



MONTGOMERY COUNTY DEPARTMENT OF PARKS
THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

MCPB
Item: 4
Date: 09/24/15

September 17, 2015

MEMORANDUM

TO: Montgomery County Planning Board

VIA: Michael F. Riley, Director *MFR*
Mitra Pedoeem, Acting Deputy Director *MP*
Michael Ma, Acting Chief, Park Development Division *MM*

FROM: Ching-Fang Chen, Landscape Architect/Project Manager, 301-495-2557 *CFC*
Patricia McManus, Design Section Supervisor, Park Development, 301-495-3580 *Pm*

SUBJECT: Facility Plan for the Little Bennett Regional Park Trail Connector

STAFF RECOMMENDATION

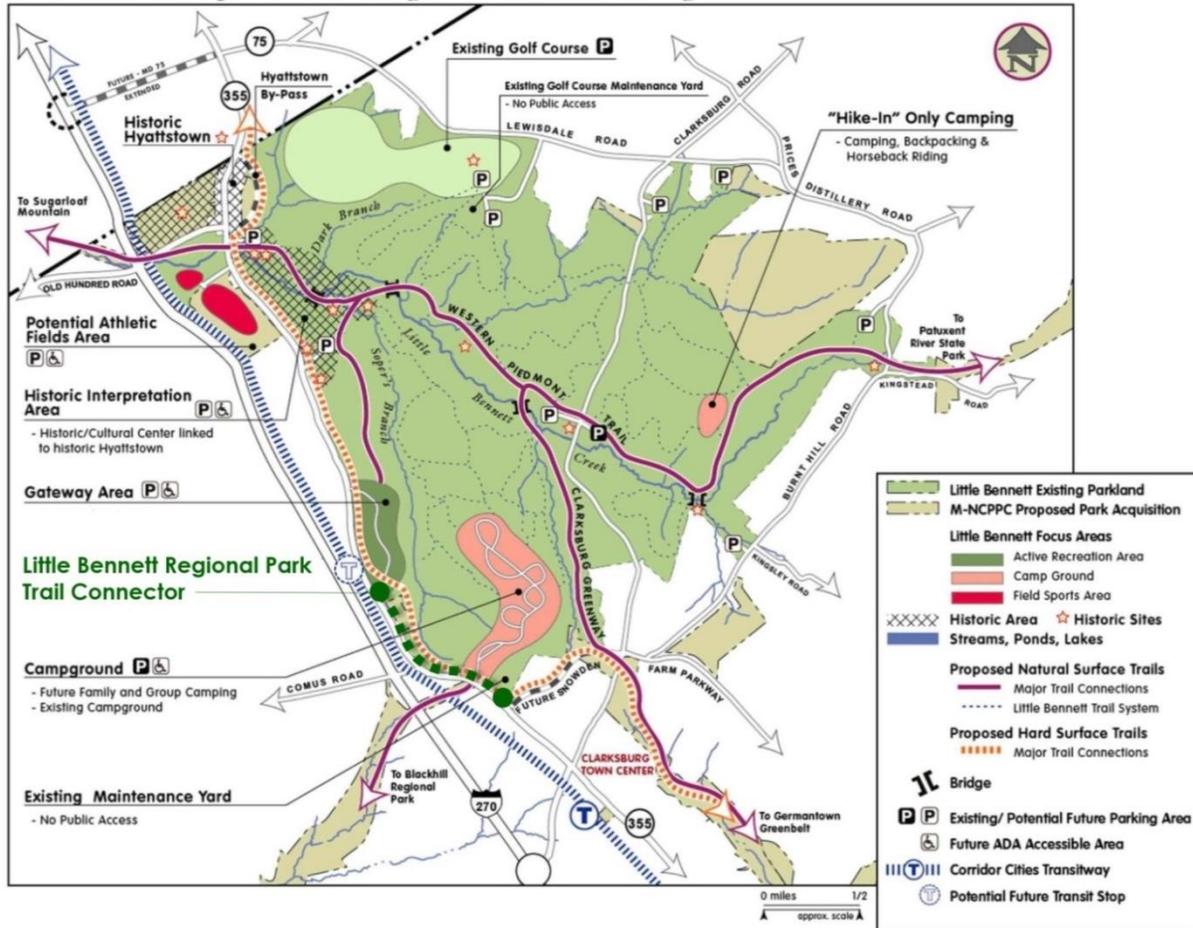
Approve the Recommended Facility Plan, including cost estimate.

PROJECT DESCRIPTION

Introduction

The purpose of the project is to develop a facility plan including cost estimate for the Little Bennett Regional Park Trail Connector project. The project involves a new eight-foot wide hard-surface trail, approximately one mile in length, on the east side of MD Route 355 in Clarksburg, Maryland. The trail is planned to connect the existing asphalt trail from Snowden Farm Parkway near Little Bennett Regional Park Maintenance Yard to the south entry of the future Day Use Area per the approved *2011 Little Bennett Regional Park Day Use Area Facility Plan*. The accessible, multi-use trail will provide a safe and pleasant pedestrian passage for recreational purposes and serve as a public sidewalk supporting the future transportation bikeway planned on the west side of the road. In concurrence with the trail construction, stream stabilization improvements within the Sopers Branch Tributary and stormwater mitigation of MD Route 355 will occur where feasible.

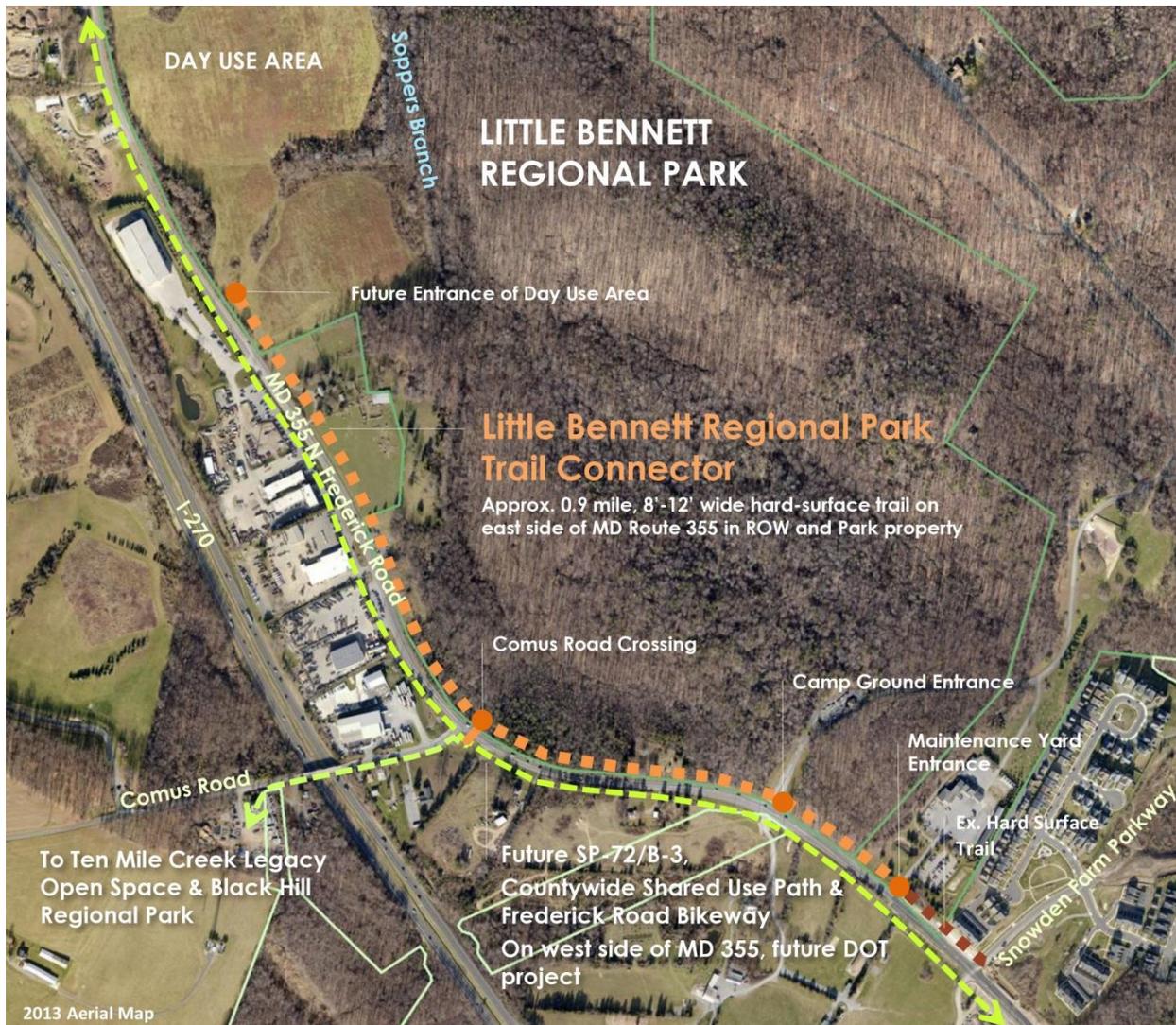
Little Bennett Regional Park Proposed Master Plan Map



The trail will extend the Clarksburg Greenway hard surface trail and the MD Route 355 hiker-biker trail north towards Hyattstown; provide pedestrian access from the Clarksburg Town Center to the Little Bennett Regional Park Campground, future Day Use Area and natural surface trail system; and provide bikeway and trail connections via Comus Road to a future Class III bikeway on Shiloh Church Road and to a future natural surface trail connection through the Ten Mile Creek Legacy Open Space to Black Hill Regional Park. The trail will promote pedestrian connectivity and expand recreational opportunities in upper Montgomery County.

With over 3,600 acres, Little Bennett Regional Park is the largest park in the M-NCPPC park system. The park includes many historic sites, and is considered to be one of the best contiguous natural areas in Montgomery County. Existing park facilities include a 91-site campground, an 18-hole golf course and driving range, over 23 miles of natural surface trails, and a maintenance yard with offices for park personnel. Approximately 67,500 visitors come to the park each year to enjoy hiking, cycling, birding, camping, fishing, horseback riding, plant walks, interpretive programs and golf.

The Little Bennett Regional Park Trail Connector is an important segment in the regional trail network and provides links to multiple trails identified in the 1994 Clarksburg Master Plan & Hyattstown Special Study Area and the 2007 Little Bennett Regional Park Master Plan. The extent of the proposed project is shown in the diagram below.



Project Funding

The facility planning study was funded with \$175,000 from the Capital Improvements Program in the Facility Planning: Non-Local Parks PDF. Facility planning represents thirty percent complete construction documents, including a proposed design, cost estimate and determination of regulatory feasibility. Charles P. Johnson and Associates, Inc. was hired in January 2013 to provide civil engineering, survey, natural resources inventory, forest conservation, geotechnical work, stormwater management and cost estimating services. If approved, the project would be proposed for design and construction in the Department of Parks' Capital Improvements Program (CIP.) Since the trail provides an important connection to the Day Use Area, the desire would be to implement the project for design and construction within the same timeframe in the CIP as the Little Bennett Regional Park Day Use Area.

Facility Planning Process

The facility planning process included the following sequence of work:

1. Collect data, prepare site survey, and perform geotechnical investigations and environmental assessment.
2. Analyze existing site conditions.
3. Prepare and obtain approval of Natural Resources Inventory/Forest Stand Delineation Summary Map.
4. Prepare preliminary design based on master plan guidance.
5. Present design to the community and stakeholders.
6. Prepare stormwater management concept and water quality plan submission and obtain approval from the Department of Permitting Services.
7. Refine design based on input received.
8. Prepare preliminary forest conservation plan submission.
9. Coordinate any outstanding issues with stakeholder groups and regulatory agencies.
10. Prepare facility plan report, cost estimate, and operating budget estimate.
11. Present facility plan recommendations and costs to the Montgomery County Planning Board for approval.

MASTER PLAN RECOMMENDATIONS

Master plan recommendations that are pertinent to the development of the trail connector are outlined in this section of the staff report. General recommendations regarding trails and greenways are cited individually by each master plan. Detailed recommendations regarding trails and bikeways are consolidated into one section below, because the recommendations from older master plans were inconsistent and may have been updated by more recent master plans and amendments. Master plan recommendations were reviewed and coordinated with staff from the Department of Planning, Department of Parks and the Montgomery County Department of Transportation, in order to interpret them accurately to develop recommendations for this project.

Vision 2030 Strategic Plan for Parks and Recreation in Montgomery County, Maryland, June 2011

Vision 2030 is a strategic plan for park and recreation services in Montgomery County for the next twenty years. A summary of survey results is outlined on page 16 of Volume 2. Trails were identified in surveys as one of the highest rated facilities in importance on page 22 and rated as one of the top priorities to add and expand. Recommendations for trails are summarized in Volume 2 under Theme 2: Planning & Development, Goal 5, 6 and 7.

Page 27 GOAL 5—Create a high-functioning system of parks, recreation, trails, and open space that is responsive to changing community needs and interests.

Page 29 GOAL 6 – *Expand and enhance opportunities for recreational trail experiences to promote health and wellness.*

6.1 Expand the distribution of multi-use trails.

Implementation: Identify new multi-use natural and hard surface trails, particularly in currently or projected underserved and high-density areas with limited trail access.

6.2 Increase trail connectivity.

Implementation: Fill gaps in the regional trail system and create linked series of loops. Re-examine the feasibility of proposed regional trail alignments and community connectors, and identify alternatives as necessary.

6.3 Address the needs of specialty trail users, including hikers, bikers, and equestrians.

Implementation: Establish certain trails as limited-user trails, based on the terrain and environment.

Page 30 GOAL 7 – *Expand park and recreation facility accessibility.*

7.1 Enhance access to parks, recreation facilities and programs, trails, and open space by setting measurable standards for different areas of the County.

Implementation: Apply standards for walkability and access to public transportation according to population densities when locating future parks and recreation lands and facilities.

7.2 Collaboratively work to provide safe and accessible facilities.

Implementation: Work with State Highway Administration and Department of Transportation and/or Department of General Services to ensure safe ADA pedestrian access to park and recreation facilities via sidewalks, bike lanes, trails, bikeshare programs, and safe crossings. Incorporate multi-use trail linkages to park and recreation facilities when feasible as well as sidewalk and bike paths in public rights-of-way.

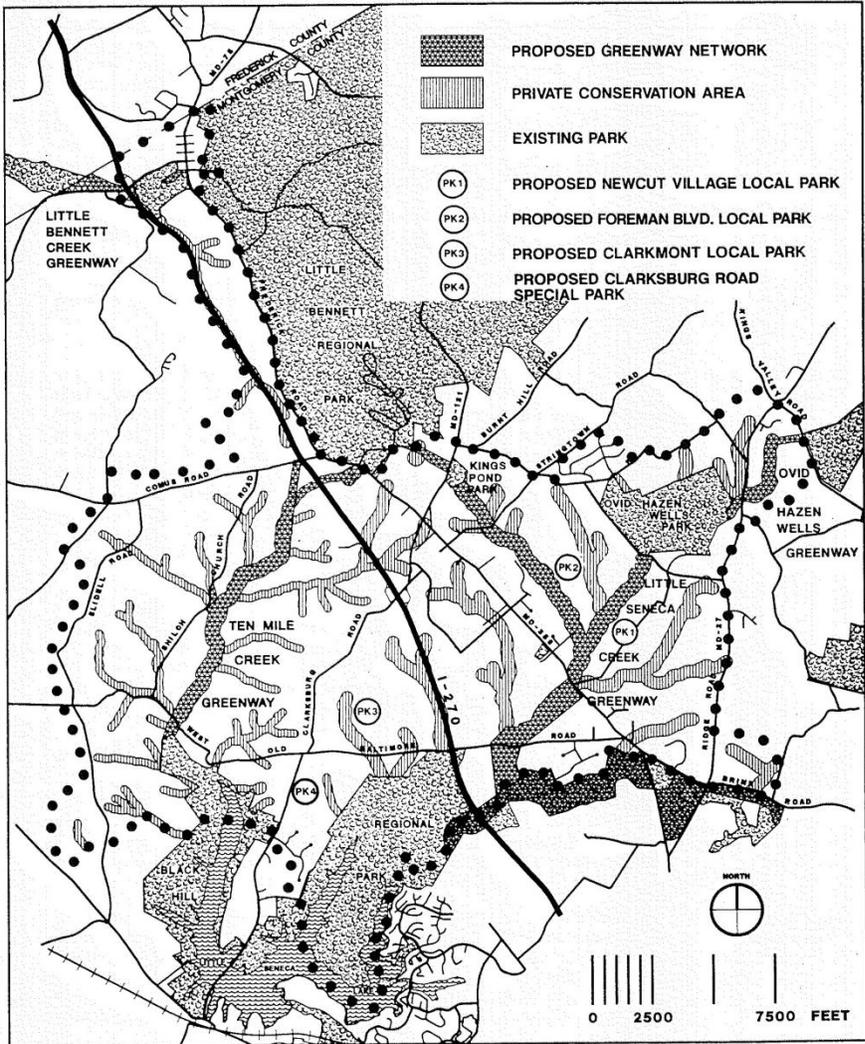
Clarksburg Master Plan and Hyattstown Special Study Area, Approved and Adopted June 1994

The Clarksburg Master Plan establishes a strong commitment to the vision of Clarksburg as a transit and pedestrian oriented community surrounded by rural open space, and emphasizes the protection of environmental and historic resources. The Clarksburg and Hyattstown areas are conveniently located near two of the county's largest regional parks, Black Hill and Little Bennett. A key goal of the Clarksburg Master Plan is to connect park facilities and natural areas to the greenway network. The plan's Greenway Network Policy recommends a multi-purpose greenway system along stream valleys. The greenway network is described on pages 20 and 21 of the master plan as a major organizing element of the open space network, including parks, schools, stream buffer areas and a hiker-biker trail system.

Proposed Park and Open Space System

Figure 48

The proposed greenway network is shown in Figure 48 on page 157 of the plan and follows the main stream stems of three stream valleys: Little Seneca Creek, Little Bennett Creek, and Ten Mile Creek. The proposed Ten Mile Creek Greenway will connect the southern end of Little Bennett Regional Park to Black Hill Regional Park. The proposed Little Seneca Creek Greenway will connect the southern end of Little Bennett Regional Park to the Clarksburg Town Center and Ovid Hazen Wells Recreational Park. The proposed Little Bennett Creek Greenway will connect the northern end of Little Bennett Regional Park to conservation areas in Frederick County. The plan describes the overall intent of the greenway network on page 156 as follows:



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Clarksburg Master Plan and Hyattstown Special Study Area
APPROVED AND ADOPTED JUNE 1994

The intent of the Plan is to acquire, at a minimum, enough of these stream valleys to allow development of a trail system. These trails may be paved or soft surfaces that may be enjoyed by hikers, bikers, or equestrians. It is intended that these trails be constructed outside of the 100-year floodplain, wherever possible, with a minimum amount of clearing and grading and with a sufficient buffer from adjacent development.

The Clarksburg Master Plan includes a bikeway plan on pages 131-135 that supports its objectives regarding greenways and transit. The bikeway plan objectives include: provide a logical relation to the Countywide Bikeway Plan and Master Plan of Boyds, Germantown and Damascus areas; integrate the bikeway system with greenways; emphasize bikeway access from neighborhoods to shopping and employment areas as well as to key community facilities; and emphasize bike paths that are separated from streets and roads.

There are five master planned bikeway recommendations in the vicinity of Little Bennett Regional Park shown on Figure 43 and described in Table 10 on pages 132 and 133 of the plan. Bikeway recommendations which connect directly to this project will be described separately.

Countywide Park Trails Plan, Amended September 2008

The Countywide Park Trails Plan provides recommendations for the Clarksburg area in Corridor 8 for the Upcounty area. Figure 15 on page 42 shows the overall greenway trail concept which is also shown in the 1994 Clarksburg Master Plan as previously described.

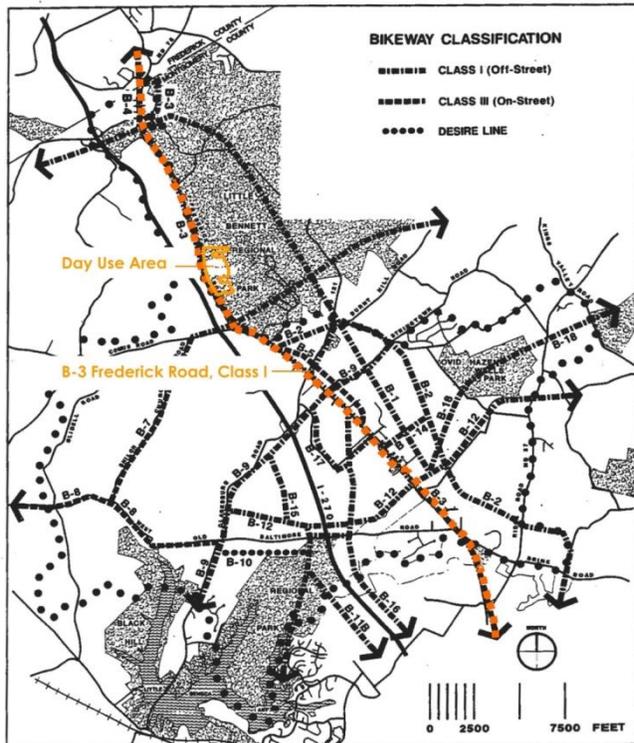
Master Plan Bikeway and Park Trail Recommendations

The following master plans provide specific recommendations for countywide bikeways and park trail alignments in proximity to the proposed project:

- Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan and Hyattstown Special Study Area, Approved and Adopted April 2014
- Clarksburg Master Plan and Hyattstown Special Study Area, Approved and Adopted June 1994
- Countywide Bikeways Functional Master Plan, Approved and Adopted March 2005
- Little Bennett Regional Park Master Plan, March 2007

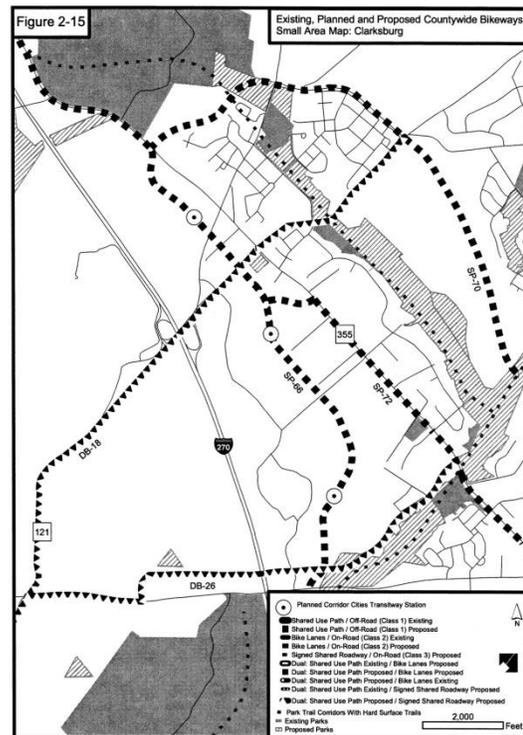
Bikeway Plan

Figure 43



Clarksburg Master Plan and Hyattstown Special Study Area
APPROVED AND ADOPTED JUNE 1994

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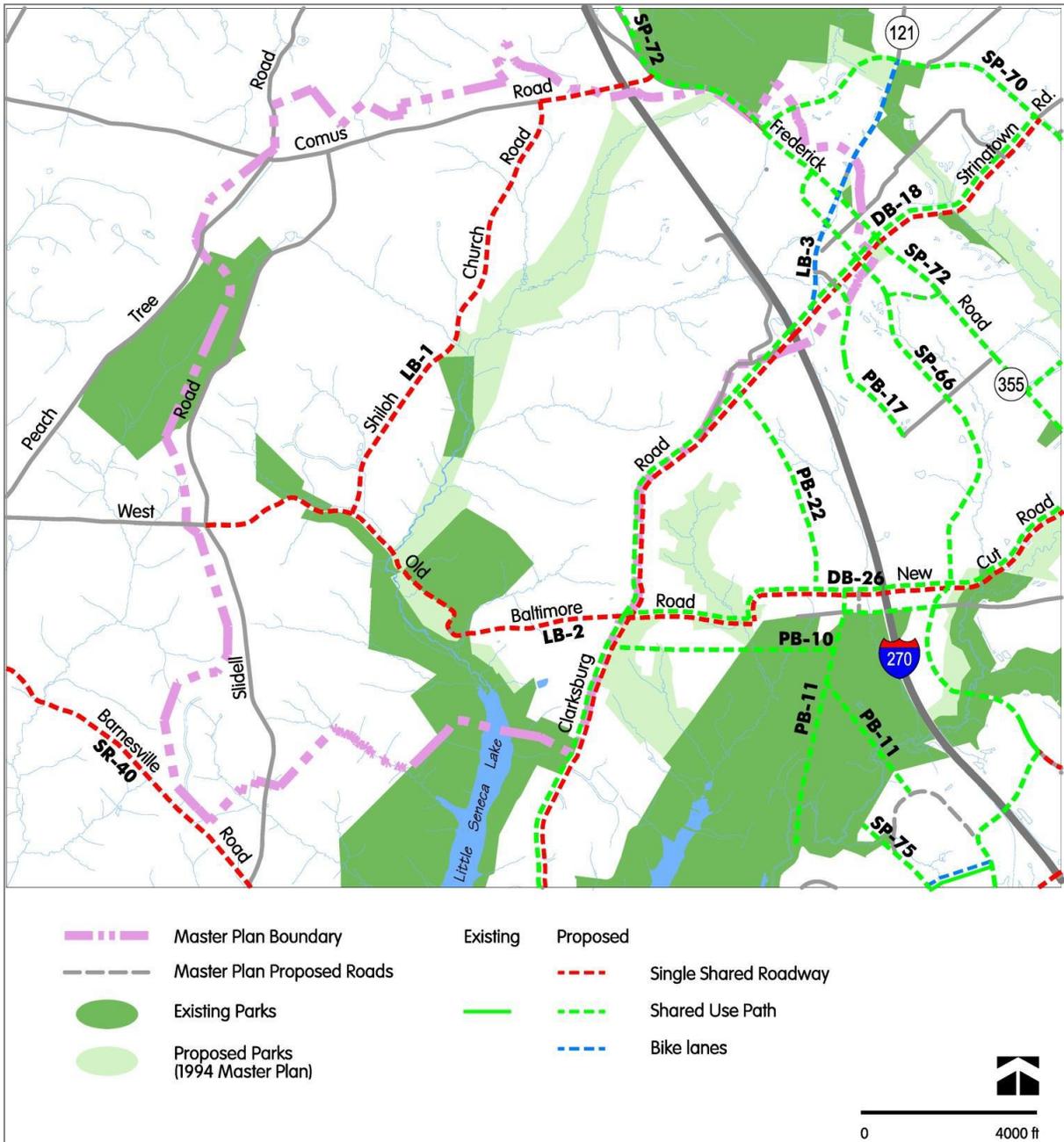


2005 Countywide Bikeways Plan

Bikeway recommendations are described below, and graphics from these master plans which illustrate the routes are attached for reference.

- Route SP-70, Midcounty Highway: This is a shared use, off-road bikeway (Class I), along the north side of Midcounty Highway and along Snowden Farm Parkway extending from the Intercounty Connector (ICC) to MD 355, terminating just south of Little Bennett Regional Park (this route is the same as Route B-2 described in the Clarksburg Master Plan.) This bikeway connects the southern terminus of this proposed park trail connector project (and the future Little Bennett Day Use Area) to the Clarksburg Greenway Trail system.
- Route SP-72, Frederick Road (MD 355)-Upcounty: This is a shared use, off-road bikeway (Class I) from Watkins Mill Road to the Frederick County line. The alignment mainly follows MD 355, except where it deviates to connect to proposed Corridor Cities Transitway stations (this route is similar to Route B-3 described in the Clarksburg Master Plan.) This bikeway has been constructed north to Stringtown Road. The Montgomery County Department of Transportation currently has a grant to design the missing gap from Stringtown Road to Snowden Farm Parkway, and the southern terminus of this proposed park trail connector project. This bikeway will eventually connect north to Hyattstown and Frederick County.
- Route DB-18, Clarksburg Road (MD 121)/Stringtown Road: This is a proposed dual bikeway (both shared use path and shared roadway) along Clarksburg Road (MD 121) from Stringtown Road south to Clopper Road (MD 117) and will provide connections from the Clarksburg Town Center and Frederick Road (MD 355) bikeway to Black Hill Regional Park.
- Route LB-1, Class III bikeway (Single Shared Roadway) extends from the proposed park trail connector at Little Bennett Regional Park to Comus Road and Shiloh Church Road to Black Hill Regional Park. Through the Little Bennett Trail Connector project, this route would be connected to the Frederick Road (MD 355) bikeway, Route SP-72.

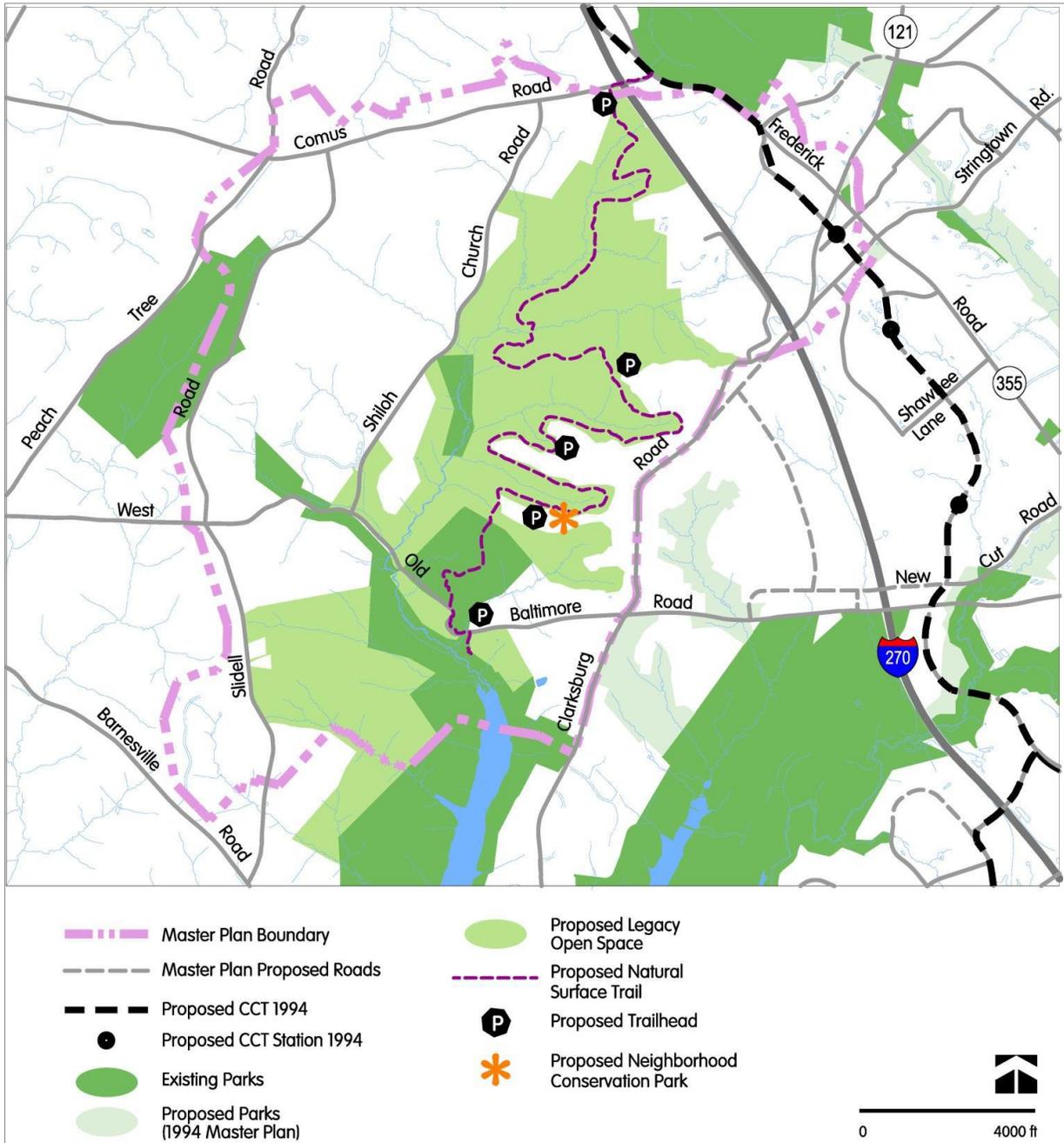
The Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan and Hyattstown Special Study Area also provides recommendations for parkland acquisition and future natural surface trails that will connect to the trail and bikeway system. The plan designates high quality forest and open habitats that protect the Ten Mile Creek headwaters as a Legacy Open Space Natural Resources site (Class II). The plan recommends a natural surface trail through the already proposed conservation park and greenway system to provide access for nature-based recreation. This trail will connect directly to the proposed Little Bennett Regional Park trail connector to the Day Use Area. Five trailheads with parking are identified along the trail, including one at Comus Road near MD Route 355 and Little Bennett Regional Park.



Excerpted from Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan

The Little Bennett Regional Park Master Plan also recommends the proposed trail connector. The plan recommends extending a hard surface trail connection along Route 355 on the east side of the road from Snowden Farm Parkway to Hyattstown and indicates a preference on page 19 that the trail be set back within the park 50 feet from the right-of-way. The plan describes this trail on page 14 as follows:

A hard surface trail is proposed along the park frontage of MD 355. This trail will meet Americans with Disabilities Act Accessibility Guidelines and will provide access to the gateway area of the park as well as historic features closer to Hyattstown.



Excerpted from Ten Mile Creek Area Limited Amendment to the Clarksburg Master Plan

The trail connector for the corridor along MD Route 355 was coordinated during the facility plan for the Little Bennett Regional Park Day Use Area with staff of the Montgomery County Department of Transportation (MCDOT) to ensure consistency, efficiency and safety. Staff confirmed that Route SP-72 Countywide Shared Use Path will be located on the west side of MD Route 355 within the road right-of-way and be completely independent from the park recreational trails. The transportation bikeway will support the future Corridor Cities Transitway providing non-vehicular access for the community. Park trails on the east side of MD Route 355 will serve recreational purposes and serve as a sidewalk for the future countywide shared use path and bikeway system.

PROGRAM OF REQUIREMENTS

The program includes the following:

- Eight-foot wide hard-surface trail with one-foot gravel shoulder on each side
- Ramps, retaining walls, handrails and barriers as required
- Twelve-foot wide non-slip boardwalks
- Road crossings
- Interpretive and directional signage
- Stormwater management facilities
- Sopers Branch tributary stabilization
- Reforestation
- Maintenance access

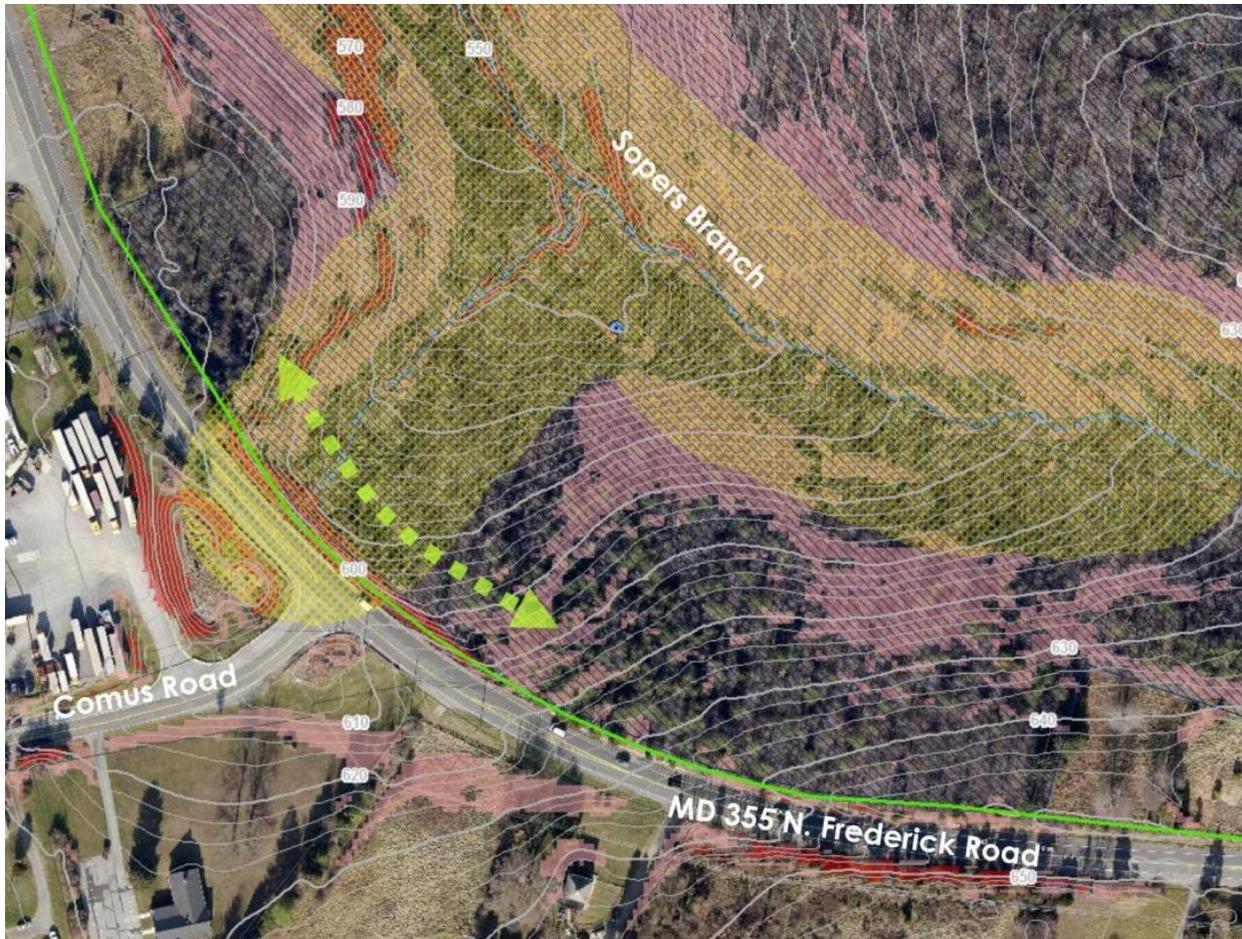
The trail is designed to comply with M-NCPPC design guidelines for trails, the latest version of the Americans with Disabilities Act (ADA) Draft Guidelines for Outdoor Developed Areas (which includes trails), and the American Association of State Highway and Transportation Officials (AASHTO) guidelines for sidewalk and bicycle facilities.

FACILITY PLAN DESIGN STUDY

Site Conditions

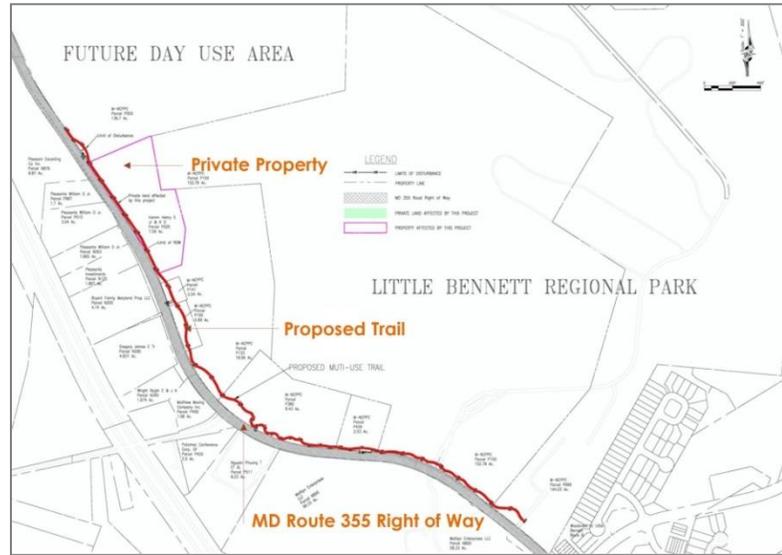
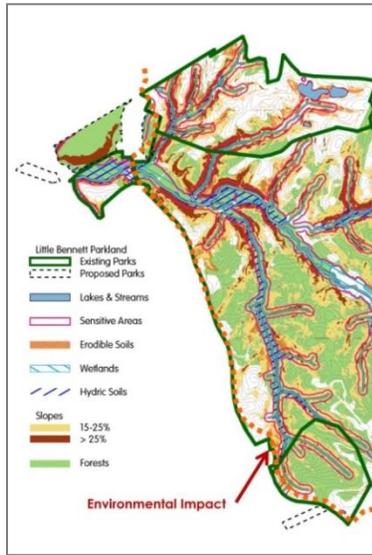
The Little Bennett Regional Park Trail Connector project is located on the east side of Frederick Road (MD 355). The proposed trail connector will provide pedestrian access from the Little Bennett Regional Park Maintenance Yard near Snowden Farm Parkway through the campground entrance at Camping Ridge Road north to the southern entrance of the future Day Use Area. The 8-12 foot wide, 0.9 mile long trail is proposed mainly on park property. At several locations minor areas of work are within the right-of-way of MD Route 355. Approximately one-fifth of the trail fronts a private property at the northern end, and approximately one-tenth of the trail encounters environmentally sensitive areas of a tributary to Sopers Branch with steep slopes and forested wetland.

Frederick Road (Maryland Route 355) serves as a major thoroughfare for commuters travelling between the Montgomery and Frederick County suburbs to the Washington metro area. The road services the entrance to the Little Bennett Regional Park. North of the Clarksburg Road intersection, this two-lane road parallels Interstate 270, with posted speeds increasing from 40 MPH to 50 MPH north of the Little Bennett campground entrance. Designed for the automobile, this section of road with its high speeds, limited shoulder and little to no sidewalk, is hazardous for both pedestrians and cyclists to negotiate the area safely. Intersecting Frederick Road from the west is Comus Road, a two lane secondary road that traverses I-270 before terminating twelve miles west at the foothills of Sugarloaf Mountain.



Extending for 4,886 linear feet along Frederick Road, the 20.41-acre project study area contains 6.77 acres of existing forest, 3.675 acres of which is within the Ten Mile Creek Special Protection Area. The proposed site is located within the Little Bennett Watershed (Use Class III-P) and within the Piedmont plateau; an area characterized by gently rolling hills and deeply incised stream valleys. The overall grade change from the ridgeline at Frederick Road to the valley floor drops dramatically with an elevation change of approximately 60 to 80 feet. Stormwater moves across the land and enters the headwaters of Sopers Branch via sheet flow, shallow concentrated flow and piped runoff. Flow is intermittent in the headwaters of Sopers Branch near MD Route 355 at Comus Road. The stream typically only flows during periods of rainfall and when there is enough groundwater to recharge the system. Site constraints within this very limited, linear project area consist of existing steep slopes greater than 25%, and larger drainage areas that prohibit the use of low impact stormwater management treatment.

The forest study area along Frederick Road is considered a young forest with 70% canopy coverage. This section of forest is rated poor to fair and is dominated by forest edge species including Black Cherry, Black Locust, Red Cedar and Virginia Pine. Many dead or dying trees were observed in the wetland study area situated in the valley surrounding the headwaters to Sopers Branch. West and east of the wetland area, the forest edge is in decline where non-native invasive species dominate the understory layer forming thickets 20 to 50 feet into the forest.



The project site is located within Little Bennett Regional Park, with the exception of one segment of the trail which traverses along the frontage of a 7.59-acre parcel of private property. The property owner has expressed interest in eventually selling the property to the Department of Parks. The Department’s Land Acquisition Specialist has coordinated the potential project impacts with the owner, as well as the potential for a trail easement across the frontage as an alternative to the sale of the property, if the timing of the acquisition were not on the same track as the project implementation schedule. Alignment of the trail on parkland behind the property was evaluated but is infeasible due to the presence of steep slopes and the location of the Sopers Branch stream. Should the property acquisition or easement not occur by the time of project implementation, the trail would be constructed to connect to the Comus Road crossing and would terminate south of the private property.

Status of Adjacent Trail Projects

As stated previously, the Little Bennett Regional Park Trail Connector is an important segment providing pedestrian and bicycle access from the Clarksburg Town Center to the Little Bennett Regional Park Campground, future Day Use Area and natural surface trail system. The trail will provide connections to future trails and bikeways via the Comus Road crossing to the Ten Mile Creek Legacy Open Space and south to Black Hill Regional Park. The status of major ongoing adjacent trail projects are summarized and illustrated below.

- **MD 355 Sidewalk (Hyattstown)** – This existing sidewalk connects the Hyattstown Historical District to the northern end of Little Bennett Regional Park and provides safe pedestrian access to transit stops, retail stores, and residences adjacent to the roadway. (DOT project, construction complete)
- **Little Bennett Regional Park Day Use Area** – This project will provide 0.6 miles of multi-use hard surface recreational trail for the park along the MD 355 frontage. (M-NCPPC project, facility planning completed, anticipates design and construction in FY 17-22)

MD 355 Sidewalk (Hyattstown)

0.5 mile
Sidewalk rehabilitation
Both sides of MD355
From Hyattstown Mill Road to
Montgomery/Frederick Co. Line

Park Natural Surface Trail

Natural surface

Day Use Area

0.6 mile 8' wide recreational trail
East side of park access drive

Little Bennett Regional Park Trail Connector

0.9 mile, 8'-12' wide
recreational/multi-use trail

MD 355-Clarksburg

Shared Use Path

0.7 mile 8' wide shared use path

Stringtown Road

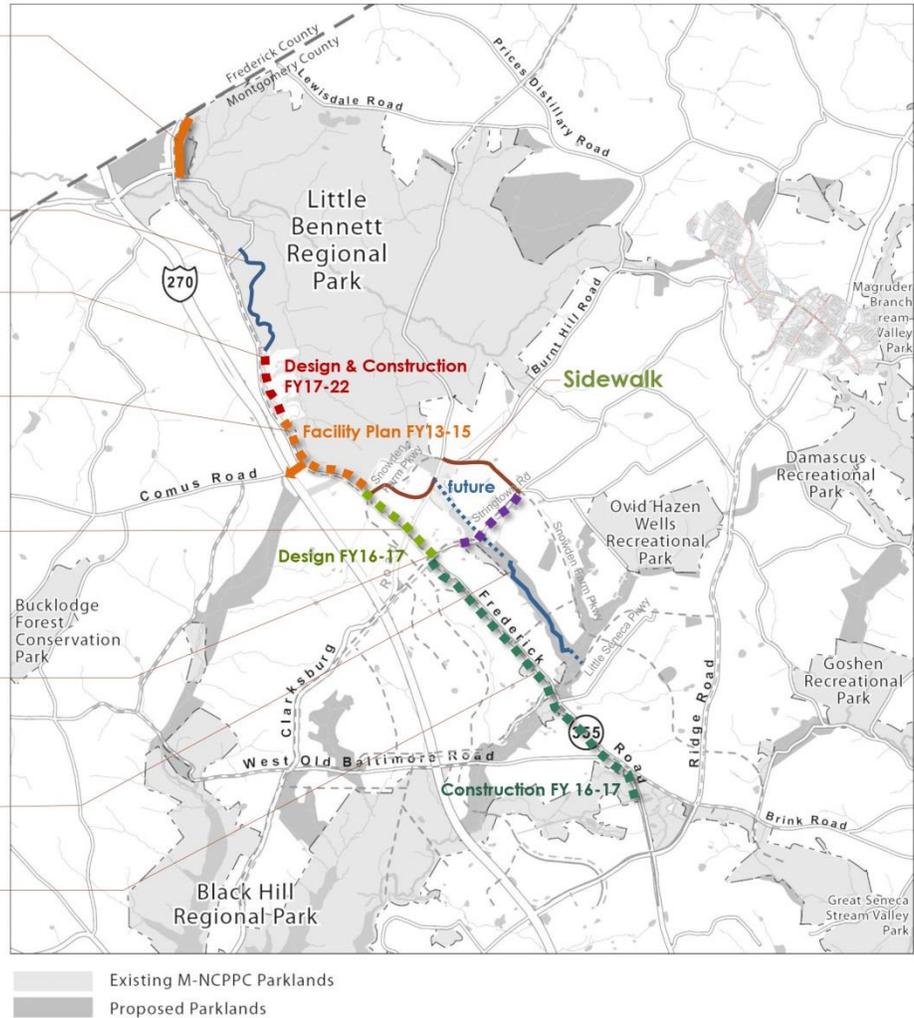
0.6 mile roadway
From Overlook Park Drive to
Snowden Farm Parkway
(Developer Project)

Clarksburg Greenway Trail

(Developer Project)

Frederick Road Bike Path

2.5 mile
10' wide hiker-biker path
West sides of MD355 between
Stringtown Road and Brink Road



- **MD 355-Clarksburg Shared Use Path** – This project will close a 0.7 mile gap in the shared use, off-road bikeway along the west side of Frederick Road (MD Route 355) from Stringtown Road north to Snowden Farm Parkway and the southern terminus of the Little Bennett Trail Connector project. (DOT project, scheduled to begin facility planning and design in FY16)
- **Frederick Road Bike Path** – This project provides 2.5 miles of 10-foot wide shared use off-road bikeway along the west side of Frederick Road (MD Route 355) from the northern terminus of the existing Frederick Road bike path (near Milestone Manor Lane/Ridge Road) north to Stringtown Road. (DOT project, scheduled for construction in FY16-17)
- **Clarksburg Greenway Trail** – will provide a recreational trail connecting open space between Little Seneca Parkway to Stringtown Road and Snowden Farm Parkway.
- **Developer Projects** – segments of sidewalks and bikeways are planned to be built by developers for sections of Stringtown Road and Snowden Farm Parkway. The timing is contingent on the private development.

Community Outreach

A public meeting was held on October 15, 2013 to present master plan guidance, existing site conditions, and the preliminary trail alignment study with sections, profiles and materials. The attendees expressed general support for the design concept. A summary of key community comments is outlined below. A complete record of the meeting minutes is included in Attachment 11.

- Concerns were expressed regarding the width of the trail, steepness of slopes, and tight curves in the alignment. The curves should be gentle with good sight distances, and curves and slopes on the boardwalk would be undesirable since they become slippery when wet. Boardwalks should be kept as flat as possible for safety.
- There was a request for the trail and boardwalks to be at least ten feet wide, although twelve feet is preferred.
- There was interest in the project facilitating connectivity to the Clarksburg Greenway system when the Day Use Area is built.
- A concern was brought up about erosion and head cuts that have been migrating along the ravine at Sopers Branch near Comus Road. The stream needs to be stabilized in this location or the trail will be compromised.
- The issue of nighttime safety was raised.
- Consider striping down the center of the trail.
- Include trail signage, especially safety signage where the trail crosses the campground entrance road.
- Separate the trail from road traffic as much as possible for safety.
- Confirm whether there is a better connection to Stringtown Road and Clarksburg Village through park property.

Additional Coordination and Regulatory Approvals

M-NCPPC Department of Planning / Montgomery County Department of Environmental Protection (DEP)

A Natural Resources Inventory/Forest Stand Delineation (NRI/FSD) was approved for the park on November 3, 2014 (File #420131910.) A variance for impacts to five specimen trees greater than 30" dbh was approved by DEP on August 14, 2015. The Preliminary Forest Conservation Plan will be presented to the Montgomery County Planning Board by the Department of Planning staff with the park facility plan. Refer to Attachments 2, 3 and 4.

Montgomery County Department of Permitting Services

The stormwater management concept plan for the park was approved on September 16, 2015 (File #268615.) Refer to Attachments 5, 6 and 12.

Montgomery County Department of Permitting Services/ M-NCPPC Department of Planning /
Montgomery County Department of Environmental Protection (DEP)

A water quality inventory was submitted for impacts to the Ten Mile Creek Special Protection Area. The responsibilities of the respective agencies, project goals, preliminary comments, and future follow-up tasks were coordinated. The plan was approved on September 16, 2015. Refer to Attachment 12.

Maryland State Highway Administration (SHA), Records and Research Section

On November 25, SHA confirmed that there are no SHA plats or records available for the entire area of MD Route 355 within the project boundaries, except for the area covered by Right-of-Way Plat 8067. MD Route 355 (Frederick Road) was originally a sixty-foot wide turnpike, measured thirty feet from each side of the original centerline of road surfacing, chartered by the Maryland General Assembly, Acts of 1865, Chapter 179. The former Monocacy and Urbana Turnpike was originally taken over and maintained by Montgomery County and was later absorbed into the State Highway system on or about 1910.

Montgomery County Department of Transportation (MC-DOT)

On October 3, 2013, Park Development staff met with the MC-DOT Bikeways Coordinator to review the proposed trail connector project and pedestrian connectivity in Clarksburg. Information was gathered for the adjacent DOT projects along MD Route 355. A gap in the trail system from Snowden Farm Parkway to Stringtown Road was identified and further discussed with MC-DOT staff on December 3, 2013.

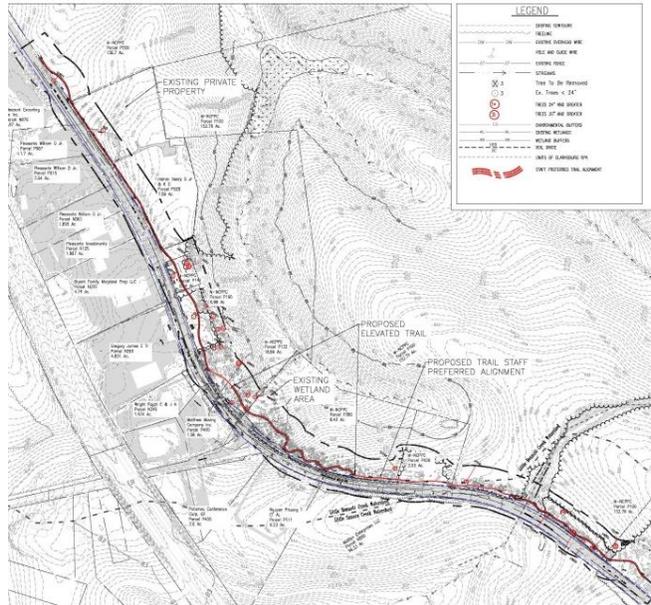
In April, 2013, Park staff assisted MC-DOT with a Transportation Alternatives Grant Application. The project is named 'MD 355-Clarksburg Shared Use Path'. On July 27, 2015, The National Capital Region Transportation Planning Board (TPB) approved \$523,416 for MC-DOT to fund the design and engineering of this shared use path and sidewalk. The path will create a link in the existing trail network along MD 355 between Little Bennett Regional Park Trail and the Frederick Road Bike Path. Montgomery County will contribute about \$131,000 to the project if approved by the Montgomery County Council.

Montgomery County Department of General Services (MC-DGS)

Coordination was made to remove a parking area located within the Little Bennett Regional Park along MD Route 355. Montgomery County government employees requested use of a driveway left behind after a residential house was demolished. A former park manager approved the temporary use of the driveway for a few cars, and over time the arrangement continued, and the driveway evolved into a larger gravel parking lot for county staff. A written notice from the Parks Facilities Management Division was mailed to the Division of Fleet Management of MC-DGS on April 23, 2014 requesting the use to be terminated on March 31, 2015. The area has been gated and restored to parkland. The alignment of the future trail runs through this area.

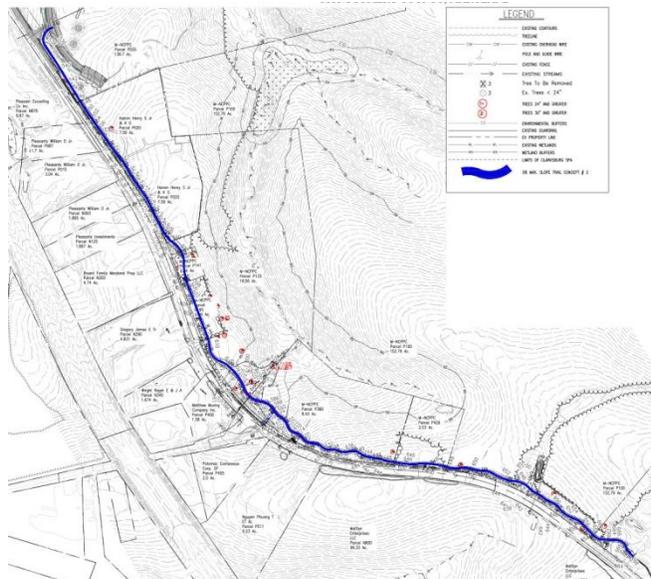
Alignment 2 was designed to stay outside of the MD Route 355 ROW to improve pedestrian safety and provide a more gradual grade change across the boardwalk over the Sopers Branch tributary and stream valley. This alignment provides a connection to the future Comus Road trail with an overlook and pullout area. The total length of trail is also approximately 0.9 mile. The boardwalk is 936' long with a maximum slope of 7.5%. The boardwalk is elevated up to twenty feet high at the highest location.

This alternative provides a minimum horizontal curve radius of 37' and complies with the design speed requirement for bikers travelling at 12 mph. Due to the relatively steep vertical slopes on the trail and the expectation that trail usage will be high (since this trail will provide an important greenspace and recreational connection in this part of the County until the future shared use bike path on the west side of Frederick Road is constructed,) staff developed a third alternative with a wider horizontal curve design radius to ensure the safety of bikers and pedestrians on the trail.



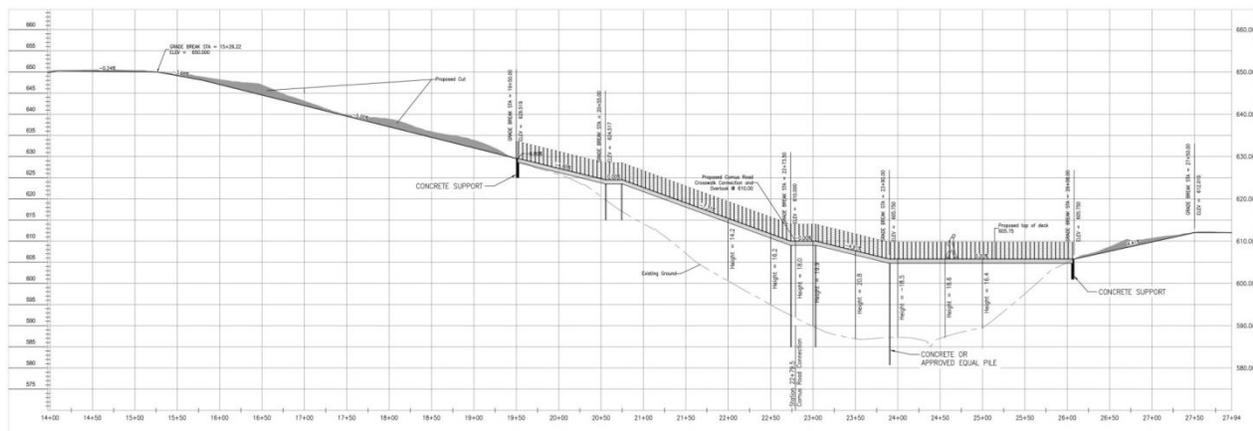
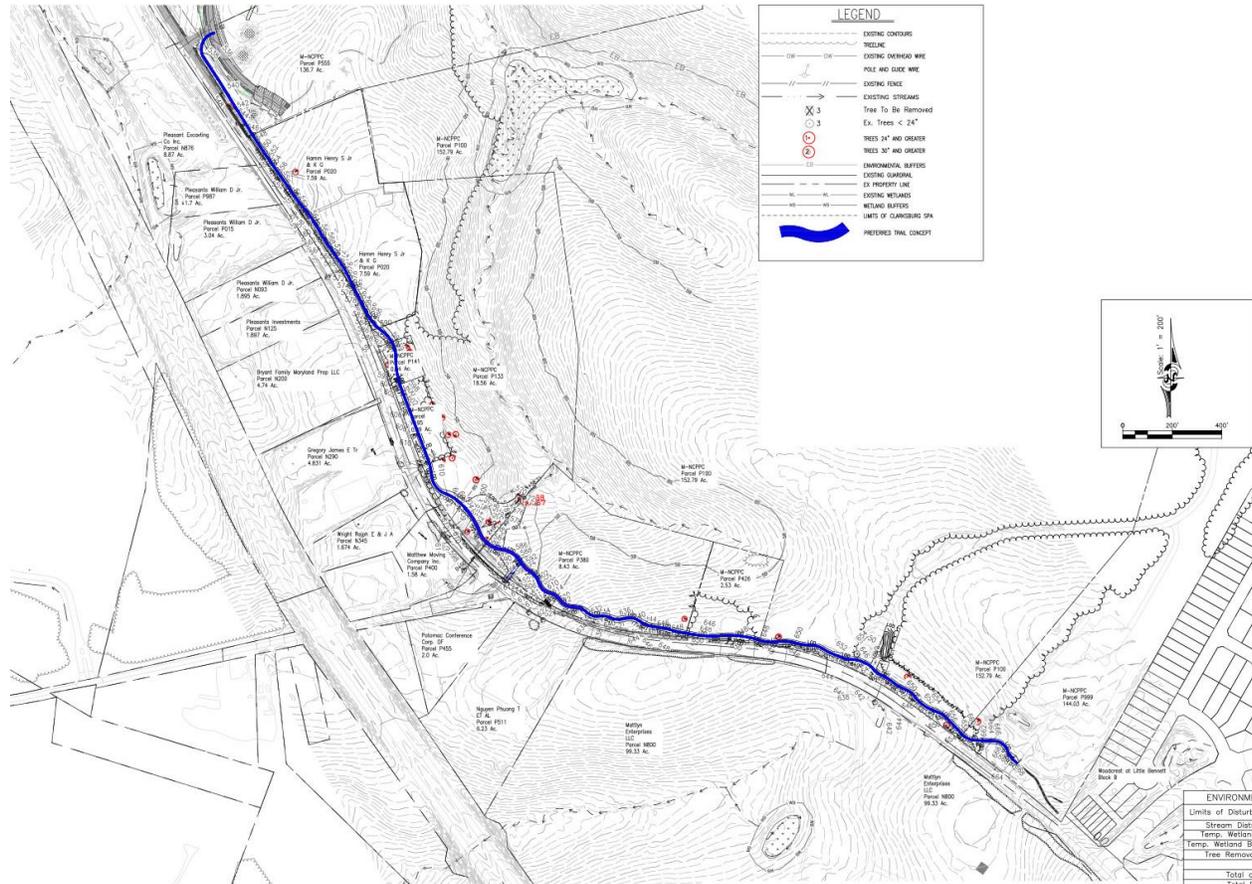
Alignment 3 was designed to maximize safety considerations, with slopes less than 5%, with fewer numbers of turns, and using a horizontal turning radius of at least 60'. The total length of the trail is approximately 0.92 mile, and the boardwalk is shortened to 662' long.

Though the less than 5% slope is preferred for accessibility reasons, the boardwalk at the highest segment is elevated up to 23 feet high. This alignment will also connect to the Comus Road trail and bikeway, however the trail would be elevated higher than MD Route 355 at this location, which is not desirable. There are several locations on this alignment where the trail would be cut into existing grades up to five feet and require retaining walls in order to meet the preferred slope requirement. This alternative would have greater environmental impacts and construction costs than other alternatives.



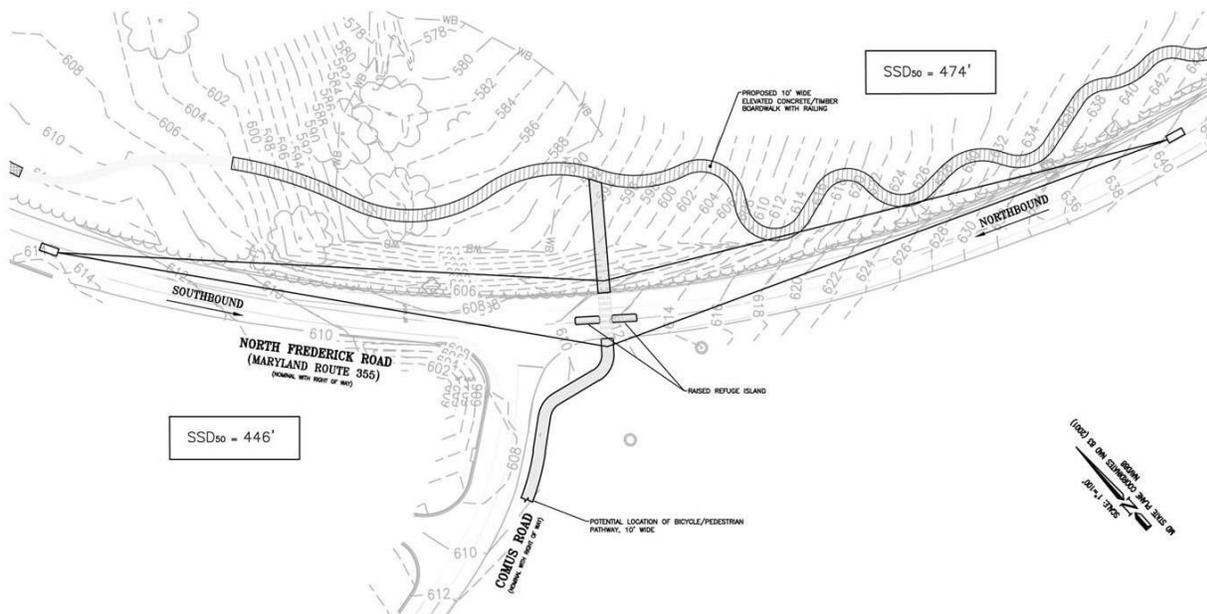
Recommended Plan

The recommended alignment was refined to include staff comments and feedback derived from the community. The alignment is a hybrid of Alternatives 2 and 3 to provide a safe buffer from MD Route 355, with the safest slopes and turning radii that could be accommodated, and to minimize boardwalks and retaining walls to control costs. At the campground entrance, the trail is offset from the road intersection to allow level and straight crossings that will improve sight distance, pedestrian safety, and vehicle reaction times. The trail meanders through existing forest to avoid impacts to large trees.

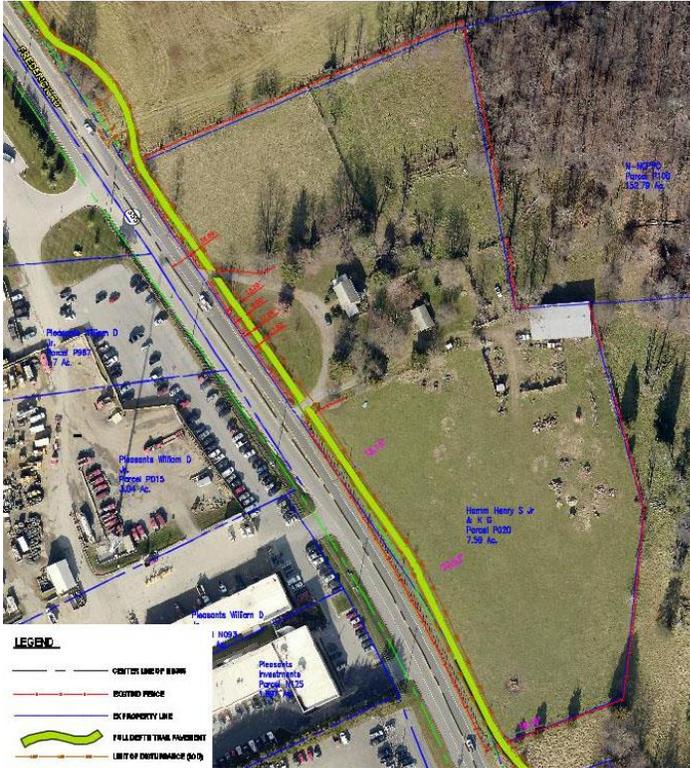




The total length of the trail is nearly a mile long (0.92 mi) with 658' on elevated boardwalk and an additional 93' boardwalk connection to the Comus Road crossing. Excavation of existing ground is no more than four feet. The horizontal curve radii follows AASHTO standards of 60' minimum for bicycle speeds up to 20 mph. The maximum running slope is 7.3%. While a more gradual slope would be preferred, the trail was widened to twelve feet to enhance safety around the curves. The boardwalk is also designed of a non-slip precast concrete decking system to address safety concerns and to minimize future maintenance requirements for the forested and shaded portion of the trail. The boardwalk is 20.8' high at the tallest section and will be constructed on concrete piers to reduce costs as well as impacts to the stream buffer. The railing material is proposed to be either stainless steel or aluminum to limit bulkiness that would interrupt views from the trail into the surrounding forest.



For the Comus Road crossing, the traffic study recommended raised pedestrian refuge islands, signage for pedestrian and bicyclists and advanced warning signs for vehicular traffic. Existing vegetation on the park side of the road would be maintained along MD Route 355 to provide clear views of the crossing and maintain a safe stopping sight distance. The design of this crossing will be closely coordinated with SHA during final design.



To connect to the Little Bennett Regional Park Day Use Area, approximately 930' of the northern segment requires encroaching onto private property at 24101 Frederick Road. Due to environmental constraints, it would not be feasible to route the trail to avoid this property by aligning the trail behind the property closer to Sopers Branch as shown in the 2007 Little Bennett Regional Park Master Plan. As previously stated, this

owner has expressed interest in eventually selling the property to the Department of Parks. Should the property acquisition or negotiation of an easement for the trail not occur by the time of the project implementation, the trail would be constructed to connect to the Comus Road crossing and would terminate south of this property.

In this segment of the trail, the eight-foot wide trail is aligned approximately 37' from the center line of the road and ten feet from the existing cattle fence to maintain an average of a fifteen-foot wide buffer zone from the edge of the road pavement. The plan recommends retaining the existing wood posts and metal fence as safety barriers.

The plan will provide full stormwater management treatment on-site and meet Special Protection Area Water Quality Plan requirements with sheet flow to a conservation area, a rain garden, pervious pavement, and non-rooftop disconnection. The intent is to minimize impervious surface, reduce storm runoff and reduce sediment loading with effective erosion and sediment control measures. In addition, the plan includes step pools for stabilizing the tributary to Sopers Branch where severe undercuts were observed at the channels, which could undermine the future trail and boardwalks. The former gravel parking lot used by county employees has been closed and will be restored to meadow and planted with trees. Refer to Attachments 1,7,8 and 9 for detailed plans and studies to support the Recommended Plan.

COSTS

Construction Costs

A summary of construction costs is outlined in the table below. A detailed cost estimate is included in Attachment 10.

ITEM	TOTAL
Section 100 - Preliminary	\$151,830
Section 200 - Earthwork	\$20,625
Section 300 - Drainage & Stormwater Management	\$104,445
Section 400 - Boardwalk, Guardrail & Fence	\$878,020
Section 500 - Paving	\$152,700
Section 600 - Reforestation	\$281,900
Section 700 - Campground Entrance Modification & Tributary Stabilization	\$177,900
PROJECT SUBTOTAL	\$1,767,420
CONTINGENCY (30%)	\$530,230
CONSTRUCTION TOTAL	\$2,297,650
Design Cost (15% of const total)	\$344,650
Staff Chargebacks (20% x Design w/Contingency)	\$68,930
Construction Management & Inspection (3% x Construction total)	\$68,930
TOTAL PROJECT COST	\$2,780,160

Operating Budget Impact

The operating budget impact is estimated to be \$14,500 per year. The budget includes mowing, trash cleanup, tree and brush trimming, boardwalk repair and signage work; and maintenance of a rain garden and a sand filter.

CONCLUSION

Staff recommends approval of the Facility Plan and associated cost estimate. The proposed Little Bennett Regional Park Trail Connector is an important trail link along the MD Route 355 corridor, which provides connections to countywide trails and bikeways. It is a key segment connecting the Clarksburg Town Center to two of the county's largest regional parks, Black Hill and Little Bennett. The trail connector will fulfill the master plan vision of connecting park facilities and natural areas to the greenway network, and it will promote pedestrian connectivity and expand recreational opportunities in upper Montgomery County.

Attachments

1. 30% Construction Documents- Site Work
2. Natural Resource Inventory / Forest Stand Delineation
3. Preliminary Forest Conservation Plan
4. Tree Variance Approval Letter
5. Stormwater Management Concept Narrative and Calculation
6. Stormwater Management Concept Plan
7. Traffic Study
8. Geotechnical Report
9. Sopers Branch Tributary Assessment
10. Detail Cost Estimate
11. Community Meeting Report
12. Stormwater Management Concept and Water Quality Inventory Approval Letter