
100
200
300
400
500 Meters
Magnetic North (11° declination to west)
WAYSONS CORNER
Patuxent River Park (Compton-Bassett)
Patuxent Wetland Park
Hills Creek
#46
Upper Marlboro 2 mi.; Wash., DC 19 mi.
Hills Bridge
Mt. Zion-Marlboro Rt. 408 Road
Lothian 6 mi. Annapolis 21 mi.
Pennsylvania Ave. (Rt. 4)
S. MD Blvd. (Rt. 4)
S. MD Blvd. - Service Rd.
Park & Ride
post office
preserve boundary
Nature Preserve at Waysons Corner
Nature Discovery Area
Galloway Creek Trail
Sands Rd.
Service Rd.
one way
Anne Arundel County
Prince Georges County
Patuxent River
Galloway Creek
Sand Barrens
Beaver-Rock Trail
Red Oak Trail
Cedar Trail
Maple Trail
Galloway Creek
Marsh
Holly Trail
Chris Swarth Boardwalk
#45
Old Galloway Creek
South Fork
Beaver-Rock Trail
butterfly garden
gate
PLUMMER ENTRANCE
Plummer House
Pine Barrens Trail
Blueberry Trail
Cliff Trail
Red Oak Trail
Dogwood Trail
Spicebush Trail
Fern Trail
Wrighton Branch
Spur Trail
private
preserve boundary
WRIGHTON ENTRANCE
gate
Wrighton Rd.
Plummer Lane
private nursery
Sollers United Methodist Church
Patuxent River Park (Billingsley Pt.)
Patuxent River
P I G P T.
Bristol Landing
Billingsley Point
Bluestar Rd.
Jug Bay Wetlands Sanctuary Main Entrance
to Wetlands Center
BRISTOL
Pindell Rd.

APPENDIX C

Patuxent Greenway Parking Concept

ANNE ARUNDEL COUNTY
MARYLAND

PATUXENT GREENWAY PARKING IMPROVEMENTS

MAY 2025

Prepared by:

BayLand Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T Phone: (410) 694-9401
Hanover, Maryland 21076 Fax: (410) 694-9405
Website: www.baylandinc.com

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APPENDICES

1. INTRODUCTION

The Patuxent Greenway Parking Improvements project is on a 6-acre parcel adjacent to Piney Orchard Parkway and the Little Patuxent River in Anne Arundel County. The goal of the project is to provide parking access to the area and implement stormwater management to treat runoff from the increased impervious area on the site. The site is located within the Little Patuxent River Watershed (MD basin code: 02131105, Use Class I). Stormwater Management (SWM) Environmental Site Design (ESD) practices will be implemented to the maximum extent practicable (MEP) to provide SWM treatment for the impervious area within the contributing drainage areas.

2. STORMWATER MANAGEMENT ANALYSIS

2.1. METHODOLOGY

Stormwater Management calculations and techniques were completed in accordance with the *2000 Maryland Stormwater Design Manual*, the *Stormwater Management Act of 2007*, *Environmental Site Design (ESD) Process & Computations July 2010, and Accounting for Stormwater Wasteload Allocations and Impervious Acres Treated November 2021*.

2.2. TOPOGRAPHIC DATA

Topographic data was compiled from a combination of published and field collected data. Published data consisted of Anne Arundel County Geographic Information System (GIS) data. A topographic survey of the project area was conducted in February 2025 by BayLand Consultants & Designers, Inc. (BayLand).

2.3. ENVIRONMENTAL SITE DESIGN

The 0.39-acres of runoff to be directed to the micro-bioretention Best Management Practice (BMP) contains 0.14 acres of existing impervious area and 0.17 acres of proposed impervious area (80.2%). Full stormwater management treatment is targeted by implementing ESD practices to the MEP to provide water quality and mimic predevelopment conditions for 100 percent of the net proposed and existing impervious area to remain. Chapter 5 of the *Maryland Stormwater Design Manual, Volume II*, states that ESD practices shall also be used to the MEP to address Channel Protection volume (Cp_v) requirements. Additional structural practices to meet Cp_v are not proposed and the runoff curve number (RCN) values for the proposed drainage area will mimic woods in good condition land cover.

2.3.1. Target Environmental Site Design Volume

The drainage areas and associated impervious areas were utilized to determine the ESD volume (ESD_v) required to treat the target rainfall. Within the drainage area, the existing impervious area will remain and the proposed paved parking area will be

installed. Table 1 below is a summary of the ESDv calculations, full computations can be found in Appendix A.

Table 1 – ESDv Requirement Summary					
Study Point	Drainage Area (AC)	EX. Imp. Area (AC)	PR. Imp. Area (AC)	PE Required (IN)	ESDv Required (CF)
1	0.39	0.14	0.17	1.8	1,958

2.3.2. Proposed Environmental Site Design

The site design will achieve environmental design goals and maintenance of existing runoff patterns by proposing a BMP to capture and treat runoff from the contributing impervious area from the parking lot and road.

A micro-bioremediation BMP is a practice utilized to capture and treat runoff from impervious cover on the site by passing runoff through organic planting material and can include an underdrain filter of sand and gravel. The proposed BMP will treat runoff from the parking area, with a proposed 27-30” depth planting soil layer and 6” ponding depth. ESD_v is calculated by determining the available storage in the filter bed plus available ponding storage. The summary in Table 2 below identifies the ESD_v provided.

Table 2 – ESDv Provided Summary				
RG #1	Elevation (ft)	Area (sf)	Storage (cf)	ESD_v (cf)
Ponding	74	1,140	--	--
	74.5	1,440	645	645
	Area (sf)	Media Depth (ft)	Media Porosity (%)	ESD_v (cf)
Filter Bed	1,140	2.92	40	1330
			Total ESD_v	1,975

The micro-bioretention is proposed to treat runoff from the site and meet ESD requirements to the MEP while maintaining existing runoff patterns. Proper application of these techniques provides adequate treatment for the drainage area. Appendix A includes all ESD computations.

2.4. TRAFFIC DESIGN

The required intersection sight distances required for the proposed highway entrance was investigated. Using the methods stated in the 2024 Anne Arundel County Design Manual Chapter 3 Roads, Streets, and Trafficways and 2018 American Association of

State Highway and Transportation Officials (AASHTO) A Policy on Geometric Design of Highways and Streets Section 9.5.3, the required sight distances for a left turn and right turn from a stop onto the major highway were determined. The proposed grade of the parking entrance is 5% uphill to the major highway that had a design speed of 35 mph. The parking entrance requires a left turn sight distance of 440 ft and a right turn sight distance of 360 ft. The full sight distance calculations can be found in Appendix B.

ATTACHMENT A

ESD_V Computations

PATUXENT GREENWAY PARKING IMPROVEMENTS
TOTAL ESDv REQUIREMENTS

Step 1: Determine ESD Implementation Goals

A) Determine Pre-Developed Conditions

Soil Conditions

HSG	RCN	Area (AC)	Percent
A	38	0.000	0%
B	55	0.000	0%
C	70	0.000	0%
D	77	0.388	100%

Composite RCN: 77

The target RCN for "woods in good condition" is 70.

B) Determine Target P_E using Table 5.3

Hydrologic Soil Group D										
%I	RCN*	P_E = 1"	1.2"	1.4"	1.6"	1.8"	2.0"	2.2"	2.4"	2.6"
0%	80									
5%	81									
10%	82									
15%	83									
20%	84	**77**								
25%	85	78								
30%	85	78	**77**	**77**						
35%	86	79	78	78						
40%	87	82	81	79	**77**					
45%	88	82	81	79	78					
50%	89	83	82	80	78					
55%	90	84	82	80	78					
60%	91	85	83	81	78					
65%	92	85	83	81	78					
70%	93	86	84	81	78					
75%	94	86	84	81	78					
80%	94	86	84	82	79					
85%	95	86	84	82	79					
90%	96	87	84	82	79	**77**				
95%	97	88	85	82	80	78				
100%	98	89	86	83	80	78	**77**			

Drainage Area = 0.388 AC

Impervious Area = 0.036 AC **P_E =** 1.8

%I = 80.2 %

***P_E =** **1.80 inch**

C) Compute Runoff Depth (Q_E)

$Q_E = P_E * R_v$

P_E = 1.80 inch

$R_V = 0.05+(0.009)(I)$ %I = 80.2

R_V = 0.772

Q_E = 1.389 inches

D) Calculate total ESD_V

$$ESD_V = \frac{P_E * R_V * Drainage\ Area}{12}$$

ESD_V = 0.045 AC-FT
1,958 CF

ATTACHMENT B

Sight Distance Calculations

Intersection Sight Distance Calculation

Left Turn from Stop	
Vehicle Time Gap Major Road	
Design Vehicle	Time gap (s)
Passenger Car	7.5
Single Unit Truck	9.5
Combination Unit Truck	11.5
Grade (%)	5%
Adjustement Value (s)	1
Final Design Time Gap (s)	8.5
Major Road Design Speed (mph)	35
Intersection Sight Distance (ft)	437
Design Length along Major Road (ft)	440

Right Turn from Stop	
Vehicle Time Gap Major Road	
Design Vehicle	Time gap (s)
Passenger Car	6.5
Single Unit Truck	8.5
Combination Unit Truck	10.5
Grade (%)	5%
Adjustement Value (s)	0.5
Final Design Time Gap (s)	7
Major Road Design Speed (mph)	35
Intersection Sight Distance (ft)	360
Design Length along Major Road (ft)	360

ATTACHMENT C

Cost Estimate

PATUXENT GREENWAY PARKING IMPROVEMENTS

10% CONCEPT DESIGN

PROBABLE COST ESTIMATE WORKSHEET

Project	Patuxent Greenway Parking	Project #	Contract #
Developer	Anne Arundel County DPW	Engineer:	BayLand Consultants & Designers, Inc
Address	2662 Riva Road, 3rd Floor	Address	7455 New Ridge, Suite T
	Annapolis, MD 21401		Hanover, Maryland 21076
Phone	(410) 222-7175	Phone	(410) 694-9401
Fax	(410) 222-7589	Fax	(410) 694-9405

Opinion of Probable Costs

Item No.	Description	Quantity		Unit Price	Extension
1	Mobilization/Demobilization	1	LS	$0.00	$30,000
2	Construction Stakeout	1	LS	$0.00	$15,000
3	Clearing & Grubbing	2000	SY	$28.00	$56,000
4	Erosion and Sediment Control	1	LS	$30,000.00	$30,000
5	Demolition and Removal of Existing Structures	1	LS	$5,000.00	$5,000
6	Tree Removal	8	EA	$2,000.00	$16,000
7	No. 57 Stone	50	CY	$50.00	$2,500
8	Coarse Sand	20	CY	$30.00	$600
9	Planting Soil	110	CY	$60.00	$6,600
10	3" Mulch Layer	20	SY	$15.00	$300
11	Pea Gravel	20	CY	$50.00	$1,000
12	Micro-Bioretention Plantings	1,440	SF	$5.00	$7,200
13	6" PVC Pipe	70	LF	$40.00	$2,800
14	Type D Inlet	1	EA	$5,000.00	$5,000
15	8" PVC Pipe	40	LF	$70.00	$2,800
16	Cl I Riprap	10	CY	$250.00	$2,500
17	6" Cobble	10	CY	$175.00	$1,750
18	Full Depth Pavement	820	SY	$65.00	$53,300
19	Pavement Markings	1	LS	$5,000.00	$5,000
20	ADA/Parking Signs	1	LS	$1,000.00	$1,000
21	Curb & Gutter	400	LF	$40.00	$16,000
22	Earthwork	800	CY	$45.00	$36,000
23	Temporary Stabilization	1500	SY	$2.00	$3,000
24	Topsoil	250	CY	$50.00	$12,500
25	Permanent Seed & Mulch	1500	SY	$4.00	$6,000
				Sub-Total Estimated Construction Cost	$317,850
				20% Contingency Total Estimated Construction Cost	$63,570
				Total Estimated Project Cost	**$381,420**

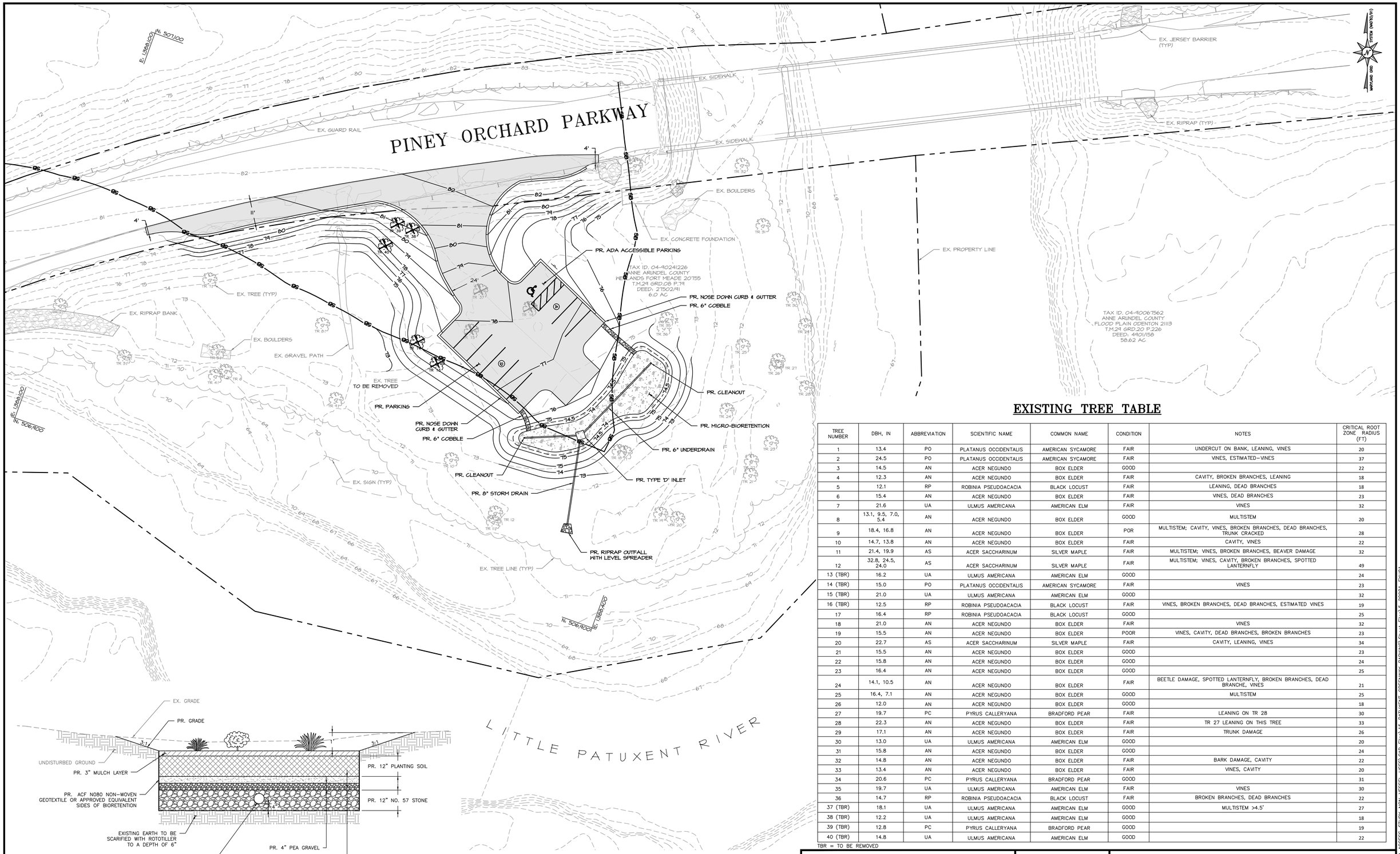
Estimate Prepared by:

Matthew Brooks **5/8/2025**

Print Name Signature Date

Approved: _____ Date

As Revised: _____ Date



EXISTING TREE TABLE

TREE NUMBER	DBH, IN	ABBREVIATION	SCIENTIFIC NAME	COMMON NAME	CONDITION	NOTES	CRITICAL ROOT ZONE RADIUS (FT)
1	13.4	PO	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	FAIR	UNDERCUT ON BANK, LEANING, VINES	18
2	24.5	PO	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	FAIR	VINES, ESTIMATED–VINES	37
3	14.5	AN	ACER NEGUNDO	BOX ELDER	GOOD		22
4	12.3	AN	ACER NEGUNDO	BOX ELDER	FAIR	CAVITY, BROKEN BRANCHES, LEANING	18
5	12.1	RP	ROBINIA PSEUDOACACIA	BLACK LOCUST	FAIR	LEANING, DEAD BRANCHES	18
6	15.4	AN	ACER NEGUNDO	BOX ELDER	FAIR	VINES, DEAD BRANCHES	23
7	21.6	UA	ULMUS AMERICANA	AMERICAN ELM	FAIR	VINES	32
8	13.1, 9.5, 7.0, 5.4	AN	ACER NEGUNDO	BOX ELDER	GOOD	MULTISTEM	20
9	18.4, 16.8	AN	ACER NEGUNDO	BOX ELDER	POR	MULTISTEM; CAVITY, VINES, BROKEN BRANCHES, DEAD BRANCHES, TRUNK CRACKED	28
10	14.7, 13.8	AN	ACER NEGUNDO	BOX ELDER	FAIR	CAVITY, VINES	22
11	21.4, 19.9	AS	ACER SACCHARINUM	SILVER MAPLE	FAIR	MULTISTEM; VINES, BROKEN BRANCHES, BEAVER DAMAGE	32
12	32.8, 24.5, 24.0	AS	ACER SACCHARINUM	SILVER MAPLE	FAIR	MULTISTEM; VINES, CAVITY, BROKEN BRANCHES, SPOTTED LANTERNFLY	49
13 (TBR)	16.2	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD		24
14 (TBR)	15.0	PO	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	FAIR	VINES	23
15 (TBR)	21.0	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD		32
16 (TBR)	12.5	RP	ROBINIA PSEUDOACACIA	BLACK LOCUST	FAIR	VINES, BROKEN BRANCHES, DEAD BRANCHES, ESTIMATED VINES	19
17	16.4	RP	ROBINIA PSEUDOACACIA	BLACK LOCUST	GOOD		25
18	21.0	AN	ACER NEGUNDO	BOX ELDER	FAIR	VINES	32
19	15.5	AN	ACER NEGUNDO	BOX ELDER	POOR	VINES, CAVITY, DEAD BRANCHES, BROKEN BRANCHES	23
20	22.7	AS	ACER SACCHARINUM	SILVER MAPLE	FAIR	CAVITY, LEANING, VINES	34
21	15.5	AN	ACER NEGUNDO	BOX ELDER	GOOD		23
22	15.8	AN	ACER NEGUNDO	BOX ELDER	GOOD		24
23	16.4	AN	ACER NEGUNDO	BOX ELDER	GOOD		25
24	14.1, 10.5	AN	ACER NEGUNDO	BOX ELDER	FAIR	BEETLE DAMAGE, SPOTTED LANTERNFLY, BROKEN BRANCHES, DEAD BRANCHE, VINES	21
25	16.4, 7.1	AN	ACER NEGUNDO	BOX ELDER	GOOD	MULTISTEM	25
26	12.0	AN	ACER NEGUNDO	BOX ELDER	GOOD		18
27	19.7	PC	PYRUS CALLERYANA	BRADFORD PEAR	FAIR	LEANING ON TR 28	30
28	22.3	AN	ACER NEGUNDO	BOX ELDER	FAIR	TR 27 LEANING ON THIS TREE	33
29	17.1	AN	ACER NEGUNDO	BOX ELDER	FAIR	TRUNK DAMAGE	26
30	13.0	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD		20
31	15.8	AN	ACER NEGUNDO	BOX ELDER	GOOD		24
32	14.8	AN	ACER NEGUNDO	BOX ELDER	FAIR	BARK DAMAGE, CAVITY	22
33	13.4	AN	ACER NEGUNDO	BOX ELDER	FAIR	VINES, CAVITY	20
34	20.6	PC	PYRUS CALLERYANA	BRADFORD PEAR	GOOD		31
35	19.7	UA	ULMUS AMERICANA	AMERICAN ELM	FAIR	VINES	30
36	14.7	RP	ROBINIA PSEUDOACACIA	BLACK LOCUST	FAIR	BROKEN BRANCHES, DEAD BRANCHES	22
37 (TBR)	18.1	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD	MULTISTEM >4.5'	27
38 (TBR)	12.2	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD		18
39 (TBR)	12.8	PC	PYRUS CALLERYANA	BRADFORD PEAR	GOOD		19
40 (TBR)	14.8	UA	ULMUS AMERICANA	AMERICAN ELM	GOOD		22

TBR = TO BE REMOVED

MICRO–BIORETENTION DETAIL

SCALE: 1" = 2'

CONCEPT EXHIBIT

SCALE: 1" = 20'

0 10 20 40

1 INCH = 20 FEET

BayLand Consultants & Designers, Inc.

"Integrating Engineering and Environment"

7455 New Ridge Road, Suite T
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www.baylandinc.com

BAYLAND JOB NO. 5_20901

PATUXENT GREENWAY PARKING IMPROVEMENTS CONCEPT EXHIBIT

REVISIONS				
DATE	BY	DESCRIPTION	SCALE: 1" = 20'	
			DRAWN BY: MDB	DATE: 7/2/25
			CHECKED BY: MB	DATE: 7/2/25
			DESIGNED BY: MDB	DATE: 7/2/25
			SHEET NO. 1 OF 1	

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