

# Dueling Creek Heritage Trail

## Concept Plan



# Table of Contents

<b>Dueling Creek Heritage Trail Concept Plan</b>		<b>Project Vision and Goals.....</b>	<b>2</b>
		<b>Project Background.....</b>	<b>3</b>
		<b>Project Guiding Principles.....</b>	<b>4</b>
<b>The Town of Colmar Manor</b>		<b>A Brief History.....</b>	<b>8</b>
		<b>Community Health Profile (At a Glance).....</b>	<b>10</b>
<b>1</b>	<b>Dueling Creek Heritage Trail.....</b>		<b>14</b>
	Potential Trail Routes.....		15
	Trail Design Guidelines.....		26
<b>2</b>	<b>Interpretive Themes and Signage.....</b>		<b>35</b>
	Primary Interpretive Themes.....		36
	User Experience .....		44
	Accessibility.....		48
<b>3</b>	<b>Stakeholder Engagement.....</b>		<b>49</b>
	Stakeholder Interviews.....		50
	Stakeholder Meetings.....		51
<b>4</b>	<b>Funding Sources and Cost Estimates.....</b>		<b>53</b>
	Funding Sources.....		54
	Cost Estimates.....		57
	<b>Next Steps.....</b>		<b>58</b>
	<b>Appendix.....</b>		<b>60</b>
	Community Health Profile (Continued).....		I
	Resource Inventory.....		II

# Acknowledgments

## Project Partners

Anacostia Trails Heritage Area, Inc.

Town of Colmar Manor

Maryland-National Capital Park and Planning Commission

Anacostia Watershed Society

With technical support from National Park Service (NPS) – Rivers, Trails, and Conservation Assistance Program

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The Core Project Team would like to thank the following agencies, organizations, businesses, and persons for their contributions to this Concept Plan:

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# Dueling Creek Heritage Trail Concept Plan



# Project Vision & Goals

The **vision** of the Dueling Creek Heritage Trail is to support a safe and healthy Colmar Manor by:

Creating safe and close-to-home opportunities for residents and visitors to recreate outdoors

Improving access to over 40 miles of walking and biking trails along the Anacostia River

Honoring the area's ties to the War of 1812 and the Star-Spangled Banner National Historic Trail

The **goal** for Anacostia Trails Heritage Area, Inc. (ATHA) and project partners is the development of a concept plan for the proposed pedestrian and bicycle trail. The plan outlines 1. Potential alignments for the proposed trail and trail design guidelines; 2. Interpretive themes and signage considerations; 3. Input from stakeholder engagement; and 4. Funding sources and general cost estimates. The plan also includes a brief history of Colmar Manor and a community health profile outlining Colmar Manor's socio-economic and health levels.

## Planning for a New Trail

# DUELING CREEK HERITAGE TRAIL

Anacostia Trails Heritage Area, Inc. (ATHA) and the Town of Colmar Manor are interested in developing a walking/biking trail that connects the historic Dueling Grounds with the Anacostia River Trail and Bladensburg Waterfront Park.

**PROJECT PARTNERS**  
Anacostia Trails Heritage Area, Inc.  
Town of Colmar Manor  
Maryland-National Capital Park & Planning Commission  
Anacostia Watershed Society  
With technical support from National Park Service - Rivers, Trails, and Conservation Assistance Program

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The purpose of the Dueling Creek Heritage Trail is to support a safe and healthy Colmar Manor by:

- Creating safe and close-to-home opportunities for residents and visitors to recreate outdoors
- Improving access to over 40 miles of walking and biking trails along the Anacostia River
- Honoring the area's ties to the War of 1812 and the Star-Spangled Banner National Historic Trail

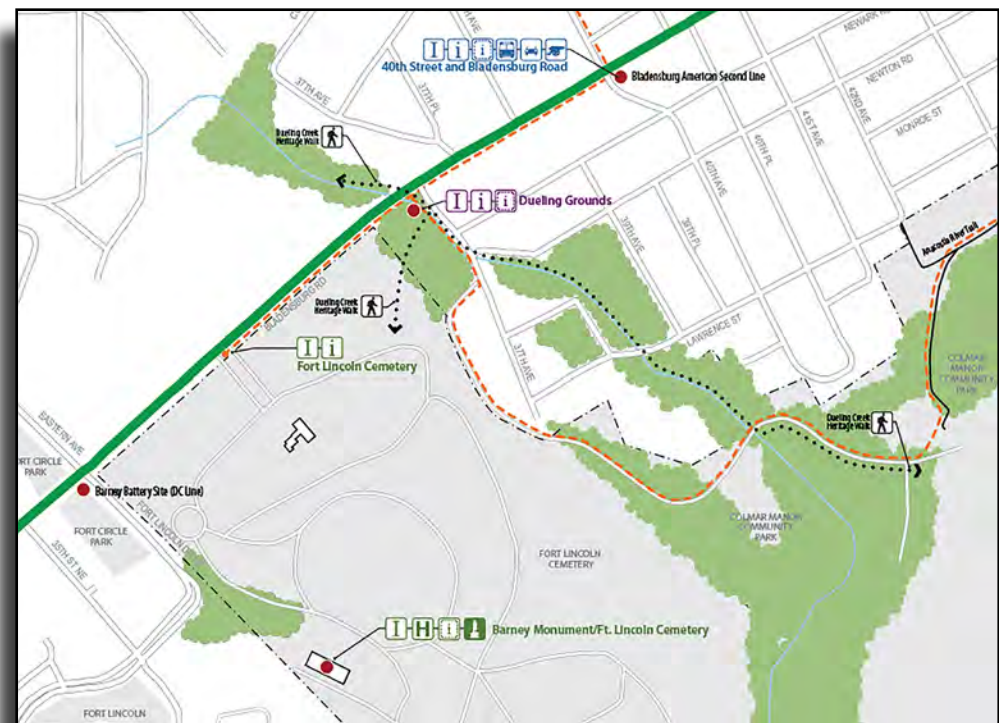
# Project Background

The vision for the Dueling Creek Heritage Trail is not new. The vision for the trail was first introduced in 2012 in the Star-Spangled Banner National Historic Trail Comprehensive Management Plan (CMP). The CMP outlined a trail development approach and a list of project priorities in Bladensburg and the Port Towns area to enhance the connection between local communities and the Star-Spangled Banner National Historic Trail (STSP) and “the places, people, and events that led to the birth of our National Anthem during the War of 1812.”<sup>1</sup>

One of the projects identified in the CMP was the Dueling Creek Heritage Walk. In the CMP, the trail would take visitors “along Dueling Creek from Colmar Manor Park to Fort Lincoln Cemetery and the Bladensburg American Second Line site overlooking surrounding communities.”<sup>2</sup> The trail would start at the Dueling Grounds and follow Dueling Creek towards the community park, eventually connecting with the Anacostia River Trail.

During the bicentennial celebrations for the War of 1812, much support existed in the area for the development of the trail. But when the celebrations culminated in 2014 with the 200th anniversary reenactment of the Battle of Bladensburg in Colmar Manor, the vision for the Dueling Creek Heritage Walk was shelved. Since then, the trail has been waiting to be reactivated.

In 2019, ATHA began exploring the reactivation of the project and applied for and received a technical assistance grant from the National Park Service Rivers, Trails, and Conservation Assistance program (NPS RTCA) for the development of a concept plan for the trail. Since November of 2019, NPS RTCA has assisted ATHA with the development of the plan and efforts to build consensus from county agencies, town government and the Colmar Manor community.



*Dueling Creek Heritage Walk, as shown in the 2012 Star-Spangled Banner National Historic Trail CMP*

# Project Guiding Principles

ATHA, NPS RTCA and project partners began the concept planning process by conducting a site visit and hosting a project meeting in Colmar Manor in November of 2019. The project partners that participated in this initial engagement included the Town of Colmar Manor, Anacostia Watershed Society (AWS), Maryland-National Capital Park and Planning Commission (M-NCPPC), and the National Park Service Star-Spangled Banner National Historic Trail (STSP). This initial engagement with project partners provided ATHA and NPS RTCA the opportunity to learn the priorities that each partner had in mind for the project.

The priorities identified by all project partners provide the opportunity to address a number of community needs in Colmar Manor to increase safe access to green spaces, promote healthy living, improve connections with regional recreation networks, and further recognition of the area's historical significance.

Through on-going in-person and virtual meetings, ATHA, NPS RTCA and project partners identified four guiding principles for the Dueling Creek Heritage Trail:



## 1. Heritage

- Highlight the past
- Journey of National Historic Trails
- STSP
- WARO
- CAJO



## 2. Education

- Health & Outdoor Recreation
- Programming
- Dueling Creek
- Bladensburg Waterfront Park



## 3. Connectivity & Accessibility

- Limited access to Colmar Manor Community Park
- Green spaces are underutilized



## 4. Safety

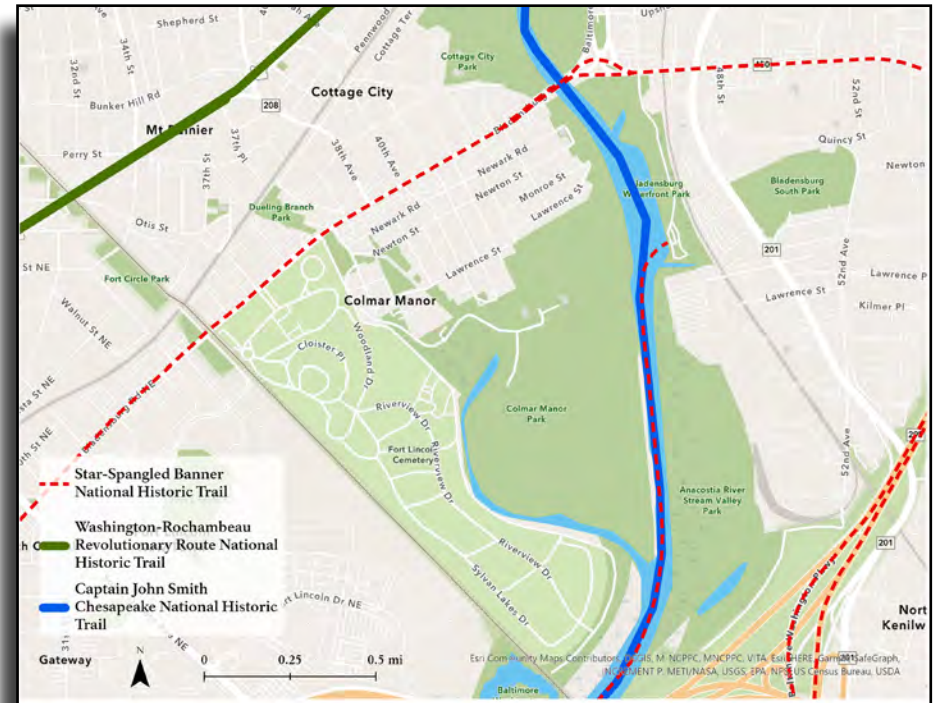
- Negative perception
- “The Dueling Grounds are kind of tucked-in, and you’re on your own.”



## Heritage

The trail would highlight the past by continuing to honor the area's ties to the War of 1812 and the Star-Spangled Banner National Historic Trail through interpretive waysides that incorporate the untold stories of Black or African Americans and Native Peoples and their impact during the war.

Project partners could capitalize on the close proximity of other national historic trails such as the Washington-Rochambeau Revolutionary Route (WARO) and Captain John Smith Chesapeake (CAJO) to promote the area as a Journey of National Historic Trails.



## Education

The COVID-19 pandemic brought to light the importance for all communities to have adequate access to outdoor recreation to promote healthy living. The trail would provide a community facing increased health risks with a close-to-home recreation amenity.

Community events along the trail would educate residents and visitors on the history of dueling at the Dueling Grounds, and the natural environment of Dueling Creek, the Dueling Creek Natural Area and the Anacostia River at the Bladensburg Waterfront Park.





## Connectivity and Accessibility

The trail would connect community assets in Colmar Manor such as the community garden and various playgrounds, while also improving access to the Colmar Manor Community Park.

The trail would increase access to the Anacostia River and water-based recreation activities available at the Bladensburg Waterfront Park, as well as the regional network of the Anacostia River Trail.



## Safety

The trail could be a model for a well-designed community trail with lighting and other design features geared towards providing a sense of safety and positive associations for all users.

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# Town of Colmar Manor



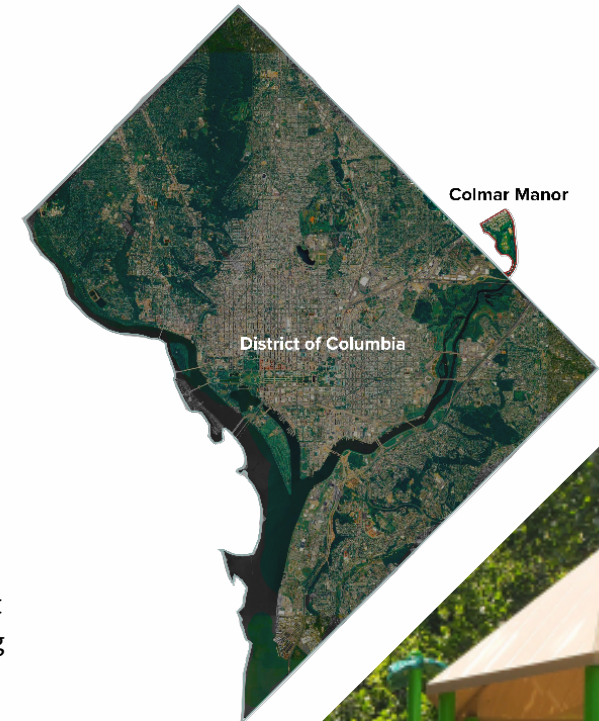
## A Brief History

The Town of Colmar Manor is located to the northeast of the District of Columbia, where the District is bordered by Prince George's County, Maryland. Colmar Manor is an incorporated town and it is part of the Port Towns Community, "a group of four individual municipalities located on the Anacostia River in Prince George's County,"<sup>3</sup> which also includes the municipalities of Bladensburg, Cottage City and Edmonston.

Throughout its development, Colmar Manor witnessed a number of events that have played a significant role in the history of the District of Columbia, Maryland and the nation. English settlers are believed to have arrived in the area during the early 17th century. Though most likely farmers by trade, it is possible that settlers engaged in trading given the town's close proximity to the Anacostia River and the Port of Bladensburg. During the 18th century Bladensburg had become a booming port town and one of the key commercial centers along the eastern seaboard; often referred to as "one of the safest and most commodious harbors in America, being sufficiently deep for the largest ships..."<sup>4</sup>

In the 19th century, Colmar Manor was the battleground for two important events of national and local significance. During the War of 1812, the Battle of Bladensburg took place near the area of what is today Fort Lincoln Cemetery. The battle was a short engagement that took place on August 24, 1814, between the British military and the untrained, untested American militia. Facing little resistance, the British defeated the American militia and continued their descent into Washington, D.C., leading to the burning of the Capitol Building, the President's Mansion and other public buildings.<sup>5</sup>

The other event of local significance that took place during the 19th century was Colmar Manor becoming the site of the infamous Dueling Grounds, also known as "The Dark and Bloody Grounds."<sup>6</sup> With dueling being illegal in Washington, D.C. during the 1700s and 1800s, people would travel the Anacostia River into Maryland and up Dueling Creek to what is today the Dueling Grounds. The site of over 50 duels, the Dueling Grounds were used to settle political and personal differences, including the famous dispute between Commodore Stephen Decatur Jr. and Commodore James Barron, fought on March 22, 1820.



The development of Colmar Manor as a town began in the early 20th century. In 1918, the area was divided into plots and homes began to be built, leading to about 100 people settling in the area.<sup>7</sup> Around this time, the town “assumed a name derived from its proximity to the District of Columbia – the first syllable of Columbia and that of Maryland were combined to form ‘Colmar.’”<sup>8</sup> With the hopes of growing their town and the need for “street improvements, street lights, police patrols and other necessities,”<sup>9</sup> residents first petitioned for the town to be incorporated in 1924. While the original petition was denied by the Maryland General Assembly, residents once again petitioned for incorporation in 1926. On February of 1927, the Town of Colmar Manor became incorporated.

By the 1960s, Bladensburg Road, the northern boundary of the town and a major avenue connecting Colmar Manor with Washington, D.C., experienced the decline of small shops such as grocery stores and saw the rise of “liquor stores and drinking establishments.”<sup>10</sup> As part of the urban renewal programs of the 1960s, Bladensburg Road experienced a face-lift of its dilapidated buildings and new businesses

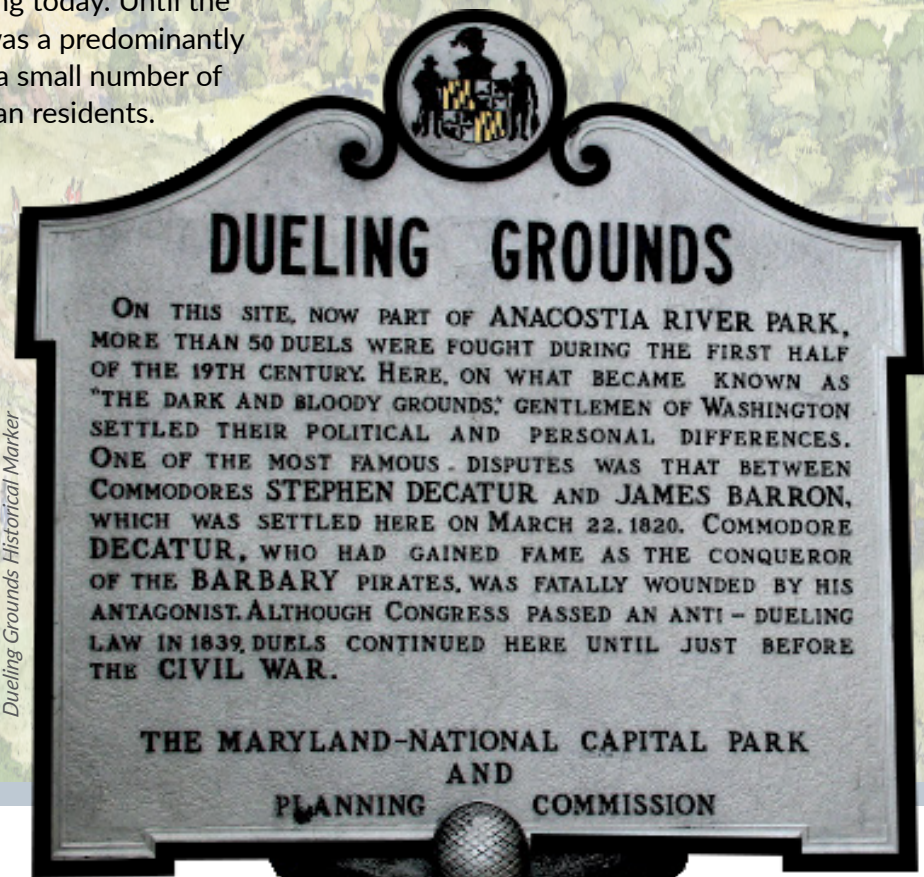
*Background: Battle of Bladensburg, 1814*

were introduced to the area such as fast-food establishments. In 1987, Bladensburg Road, the center of commerce life, saw the construction of the Colmar Manor Shopping Center; today also known as the Port Towns Shopping Center. The construction of the shopping center brought new businesses to the area ranging from grocery stores and pet stores, to other convenience shops.

Since the 1980s, Colmar Manor has experienced another significant event that mirrors the changing demographics the nation is experiencing today. Until the 1980s, Colmar Manor was a predominantly white community, with a small number of Black or African American residents.

By 1990, the demographic make-up of the town was evenly split between Black or African American and White residents. By the early 2000s, Black or African American residents became the majority racial group in the town. However, yet another demographic shift occurred by 2010 when Hispanic/Latinx residents surpassed the number of White and Black or African American residents. A trend that continues to this day.

*Dueling Grounds Historical Marker*



# Community Health Profile (At a Glance)

In similar fashion to many communities across the nation, Colmar Manor has its own set of challenges based on social and cultural determinants of health. In order to understand Colmar Manor's socio-economic and health levels, a community health profile was developed for the town. The profile introduces existing community health goals, and examines socio-economic indicators and health/wellness factors for the population of Colmar Manor.

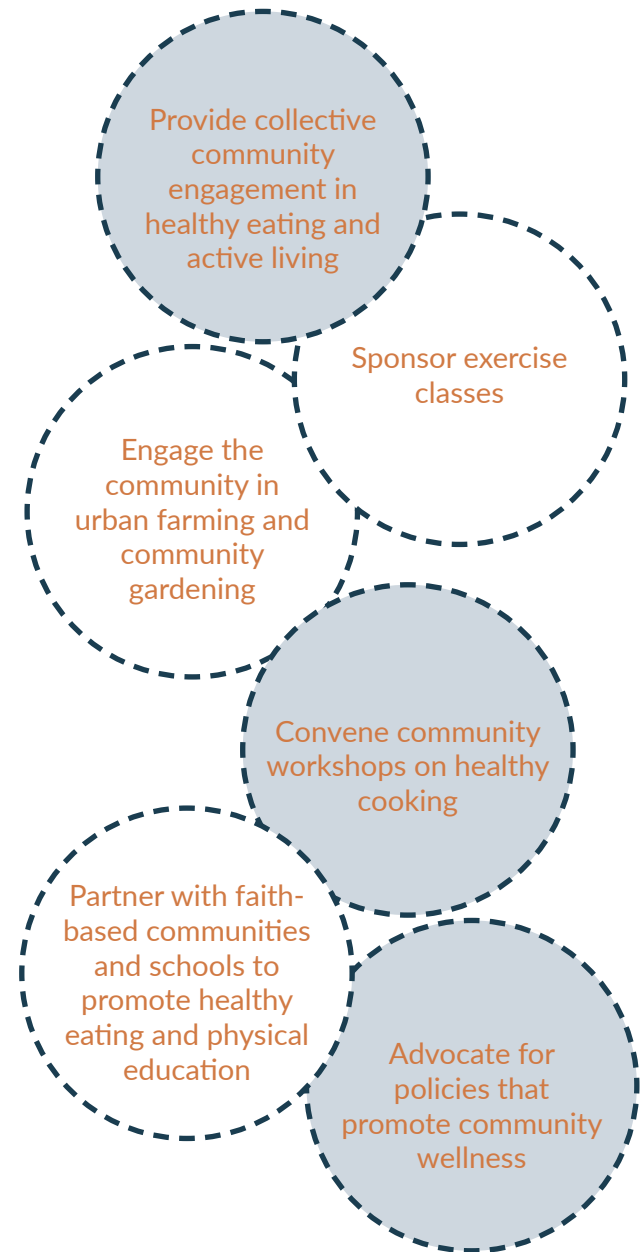
*More in-depth information on socio-economic levels can be found in Appendix A. Pre-COVID 19 data was included in the profile as current data is not yet available from sources referenced.*

Throughout the years, Colmar Manor has been part of various community health partnerships and health assessments to reduce obesity, chronic illness and health inequities within the community, while improving active living through

outdoor recreation. The Port Towns Community Health Partnership (PTCHP) was developed in 2008 as a collaboration between community residents, organizations and funders with the goal of supporting healthy living in the Port Towns.

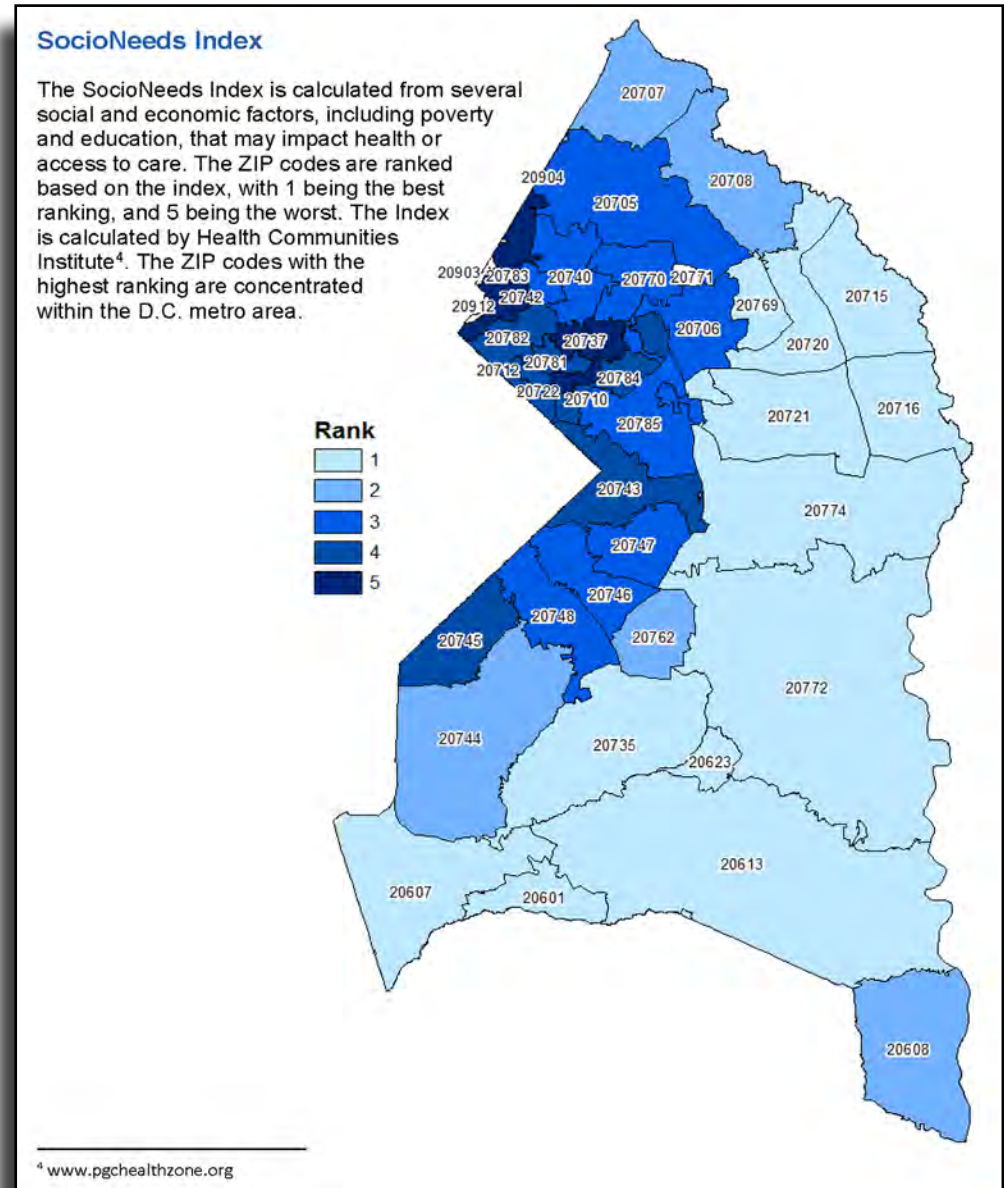


Working with schools, businesses, medical facilities, neighborhoods and faith-based institutions, the partnership identified a number of key community goals, including:



The partnership also sought to improve health levels in the Port Towns through outdoor recreation and provided funding to the Anacostia Watershed Society (AWS) to “increase access to recreational activities and encourage active living and stewardship of natural resources along the Anacostia River at the Bladensburg Waterfront Park.”<sup>11</sup> AWS provided “boat access, paddling and canoe safety instruction, programs for biking and walking, and education on native flora and fauna along the Anacostia River Watershed.”<sup>12</sup>

In 2019, Prince George’s County updated its Community Health Assessment and reintroduced four priorities to enhance the county’s healthcare delivery network: 1. Determinants of health; 2. Behavioral health; 3. Obesity and metabolic syndrome; and 4. Cancer. The core assessment team conducted community resident surveys (available in English, Spanish and French), and key informant interviews to capture how residents perceive their health and their local health system. When looking into the role outdoor recreation plays in supporting active living, the majority of residents consider “the county’s vast array of green space and the Prince George’s County Parks and Recreation Department” as one of the county’s most important assets/strengths relative to their health and well-being. The assessment also highlighted that residents value green space and consider access to outdoor recreation amenities one of the main issues to be changed within their community.

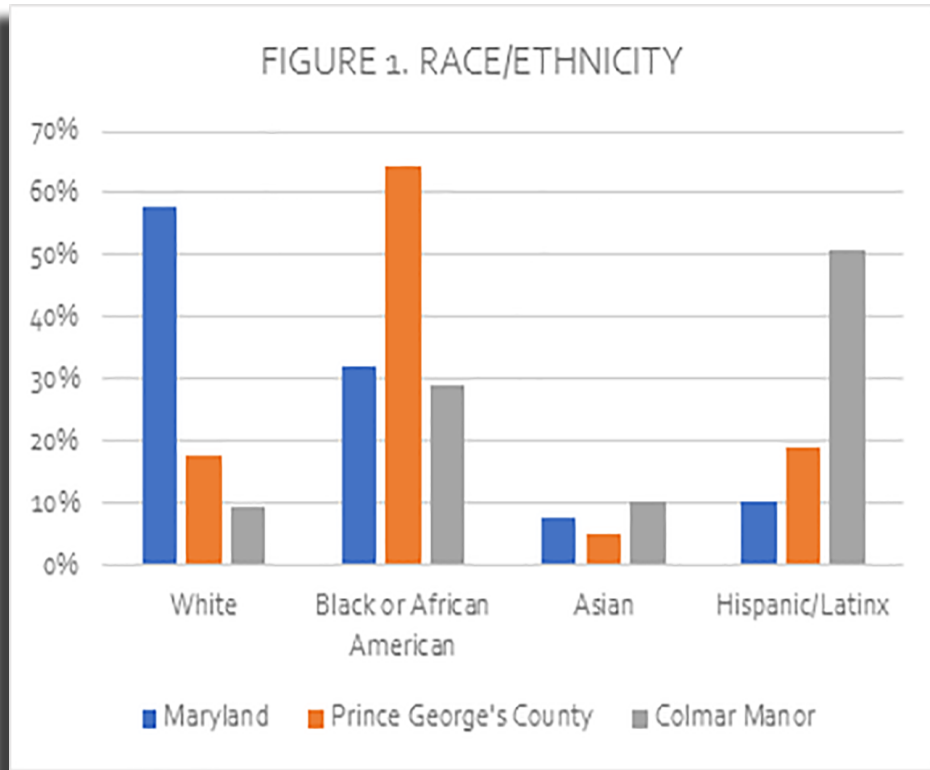


2019 Community Health Assessment- SocioNeeds Index

# Area Demographics

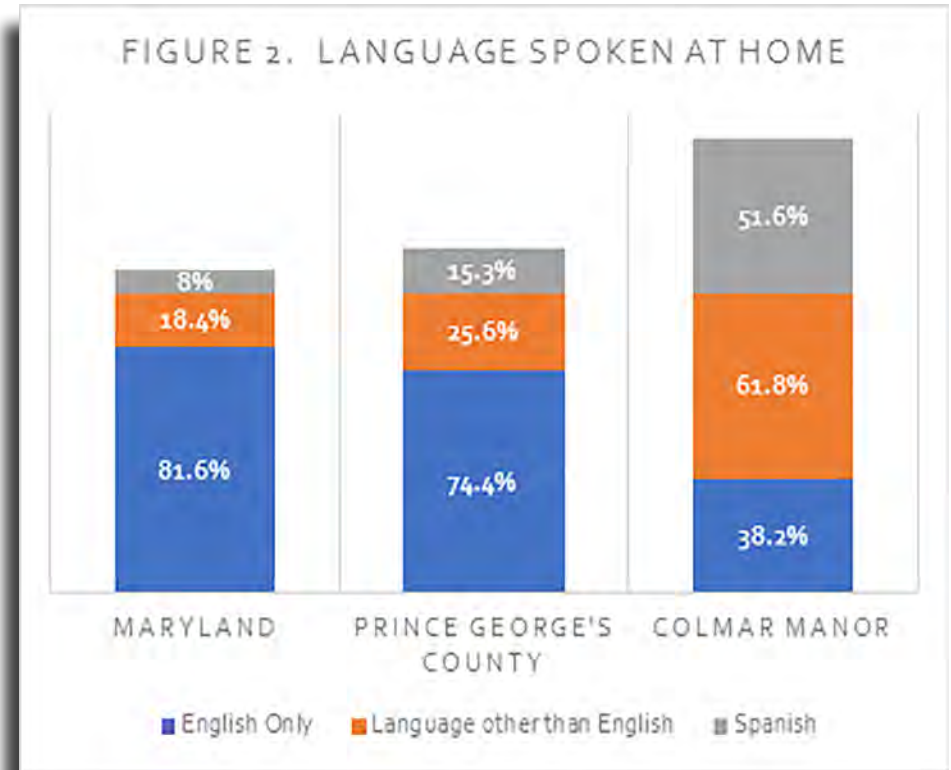
## Race/ Ethnicity

Colmar Manor has a population of 1,398. The majority of residents in Colmar Manor are Hispanic/Latinx (51%), followed by Black or African American (29.2%), Asian (10.4%), and White (9.4%) (Figure 1).



## Language Spoken at Home

Over 50% of residents in Colmar Manor are speaking Spanish at home. This percentage is significantly higher than both the county's (25.6%) and the state (18.4%) (Figure 2). The prevalence of Spanish-speakers in Colmar Manor illustrates the importance of translating relevant information to Spanish and other languages for community outreach and engagement.



2018: American Community Survey 5- Year Estimates Data Profile. United States Census Bureau

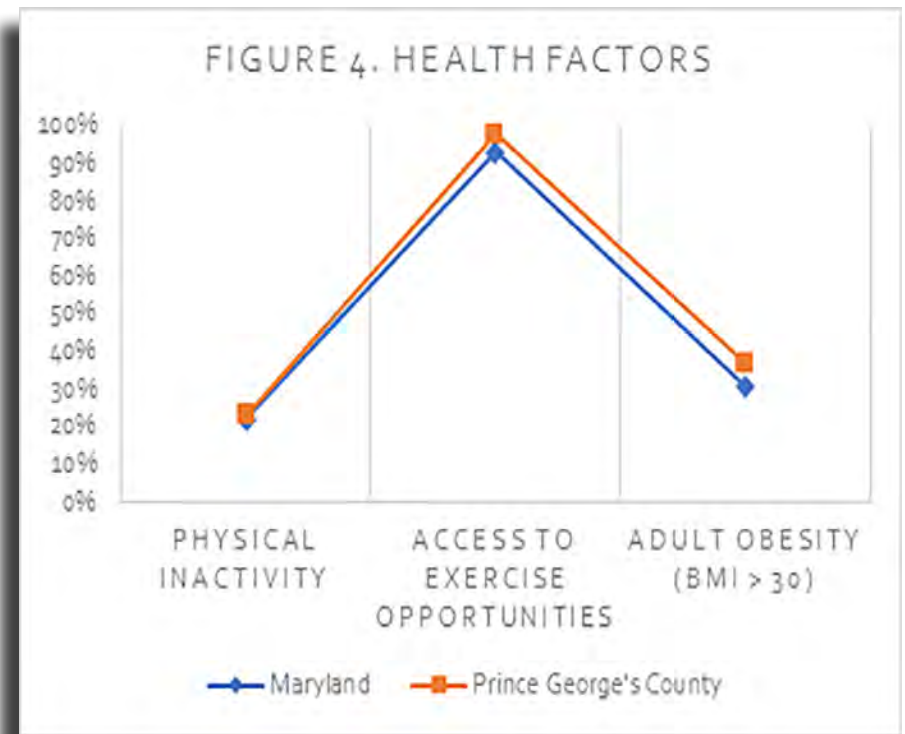
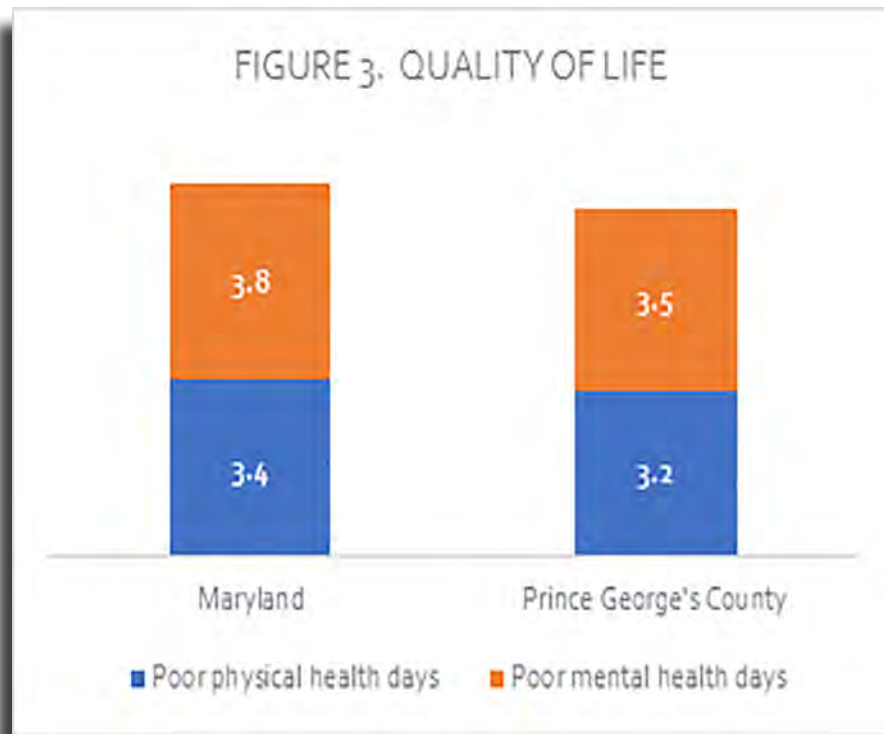
# Health/ Wellness

## Quality of Life

Quality of Life focuses on “the importance of physical, mental, social, and emotional health.”<sup>13</sup> In the county, adult residents report having an average of 3.2 poor physical health days and 3.5 poor mental health days in the past 30 days; performing slightly better than adults in the state.

## Health Factors

In the county, 23% of adults report physical inactivity compared to 22% of adults in the state. 98% of the population in the county reports having adequate access to exercise opportunities in relation to 93% of Maryland’s population. However, 37% of adults in the county report a BMI over 30 in comparison to 31% of adults in the state.



County Health Ranking Model. County Health Rankings & Roadmaps



1.

# Dueling Creek Heritage Trail

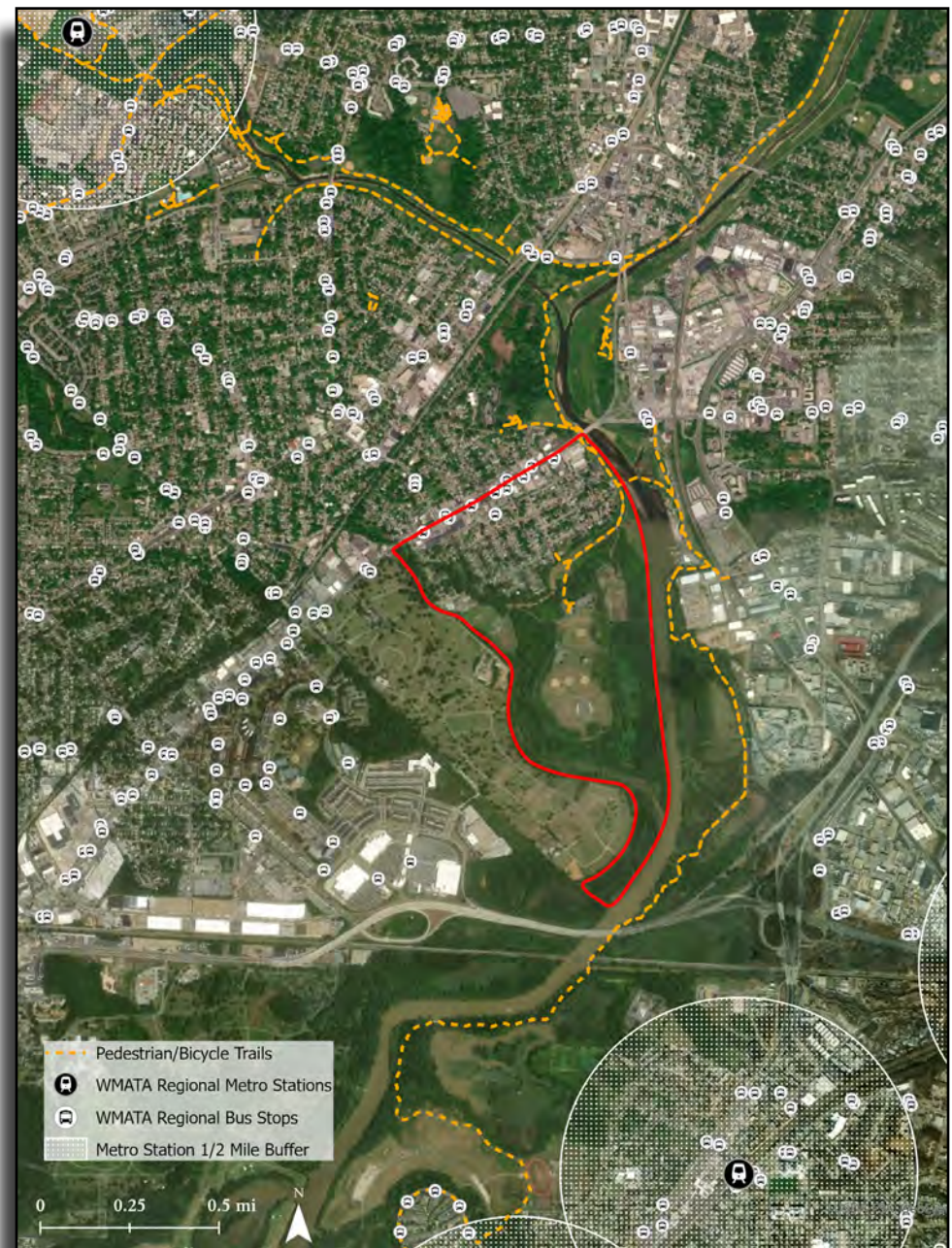
# Potential Trail Routes



This section focuses on describing the potential trail routes for the Dueling Creek Heritage Trail. The concept maps and renders developed for each of the trail routes illustrate how the proposed trail may fit into the existing landscape.

As a natural feature unique to Colmar Manor, Dueling Creek is one of the most important features the proposed trail should engage with. While each of the four potential trail routes have their own unique elements, it is important to note that project stakeholders value the importance of providing residents and visitors with a recreation amenity that connects a green space such as the Dueling Grounds, with the town's key water feature, Dueling Creek. The proposed trail would also connect community amenities, such as the community garden and community park and playground, with the Colmar Manor Community Park, the Bladensburg Waterfront Park, and the regional network of the Anacostia River Trail. The importance of making these connections through the trail is evident in trail routes 1, 2 and 3, where the baseline recommendation for connecting the Dueling Grounds with Dueling Creek is evident in each of these three routes.

The four potential trail routes would begin at the Dueling Grounds, the intended trailhead for the project. Given the baseline recommendation, routes 1, 2 and 3 would travel alongside Dueling Creek by extending southwest along Newton Street, following the path of the creek to Lawrence Street.



*Access to Public Transportation*

# Trail Route 1



Distance

0.57 mi

Elevation

Min - 8ft

Avg - 14ft

Max - 20ft



25 ft

8 ft

Trailhead

Foot Ramp

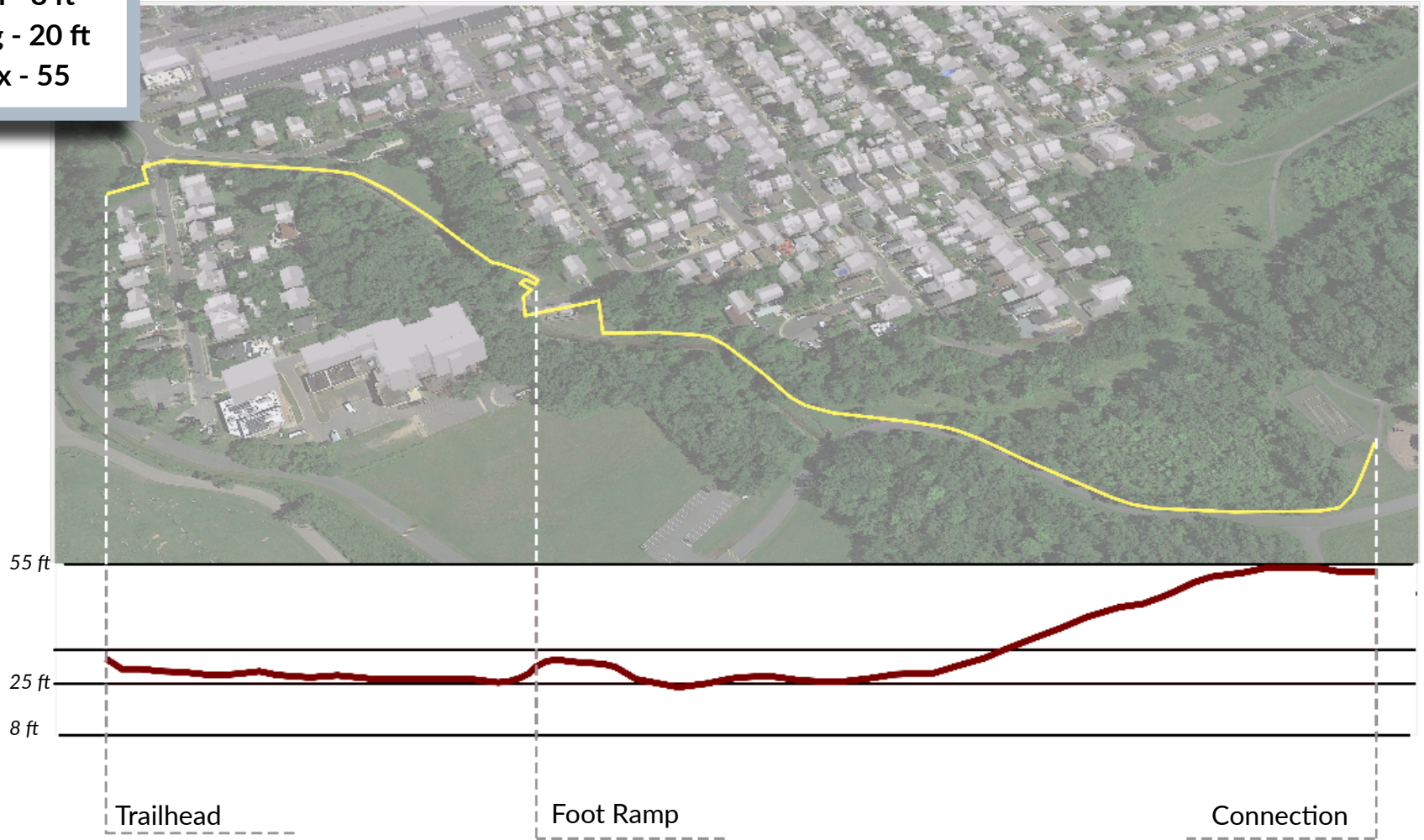
Connection

# Trail Route 2



Distance  
0.53 mi

Elevation  
Min - 8 ft  
Avg - 20 ft  
Max - 55



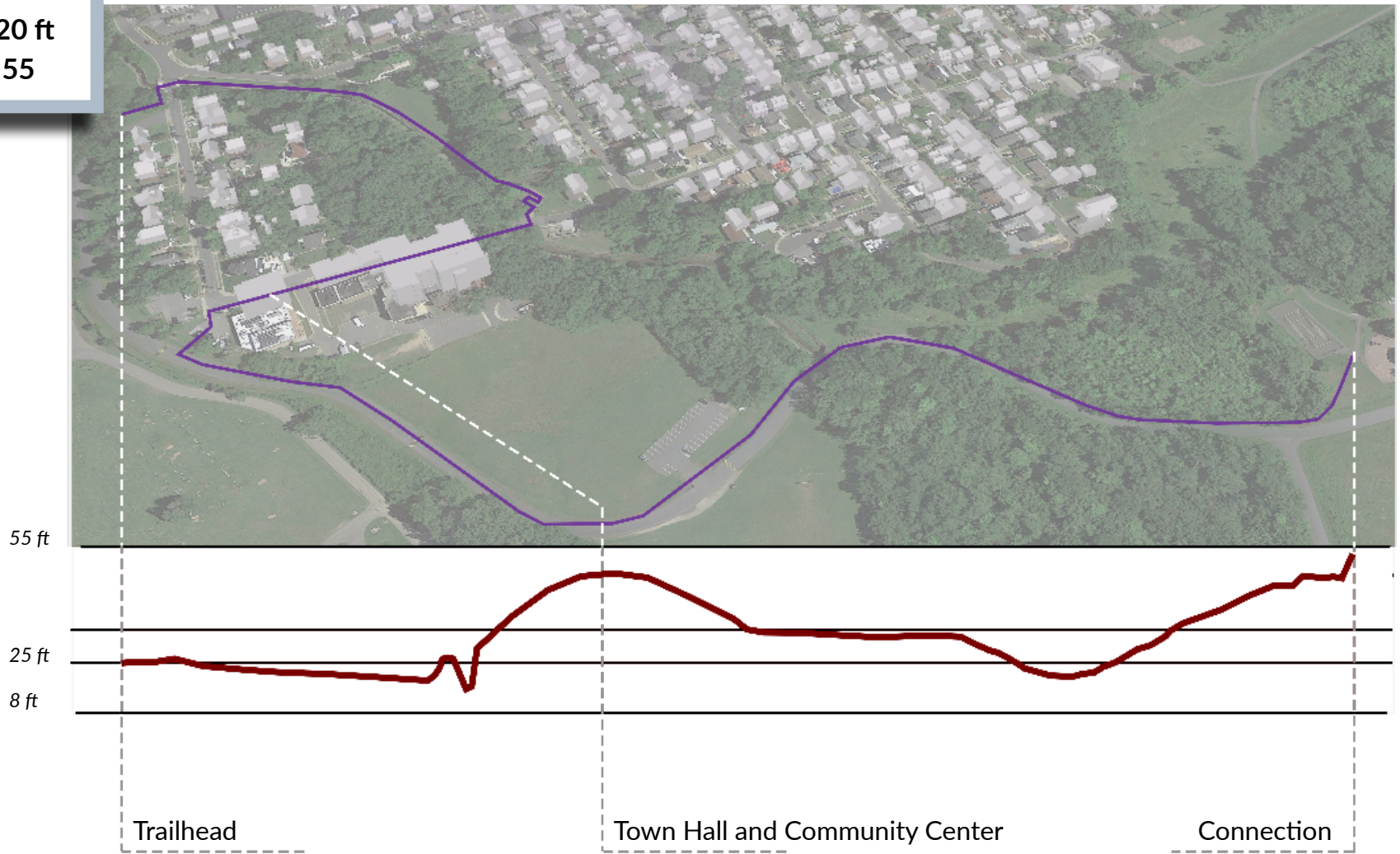
# Trail Route 3





Distance  
0.79 mi

Elevation  
Min - 8 ft  
Avg - 20 ft  
Max - 55 ft



# Trail Route 4



Distance

0.64 mi

Elevation

Min - 12 ft

Avg - 36 ft

Max - 55



55 ft

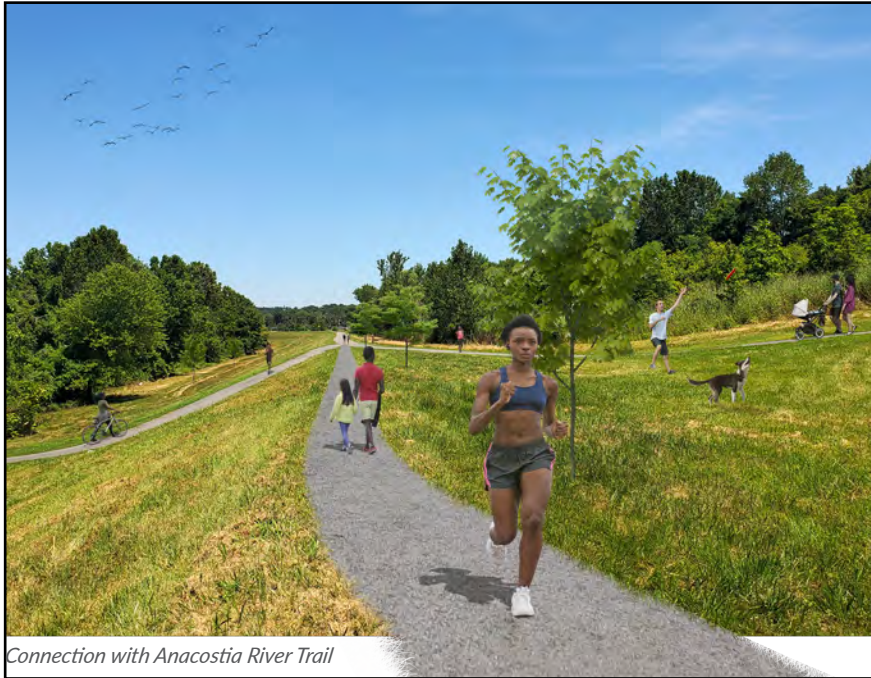
25 ft

12 ft

Trailhead

Connection

# Trail Renderings



Connection with Anacostia River Trail



Trail/road crossing at Lawrence Street



Foot ramp at Lawrence Street



Trail along Dueling Creek at Community Park and Playground

# Design Guidelines

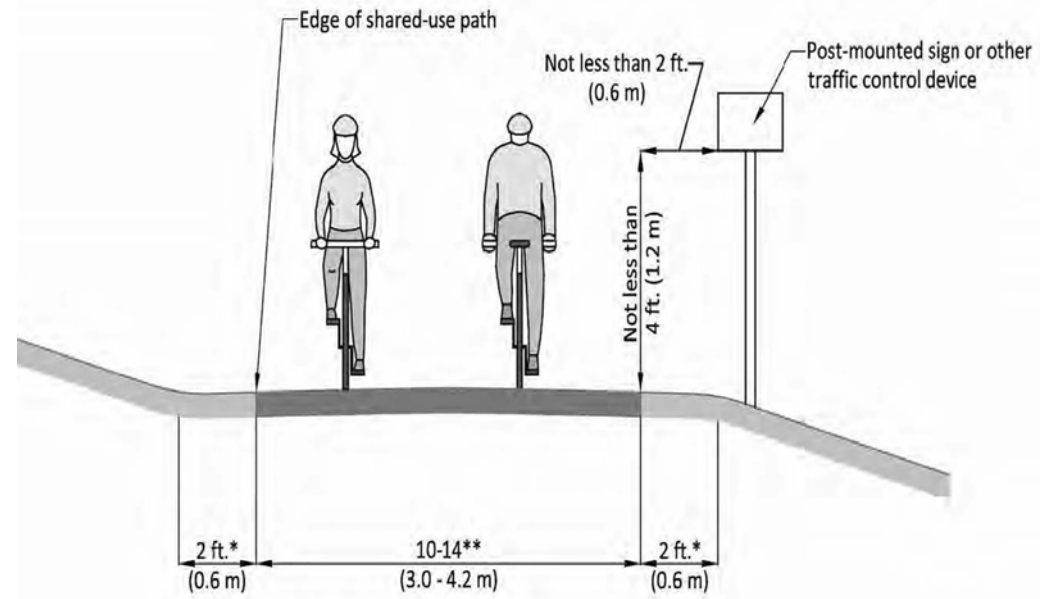
This section introduces trail design guidelines and provides a number of considerations on how the Dueling Creek Heritage Trail can create access and a sense of safety for Colmar Manor residents and visitors alike. Two of the four project guiding principles, Connectivity and Accessibility and Safety, are specifically addressed through trail design guidelines.

## Trail Width

The Dueling Creek Heritage Trail is intended to serve a variety of users, including pedestrians, bicyclists, strollers and wheelchairs. Given the shared use nature of the trail, the project must incorporate accessibility requirements from the Americans with Disabilities Act (ADA) to accommodate users with various mobility needs.<sup>14</sup> In the Trails Master Plan for Prince George's County, trails linking parks with existing sidewalks in adjacent communities are classified as Secondary Trails with widths varying between 4 and 8 feet wide.

The proposed trail width should consider increased use by a variety of users (pedestrians, bicyclists, strollers and wheelchairs) as a result of renewed public engagement with outdoor spaces.

Connectivity and Accessibility focus on increasing access to Colmar Manor Community Park and providing considerations for ADA compliance. Safety focuses on providing a sense of safety through trail design guidelines that consider user comfort and safety, while promoting crime prevention.



\*6:1 Maximum Slope (typ.)

\*\* More if necessary to meet anticipated volumes and mix of users, per the Shared Use Path Level of Service Calculator (4)

Typical Cross Section of Two-Way Shared Use Path

## Trail Surface

There are various types of surface materials available for trail construction. Selecting the most appropriate material is subject to a number of considerations, including the setting of the proposed trail; physical features and potential obstacles; the needs of various users; and the overall desired appearance. For multi-use trails, “hard, all-weather pavement surfaces are generally preferred over those of crushed aggregate, sand, clay, or stabilized earth.”<sup>15</sup>

The American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Bicycle Facilities considers asphalt and Portland cement concrete two good quality surface materials for multi-use trail construction in an urban context due to their longer life expectancy and need for less maintenance.

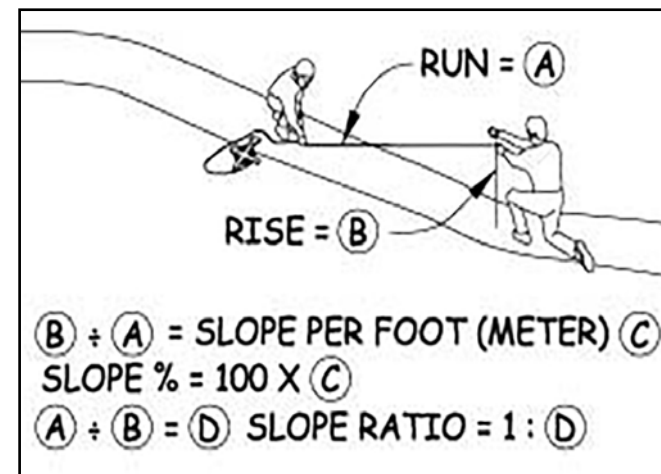


Anacostia River Trail - Asphalt Surface

## Trail Cross Slope and Grade

The appropriate trail cross slope and grade can accommodate various mobility needs. Cross slopes play an important role in sustainable trail design as cross slope provides drainage necessary to keep water from damaging the trail. In shared use trails with asphalt or concrete as the surface material, the U.S. Access Board Guidelines for Outdoor Developed Areas recommends that cross slopes do not exceed a slope rate of two percent.

To prevent the proposed trail from having a series of sections with steep segments, grades should not be greater than five percent. Since the trail would be located in a setting with varying terrain elevations, excessive slope and grade would need to be mitigated through features such as signage or resting intervals.



Slope Ratio

# Trail/Road Crossings



**1. Intersection at 37th Avenue and Newton Street**  
*(Adjacent to Dueling Grounds)*

At this intersection, a stop sign for traffic traveling northbound on 37th Avenue is the only traffic control feature available to users looking to cross the intersection.



*37th Ave traveling Northbound*

**2. Crossing at Lawrence Street**  
*(By foot ramp and WSSC Pumping Station)*

Users crossing Lawrence Street at this location find no crosswalk nor traffic control feature to stop or slow down traffic. A speed bump slows down traffic traveling westbound, but no other feature exists as traffic approaches the ramp entrance/exit.



*Lawrence Street traveling Westbound*



### 3. Intersection at 37th Avenue and Lawrence Street (Specific only to Route 3)

Route 3 would travel by the town's Community Center and Town Hall, cross the building's parking lot and connect with the Colmar Manor Community Park road. The intersection of 37th Avenue and Lawrence Street, the entrance/exit to the parking lot, has no crosswalk nor traffic control feature. A stone path connects the parking lot with the park road, where a speed bump slows down traffic traveling southbound.

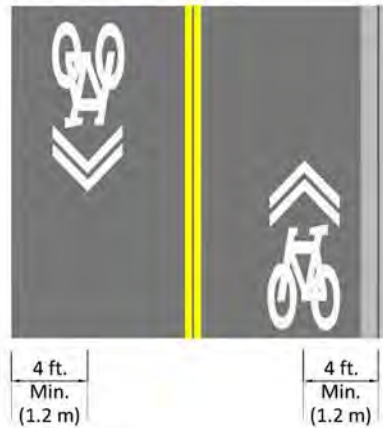


*Colmar Manor Community Center and Town Hall Parking Lot*

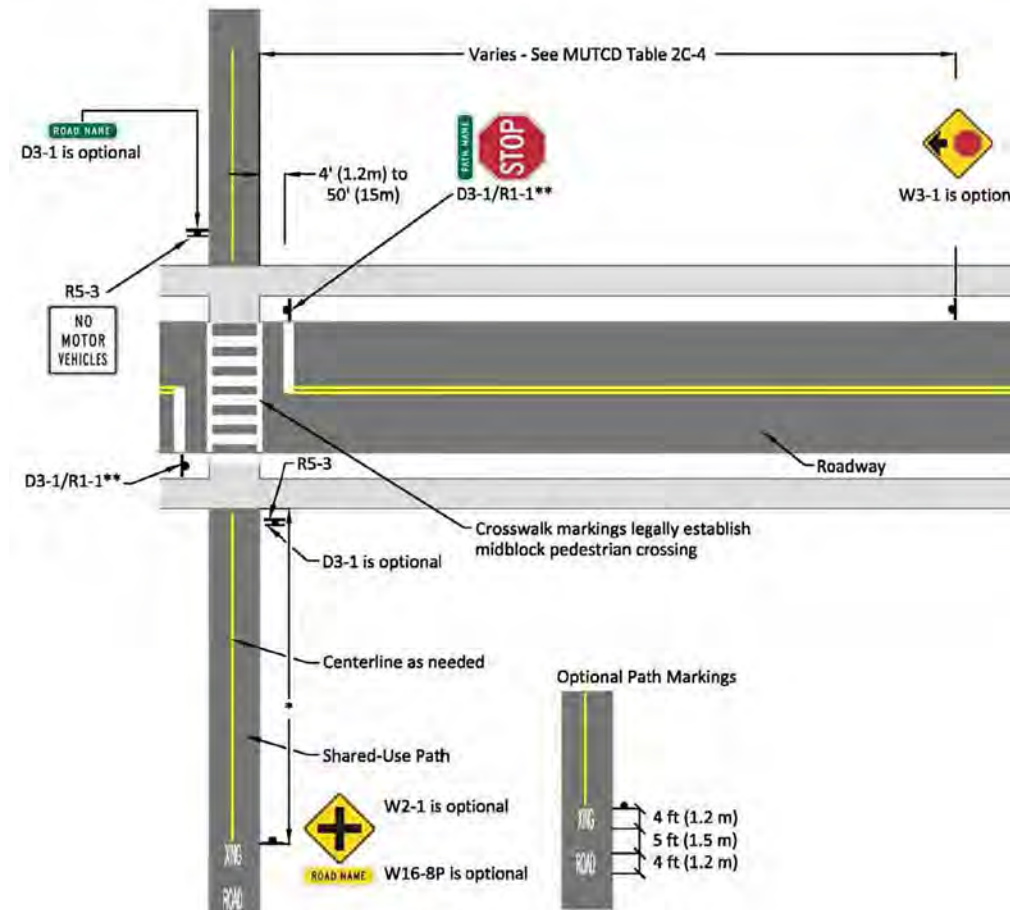


*Park Road traveling Southbound*

To enhance the level of safety and comfort for trail users at these intersections, potential trail/road crossing improvements could consider the addition of a mid-block crossing with crosswalk and adequate signage. To increase user safety and comfort on the park road, shared lane markings may be added to the pavement, along with “share the road” signage.



Shared Lane Pavement Marking



\* Advance warning signs and solid centerline striping should be placed at the required stopping sight distance from the roadway edge but not less than 50 feet (15m).

\*\* D3-1 sign is optional, R1-1 sign is required. At multi-lane road crossings, the R1-5 series (Yield Here To/Stop Here For Pedestrians and markings, placed in advance of the crosswalk to reduce multiple-threat crashes) may be a more appropriate solution

Midblock Path- Roadway Intersection

# Crime Prevention

The Dueling Creek Heritage Trail should provide a sense of safety and positive associations for all users. Future plans for the trail should consider strategies for crime prevention, management, maintenance and agency response. These strategies must also consider input from community members to ensure that safety and crime prevention considerations are equitable to all.

One strategy to improve safety and crime prevention is through the principles of Crime Prevention Through Environmental Design (CPTED). The three CPTED principles provide a framework for improving the likelihood of reducing negative behavior in parks, trails and various natural settings.

## CPTED Principle 1

### Natural Surveillance (Visual Access)

The placement of physical features, activities and people in such a way as to maximize visibility of the community.

The proposed trail should consider pedestrian-scale lighting as a way to improve visibility along its path, while also reducing the potential for negative behavior. Lighting should minimize light pollution by considering fixtures that align with Dark Sky standards.



Light distributed along path, minimizing trespass in adjacent areas.

Facial recognition is key to creating sense of safety in vegetated areas.

Low-output, soft lens pedestrian-scale fixtures to minimize glare.

*Pedestrian- scale Lighting*

CPTED  
Principle 2

**Natural Access  
(Physical Access)**

The physical guidance of people coming and going from a space by the placement of entrance, exits, fencing, landscaping, and lighting.

**Trailheads**

Trailheads serve as an access point to the trail. For the Dueling Creek Heritage Trail, trailheads at the Dueling Grounds and the Colmar Manor Community Park can provide users with information such as context maps, historical accounts, trail length and grade, as well as connections to regional trails

**Trail Access Paths**

Adequate access to a trail is influenced by clearly delineating its access points. Social paths or cut-throughs that may connect with the trail should be closed off, or opened up if they are safe and desirable by community members. The proposed trail is itself a social path that community members use to navigate their community.



Trail Marker in Colmar Manor Community Park



Anacostia River Trail Context Signage



CPTED  
Principle 3

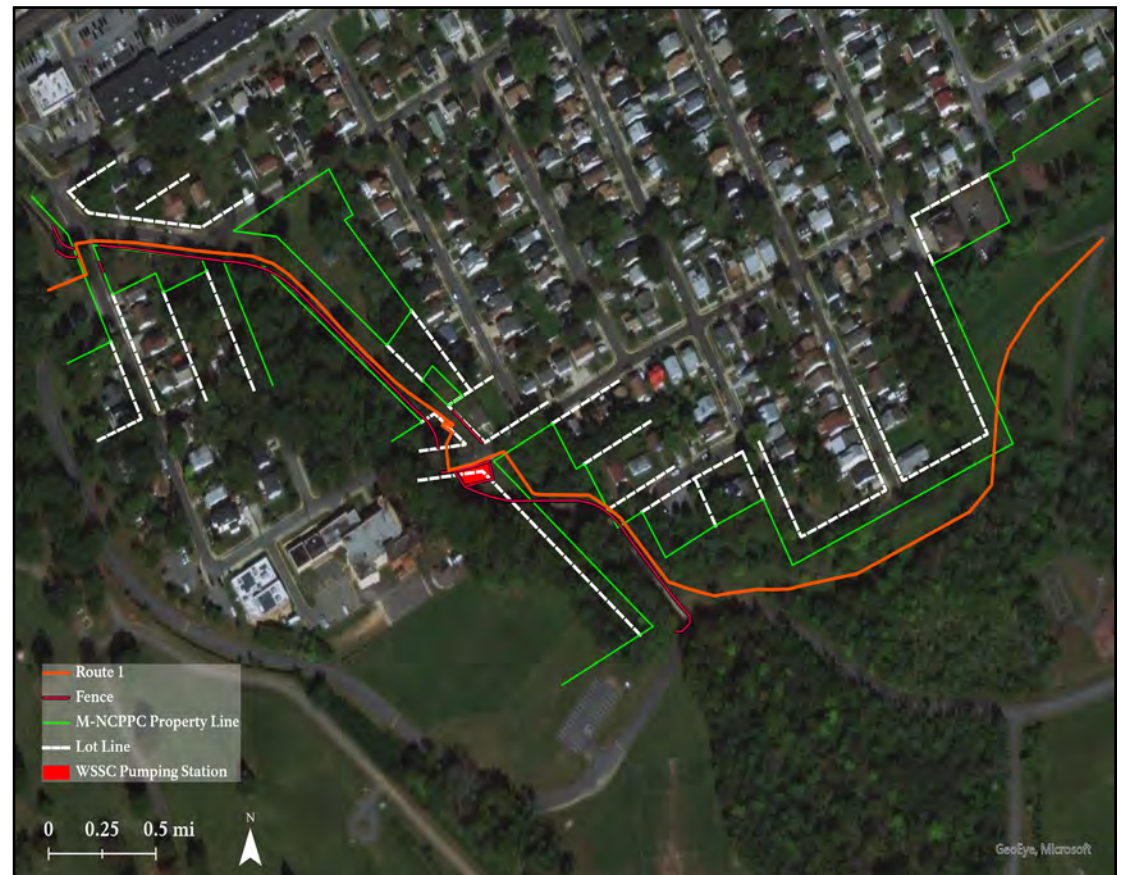
### Territorial Reinforcement (Defined Ownership)

Creates a clear delineation of space through landscaping, hardscaping, fencing, signs, flags, artwork or seating, among others.

The proposed trail would be located on M-NCPPC owned land. A short section of the trail travels in close proximity to a water pumping station managed by the Washington Suburban Sanitary Commission (WSSC). This short section is also in close proximity to a number of households. Future plans should consider a clear delineation between private and public space to ensure user safety, and unobstructed entry/exit to the station by WSSC personnel. Future plans should also consider prioritizing engagement with homeowners in this section of the trail.



WSSC Pumping Station



# 2.

# Interpretive Themes & Signage

# Primary Interpretive Themes

Trail signage and interpretive materials for the Dueling Creek Heritage Trail can provide users with the necessary information to safely navigate the trail, while also learning about the important history of the surrounding landscape. This section provides three primary interpretive themes and examples of signage types for a unified approach for future development of a trail interpretive plan.

Through meetings with project partners, secondary research and fieldwork, project partners identified three primary interpretive themes that encompass two of the project priorities, Heritage and Education. The themes highlight the heritage of the Town of Colmar Manor and educate users on the changes their surrounding landscape has experienced through time.

Interpretive Theme	Description
<b>Pre-Colmar Manor History</b>	Theme 1 focuses on recognizing the untold stories of Native Americans, Black or African American people and their role within the area's history. Theme 1 also encourages interactive interpretation of the Dueling Grounds, and the need to include stories of the Civil War.
<b>Development of Colmar Manor</b>	Theme 2 highlights Bladensburg's colonial-era bustling seaport and its impact on the development of the Port Towns area. Theme 2 also addresses the demographic shift experienced in Colmar Manor since the 1980s, as well as the outdoor recreation opportunities that have been made available to residents and visitors of Colmar Manor.
<b>Ecosystem of Colmar Manor</b>	Theme 3 focuses on recognizing the surrounding ecosystem and highlights how the Dueling Creek Natural Area is home to a diverse group of fauna and flora. Theme 3 also recognizes the impact human intervention has had on the landscape through the straightening of the Anacostia River, the channelization of Dueling Creek, and continued urbanization.

## Theme 1- Pre-Colmar Manor History

Four focus areas for future interpretation have been identified for Theme 1. These are: 1. Native Americans; 2. Black or African American people; 3. Fort Lincoln Cemetery; and 4. Dueling Grounds.

### Black or African American People



*Charles Ball*

Charles Ball, a Black/African American U.S. Navy sailor, served in Joshua Barney's Chesapeake Bay Flotilla during the Battle of Bladensburg in 1814. Ball is one of the many Black/African American flotilla men that helped the U.S. Navy resist British invasion during the Chesapeake campaign. The stories of Ball and his fellow flotilla men are discussed briefly in existing signage, but including extracts from Ball's autobiography, *The Life and Adventures of Charles Ball*, would offer first-person accounts of the Black/African American experience during this period of time.<sup>17</sup>

### Native Americans



*Native American Chief, as portrayed on Captain John Smith's 1612 map of Chesapeake Region*

Native Americans first settled on the shores of the Anacostia River as early as 9,500 B.C.E. The Nacotchtank Indians lived in what is today the District of Columbia and were part of the Piscataway Chiefdom. The word "Anacostia" is an interpretation of the word "Nacotchtank" first introduced by English Jesuits in the late 1600s.<sup>16</sup> Future interpretive signage should highlight the Native Americans that lived in the area and various stories on their way of life and lasting legacy.

### Fort Lincoln Cemetery



*Camp Casey in foreground, with Fort Lincoln in the background*

There exists the potential to re-format existing signage on the War of 1812 into a single panel or kiosk. Given the existing viewsheds of Fort Lincoln Cemetery along trail route 4, new interpretive signage can introduce the role Fort Lincoln, Camp Casey and Battery Jameson played during the Civil War, and their original location within the cemetery.<sup>18 19</sup>



## Dueling Grounds

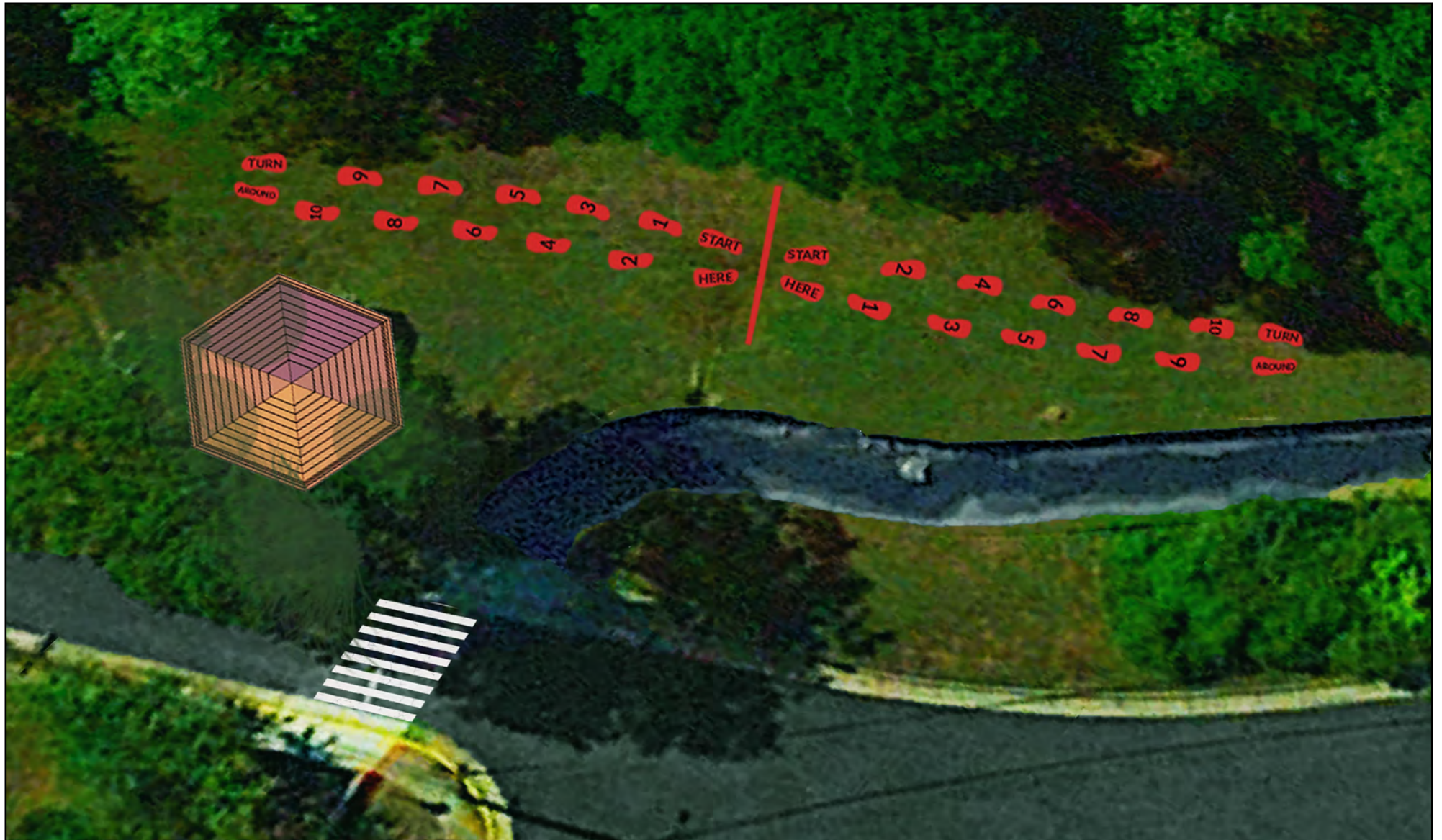
The Dueling Grounds is the major historical attraction within the project area of the proposed trail, with every trail alignment expected to start here.

A flat field surrounded by trees, an interactive installation could help users visualize the distance covered during duels, which was about 20 paces. Existing signage on the Dueling Grounds can be re-formatted to expand on how a sense of honor was an intricate component of dueling.



*Trail/road crossing at 37th Avenue (adjacent to Dueling Grounds)*

# Dueling Grounds



## Dueling Grounds



## Theme 2- Development of Colmar Manor

Three focus areas for future interpretation have been identified for Theme 2. These are: 1. History of Colmar Manor; 2. Demographic Shifts; and 3. Outdoor Recreation.

### History of Colmar Manor

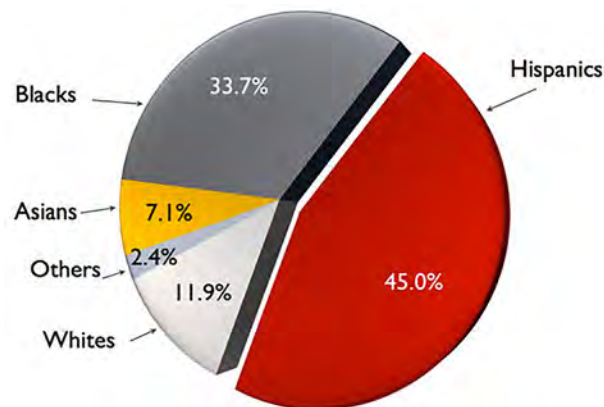


*Port of Bladensburg*

In the late 1700s, Bladensburg was a large port town and shipyard, also surrounded by large tobacco plantations. During this period, every type of good shipped to America came through the Port of Bladensburg. Enslaved peoples and indentured servants were the essential source of labor that built and maintained the tobacco-based economy surrounding the area. Although there is no evidence of a slave market in Bladensburg, merchants and plantation owners in the area were slave owners.<sup>20 21</sup>

By the 1840s, the Port of Bladensburg had been closed due to the rapid accumulation of sediment from agricultural runoff. As sediment began to clog the harbor, ocean-going vessels were prevented from navigating to and from the port; eventually leading to the end of shipping in the area.<sup>22</sup>

### Demographic Shift



*In the 2010 Census, Hispanics/Latinx made up 45% of the town's population*

In the 1980s, Colmar Manor was a predominantly white community. By 1990, the demographic make-up of the town was evenly split between Black or African American and White residents. By the early 2000s, Black or African American residents became the majority racial group in the town. However, yet another demographic shift occurred by 2010, when Hispanic/ Latinx residents surpassed the number of White and Black or African American residents.<sup>23 24</sup>

## Outdoor Recreation



*Colmar Manor Community Park*

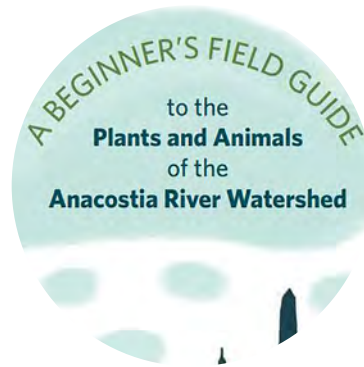
Colmar Manor residents and visitors can enjoy various outdoor recreation opportunities in close proximity to the town. Colmar Manor Community Park is connected to the Bladensburg Waterfront Park, providing safe access to the Anacostia River and water-based recreation. The Community Park is also connected to the Anacostia River Trail, which offers 40 miles of trail along the Anacostia River and links Colmar Manor with major attractions such as the Kenilworth Aquatic Gardens.

Colmar Manor and the Port Towns area also play host to three National Historic Trails that cross within and near their boundaries. These three trails are: Star-Spangled Banner National Historic Trail, Captain John Smith Chesapeake National Historic Trail, and Washington-Rochambeau Revolutionary Route National Historic Trail.

## Theme 3- Ecosystem of Colmar Manor

Three focus areas for future interpretation have been identified for Theme 3. These are: 1. Dueling Creek Natural Area; 2. Dueling Creek; and 3. Human Intervention on the Landscape.

### Dueling Creek Natural Area



*Field guide on local plants and animals created by Anacostia Watershed Society*

The proposed trail would be located in the Dueling Creek Natural Area, which is part of the 60-acre Colmar Manor Community Park. The Natural Area is home to a variety of flora and fauna, and potentially the largest remaining fragment of natural tidal freshwater marsh in the Anacostia River watershed. Interpretive signage of the Natural Area can introduce residents and visitors to the area's connection with the Anacostia River and Chesapeake Bay watersheds. Interpretive panels can also introduce invasive plants and insects currently in the area and their impact on the environment. Interpretive materials for this subtheme can be developed in conjunction with project stakeholders such as the Friends of Dueling Creek and the Anacostia Watershed Society.<sup>25</sup>

## Dueling Creek



*Taming a River booklet on the Anacostia River channeling project*

Prior to the 1950s, Colmar Manor and surrounding Port Towns were subject to recurring flooding due to their proximity to the Anacostia River. To mitigate continued damages to property, the U.S. Army Corps of Engineers (USACE) channelized Dueling Creek in the 1930s, later straightening the Anacostia River in the 1950s and building a system of levees. Despite being a potential natural attraction within Colmar Manor, Dueling Creek remains a highly polluted stream.<sup>26 27</sup>

## Human Intervention on the Landscape



*Aerial view of Colmar Manor, c. 1938*



*Aerial view of Colmar Manor, c. 1965*

The channelization of Dueling Creek and the straightening of the Anacostia River are some of the human interventions the landscape has been subject to. Others include soil erosion from forest clearing and the increase of impervious surfaces. Colmar Manor Community Park was once a landfill, later capped with fill from the construction of Washington's Metro system. However, restoration efforts by various government agencies and local non-profits offer an optimistic view for the future of the area's natural resources.<sup>28</sup>

# User Experience

The Dueling Creek Heritage Trail is expected to offer users a safe and comfortable experience. This section highlights examples of directional, regulatory and interpretive signage to assist users with remaining aware of their surroundings and engaged with interpretive content. Future development of the trail should consider consistency between the trail's interpretive plan and county-specific signage and wayfinding guidelines.

Content included in this section was taken from the National Park Service comprehensive wayside exhibit resources, which can be found online at <https://www.nps.gov/subjects/hfc/upload/Wayside-Guide-First-Edition.pdf>



36 x 48 upright,  
Bandelier National Park



36 x 48 upright,  
Zion National Park

*Credit: National Park Service*

# Orientation Signs



## Trailhead Signs

Trailhead signs welcome users to the trail, and reassure them that they have reached their intended destination.



## Directional Signs and Markers

Directional signs orient trail users along a trail. These signs are typically encountered at trailheads, intersections of any kind, and between long stretches of trail to reassure users that they are on the right path.



## Regulatory/Road Crossing Signs

When the trail crosses a roadway, it is critical to have adequate signage for all users approaching a trail/road crossing; including pedestrians, bikers and drivers.



## Interpretive Signs



**Upright Wayside**

Upright waysides typically inform visitors about an area or a trail. They should answer typical questions related to a safe, comfortable, and meaningful experience, obtaining a balance between providing orientation and interpretation. Upright waysides can have one, two or three-sided panels, depending on how much information the sign is expected to convey.



**Low Profile Wayside**

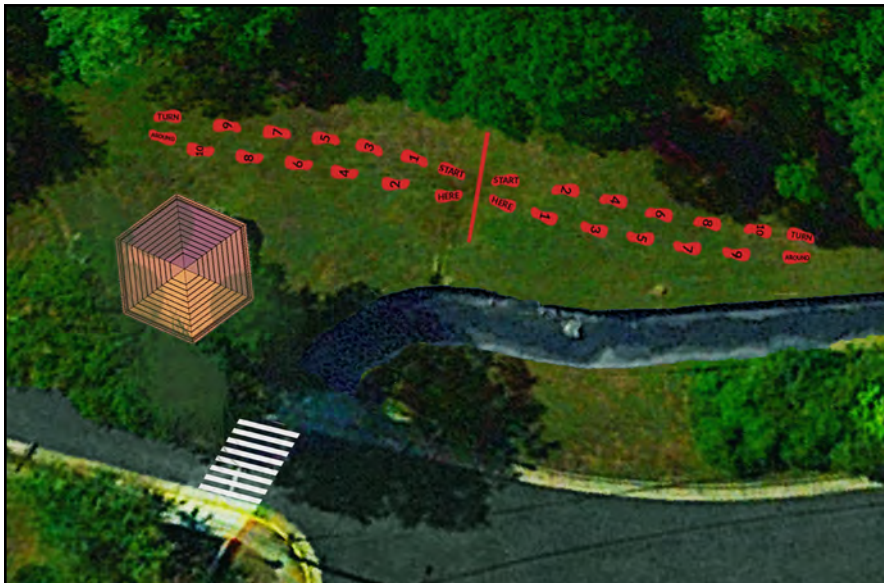
Low profile waysides provide site-specific interpretation about features that visitors can readily see. The combination of compelling graphics, title, and text designed into the landscape illuminates and enhances what the visitor is seeing, experiencing, or passing by.

## Art Installations



**Art on Fences**

Existing fencing along Dueling Creek provides an opportunity to aesthetically enhance this feature through art. By incorporating art programs administered by the County, such as Art on the Trails, into an interpretive plan or community engagement effort, art can be a new way to engage residents and visitors with the proposed trail and other attractions near Colmar Manor, such as the Gateway Arts Districts in Hyattsville.



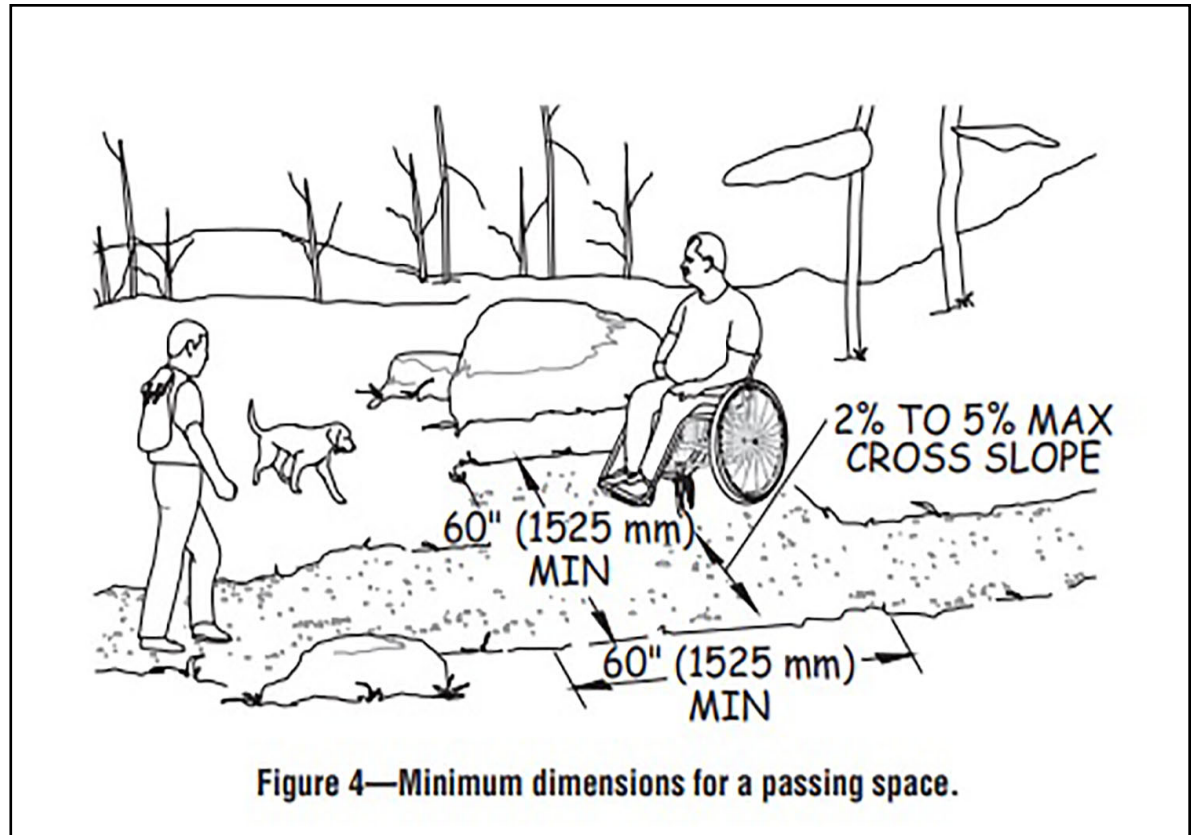
**Dueling Paces Installation**

The flat, grassy field at the Dueling Grounds provides an excellent opportunity for an interactive experience. Using flat stones to represent each step made by a dueler during a duel, users to the proposed trail would be able to visualize the specific rules associated with dueling.

# Accessibility

The Americans with Disabilities Act (ADA), the Architectural Barriers Act (ABA), and the Outdoor Developed Area Guidelines for trailheads and trail signs, provide guidance for designing facilities that welcome visitors with various mobility needs. State and local jurisdictions are required to comply with ADA guidelines, while federally managed sites and/or projects using federal funds must also comply with ABA.

When trailhead signage is introduced to a newly constructed or altered trail designed for pedestrian use, trailhead signage must include information on the accessible characteristics of the trail, including trail surface material, trail width, trail grade and slope, among other information. Considering that the primary language spoken at home in Colmar Manor is Spanish, trailhead signage should also be made available in Spanish.



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# 3.



# Stakeholder Engagement

# Stakeholder Interviews

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ATHA and NPS RTCA conducted in-person and remote interviews with project partners and other key stakeholders to identify their organization's vision and goals for the project. The stakeholder engagement process provided valuable input on the opportunities and challenges for future implementation of the proposed trail.

The organizations interviewed are:

- November 18, 2019 – **Anacostia Watershed Society (AWS), Maryland-National Capital Park and Planning Commission (M-NCPPC), National Park Service Star-Spangled Banner National Historic Trail (STSP)**
- November 19, 2019 – **Mayor of the Town of Colmar Manor, Battle of Bladensburg Task Force**
- February 2, 2020 – **M-NCPPC  
Park Planning and Development Division  
Natural and Historical Resources Division**
- February 12, 2020 – **AWS**
- February 21, 2020 – **Washington Suburban Sanitary Commission (WSSC)**
- March 20, 2020 – **M-NCPPC  
Bladensburg Waterfront Park  
Natural and Historical Resources Division**
- April 30, 2020 – **Friends of Dueling Creek**
- July 7, 2020 – **M-NCPPC  
Youth and Countywide Sports Division**
- July 23, 2020 – **Prince George's County Government  
Department of Public Works and Transportation**

# Stakeholder Meetings

ATHA with assistance from NPS RTCA participated in two meetings to introduce stakeholders to the vision for the Dueling Creek Heritage Trail, the partners involved, the potential trail routes for the proposed trail, and next steps.

## 1. Colmar Manor Mayor and Town Council Virtual Work Session

ATHA and NPS RTCA were invited to the August 11, 2020 virtual work session to present updates on the development of the concept plan. The Town Mayor and Council members expressed support for the proposed trail routes, in particular trail route 1, and provided the following recommendations:



## 2. ATHA Virtual Community Planning Meeting

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ATHA hosted a virtual community planning meeting on August 26, 2020 to provide updates on the concept plan. ATHA provided background information about the project and NPS RTCA presented on the concept plan and next steps. Meeting attendees represented local government and non-profit organizations, including M-NCPPC, Capital Trails Coalition, The Aman Trust, among others.

The meeting recording can be viewed on the Maryland Milestones/ATHA Inc. YouTube page at <https://youtu.be/rcYe4hfO8qc>.

Meeting participants had the opportunity to ask questions and provide feedback. Participants highlighted a number of key considerations for the potential development of the trail, including:

**Consider stream restoration efforts for Dueling Creek**

**Emphasize protection of native trees located within the Dueling Creek Natural Area**

**Consider Route #3 as an extension for Route #1**

**Incorporate narratives related to the Underground Railroad and horse racing history of Colmar Manor into interpretive waysides**

**4.**

# **Funding Sources & Cost Estimates**



Identifying, pursuing and securing funds for the various phases of trail development, including planning and design, engineering and construction, maintenance and operations, can be a long-term process. The following are examples of various non-profit, state and federal funding sources available for trail development. For the full list of funding sources, please contact ATHA, Inc.

**NON-PROFIT SOURCES**

Source	Amount Awarded	Grant Purpose	Website
Chesapeake Bay Trust – Watershed Assistance Program	\$5,000 to \$75,000	The program supports watershed restoration project design assistance, watershed planning, and programmatic development associated with protection and restoration programs and projects that lead to improved water quality.	<a href="https://cbtrust.org/grants/watershed-assistance/">https://cbtrust.org/grants/watershed-assistance/</a>
Rock Creek Conservancy/ Pepco Sustainable Communities Grant	Up to \$10,000 for environmental stewardship projects	Environmental stewardship projects will enhance resilience by stewarding open space and protected lands, which protect water quality in streams and rivers, mitigate urban heat island effects, and promote social benefits such as health, a sense of place, and community connections.	<a href="https://www.rockcreekconservancy.org/who-we-are/highlights/742-pepcosustainablecommunitiesgrants">https://www.rockcreekconservancy.org/who-we-are/highlights/742-pepcosustainablecommunitiesgrants</a>
Chesapeake Bay Trust - Prince George’s County Stormwater Stewardship Grant Program	\$50,000 to \$150,000 for water quality projects \$50,000 to \$100,000 for tree planting projects \$5,000 to \$30,000 for citizen awareness and engagement projects	Funds on-the-ground restoration activities that improve neighborhoods, improve water quality, and engage Prince George’s County residents in the restoration and protection of local rivers and streams.	<a href="https://cbtrust.org/grants/prince-georges-stormwater-stewardship-2/">https://cbtrust.org/grants/prince-georges-stormwater-stewardship-2/</a>

Source	Amount Awarded	Grant Purpose	Website
<p>MDOT SHA – Kim Lamphier Bikeways Network Program</p>	<p>Grantees are required to provide at least 20% of total project cost as match</p>	<p>The program supports projects that maximize bicycle access, fill missing links in the state’s bicycle network, and enhance last-mile connections to work, school, shopping and transit.</p>	<p><a href="http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Bikeways.html">http://www.mdot.maryland.gov/newMDOT/Planning/Bike_Walk/Bikeways.html</a></p>
<p>MDOT SHA – Transportation Alternatives Program</p>	<p>Up to 80% of project’s total estimated cost</p>	<p>The program provides funding for projects that enhance the cultural, aesthetic, historic, and environmental aspects of the intermodal transportation system.</p>	<p><a href="https://www.roads.maryland.gov/mdotsha/pages/index.aspx?PageId=144">https://www.roads.maryland.gov/mdotsha/pages/index.aspx?PageId=144</a></p>
<p>MD Heritage Areas Authority (MHAA) Project Grants</p>	<p>Up to \$100,000 for capital projects</p>	<p>MHAA provides dollar-for-dollar matching project grants to non-profit organizations and governments for capital and non-capital projects located within a certified MD Heritage Area.</p>	<p><a href="https://mht.maryland.gov/heritageareas_partners.shtml">https://mht.maryland.gov/heritageareas_partners.shtml</a></p>

**STATE SOURCES**

**FEDERAL SOURCES**

Source	Amount Awarded	Grant Purpose	Website
NPS – Outdoor Recreation Legacy Partnership Grants (ORLP)	\$300,000 to \$1,000,000	ORLP grants help create and improve state and local parks and other outdoor recreation areas, particularly in underserved communities.	<a href="https://www.nps.gov/subjects/lwcf/contact-list.htm">https://www.nps.gov/subjects/lwcf/contact-list.htm</a>
NPS – Conservation and Recreation Challenge Cost Share Program	Up to \$25,000	The program supports NPS mission-related projects that align with goals of local project partners.	<a href="https://www.nps.gov/orgs/1837/apply.htm">https://www.nps.gov/orgs/1837/apply.htm</a>
U.S. Department of Transportation Transit, Highway, and Safety Funds	Varies depending on activity or project type	Activities or Project Types range from bicycle plans and parking, to new construction or retrofit of crosswalks.	<a href="https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm">https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm</a>

# Cost Estimates

The following cost estimates approximate the cost of developing trail route 1 or 0.5 miles of trail. The estimates were developed using *Prince George's County Trail Plan Planning Cost Estimate* spreadsheet made available by M-NCPPC. The estimates must be adapted by a qualified professional to ensure consistency and to reflect changes in costs as a result of new trail alternatives.

Dueling Creek Heritage Trail Cost Estimate Trail and Amenities Cost Per Half a Mile					
Item	Unit	Quantity	2009 Unit Cost	Total Cost	Comment
Earthwork, Excavation, Grading	CY	1050	\$15	\$15,750	Assume 16 feet wide grading
Aggregate Base Course for Pavement	CY	550	\$50	\$27,500	
Asphalt Surface Course	TON	320	\$60	\$19,200	Assume 1050 CY
Asphalt Base Course	TON	320	\$60	\$19,200	Assume 1050 CY
Thermoplastic Pavement Marking (all widths up to 24")	LF	1320	\$3	\$3,960	Assume 50% with centerline stripe
24" Thermoplastic Pavement Marking	LF	200	\$10	\$2,000	Assume 1 High Vis crossing every 2500 feet
Curb Ramp	EA	4	\$810	\$3,240	Assume 2 intersections*
New Sign	EA	3	\$220	\$581	Assume 1 Sign every 1000 feet
New Signal Heads	EA	1	\$5,000	\$5,000	Assume new signal head every mile
Bollards	EA	1	\$400	\$400	Assume new bollard every 2500 feet
Split Rail Fence	LF	50	\$20	\$1,000	Assume 100 LF of splitrail fence every mile
Bench	EA	1	\$800	\$800	Assume at wayside, 1 every mile
Bike Rack	EA	1	\$400	\$400	Assume at wayside, 1 every mile
Trash Can	EA	1	\$400	\$400	Assume at wayside, 1 every mile
Large Map or Interpretive Sign Panel	EA	2	\$3,000	\$6,000	Assume at wayside, 1 every mile
Pedestrian Scale Light Pole and Fixture	EA	26	\$4,500	\$117,000	Assume 100' Spacing
Utility Connection	LS	1	\$10,000	\$10,000	Assume 1 every mile
<b>Lump Sum Items</b>					
Landscaping (5%)	LS	1	\$11,622	\$11,622	
Drainage and E&S (10%)	LS	1	\$23,243	\$23,243	
Maintenance of Traffic (5%)	LS	1	\$11,622	\$11,622	
Utility Adjustments (10%) BASE	LS	1	\$23,243	\$23,243	
			<b>Subtotal</b>	<b>\$302,161</b>	
Mobilization (10%)	LS	1	\$30,216	\$30,216	
			Subtotal	\$332,377	
			25% Contingency	\$83,094	
			<b>Total Estimated Cost</b>	<b>\$415,471</b>	
			20% Design, Survey, Permitting	\$83,094	
			<b>2009 Grand Total Estimated Cost</b>	<b>\$498,565</b>	
			21.32% Cumulative Inflation Rate since 2009	\$106,294	
			<b>2020 Grand Total Estimated Cost</b>	<b>\$604,859</b>	

\*Source: Costs for Pedestrian and Bicyclist Infrastructure Improvements. A Resource for Researchers, Engineers, Planners, and the General Public. UNC Highway Safety Research Center. Prepared for the Federal Highway Administration and supported by the Robert Wood Johnson Foundation through its Active Living Research program, October, 2013.

# Next Steps

## Potential Trail Routes

- ✓ Prioritize development of baseline recommendation - section of trail connecting the Dueling Grounds to foot ramp at Lawrence Street
- ✓ Consider trail route 3 as a spur for trail route 1 that provides access to amenities located in the Community Center and Town Hall

## Trail Design Guidelines and Environmental Considerations

- ✓ Include stormwater management and green infrastructure features in trail design guidelines
  - ✓ Consider addition of low-impact development techniques such as bio-retention swales
- ✓ Pursue funding sources related to stormwater management
- ✓ Consider stream restoration efforts for Dueling Creek
- ✓ Emphasize protection of native trees located within the Dueling Creek Natural Area
- ✓ Review impact of trail development on methane curtain located along the northern property boundary of Colmar Manor Community Park
- ✓ Engage with relevant county departments to ensure compliance with environmental considerations, including Colmar Manor Levee and Environmental Strategy Areas

## Interpretive Themes and Signage

- ✓ Encourage design of logo and branding for the trail
- ✓ Develop an interpretive plan specific to the trail
- ✓ Consider narratives relating to the Underground Railroad and horse racing history of Colmar Manor
- ✓ Coordinate with county to develop signage and wayfinding plan consistent with regional trail systems
- ✓ Include signage with information for amenities available at the Community Center and Town Hall

## Partnerships

- ✓ Introduce local and regional health organizations and practitioners to the health benefits outdoor recreation assets such as the proposed trail can offer their patients
- ✓ Potential organizations include Providence Health Services Care Center, MedStar Medical Group and Life Stride, Inc.

## Stakeholder Engagement

- ✓ Establish task force or steering committee to promote the trail, fundraise and organize volunteers
- ✓ Include Colmar Manor residents in task force or steering committee
- ✓ Host community meetings to engage residents with the trail and include community recommendations into future development
- ✓ Involve the town's Green Team in community engagement efforts
- ✓ Prioritize engagement with property owners near the trail to identify concerns and potential next steps
- ✓ Work collaboratively with M-NCPPC to prioritize development of the trail

# Appendix

The background of the page is a photograph of an outdoor sports field. In the foreground, there is a large, well-maintained green lawn. To the right, a chain-link fence runs across the field, enclosing a smaller area that appears to be a tennis court or a similar sports facility. The background is filled with a dense line of tall, green trees under a clear blue sky. The overall scene is bright and sunny.

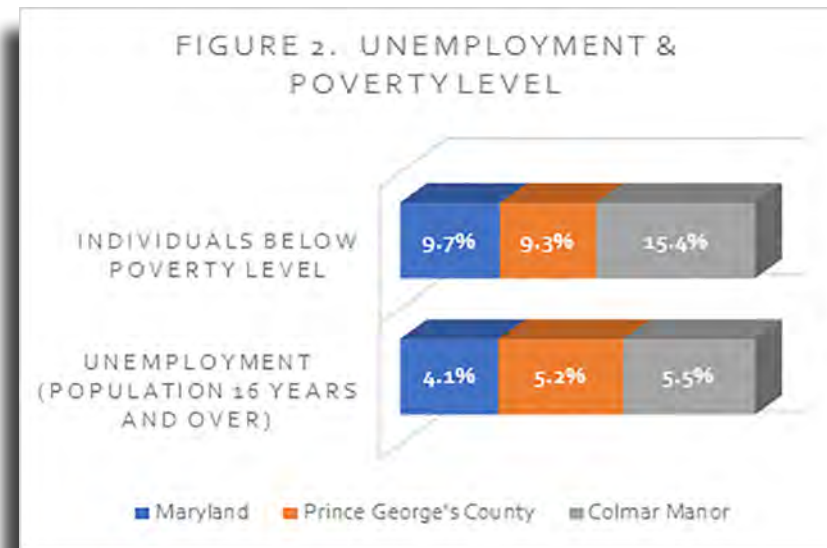
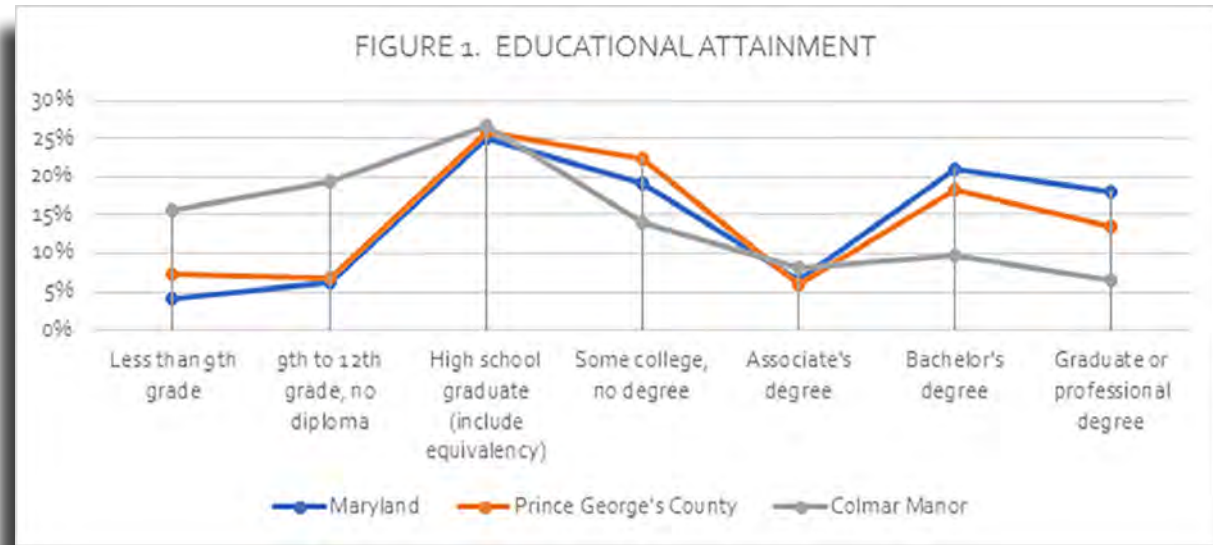
# A. Community Health Profile

## Education

Education attainment influences lifelong health and well-being. Education also offers opportunities for increased income, social and psychological benefits, and for practicing healthy behaviors. According to the Centers for Disease Control and Prevention (CDC), “highly educated persons are more likely to be employed and well-paid than less educated. They have a higher sense of control over their health and lives and more social support... In addition, the well-educated are more likely to engage in healthy behaviors and avoid unhealthy ones.”<sup>29</sup> Despite the higher percentage of Colmar Manor residents with a high school degree (26.8%), at every other education level, the town performs poorly in comparison to residents in the county and the state.

## Unemployment & Poverty Level

In Colmar Manor, 5.5% of residents over the age of 16 are unemployed and 15.4% of the town’s population lives below poverty level. Considering the higher percentage of residents under the age of 44 in Colmar Manor, such economic hardship may suggest poor access to higher education, job readiness and employment opportunities for this segment of the town’s population.





## B. Resource Inventory

When a community looks to develop new infrastructure, any project should document the existing conditions of the landscape it is intending to improve or restore. This section looks at the physical and environmental conditions of the landscape surrounding the project area, and identifies general considerations for the future development of the trail.

### Colmar Manor Levee

The Town of Colmar Manor and surrounding Port Towns were developed, in great part, from the economic benefits derived from the Anacostia River and the Port of Bladensburg. During the colonial era the Anacostia River was deep enough to allow ocean-going ships.<sup>30</sup> Heavy use of the river resulted in high silt levels making the river too shallow for continued navigation. The increase in silt levels also led to the severe flooding of the Port Towns on a yearly basis.<sup>31</sup> To mitigate these flooding events, the Army Corps of Engineers (USACE) built a levee system by “straightening the river channel, confining it within levees, and building pumping stations.”<sup>32</sup> Completed in 1954, the levee system remains in place today.



*View from Bladensburg Peace cross after average rainfall, c. unknown*



*USACE Proposed Local Protection and Navigation Improvements, c. 1953*

The image on the bottom right shows the path of the Anacostia River in 1938 prior to the straightening efforts that changed its original path during the construction of the levee system in the early 1950s. The image on the bottom left shows the path of the river in 1965 after construction. The differences in these two images illustrate how the straightening of the river drastically changed the landscape of the Port Towns area.

The Colmar Manor Levee protects against “an estimated \$15 million of possible flood-related damages,”<sup>33</sup> and encloses a community housing over 1,000 people and 200 structures. The segment of the Anacostia River Trail in Colmar Manor sits atop the levee system, allowing users to travel from Colmar Manor Community Park to Bladensburg Waterfront Park.



*Colmar Manor Levee and Anacostia River Trail*



*Aerial view of Colmar Manor, c. 1965*



*Aerial view of Colmar Manor, c. 1938*



## Consider

The proposed trail seeks to connect the Dueling Grounds with the Bladensburg Waterfront Park through the Anacostia River Trail. Trail route 1 would need to consider the steep changes in grade as the trail encounters the levee. Continued engagement with Prince George's County Department of Public Works and Transportation, the managing agency for the levee, can ensure trail development is consistent with county environmental requirements.

## Environmental Strategy Areas- Stream Buffer & Chesapeake Bay Critical Area

Prince George's County has established minimum buffer requirements for all streams located in the county in order to address water quality concerns and improve the health of its rivers and streams, as well as that of the Chesapeake Bay. The areas that define minimum stream buffer width are called Environmental Strategy Areas (ESA). For Dueling Creek, the buffer ranges from 60 to 100 feet.<sup>34</sup>

In addition, the Chesapeake Bay Critical Area Protection Act has established zones for all lands located adjacent to the Bay and tidal tributaries. The regulation specifies what types of land use and activities are allowed in each zone. Most of Colmar Manor Community Park is located in the Resource Conservation Area (RCA) zone, which is the most restrictive in terms of new development. Any trail development would need to comply with county and state regulations related to development within RCAs.

### Consider

Development of the Dueling Creek Heritage Trail may offer the opportunity to integrate green infrastructure and stormwater management practices. To improve water quality in the area, the project could mitigate runoff and erosion through treatments such as rain gardens or swales.



## Endnotes

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