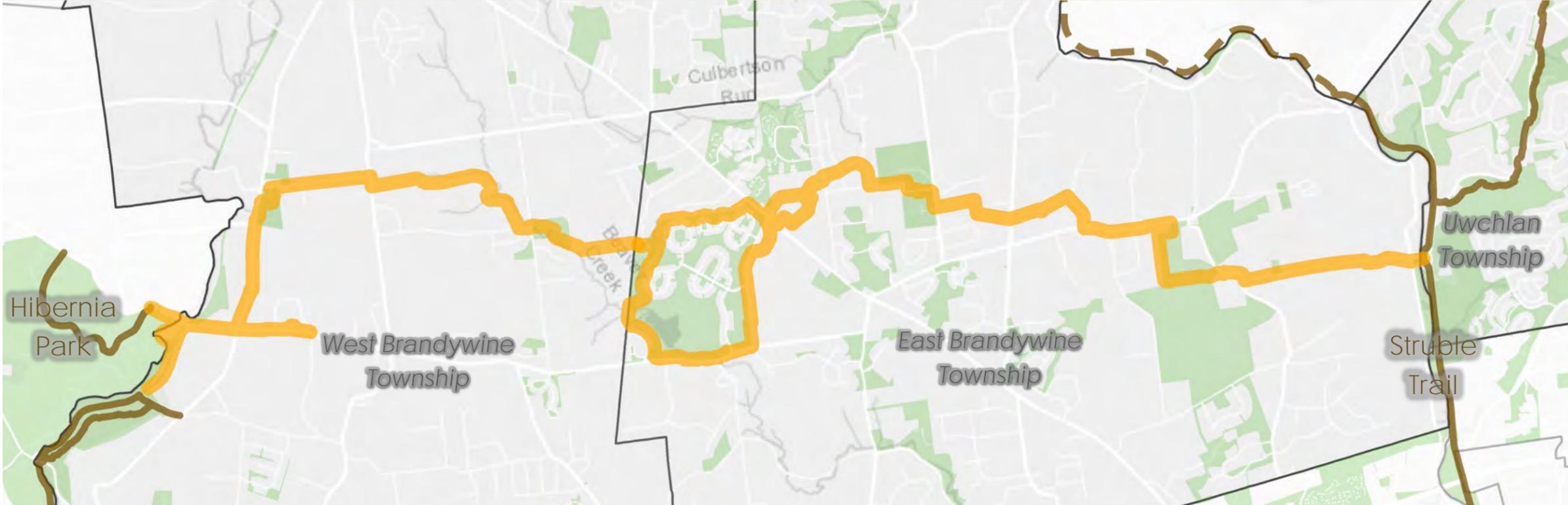


East-West Bicycle and Pedestrian Facilities Plan



East Brandywine Township
Uwchlan Township
West Brandywine Township

Credits

Sponsor Municipalities

East Brandywine Township

Uwchlan Township

West Brandywine Township

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In association with

Brandywine Conservancy

Funding

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East-West Bicycle and Pedestrian Facilities Plan

Project Overview

This East-West Bicycle and Pedestrian Facilities Plan builds on previous plans to evaluate the feasibility, develop a preferred alignment, and identify design features for the East-West Trail in East Brandywine, West Brandywine, and Uwchlan Township. The East-West Trail is envisioned to be a neighborhood connector trail that is used primarily by residents to walk, run, or bike for recreation and transportation purposes. The trail will connect residential communities to the Struble Trail (at the east end) and Hibernia County Park (at the west end) and various destinations in between. Today, there are some segments of the East-West Trail that are existing, some trail easements, and some locations where an off-road trail is not feasible or appropriate. This plan identifies next steps, priorities, phasing, and funding opportunities for implementation for the East-West Trail.



Project Goal

The goal of the East-West Trail is to provide over nine miles of continuous and connected bicycle and pedestrian facilities to link residents with key destinations in Uwchlan, East Brandywine, and West Brandywine Townships. This neighborhood connector trail will also link the Struble Trail and Hibernia County Park.

Overall East-West Trail Concept

The overall concept for the East-West Trail is to develop a neighborhood connector trail with the following key elements:

- 6' wide off-road asphalt path (generally)
- Varying width buffer area (typically minimum 5') between the path and adjacent roadways
- Sidewalks and on-road facilities in select locations based on context and constraints



Preferred Alignment

The **Alignment Status Map** on the next page shows the general preferred alignment for the East-West Trail and depicts where the trail is existing or proposed. It also identifies destinations along the trail, including the Struble Trail, East Brandywine Township Community Park, West Brandywine Township Community Park, and Hibernia Community Park.

Sections and Segments for Implementation

East-West Trail route was divided into six overall sections based on providing logical connections and potential implementation phasing. Each section was given a name associated with the connections provided and context of the trail. The six sections are:

East Brandywine

- Struble Connector
- Community Park
- Guthriesville

West Brandywine

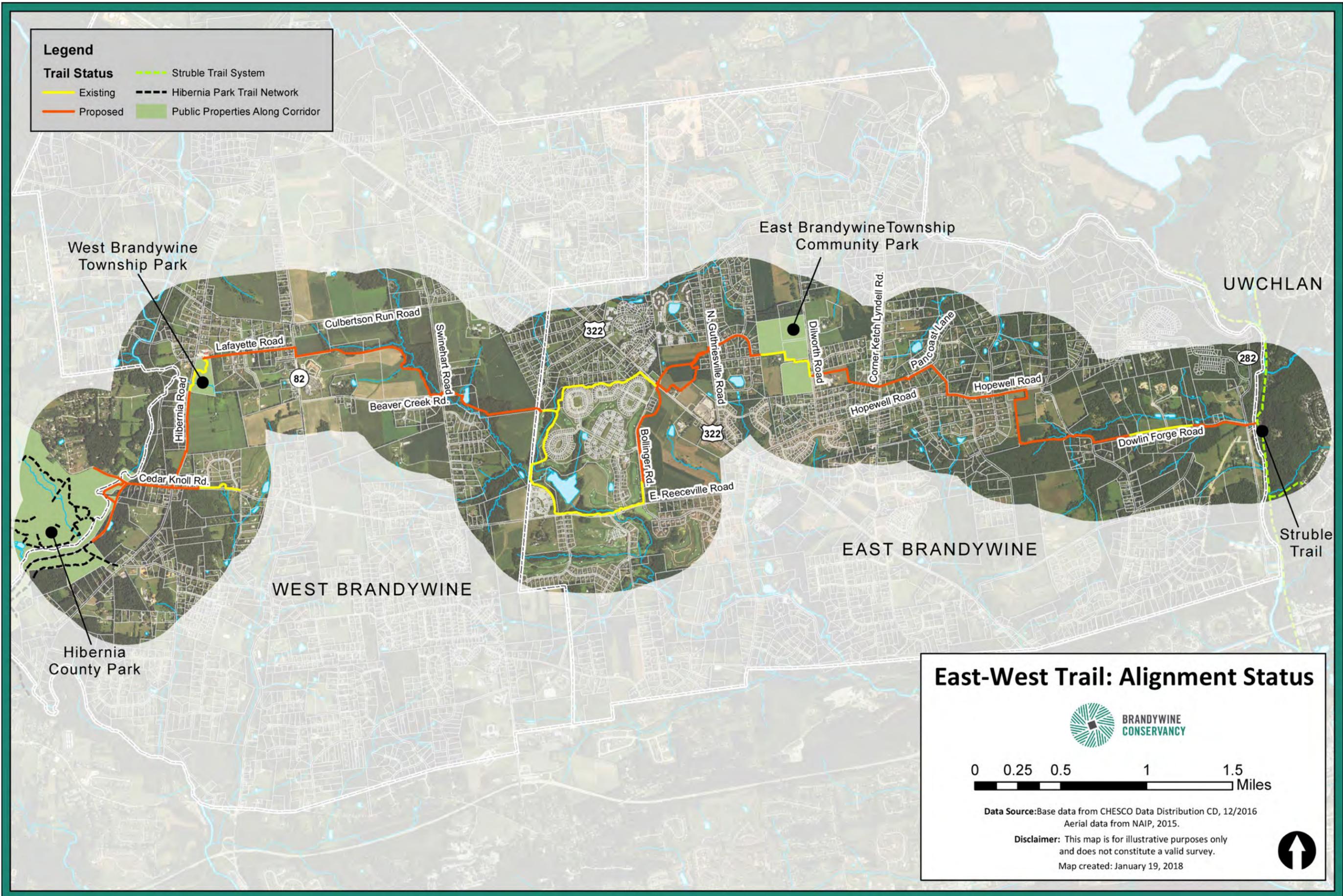
- Beaver Creek
- Historic Trail
- Hibernia Connector

Within each section, the East-West Trail was further divided into segments. A total of 27 segments were identified based on the current status, facility type, providing logical connections, land use context, ease of implementation, and potential phases for implementation. This report presents a profile for each trail segment, identifying existing conditions, proposed improvements, and next steps for implementation.

Action Items

Implementation of the East-West Trail has begun, as there are several segments of existing trail and other areas where trail easements have been secured. Continued implementation of the trail will likely occur in a phased approach over time. With an initial focus of building logical connections to key destinations along the trail route, the larger link between the Struble Trail and Hibernia County Park will be made once all of the sections are complete. Priorities for implementation should start or emanate from the key destinations, including the Struble Trail, East Brandywine Township Park, Guthriesville/Applecross Community, West Brandywine Township Park, and Hibernia County Park.

Identifying funding is a critical next step for advancing planning, design, permitting, right-of-way acquisition, and construction of the various East-West Trail segments. With dedication of local funds as match, there are a number of competitive grant programs that can be considered and pursued for implementation of the East-West Trail. In addition, there are several overarching activities that will support implementation of the East-West Trail and expand the network of connected bicycle and pedestrian facilities in the area, such as a Wayfinding Master Plan and coordinating with Chester County and neighboring municipalities on regional trail connections.





Chapter One: Background

Introduction

Over the last decade, the idea of developing an East-West Trail to connect residential communities in East Brandywine, West Brandywine, and Uwchlan Townships with the Struble Trail (at the east end) and Hibernia County Park (at the west end) has been documented in several plans.

- The Struble Trail, currently 2.6 miles long, is a Chester County owned trail along the East Branch of the Brandywine Creek. The Struble Trail provides a link to the Borough of Downingtown, Uwchlan Trail, and Marsh Creek State Park and future potential connections to other trails in the regional trail network.
- Hibernia County Park is a Chester County owned park with over 900 acres of woodlands, meadows, open fields, and camping areas connected with miles of trails. Situated along the West Branch of the Brandywine Creek, the park is on the National Register of Historic Places and includes the Hibernia Mansion.

Beyond providing connections to these two significant recreational facilities at either end, the East-West Trail is also envisioned to support walking and biking to other destinations along the trail route, including schools, community parks, and shops.

In 2016, East Brandywine, West Brandywine, and Uwchlan Townships received a Vision Partnership Program (VPP) grant from Chester County to develop this East-West Bicycle and Pedestrian Facilities Plan, which is a feasibility study and plan for the East-West Trail.

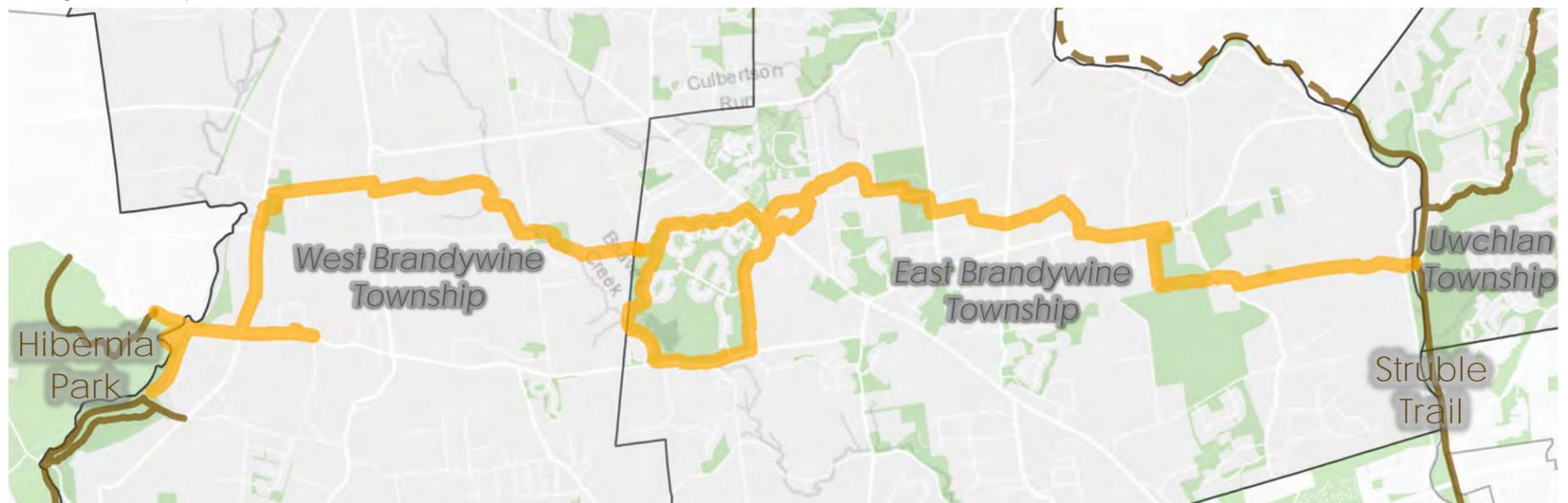
Goal

The goal of the East-West Trail is to provide over nine miles of continuous and connected bicycle and pedestrian facilities to link residents with key destinations in Uwchlan, East Brandywine, and West Brandywine Townships. This neighborhood connector trail will also link the Struble Trail and Hibernia County Park.

Objectives

- Provide safe and convenient facilities for walking and biking for both recreation and transportation purposes
- Expand access to recreational facilities, including parks, trails, and the East and West Branches of the Brandywine Creek
- Minimize negative impacts on sensitive environmental and natural resources

Study Area Map



Previous Plans

Since the mid-2000s, both East Brandywine and West Brandywine Townships have been actively planning for trail connections within and beyond their communities. The initial idea of an east-west oriented “spine” trail through both Townships is documented in the Comprehensive Plans for both municipalities and in East Brandywine Township’s Official Map.

The Brandywine Conservancy, as part of the Brandywine Greenway planning initiative, further evaluated trail connections along the East and West Branches of the Brandywine Creek. The concept of connecting the Struble Trail and Hibernia County Park, or East-West Trail, was identified and documented in the Brandywine Greenway Strategic Action Plan. (See EBWT 9 and WBWT 5 project descriptions in the Strategic Action Plan—Project Portfolio.)

Previous Plans



Since that time, both East and West Brandywine Townships have formed trail committees and partnered with Uwchlan Township to undertake this East-West Bicycle and Pedestrian Facilities Plan. Based on the previous plans, several segments along the East-West Trail route have been secured through land development approvals, acquisitions, or trail easements.

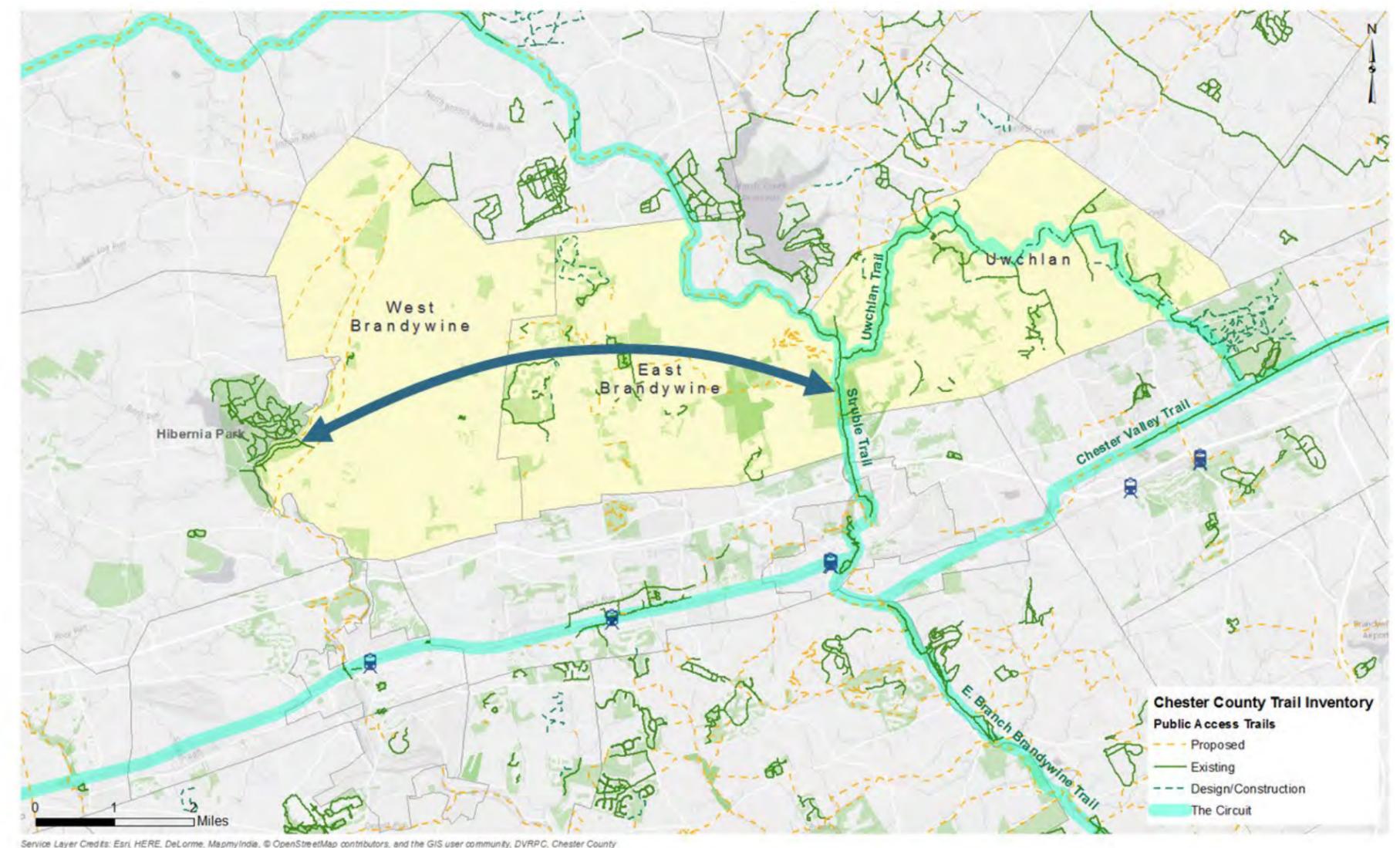
Regional Context and Connections

The Regional Connections Map shows how the East-West Trail will provide a connection to the Greater Philadelphia Regional Trail Network, known as the Circuit. On the east end, the East-West Trail connects to the Struble Trail, which is a County-owned trail that is a north-south spine of the trail system in Chester County. The

connection to the Struble Trail provides access to the Uwchlan Trail and Marsh Creek State Park and potential future connections to the Chester Valley Trail and East Branch Brandywine Trail. On the west end, there are planning efforts underway to provide continuous and connected bicycle and pedestrian facilities along the West Branch of the Brandywine Creek and connect the Coatesville region with Hibernia County Park. In particular, the Mill Trail Plan (2017) identified both on-road and off-road facilities to connect the Boroughs of Modena and South Coatesville with the City of Coatesville and Valley Township.

As envisioned in the Brandywine Greenway Strategic Action Plan, the East-West Trail will provide a link to trails along both the East and West Branches of the Brandywine Creek and the trail network in Chester County and the region.

Regional Connections Map



Project Process and Schedule

The purpose of the East-West Bicycle and Pedestrian Facilities Plan is to evaluate the feasibility and develop a preferred alignment for the East-West Trail through East Brandywine, West Brandywine, and Uwchlan Townships.

Along the East-West Trail route, there are some segments of existing trails, some trail easements, and some locations where an off-road trail is not feasible or appropriate for the context. Based on the current status, the route was divided into segments and proposed segments were designated to one of the following three tasks:

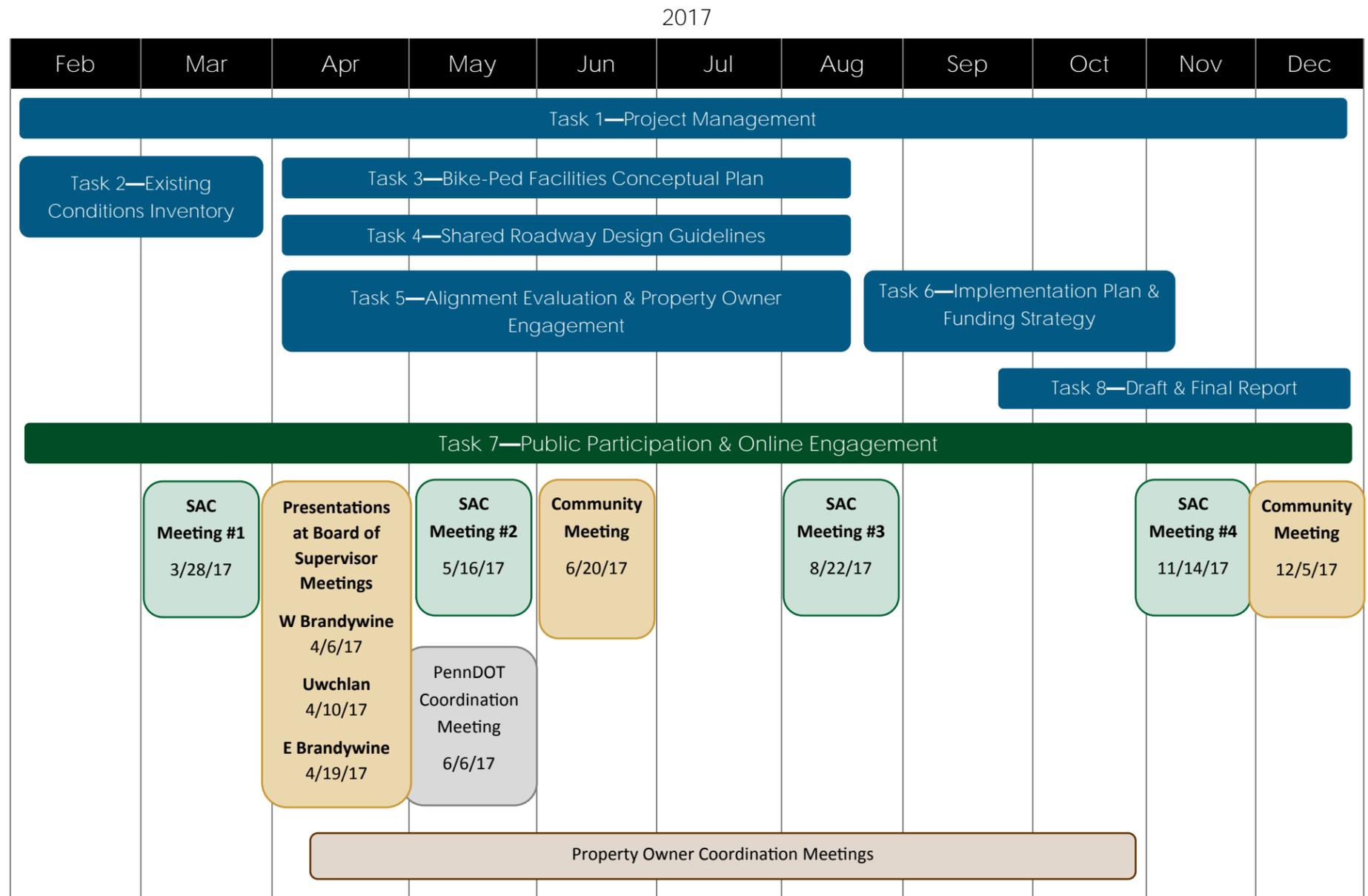
- **Bicycle and Pedestrian Conceptual Plans:** For segments where the alignment of the trail is known, conceptual plans and cost estimates were developed.
- **Shared Roadway Design Guidelines:** For segments where only on-road facilities were feasible and appropriate, options for on-road facilities were evaluated and preferred design guidelines were developed.
- **Alignment Evaluation and Property Owner Engagement:** For segments where an alignment has not been selected, alignment options were evaluated through review of existing conditions and coordination with property owners.

An implementation plan identifies potential priorities and phasing for further design and future construction of trail segments. The implementation plan also includes an overview of funding sources.

This plan can be used for a variety of purposes, including:

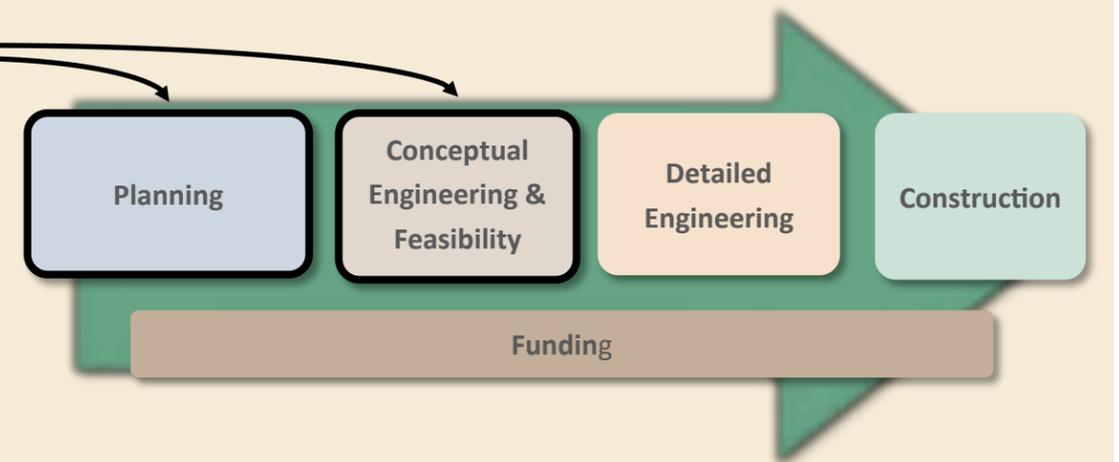
- Township planning and budgeting
- Identification and pursuit of funding opportunities for detailed engineering and construction
- Coordination with land owners, developers, and other stakeholders regarding the design aspects and right-of-way requirements for bicycle and pedestrian facilities
- Coordination with PennDOT, Chester County, and other project partners to implement improvements through capital projects or routine maintenance
- Coordination with Chester County and neighboring municipalities on future trail extensions and connections

Project Schedule



Planning & Conceptual Engineering

Overall, the East-West Trail is in the initial stages of planning and conceptual design. The East-West Bicycle and Pedestrian Facilities Plan involves planning, feasibility evaluation, and conceptual design. Topographic survey, detailed engineering, permitting, utility coordination, and property owner coordination must be completed before any trail segment is constructed. Design and construction are dependent upon available funding.



Stakeholder and Public Involvement

The East-West Bicycle and Pedestrian Facilities Plan was developed and shaped with input from Township elected officials, staff, residents, and other project partners. Appendix A includes materials related to the stakeholder and public involvement activities.

Study Advisory Committee (SAC) Meetings

The Study Advisory Committee (SAC) met four times throughout the planning process and provided input on key deliverables and recommendations. The Committee included two representatives from each of the sponsor municipalities. Additionally, representatives from the Chester County Planning Commission served as advisory members of the Committee.

Community Meetings

In April 2017, the project was introduced to the public with brief project overview presentations at a regularly scheduled Board of Supervisors' Meetings in each of the three sponsor municipalities. The overview presentation highlighted the project's purpose, scope of work, schedule, and future opportunities for public input. There were two project specific community meetings for the project, held on June 20, 2017 and December 5, 2017. An open house format was used, offering members of the public an opportunity to hear a presentation and also review display boards, provide input, and talk with members of the consultant team and SAC. Presentations at the Community Meetings were recorded and posted on East Brandywine Township's website, with a link also provided on the project website.

Participation in the two community meetings is summarized below.

- June 20, 2017
 - 54 meeting attendees
 - Over 700 views of the presentation video online
- December 5, 2017
 - 40 meeting attendees
 - Over 280 views of the presentation video online

Technical Coordination Meetings

- A Technical Coordination Meeting with representatives from PennDOT and the Chester County Planning Commission was held on June 6, 2017. The purpose of the meeting was to provide an overview of the project and review draft conceptual plans for trail segments, focusing on segments adjacent to or crossing state owned roadways.

- A Technical Coordination Meeting with representatives from Chester County Facilities and Chester County Planning Commission was held on June 13, 2017. The purpose of the meeting was to review draft conceptual plans for trail segments connecting to the County's Struble Trail and Hibernia County Park.

Property Owner Coordination Meetings

Representatives from the Brandywine Conservancy and the sponsor municipalities coordinated seven property owner meetings for trail segments that were part of the alignment evaluation process and where the proposed trail alignment crossed their property. The purpose of the meetings was to discuss the proposed East-West trail

and gather input on the trail alignment and other design features. Property owners provided valuable input related to constraints and opportunities, as well as sharing concerns, opposition, or support for the trail. Appendix A includes a list of property owner coordination meetings.

Project Website

The Brandywine Conservancy hosted a project website as part of the Brandywine Creek Greenway initiative. Presentations and other materials were posted on the project website and available for public review throughout the planning process. Additionally, an email list for the project was maintained and used to provide information and project updates before and after the community meetings.

Images from Community Meetings



Written Public Comments

Written public comments were received throughout the planning process, particularly through a comment form on the project website. Two 30-day public comment periods were held after each community workshop to provide an opportunity for community members to review meeting materials and provide written comments. A total of 32 comment forms, emails, online comments, or letters were received from 27 individuals representing 24 households. A copy of all of the written comments received is included in Appendix A. Overall, the written comments can be summarized as follows:

- 11 individuals expressed opposition to the proposed trail alignment
- 4 individuals expressed support for trail
- 13 individuals shared concerns or provided comments

The most common questions and concerns were related to safety, privacy, liability, trash/littering, potential environmental impacts, potential impacts to properties (and property values), and overall costs. Responses to Frequently Asked Questions (FAQs) were posted on the website after the first community workshop to help to answer questions and address common concerns. The FAQs is included in Appendix A.

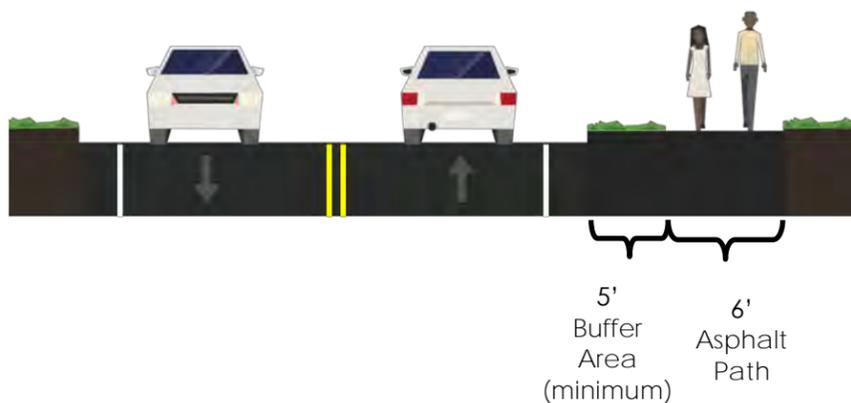
Based on public input, alternative trail alignments were evaluated and revised. Public input that shaped the alignment evaluation process is summarized in Appendix B and also noted in the trail segment profiles presented in Chapter 3.

Chapter Two: Evaluation

Overall East-West Trail Concept

The overall concept for the East-West Trail is to develop a neighborhood connector trail with the following key elements:

- 6' wide off-road asphalt path (generally)
- Varying width buffer area (typically minimum 5') between the path and adjacent roadways
- Sidewalks and on-road facilities in select locations based on context and constraints



Preferred East-West Trail Alignment

An initial alignment for the East-West Trail was developed during previous planning efforts and refined based on input from the East Brandywine and West Brandywine Trails Committee. See Appendix B—Alignment Evaluation Overview for more information regarding the initial alignment and the alignment evaluation process that was completed as part of this project.

Key factors considered in the alignment evaluation process and selection of appropriate bicycle and pedestrian facilities include:

- Previous plans
- Existing trail segments
- Existing trail easements
- Connectivity to key destinations
- Land use context
- Potential impacts to residential properties, environmental resources, and agricultural uses
- Feasibility
- Safety
- Property owner coordination
- Public input

The **Alignment Status Map** (page 2-2) shows the preferred alignment for the East-West Trail and depicts where the trail is existing or proposed.

Image of Existing East-West Trail Segments

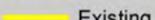
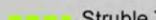
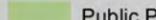


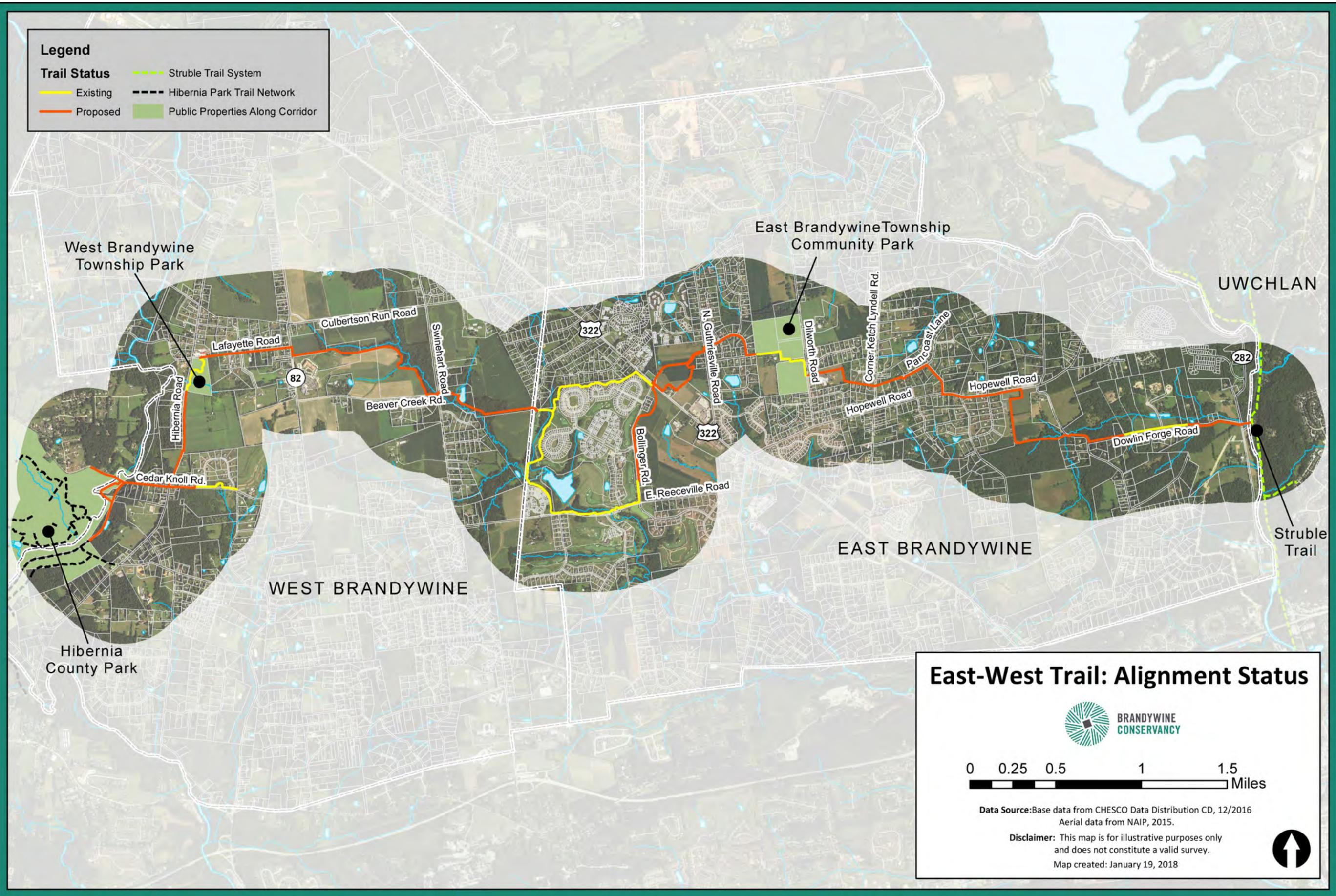
Near Donegal Lane in East Brandywine



Near Mendenhall Drive in West Brandywine

Legend

- | | | | |
|---|----------|---|----------------------------------|
|  | Existing |  | Struble Trail System |
|  | Proposed |  | Hibernia Park Trail Network |
| | |  | Public Properties Along Corridor |



East-West Trail: Alignment Status



Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.
Map created: January 19, 2018



Land Use Context

The East-West Trail traverses predominately suburban and rural areas in East and West Brandywine Townships. The **Land Use Map** below displays the general existing land use along the trail corridor based on Delaware Valley Regional Planning Commission (DVRPC) data from 2015. The map depicts the type of land uses and development patterns that will be served by the East-West Trail. The land use context was a key factor in developing and evaluating the trail alignment, selecting appropriate facility types, and identifying design features.

At the east end of the trail, there is a cluster for woodland and agricultural uses, including several properties with existing conservation easements that limit development potential. In this area,

there is a particular focus on minimizing impacts to sensitive environmental and natural resources.

The central part of the trail corridor is primarily residential, with a mix of uses in the area of the Village of Guthriesville. The Applecross development, located just west of the Village of Guthriesville, is one of the more significant residential developments that has an extensive existing trail network. In the area east of Applecross, there was a focus on selecting facility types and design treatments that are appropriate for residential neighborhoods.

The landscape at the western end of the trail corridor is dominated by agricultural uses, woodlands, and low-density residential development. In this area, the alignment was evaluated to minimize

impacts to property owners by following roadway and stream corridors.

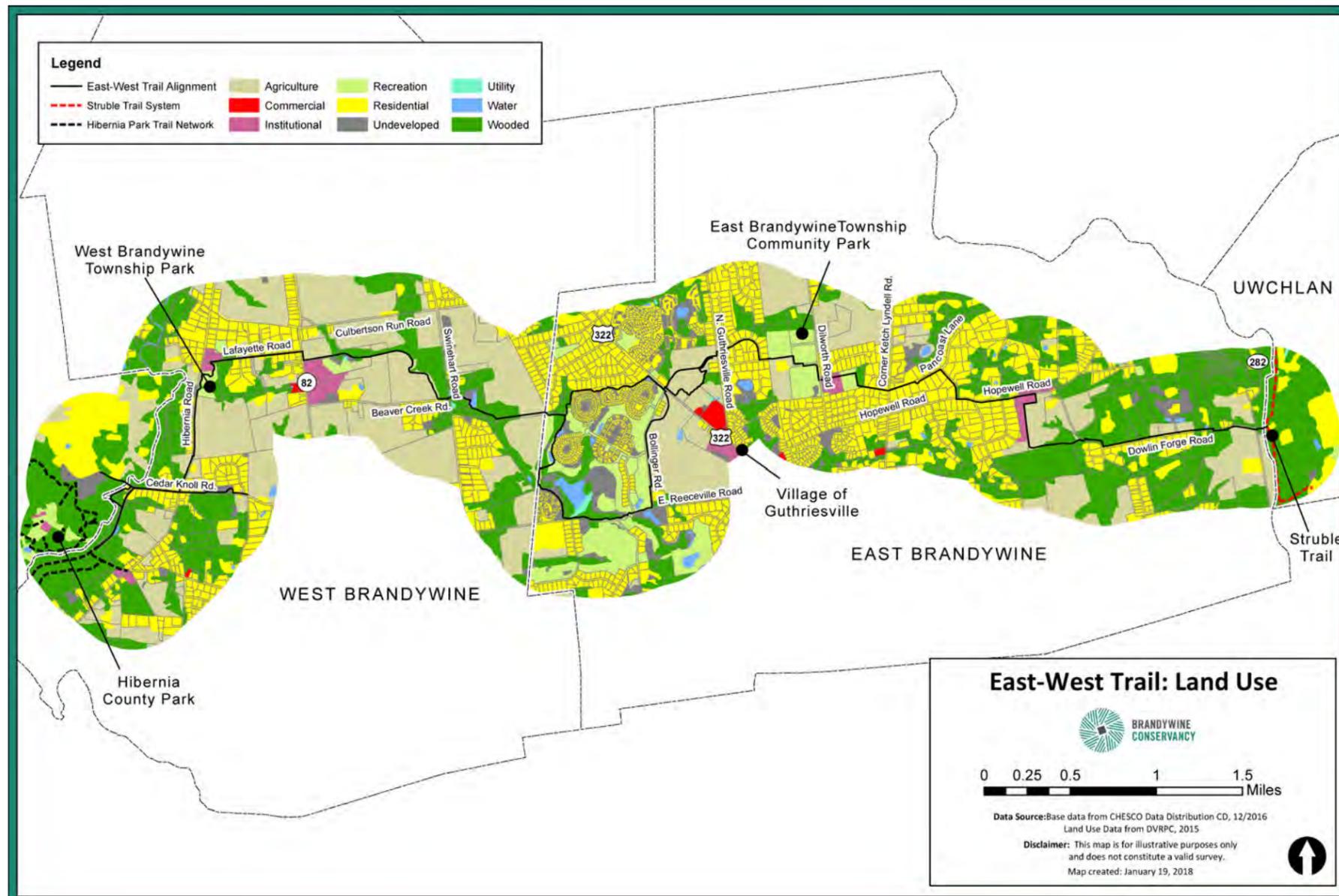
Trail Use and Users

Given the suburban and rural setting of the East-West Trail and the connections afforded to Hibernia County Park and the Struble Trail, it is anticipated that the trail will primarily be used by residents for recreational purposes. It is anticipated that residents would use the trail to walk, run, or bike. The trail will also go through or within close proximity to the Applecross Country Club, two schools, and shops in Guthriesville, which present the opportunity for utilitarian trips, such as trips to school or shopping. As part of the development of this study, the needs of a range of users and ability levels were considered, including children and adolescents, families, and adults of all ages.

According to geographically-weighted data from the 2011-2015 American Community Survey (ACS), the estimated total population within 0.5 miles, or a 10 to 15 minute walk, of the East-West Trail corridor is 6,067 people. This is a rough approximation and does not account for the actual route and walking distance to/from the trail. It also doesn't reflect future demand given increasing population forecasts for the Townships. However, it demonstrates potential demand and use of the trail given the population in the study area.

The median commute distance for residents living within 0.5 miles of the trail is 13.5 miles. Given longer commute distances, it might not be feasible for many residents to walk or bike to work. However, the East-West Trail's connection to the Struble Trail may provide non-motorized access to jobs in nearby employment centers, such as Downingtown and Eagleview in Uwchlan and Upper Uwchlan Townships. These employment centers are within reasonable biking distance, particularly for residents on the east end of the trail route. Additionally, there are an estimated 680 jobs within 0.5 miles of the proposed trail and some employees may live close enough to use the trail to walk or bike to work.

Another potential use of the trail is for trips to school. There are two schools that are located along the East-West Trail corridor. Brandywine-Wallace Elementary School is in the Downingtown School District and has a current enrollment of 477 students from



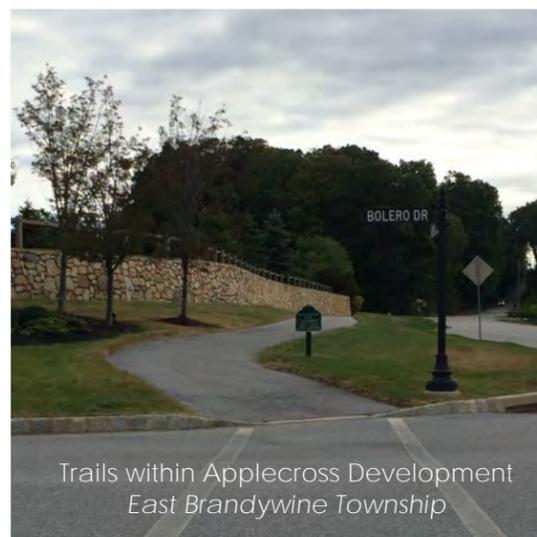
kindergarten to 5th grade. Also, Pope John Paul II Regional Catholic Elementary School has a current enrollment of 643 students from pre-school to 8th grade. Students will be given the opportunity to walk and bike to school through this improved connection.

Estimating the number of people that will use the East-West Trail is challenging due to limited count data available for existing similar neighborhood connector trails and the unique context of the trail. Use of the trail will vary by time of day, day of week, season of the year, and location along the trail route. It is anticipated that use of the East-West Trail will be comparable to the Uwchlan Trail in Uwchlan Township and other similar trails highlighted in the next section.

Examples of Similar Trails

The conceptual design reflects the intended trail purpose and users. The trail width of six feet is designed to allow two people to walk side-by-side or pass each other. (Regional multi-use trails with higher levels of bicycle and pedestrian activity are typically ten feet to twelve feet wide.) Also, new trailhead facilities (with parking) are planned only at the Struble Trail Connection and Hibernia Park Connection because it is intended to serve residents that can walk (or bike) to the trail. Nearby similar neighborhood connector trails include the Uwchlan Trail in Uwchlan Township, Park Road Trail in Upper Uwchlan Township, and trails within the Applecross Development in East Brandywine Township. Similar to the East-West Trail concept, these examples include 6' to 8' wide asphalt paths with segments adjacent to roadways and segments internal to properties.

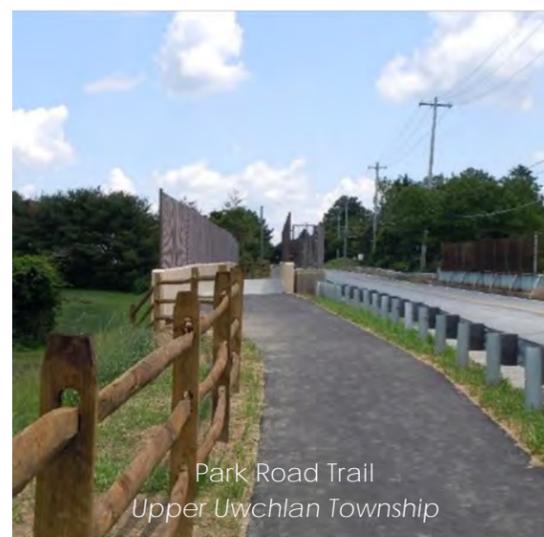
Images of Similar Neighborhood Connector Trails



Trails within Applecross Development
East Brandywine Township



Uwchlan Trail
Uwchlan Township



Park Road Trail
Upper Uwchlan Township

Bicycle and Pedestrian Facilities and Crossings

The **Bicycle and Pedestrian Facilities Toolbox** (page 2-5) and the **Crossings Toolbox** (page 2-6) highlight the type of facilities and crossing enhancements that were selected as preferred facilities for the East-West Trail. The Bicycle and Pedestrians Facilities Toolbox includes both on-road and off-road facilities, as well as facilities intended for use by bicyclists, pedestrians, or both (multi-use). The toolboxes were based on existing facilities within the study area Townships, as well as some new types of treatments. The descriptions and design parameters included in the toolboxes are based on best practices, design standards, and guidelines from the following key publications:

- *Design Manual Part 2 (DM-2): Highway Design*, Publication 13M, PennDOT, 2015
- *Smart Transportation Guidebook*, PennDOT and NJDOT, 2008
- *A Policy on Geometric Design of Highways and Streets, 6th Edition*, American Association of State Highway and Transportation Officials (AASHTO), 2011
- *Guide for the Development of Bicycle Facilities, 4th Edition*, American Association of State Highway Officials (AASHTO), 2012
- *Guide for the Planning, Design, and Operation of Pedestrian Facilities*, American Association of State Highway Officials (AASHTO), 2004
- *Manual on Uniform Traffic Control Devices*, Federal Highway Administration, 2009

The **Facility Type Map** (page 2-7) and **Crossings Map** (page 2-8) display the selected facility and crossing enhancements. See Appendix C – Evaluation of On-Road Design Treatments for more information on the selection of on-road facility types.

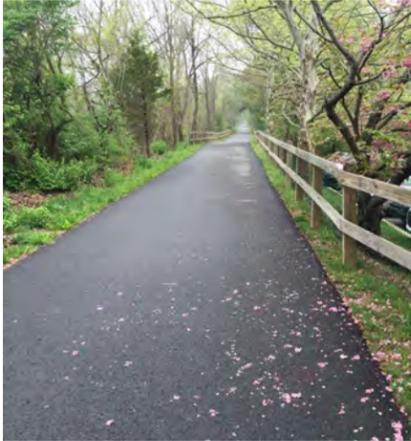
Porous Pavement

In order to manage the potential increase in stormwater runoff from the proposed trail, stormwater management facilities will be a key part of the trail construction. The linear nature of each project segment and the limited amount of available right-of-way makes the provision of many traditional best management practices (BMPs) challenging. Additionally, several properties with existing trail easements stipulate that any trails developed on the property must be “pervious.” As a result, porous (pervious) asphalt pavement, in lieu of traditional asphalt surface and base courses, was identified as an option that should be considered during design of the East-West Trail segments.

Porous (pervious) pavement consists of a permeable surface course underlain by a uniformly-graded stone bed, which can provide temporary storage of water runoff for peak rate control and promote stormwater infiltration. Stormwater filters through the surface, is temporarily held in the voids of the stone bed, and then slowly drains into the underlying, uncompacted soil. Porous pavement can be used in combination with other BMPs, such as an infiltration trench. The use and effectiveness of porous asphalt pavement is dependent upon subgrade soils and existing topography. Infiltration testing is recommended during preliminary engineering to locate areas where porous pavement will be most effective. In order to maintain the pavement's effectiveness, routine cleaning (vacuuming or blowing) and edging must be performed.

Cost estimates included in this report assume the use of porous asphalt for the trail surface. If it is determined through the design process that porous asphalt is not desirable or feasible, crushed stone may be considered for some segments of the East-West Trail where trail easements require a pervious trail surface.

Bicycle and Pedestrian Facilities Toolbox

	Off-Road				On-Road	
	Path <i>Natural Surface</i>	Path <i>Improved Surface</i>	Sidewalk	Multi-Use Trail	One-Sided Shoulder	Shared Use Lane
Description	Pathway that is intended for use by pedestrians to connect various destinations. Often through or adjacent to undeveloped land.	Pathway that is intended for use by pedestrians to connect various destinations. May be through or adjacent to developed or undeveloped land.	Concrete pathway typically parallel to a road that is intended for use by pedestrians with numerous access points to adjacent land uses.	Paved pathway at least 10' wide that is intended for use by both bicyclists and pedestrians.	Striped shoulder on one-side of the roadway for use by pedestrians. Other pavement markings, such as the pedestrian symbol, can be used to identify and designate the shoulder for pedestrians.	Roadway with travel lanes that are shared by both vehicles and bicycles. Signage and striping, such as sharrow, can be used to designate the shared lane.
Surface Materials	Mowed Grass Compacted Earth Mulch/Wood Chips	Crushed Stone Asphalt	Concrete	Crushed Stone Asphalt	Asphalt (roadway)	Asphalt (roadway)
Width	< 8' 4' - 6' typical	< 8' 6' typical	5' - 6' 4' permissible	10' - 12' 8' permissible	5'	Sharrow striped 4' from curb or edge of pavement
			 <small>Photo credit: CCPC</small>			

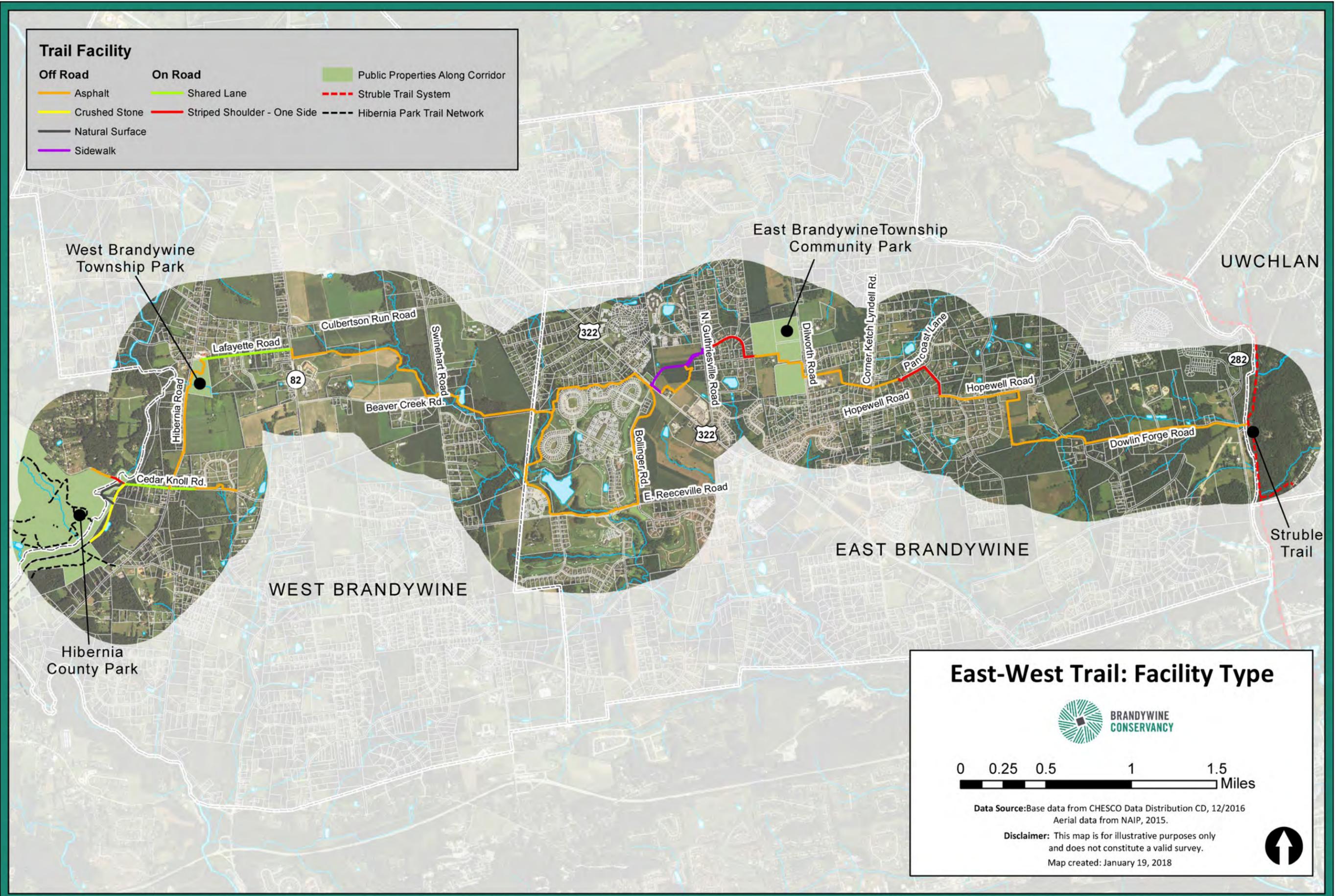
Crossings Toolbox

High Visibility Marked Crosswalk	Flashing Warning Device	Traffic Signal	Trail Bridge
<p>Pavement markings designating a location for pedestrians to cross a road at signalized or unsignalized locations.</p> <p>High visibility crosswalks, also known as continental design, are most visible to motorists and can be supplemented with fluorescent advanced-warning signs and/or beacons.</p>	<p>User-activated flashing warning device used in combination with pedestrian crossing signs and a marked crosswalk at uncontrolled crossing locations. Signs and flashing warning devices can be side-mounted or overhead.</p>	<p>User-activated pedestrian signal head and marked crosswalk at a signalized intersection and coordinated with vehicular movements.</p> <p>Signal timings can also include a leading pedestrian interval, which gives pedestrians a head start when entering an intersection to establish pedestrian crossing presence within the intersection and enhance pedestrian visibility.</p>	<p>Bridge specifically for use by bicyclists and pedestrians to cross a stream, water body, steep grade, or other existing feature. The design of the bridge should be based on the anticipated users, crossing requirements, and the context. Steel, fiberglass, and wood are materials typically used for a trail bridges.</p>
			

Passive detection of bicyclists and pedestrians can be installed with flashing warning devices and traffic signals. For example, motion detecting cameras or thermal video detectors can sense when a person is waiting to cross the roadway; both activate the beacon or signal automatically, without a push button.

Trail Facility

- | | | |
|-----------------|-----------------------------|----------------------------------|
| Off Road | On Road | Public Properties Along Corridor |
| Asphalt | Shared Lane | Struble Trail System |
| Crushed Stone | Striped Shoulder - One Side | Hibernia Park Trail Network |
| Natural Surface | | |
| Sidewalk | | |



East-West Trail: Facility Type

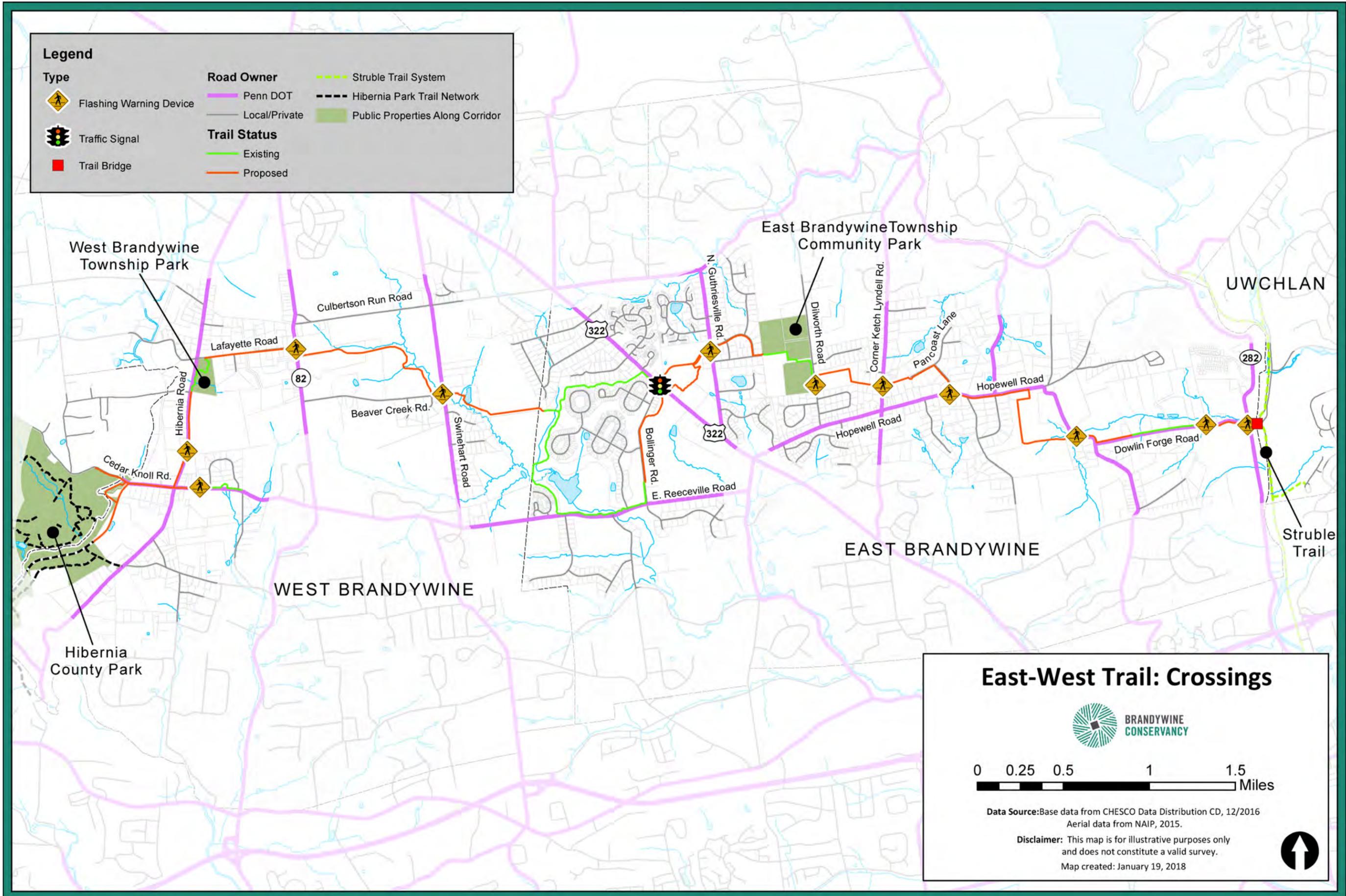


Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.

Map created: January 19, 2018





Legend

Type	Road Owner	Struble Trail System
Flashing Warning Device	Penn DOT	Hibernia Park Trail Network
Traffic Signal	Local/Private	Public Properties Along Corridor
Trail Bridge	Trail Status	
	Existing	
	Proposed	

East-West Trail: Crossings

0 0.25 0.5 1 1.5 Miles

Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.
Map created: January 19, 2018

Wayfinding

Based on the East-West Trail alignment and different facility types, wayfinding treatments will help users to navigate the trail. Wayfinding signs and pavement markings will also help to define and differentiate the East-West Trail from other trails in the area. Signs can also display rules of trail usage or highlight nearby points of interest. Specific wayfinding signs are not included in this report, but developing or adopting a trail logo or identity through a wayfinding signage program is a recommended next step in the action plan.

A trail logo and wayfinding signs should be coordinated among municipal partners and with other regional trail planning partners involved in the Brandywine Greenway Initiative and Chester County. Mile marker posts/signs with distance and directional information were identified by the Study Advisory Committee as the most appropriate type of wayfinding sign for use along the East-West Trail route.

Examples of potential wayfinding/identity signs and pavement markings are provided below.

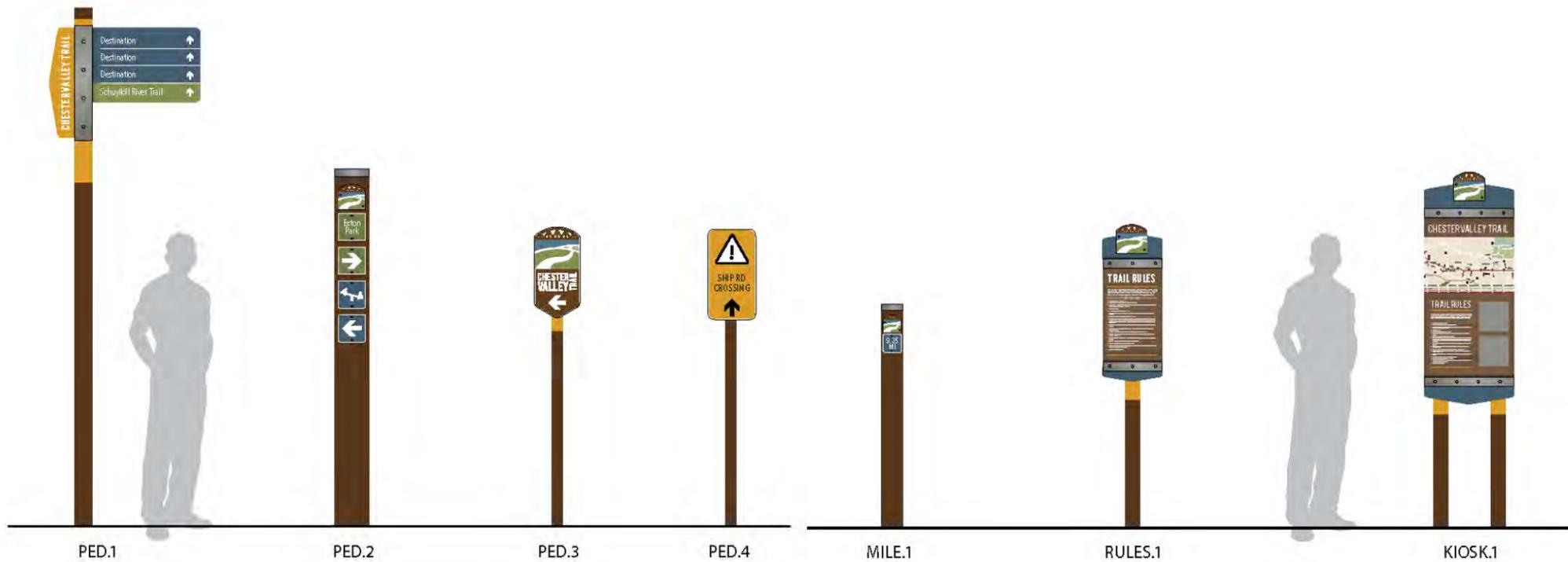
Examples of Trail Logos



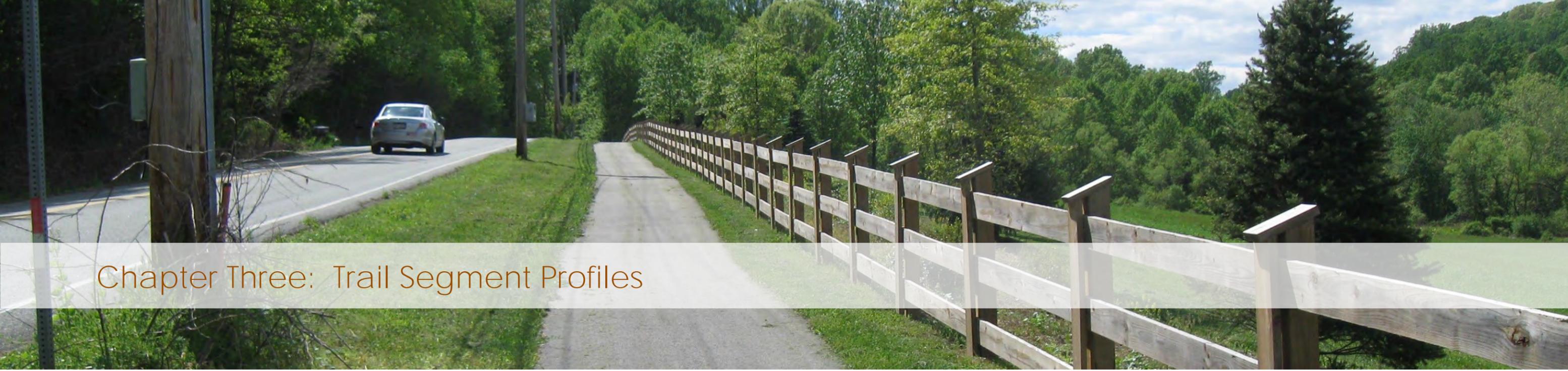
Examples of Pavement Markings



Examples of Wayfinding and Trail Identity Signs



Source: Draft Chester Valley Trail Design Intent Drawings prepared by MERJE for Chester County



Chapter Three: Trail Segment Profiles

Overview of Trail Sections and Segments

The East-West Trail route was divided into six overall sections based on providing logical connections and potential phases for implementation. Each section was given a name associated with the connections provided and context of the trail. The six sections are:

East Brandywine

- Struble Connector
- Community Park
- Guthriesville

West Brandywine

- Beaver Creek
- Historic Trail
- Hibernia Connector

Within each section, the East-West Trail was further divided into segments. A total of 27 segments were identified based on the current status, facility type, providing logical connections, land use context, ease of implementation, and potential phases for implementation. Segments are identified with a number, generally starting with “1” for the eastern most segment in the section.

The **Section Overview Map** (page 3-3) shows the location of the sections and segments. This chapter includes a map and table providing a snapshot of each section and a detailed profile for each trail segment. The profiles include summaries of existing conditions, proposed improvements or elements of the preferred alternative, conceptual plans and cost estimates (for selected segments), and next steps.

EAST	 <p>Struble Connector Struble Trail to Hopewell Road Pages 3-4 to 3-16</p>	 <p>Community Park Hopewell Road to East Brandywine Community Park Pages 3-17 to 3-27</p>	 <p>Guthriesville East Brandywine Community Park to Applecross Community Pages 3-28 to 3-34</p>
	WEST	 <p>Beaver Creek Applecross Community to West Brandywine Park Pages 3-35 to 3-42</p>	 <p>Historic Trail West Brandywine Park to Union Road / Rim Trail Connection Pages 3-43 to 3-46</p>

Notes on Conceptual Plans and Cost Estimates

This chapter of the report includes conceptual plans and cost estimates for selected segments of the East-West Trail. The conceptual plans and cost estimates are appropriate to use for planning and budgeting purposes only. The conceptual plans were developed based on existing conditions and readily available data. Preliminary engineering and final design will be required to evaluate necessary construction activities and prepare construction documents. Additionally, various permits may be required depending on the existing conditions, proposed improvements, and jurisdiction of permitting agencies. The design and permitting processes may result in changes to the conceptual plans. Below are several notes and assumptions regarding the conceptual plans and cost estimates presented in this report. Cost estimates were not developed for all trail segments, only segments with conceptual plans.

Conceptual Plans Notes and Assumptions

- Existing conditions depicted on the conceptual design exhibits are based on GIS data aerial photography and limited field measurements only. Topographic survey and thorough field observation will need to be completed during the preliminary engineering of the project.
- The exhibits depict specific segments of the East-West Trail as identified by the Study Advisory Committee. Other segments of the Trail were not conceptually evaluated to the same level of detail. It is recommended that prior to pursuit of grant funding or final design services, a more thorough conceptual evaluation of these other segments be completed, where required.
- Legal right-of-way lines and property lines are estimated based on GIS data and plans received from the study area Townships. Legal right-of-way lines or property lines have not been independently verified through field survey or title/deed research.
- The exhibits do not depict required easement lines (temporary or permanent) which will likely be required for the construction of the project. The size and location of all easements will need to be determined during the preliminary engineering of the project.
- Exhibits may depict existing path easement lines where they were

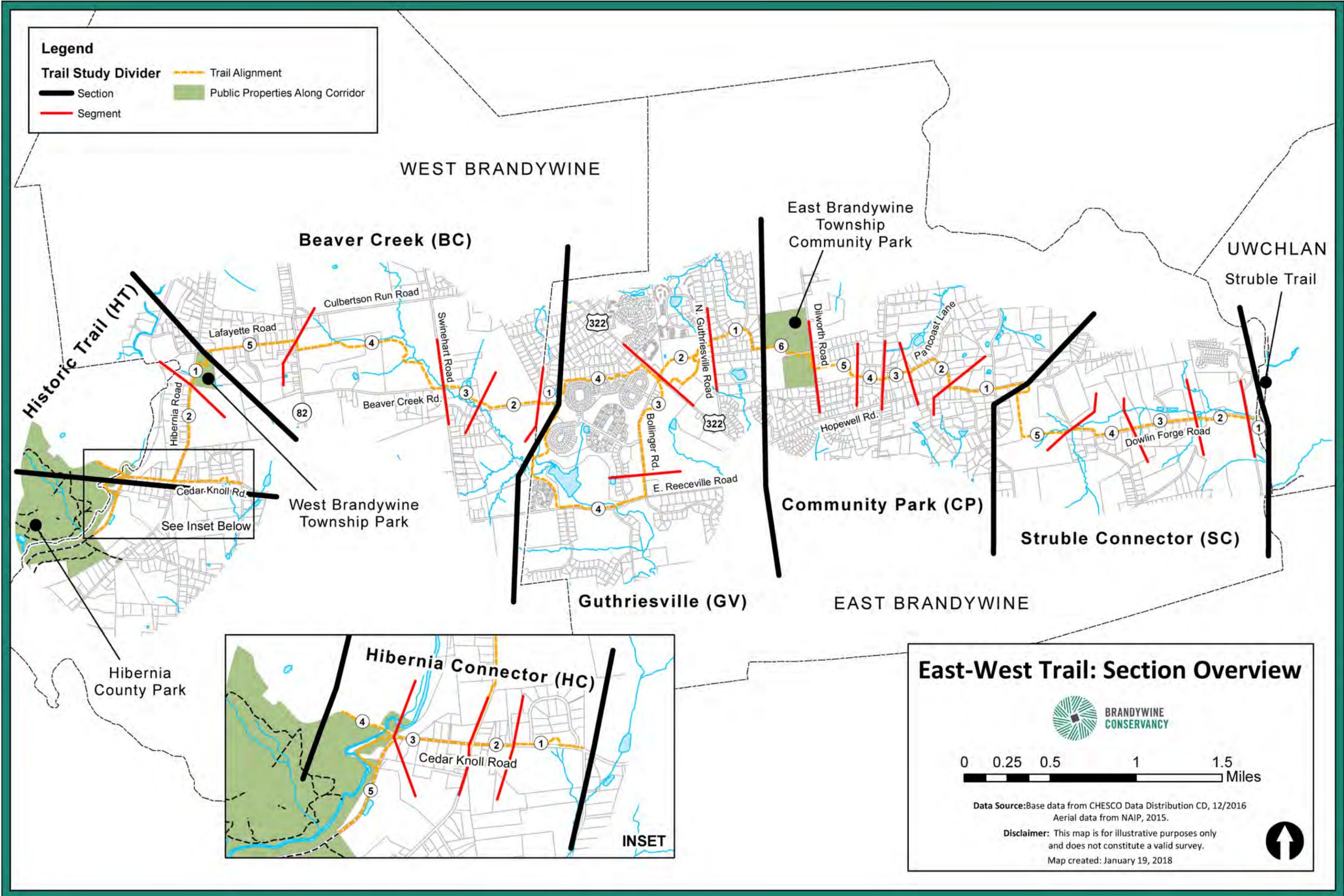
identified. The depiction of these easements is conceptual in nature only, and their size and location must be verified during the preliminary engineering of the project.

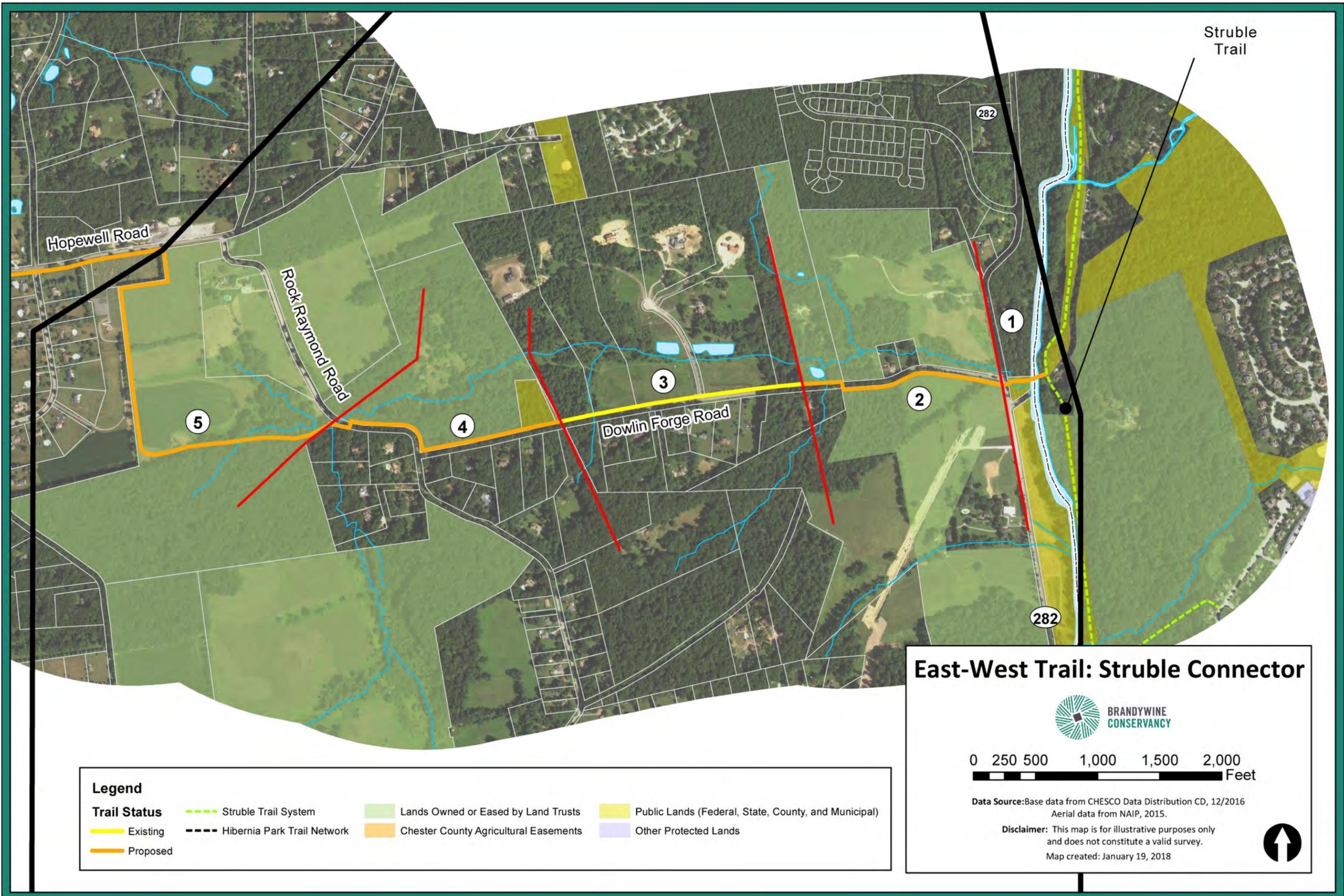
- The exhibits do not depict specific areas required for post-construction stormwater management. The size and location of post-construction stormwater management facilities will need to be determined during the preliminary engineering of the project. The cost estimates for each segment include a cost for these facilities, but the size and type of facilities will vary depending on the agency having jurisdiction and applicable permitting requirements. These costs may also vary depending on how the various project segments are combined or phased.
- Detailed signing and striping design and flashing warning device plans shall be developed during preliminary engineering of the project.

Cost Estimates Notes and Assumptions

- Construction estimates are based on quantities derived from the trail conceptual plan and unit prices from recently bid local projects with PennDOT oversight.
- Refer Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans which contains details relating to cost calculations and assumptions for specific projects.
- Contingency and inspection percentages are based on PennDOT Pub. 352. Inflation is not included; costs provided are in 2017 dollars.
- The Engineer's Conceptual Opinion of Cost does not include relocating or resetting existing underground utilities within the limits of the project or the provision of any future utilities. Impacts to existing underground utilities will need to be determined during the preliminary engineering of the project through subsurface utility engineering. **Due to visible evidence of subsurface utilities within the project area (underground electric, water, sewer, gas and telecommunication) it is recommended (and likely required by law) that utility test pits be performed during the preliminary engineering of the project.**

- The Utility Relocations cost is a rough estimate based on relocating existing surface utilities (poles, hydrants, etc.) identified through aerial imagery and limited field views. **Underground utility relocations are not included in this estimate.** These costs are subject to change through the development of the project and based on the Utility owner's rights.
- Estimates of existing and required right of way were developed based on GIS data obtained from Chester County and the sponsor municipalities. Right-of-way estimates include rough approximations for temporary and permanent easements, but do not include the cost of legal fees associated with right-of-way acquisition process. Also, existing legal right-of-way lines or property lines have not been independently verified through field survey or deed research. Existing legal rights-of-way and existing property lines, as well as the size and location of any required rights-of-way (temporary or permanent) will need to be determined during the preliminary engineering of the project.
- The following costs are rough estimates for budgeting purposes only: Engineering and Permitting, Utility Relocations , and Right of Way. The costs associated with these items will need to be determined through the development of the project. In particular, engineering, permitting and inspection costs are dependent on requirements associated with specific funding sources.
- The Engineer's Conceptual Opinion of Cost does not include any environmental remediation (including but not limited to removal and replacement of contaminated soils) or environmental impact mitigation. Post-construction stormwater management is included in the estimate for each segment. However, these estimates are subject to change based on grouping or phasing of all improvements, and per the DEP's requirements.





East - Struble Connector

	E-SC-1	E-SC-2	E-SC-3	E-SC-4	E-SC-5
Status	Proposed	Proposed	Existing	Proposed	Proposed
Facility Type - Surface Material	Path - Asphalt Pedestrian Bridge	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easement on parcel UPI 30-6-70. (See page 2-4 for more information on porous pavement.)</i>	Path - Asphalt	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easements on parcel UPI 30-6-19 and UPI 30-6-6.1. (See page 2-4 for more information on porous pavement.)</i>	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easements on parcel UPI 30-6-6.1. (See page 2-4 for more information on porous pavement.)</i>
General Limits (east to west)	Struble Trail to Creek Road (including new trail bridge over the East Branch Brandywine Creek and an enhanced pedestrian crossing of Creek Road)	Creek Road to 600' east of Donegal Lane	600' east of Donegal Lane to 1200' west of Donegal Lane	1200' west of Donegal Lane along Dowlin Forge Road to 1700' south of Hopewell Road along Rock Raymond Road	Rock Raymond Road (1700' south of Hopewell Road) to Hopewell Road (500' west of Rock Raymond Road)
General Alignment	New pedestrian bridge over East Branch Brandywine Creek Creek Road (east side) between Whittaker Memorial Trailhead and proposed trailhead parking south of Downlin Forge Road intersection	Dowlin Forge Road (south side to north side with the crossing 1400' west of Creek Road) <i>Within existing trail easement on parcel UPI 30-6-70</i>	Dowlin Forge Road (north side)	Dowlin Forge Road (north side to Rock Raymond Road) Rock Raymond Road (north side to south/west side with a crossing just east of the Tributary to East Branch Brandywine Creek) <i>Within existing trail easement on parcel UPI 30-6-19</i>	Within parcel UPI 30-6-6.1 providing a connection between Rock Raymond Road and Hopewell Road
Property Needs / Coordination (minimal, moderate, major)	Minimal <i>Two East Brandywine Township owned parcels (UPI 30-6-22E and 30-6-75)</i>	Moderate <i>Existing trail easement on parcel UPI 30-6-70</i>	Minimal <i>Existing path</i>	Minimal <i>East Brandywine Township owned parcel (UPI 30-6-19.1)</i> <i>Existing trail easement on parcel UPI 30-6-19</i>	Minimal <i>Existing conservation easement on UPI 30-6-6.1 allows walking trails</i>
Length (miles)	0.1	0.4	0.3	0.4	0.7

i Summary

📷 Existing Conditions

AREA	East
SECTION	Struble Connector
SEGMENT	1
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt Pedestrian Bridge
GENERAL LIMITS	Struble Trail to Creek Road (Route 282), including new trail bridge over the East Branch Brandywine Creek and an enhanced pedestrian crossing of Creek Road
GENERAL ALIGNMENT	Struble Trail to the west side of Creek Road and Creek Road (east side) between Whittacker Memorial Trailhead and proposed trailhead parking south of Dowlin Forge Road (East) intersection
PROPERTY NEEDS / COORDINATION	Minimal <i>Two East Brandywine Township owned parcels (UPI 30-6-22E and 30-6-75)</i>
LENGTH	0.1 miles

- Struble Trail, owned by Chester County, located along the east bank of the East Branch of the Brandywine Creek
- Helen and Robert Whittacker Memorial Trailhead Park, owned by East Brandywine Township, located on the west bank of the East Branch of the Brandywine Creek. Trailhead includes a crushed stone trail from Creek Road (Route 282) to the Creek, benches, interpretative signage, and landscaping
- No existing trail connection across the East Branch of the Brandywine Creek and existing Dowlin Forge Road bridge is narrow with no usable shoulder
- No official parking for the Struble Trail or Whittacker Memorial Trailhead, although parked vehicles are regularly observed utilizing the wide shoulder on the east side of Creek Road (Route 282) just north of the Dowlin Forge (East) intersection
- Remnants from the stone foundations of a bridge built in 1873 and later destroyed by a flood are visible on both sides of the Creek
- Dowlin Forge Road intersection with Creek Road (Route 282) is offset, resulting in heavy vehicular turning movements at both intersections
- Significant utilities, both overhead and underground, located on the southwest corner of the Creek Road and Dowlin Forge (West) intersection
- Creek Road Bridge over a Branch of the Brandywine Creek is currently scheduled for replacement by PennDOT, with construction anticipated to begin in 2018





Elements of Proposed Improvements

- See E-SC-1 Conceptual Plan on the next page.
- New 12' wide single span pre-fabricated pedestrian bridge with protective fencing over the East Branch Brandywine Creek with connections to the Stuble Trail (east bank) and Helen and Robert Whittaker Memorial Trailhead Park (west bank). A steel truss or fiberglass bridge could be considered, or as bid alternates.
- Dis-assemble existing stone bridge abutments and utilize stones for walls or other landscape features
- Minimize disturbance and restore existing features in the Whittaker Memorial Trailhead Park, including trail connection to Creek Road (Route 282), interpretative signage, benches, and landscaping
- Maintain existing stone arch bridge in Whittaker Memorial Trailhead Park during construction. This may require a temporary pipe crossing.
- New parking lot for users accessing the Stuble Trail, East-West Trail, Whittaker Memorial Trailhead, or the East Branch Brandywine Creek. (The specific number of parking stalls to be determined during the next phase of design with a goal of maximizing parking and avoiding impacts to environmental resources.) Roadway/shoulder improvements will need to be coordinated with PennDOT and East Brandywine and Uwchlan Townships.
- 6' wide asphalt path connecting the parking lot to the Whittaker Memorial Trailhead along the east side of Creek Road. Reduction of shoulder to provide an adequate buffer area between the roadway and the trail and eliminate existing unofficial parking on the shoulder.
- Minimize impacts to significant utilities on the southwest corner of Creek Road (Route 282) and Dowlin Forge Road (West), as feasible.
- Overhead flashing warning device for the trail crossing of Creek Road and sign mounted flashing warning device for right-turning vehicles from eastbound Dowlin Forge Road to southbound Creek Road (Route 282)



Cost Estimate

New Trail Bridge and Trail Crossing of Creek Road

Engineering & Permitting	\$ 320,000
Utilities	\$ 10,000
Right-of-Way	\$ 10,000
Construction & Inspection	\$ 1,225,000
TOTAL (2017 Dollars)	\$ 1,565,000

New Parking Lot

Engineering & Permitting	\$ 75,000
Construction & Inspection	\$ 344,000
TOTAL (2017 Dollars)	\$ 419,000

Total

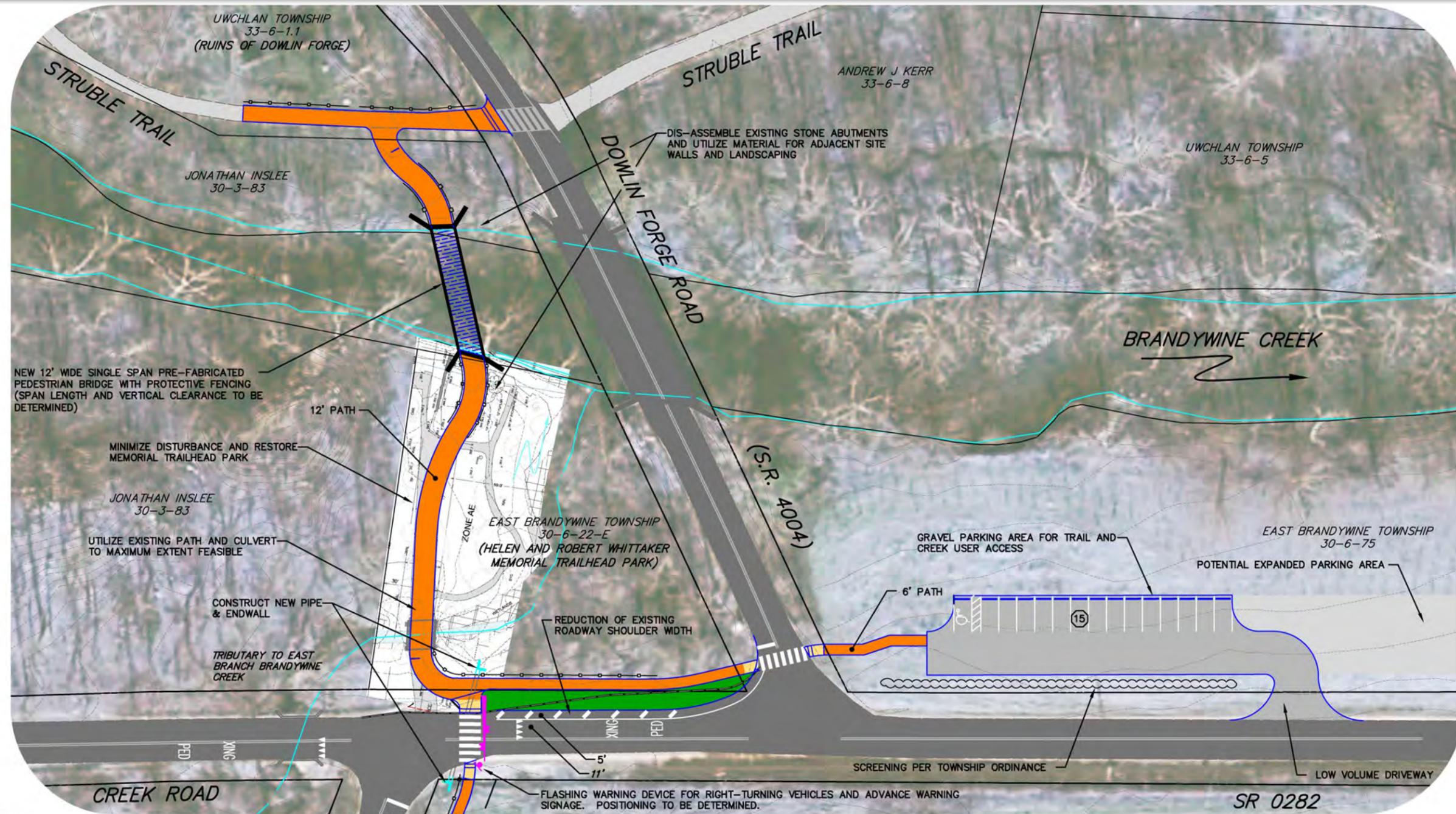
Engineering & Permitting	\$ 395,000
Utilities	\$ 10,000
Right-of-Way	\$ 10,000
Construction & Inspection	\$ 1,569,000
TOTAL (2017 Dollars)	\$ 1,984,000

Note: See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans



Next Steps

- Identify funding for design and/or construction. Due to grant funding requirements, possibly separate the project into two separate phases based on the cost estimates provide for the pedestrian bridge and parking lot. For budgeting purposes, an adjustment for inflation should be applied to the construction and inspection cost, once an anticipated year of construction is identified.
- Advance design and permitting. Since both Creek Road (Route 282) and Dowlin Forge Road (SR 4004) are a state-owned roadways, the project will require a PennDOT permit for the new parking lot driveway and the flashing warning device. Additionally, a permit from the Department of Environmental Protection (DEP) will be required for the new pedestrian bridge and work adjacent to the Brandywine Creek.
- Coordinate with the property owner to obtain necessary easements for the new trail bridge and connection to the Stuble Trail.
- Coordinate with utility companies with facilities located at the southwest corner of Creek Road (Route 282) and Dowlin Forge Road (West) regarding design of the path.



LEGEND

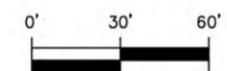
	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
					EXISTING UTILITY POLE

NOTES:

1. EXISTING CONDITIONS DEPICTED ON THE CONCEPTUAL DESIGN EXHIBIT ARE BASED ON GIS DATA, AERIAL PHOTOGRAPHY AND LIMIT FIELD MEASUREMENTS ONLY.
2. LEGAL RIGHT-OF-WAY LINES AND PROPERTY LINES ARE ESTIMATED BASED ON GIS DATA AND PLANS PROVIDED BY EAST BRANDYWINE TOWNSHIP. LEGAL RIGHT-OF-WAY LINES OR PROPERTY LINES HAVE NOT BEEN INDEPENDENTLY VERIFIED THROUGH FIELD SURVEY OR TITLE/DEED RESEARCH.
3. THIS EXHIBIT DOES NOT DEPICT REQUIRED EASEMENT LINES (TEMPORARY OR PERMANENT) WHICH WILL LIKELY BE REQUIRED FOR THE CONSTRUCTION OF THE TRAIL. THE SIZE AND LOCATION OF ALL EASEMENTS WILL NEED TO BE DETERMINED DURING THE PRELIMINARY ENGINEERING OF THE PROJECT.



SCALE



REFER TO E-SC-2 CONCEPT PLAN

i Summary

📷 Existing Conditions

AREA	East
SECTION	Struble Connector
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easement on parcel UPI 30-6-70. (See page 2-4 for more information on porous pavement.)</i>
GENERAL LIMITS	West side of Creek Road (Route 282) to 600' east of Donegal Lane
GENERAL ALIGNMENT	Dowlin Forge Road (south side to north side with the crossing 1400' west of Creek Road) Within existing trail easement on parcel UPI 30-6-70
PROPERTY NEEDS / COORDINATION	Moderate <i>Existing trail easement on parcel UPI 30-6-70</i>
LENGTH	0.4 miles

- Utility poles and boxes on the north side of Dowlin Forge Road
- Heavy vegetation (north side of Dowlin Forge Road)
- Stream and floodplain (north side of Dowlin Forge Road)
- Pond (north side of Dowlin Forge Road)
- Existing trail easement (south side of Dowlin Forge Road)
- Steep slopes (south side of Dowlin Forge Road)
- Existing trail begins 600' east of Donegal Lane
- 35 mph speed limit





Elements of Proposed Improvements

- See E-SC-2 Conceptual Plan on the next page.
- Asphalt path within the existing trail easement on the south side of Dowlin Forge Road from Creek Road (Route 282).
- Flashing warning device and high visibility marked crosswalk for mid-block path crossing.
- Adjustment of two existing residential driveways.
- Provide new gabion wall with safety rail to support path adjacent to the roadway and minimize potential impacts to the nearby pond. (See typical section below.)
- Connection to existing asphalt path east of Donegal Lane.



Cost Estimate

Engineering & Permitting	\$ 163,000
Utilities	\$ 40,000
Right-of-Way	\$ 10,000
Construction & Inspection	\$ 623,000
TOTAL (2017 Dollars)	\$ 836,000

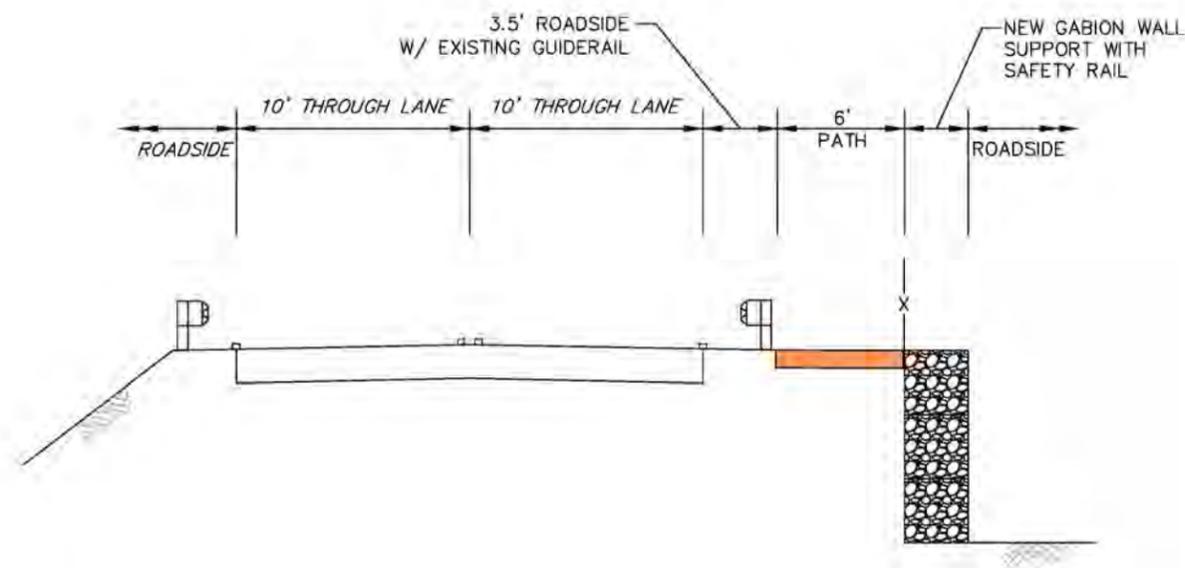
Note: See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans



Next Steps

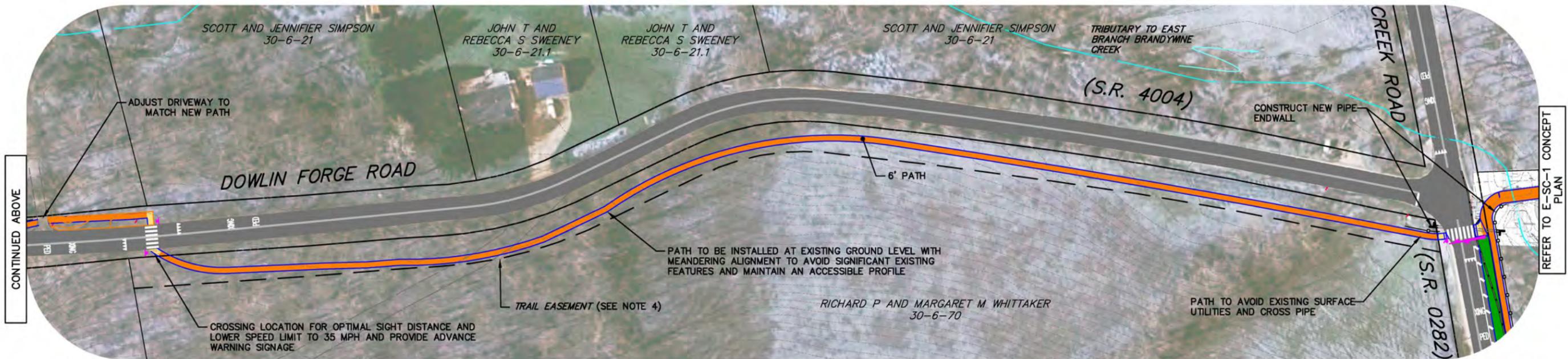
- Identify funding for design and/or construction. For budgeting purposes, an adjustment for inflation should be applied to the construction and inspection cost, once an anticipated year of construction is identified.
- Advance design and permitting. Since Dowlin Forge Road (SR 4004) is a state-owned roadway and the conceptual plan includes a flashing warning device, the project will require a PennDOT permit.
- Coordinate with property owners to obtain necessary easements for the path.
- Coordinate with utility companies with facilities located at the southwest corner of Creek Road (Route 282) and Dowlin Forge Road (West) regarding design of the path.

Typical Section for Dowlin Forge Road between Donegal Lane and Creek Road





CONTINUED BELOW



CONTINUED ABOVE

REFER TO E-SC-1 CONCEPT PLAN

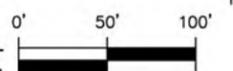
LEGEND

	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
					EXISTING UTILITY POLE
					TRAIL EASEMENT

NOTES:

1. EXISTING CONDITIONS DEPICTED ON THE CONCEPTUAL DESIGN EXHIBIT ARE BASED ON GIS DATA, AERIAL PHOTOGRAPHY AND LIMIT FIELD MEASUREMENTS ONLY.
2. LEGAL RIGHT-OF-WAY LINES AND PROPERTY LINES ARE ESTIMATED BASED ON GIS DATA AND PLANS PROVIDED BY EAST BRANDYWINE TOWNSHIP. LEGAL RIGHT-OF-WAY LINES OR PROPERTY LINES HAVE NOT BEEN INDEPENDENTLY VERIFIED THROUGH FIELD SURVEY OR TITLE/DEED RESEARCH.
3. THIS EXHIBIT DOES NOT DEPICT REQUIRED EASEMENT LINES (TEMPORARY OR PERMANENT) WHICH WILL LIKELY BE REQUIRED FOR THE CONSTRUCTION OF THE TRAIL. THE SIZE AND LOCATION OF ALL EASEMENTS WILL NEED TO BE DETERMINED DURING THE PRELIMINARY ENGINEERING OF THE PROJECT.
4. EXISTING EASEMENT LINE IS CONCEPTUALLY DEPICTED AND MUST BE VERIFIED DURING PRELIMINARY ENGINEERING OF PROJECT

SCALE



i Summary

📷 Existing Conditions

AREA	East
SECTION	Struble Connector
SEGMENT	3
STATUS	Existing
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	600' east of Donegal Lane to 1200' west of Donegal Lane
GENERAL ALIGNMENT	Dowlin Forge Road (north side)
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing path</i>
LENGTH	0.3 miles

- Existing 6' wide asphalt trail on the north side of Dowlin Forge Road
- Wooden split rail fence in some locations between the trail and adjacent residential properties



i Summary

📷 Existing Conditions

AREA	East
SECTION	Struble Connector
SEGMENT	4
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easements on parcel UPI 30-6-19 and UPI 30-6-6.1. (See page 2-4 for more information on porous pavement.)</i>
GENERAL LIMITS	1200' west of Donegal Lane along Dowlin Forge Road to 1700' south of Hopewell Road along Rock Raymond Road
GENERAL ALIGNMENT	Dowlin Forge Road (north side to Rock Raymond Road) Rock Raymond Road (north side to south/ west side with a crossing just east of the Tributary to East Branch Brandywine Creek) <i>Within existing trail easement on parcel UPI 30-6-19</i>
PROPERTY NEEDS / COORDINATION	Minimal <i>East Brandywine Township owned parcel (UPI 30-6-19.1)</i> <i>Existing trail easement on parcel UPI 30-6-19</i>
LENGTH	0.4 miles

- Existing trail ends 1200' west of Donegal Lane
- Stream crossing and potential wetland area
- Sharp horizontal curves in Rock Raymond Road present sight distance challenges for street crossing
- Steep slopes (north and south sides of Rock Raymond Road and Dowlin Forge Road)
- Heavy vegetation, including mature trees (north and south sides of Rock Raymond Road and Dowlin Forge Road)
- Driveways (south side of Rock Raymond Road)
- 25 mph posted speed limit





Elements of Proposed Improvements

- See E-SC-4 Conceptual Plan on the next page.
- Asphalt path on the north side of Dowlin Forge Road and Rock Raymond Road to be installed at ground level with a meandering alignment within the existing trail easement on UPI 30-6-19 to avoid significant features (such as trees or wetland areas) and maintain an accessible profile.
- Mid-block pedestrian crossing of Rock Raymond Road with high visibility marked crosswalk and flashing warning device, just east of the crossing of the Tributary of the East Branch of the Brandywine Creek. This location was selected to maximize sight distance. Advance warning signage and proper striping should be provided to promote the visibility of the crossing.
- Asphalt path on the south side of Rock Raymond Road from the pedestrian crossing to south of the property line between UPI 30-6-6.1 and UPI 30-6-6. Reset the existing guiderail to provide space behind the guiderail for the path. Utilize the existing culvert to cross the East Branch of the Brandywine Creek adjacent to Rock Raymond Road. (See the typical section below.)



Cost Estimate

Engineering & Permitting	\$ 183,000
Utilities	\$ 25,000
Right-of-Way	\$ 20,000
Construction & Inspection	\$ 699,000
TOTAL (2017 Dollars)	\$ 927,000

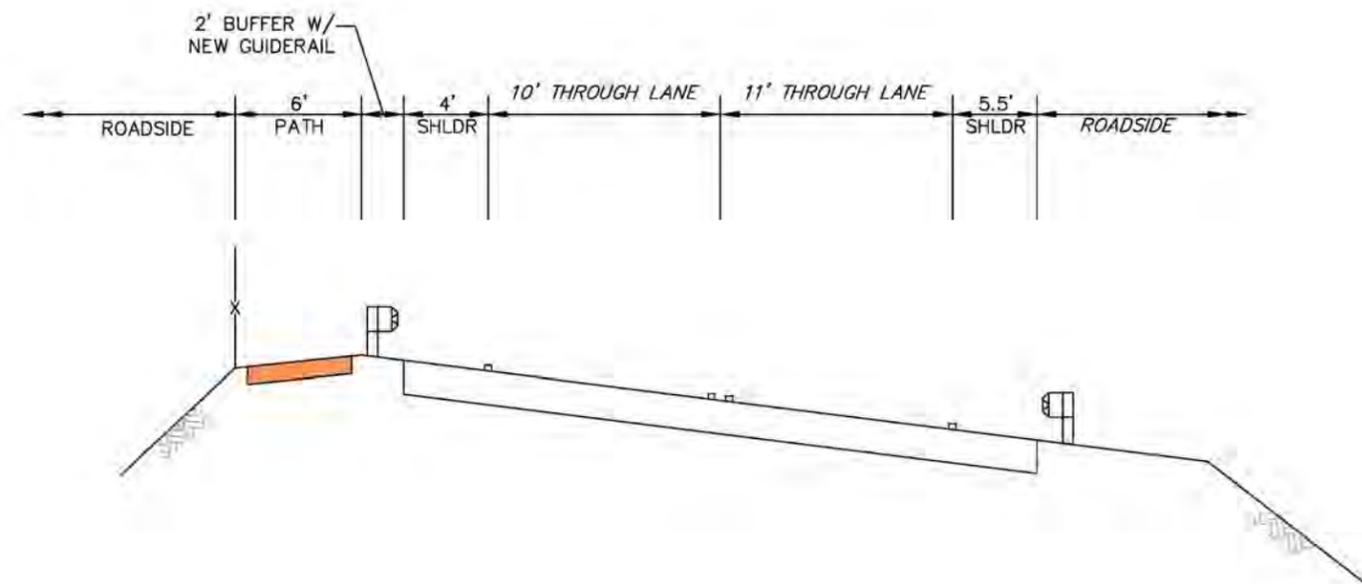
Note: See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans

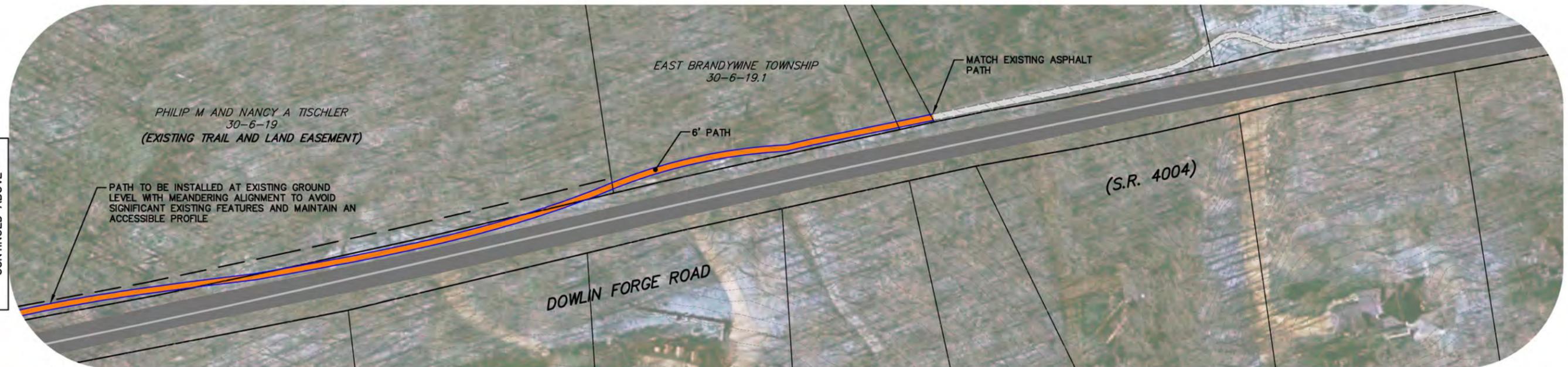
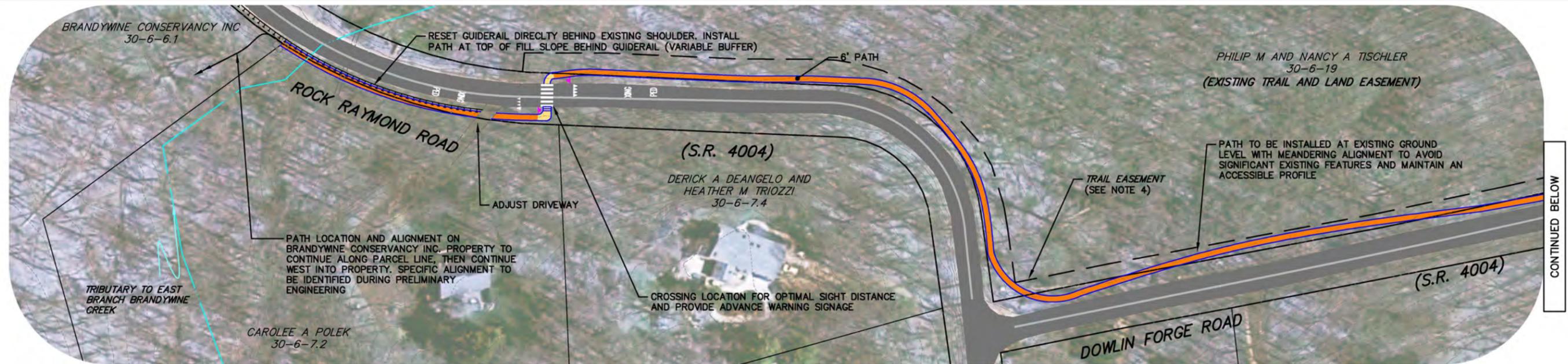


Next Steps

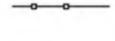
- Advance design and construction of E-SC-1 and E-SC-2 to provide a logical connection to the Struble Trail.
- Identify funding for design and/or construction. For budgeting purposes, an adjustment for inflation should be applied to the construction and inspection cost, once an anticipated year of construction is identified.
- Advance design and permitting. Since Rock Raymond Road (SR 4004) is a state-owned roadway and the conceptual plan includes a flashing warning device, the project will require a PennDOT permit. Additionally, a PennDOT Maintenance Agreement may be required for segments of the path built within PennDOT’s right-of-way. Additionally, a permit for the work on top of the culvert and adjacent to the stream may be required from the DEP. Further evaluation should be conducted during Preliminary Engineering.
- Coordinate with property owners to obtain necessary easements for the path.
- For the two parcels with existing trail easements, coordinate with the parties on the trail and conservation easements during the design process to minimize impacts to environmental and natural resources and ensure the design is consistent with the terms of the trail easement. Modifications to the trail easement may be necessary and appropriate.

Typical Section for Rock Raymond Road near the Tributary to the East Branch of the Brandywine Creek



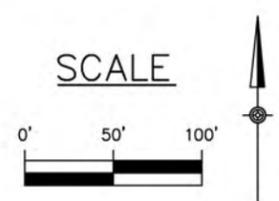


LEGEND

	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
					EXISTING UTILITY POLE
					TRAIL EASEMENT

NOTES:

1. EXISTING CONDITIONS DEPICTED ON THE CONCEPTUAL DESIGN EXHIBIT ARE BASED ON GIS DATA, AERIAL PHOTOGRAPHY AND LIMIT FIELD MEASUREMENTS ONLY.
2. LEGAL RIGHT-OF-WAY LINES AND PROPERTY LINES ARE ESTIMATED BASED ON GIS DATA AND PLANS PROVIDED BY EAST BRANDYWINE TOWNSHIP. LEGAL RIGHT-OF-WAY LINES OR PROPERTY LINES HAVE NOT BEEN INDEPENDENTLY VERIFIED THROUGH FIELD SURVEY OR TITLE/DEED RESEARCH.
3. THIS EXHIBIT DOES NOT DEPICT REQUIRED EASEMENT LINES (TEMPORARY OR PERMANENT) WHICH WILL LIKELY BE REQUIRED FOR THE CONSTRUCTION OF THE TRAIL. THE SIZE AND LOCATION OF ALL EASEMENTS WILL NEED TO BE DETERMINED DURING THE PRELIMINARY ENGINEERING OF THE PROJECT.
4. EXISTING EASEMENT LINE IS CONCEPTUALLY DEPICTED AND MUST BE VERIFIED DURING PRELIMINARY ENGINEERING.



i Summary

AREA	East
SECTION	Struble Connector
SEGMENT	5
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt <i>Pervious asphalt or crushed stone are required per the existing trail easements on parcel UPI 30-6-6.1. (See page 2-4 for more information on porous pavement.)</i>
GENERAL LIMITS	Rock Raymond Road (1700' south of Hopewell Road) to Hopewell Road (500' west of Rock Raymond Road)
GENERAL ALIGNMENT	Within parcel UPI 30-6-6.1 providing a connection between Rock Raymond Road and Hopewell Road
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing conservation easement on UPI 30-6-6.1 allows trails</i>
LENGTH	0.5 miles

📷 Existing Conditions

- Existing conservation easement on parcel UPI 30-6-6.1 allows development of trails (6' wide maximum).
- Parcel is owned by the Brandywine Conservancy and a portion is leased for agricultural purposes.
- Property includes agricultural uses, woodlands, and open grass fields.
- Tributary to the East Branch of the Brandywine Creek traverses the property near the southeast corner.

🔊 Public Input

- Representatives from Hopewell Methodist Church expressed opposition to any trail alignment through the cemetery on the south side of Hopewell Road. Additionally, residents along Batten Drive expressed opposition to a on-road facility. Based on this input, the alignment was revised to stay within the Brandywine Conservancy owned property to Hopewell Road. (See Appendix B.)
- After the second community workshop, written public comments were received expressing concerns with the proposed alignment through the Brandywine Conservancy owned property. An alternative alignment following East Buck Road, Buck Road, and North Buck Road was evaluated and the alignment through the Brandywine Conservancy property was slightly revised. (See Appendices A and B.)

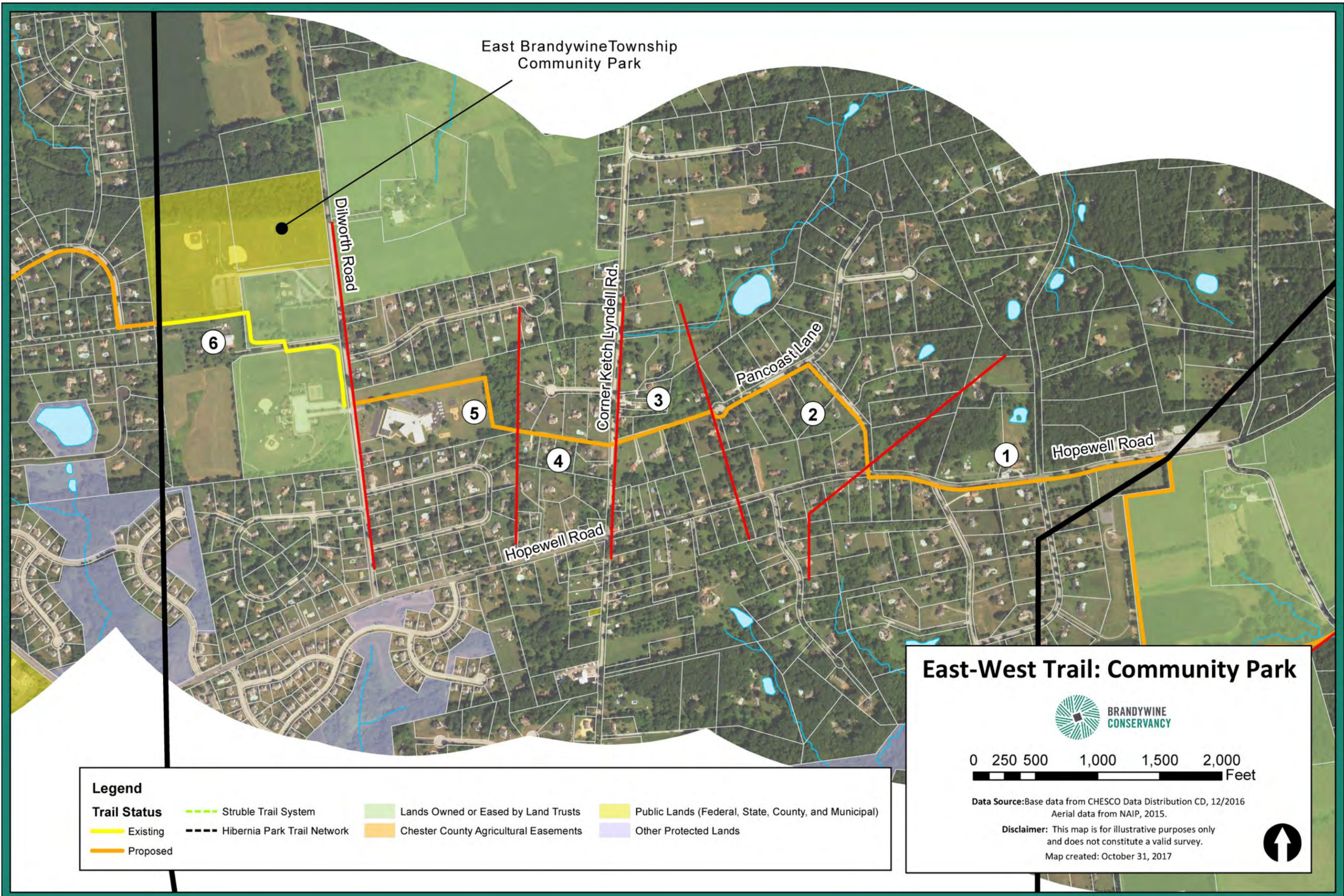
📐 Elements of Proposed Improvements

- Based on the evaluation of East-West Trail alignment options in this area (See Appendix B), a path through the Brandywine Conservancy remains the preferred alignment and is the most direct and feasible option. The alignment shown on the maps in this report represents a general connection between Rock Raymond Road and Hopewell Road with the goal of minimizing impacts to the environmental resources and agricultural uses on this conserved property. Further coordination and design is necessary to identify a specific alignment for the path on the property. Due to potential wetlands in the vicinity of the Tributary to the East Branch of the Brandywine Creek, a boardwalk may be an appropriate design feature and can be evaluated as part of the permitting process.

➡ Next Steps

- Advance design and construction of E-SC-1, E-SC-2, and E-SC-4 to provide a logical connection to the Struble Trail.
- Develop a conceptual plan and cost estimate.
- Coordination between East Brandywine Township, the Brandywine Conservancy, and Natural Lands regarding establishment of a trail easement and design and construction of the path.





East Brandywine Township
Community Park

Dilworth Road

Corner Ketch Lyndell Rd.

Pancoast Lane

Hopewell Road

Hopewell Road

Legend		
Trail Status	Struble Trail System	Lands Owned or Eased by Land Trusts
Existing	Hibernia Park Trail Network	Chester County Agricultural Easements
Proposed		Other Protected Lands
		Public Lands (Federal, State, County, and Municipal)

East-West Trail: Community Park

0 250 500 1,000 1,500 2,000 Feet

Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.
Map created: October 31, 2017

East - Community Park

	E-CP-1	E-CP-2	E-CP-3	E-CP-4	E-CP-5	E-CP-6
Status	Proposed	Proposed	Proposed	Proposed	Proposed	Existing
Facility Type - Surface Material	Path - Asphalt	On-Road: Striped Shoulder - One Side	Path - Asphalt	Path - Asphalt	Path - Asphalt	Path - Asphalt
General Limits (east to west)	500' west of Rock Raymond Road to Echo Dell Road	Hopewell Road to Pancoast Lane cul-de-sac (western)	Pancoast Lane cul-de-sac (western) to Corner Ketch Road	Corner Ketch Road to Brandywine-Wallace Elementary School eastern property boundary	Brandywine-Wallace Elementary School eastern property boundary to Dilworth Road	Dilworth Road to Wildbrier Drive
General Alignment	Hopewell Road (south side)	Echo Dell Road (west side) Pancoast Lane (south side)	Within existing emergency access easement along residential driveway located 750' north of Hopewell Road	Within existing trail easement along residential driveway located 750' north of Hopewell Road	Within Brandywine-Wallace Elementary School property	Within East Brandywine Township Community Park
Property Needs / Coordination (minimal, moderate, major)	Major	Minimal <i>On-road facility on Township owned roadways</i>	Moderate	Minimal <i>Existing trail easement</i>	Moderate	Minimal <i>Existing path</i>
Length (miles)	0.5	0.4	0.1	0.1	0.3	0.4

i Summary

📷 Existing Conditions

AREA	East
SECTION	Community Park
SEGMENT	1
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	500' west of Rock Raymond Road to Echo Dell Road along Hopewell Road
GENERAL ALIGNMENT	Hopewell Road (south side)
PROPERTY NEEDS / COORDINATION	Major
LENGTH	0.5 miles

- No shoulders on Hopewell Road
- Some steep slopes adjacent to the roadway along the frontage for the Hopewell United Methodist Church Cemetery on the south side of Hopewell Road
- Relatively flat topography adjacent to the roadway, west of the Batten Drive
- Heavy vegetation (north side of Hopewell Road)
- Driveways (north and south sides of Hopewell Road)
- Utility poles (north side of Hopewell Road from Rock Raymond Road to Buck Road and south side of Hopewell Road from Buck Road to Echo Dell Road)
- Existing stormwater management basin on the south side of Hopewell Road between the Cemetery driveway and Batten Drive
- Existing fence and landscaping on the south side of Hopewell Road as a buffer between the roadway and single family homes
- 35 mph posted speed limit

🔊 Public Input

- At both community workshops and in written comments, several residents living along Hopewell Road expressed strong opposition to the trail and specifically the alignment along Hopewell Road and crossing at Echo Dell Road. Key concerns expressed by residents included safety, security, privacy, and potential impacts to properties. (See Appendix A.)
- Based on public input, alternative alignments were evaluated. The alternative alignments introduced additional feasibility issues. As a result, the alignment along Hopewell Road was retained as the preferred alignment. (See Appendix B.)





Elements of Proposed Improvements

- See E-CP-1 Conceptual Plan on the next page.
- Asphalt path on the south side of Hopewell Road from just east of the Hopewell Methodist Church Cemetery to Echo Dell Drive. The path should generally be installed at existing grade between the existing Methodist Church property line and Echo Dell Road. This is the preferred alignment and is the most direct and feasible option.
- Avoid impacts to the cemetery in the area where there is a steep slope adjacent to the roadway by providing a grade separating wall and safety fence
- Minimize impacts to the existing stormwater management basin and fence between the cemetery driveway and Buck Road.
- High visibility marked crosswalks for crossings at Batten Drive and Buck Road.
- Pedestrian crossing of Hopewell Road at Echo Dell Road with high visibility marked crosswalk and flashing warning device. This location was selected to maximize sight distance. Advance warning signage and proper striping should be provided to promote the visibility of the crossing.
- Replace and provide appropriate screening, such as landscaping and/or fencing, for residential properties on the south side of Hopewell Road between Buck Road and Echo Dell Road.
-



Cost Estimate

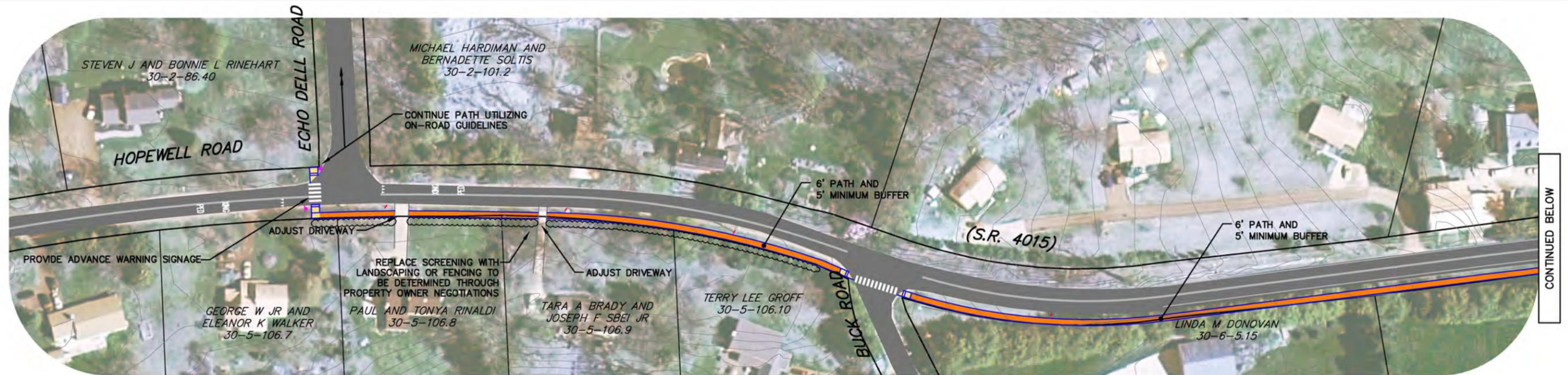
Engineering & Permitting	\$ 161,000
Utilities	\$ 10,000
Right-of-Way	\$ 58,000
Construction & Inspection	\$ 617,000
TOTAL (2017 Dollars)	\$ 846,000

Note: See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans

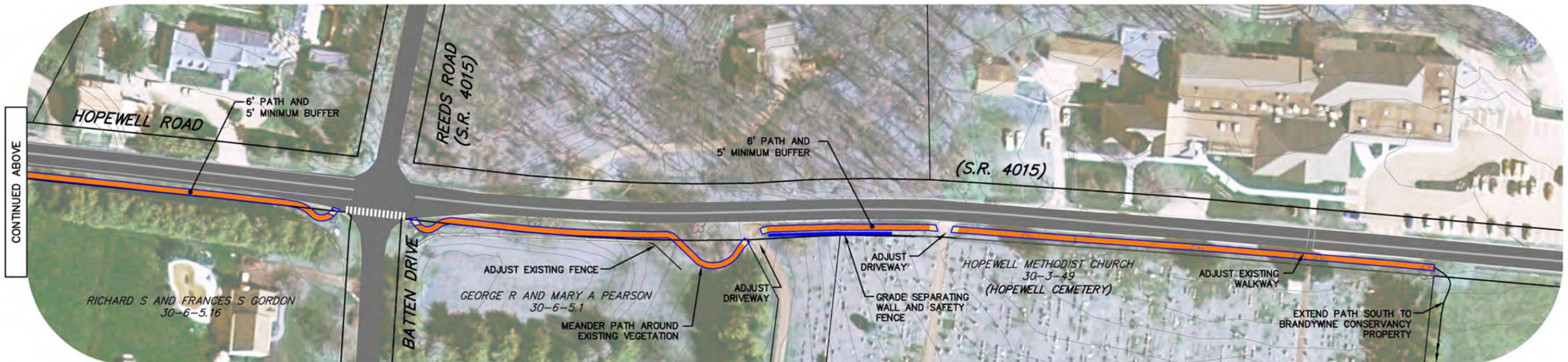


Next Steps

- Advance design and construction of E-CP-5, E-CP-4, E-CP-3, and E-CP-2 to provide a logical connection to the East Brandywine Township Community Park and Brandywine-Wallace Elementary School.
- Advance design and construction of Struble Connector Section to provide a logical connection to the Stuble Trail.
- Identify funding for design and/or construction. For budgeting purposes, an adjustment for inflation should be applied to the construction and inspection cost, once an anticipated year of construction is identified.
- Advance design and permitting. Since Hopewell Road (SR 4015) is a state-owned roadway and the conceptual plan includes a flashing warning device, the project will require a PennDOT permit. Additionally, a PennDOT Maintenance Agreement may be required for segments of the path built within PennDOT’s right-of-way.
- Coordinate with property owners to obtain necessary easements for the path.
- Coordinate with property owners regarding various design details for the path, including driveway adjustments, impacts to existing landscaping, and acceptable landscaping, screening, or fencing.



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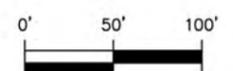
LEGEND

	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
					EXISTING UTILITY POLE

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SCALE



i Summary

📷 Existing Conditions

AREA	East
SECTION	Community Park
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	On-Road: Striped Shoulder - One Side
GENERAL LIMITS	Hopewell Road to Pancoast Lane cul-de-sac (western)
GENERAL ALIGNMENT	Echo Dell Road (west side) Pancoast Lane (south side)
PROPERTY NEEDS / COORDINATION	Minimal <i>On-road facility on Township owned roadways</i>
LENGTH	0.4 miles

- Township owned roadways
- Low volume roadways serving only residential developments with no through traffic
- 25' cartway width
- No existing sidewalks or other bicycle/pedestrian facilities
- No pavement markings
- 25 mph speed limit
- Numerous driveways with mailboxes and landscaping adjacent to the roadway
- Relatively flat topography
- On-street parking permitted



🔊 Public Input

- At the first community workshop and in written comments during the first public comment period, several residents living along Echo Dell Road and Pancoast Lane expressed concerns with safety and privacy. (See Appendix A.)
- Based on public input, alternative alignments were evaluated. The alternative alignments introduced additional feasibility issues. As a result, the alignment along Echo Dell and Pancoast Lane was retained as the preferred alignment. (See Appendix B.)





Elements of Proposed Improvements

- 5' wide striped shoulder on the west side of Echo Dell Road between Hopewell Road and Pancoast Lane.
- 5' wide striped shoulder on the south side of Pancoast Lane between Echo Dell and the cul-de-sac (western).
- Pedestrian symbol pavement marking along with wayfinding pavement markings or signs can be used to designate the shoulder for walking and aid in navigation.
- Providing on-road pavement markings (and signage) for these relatively short roadway segments is the preferred alignment and is the most direct and feasible option.



Cost Estimate

- Approximately \$6,000 for striping of one-sided shoulder with the pedestrian symbol pavement marking at key locations. This cost does not include wayfinding signage or markings.

Note: Potential cost savings could be achieved if the work is completed by Township Public Works forces, as part of the Township's paving program, or in conjunction with another roadway project.



Next Steps

- Advance design and construction of E-CP-5, E-CP-4, and E-CP-3, to provide a logical connection to the East Brandywine Township Community Park and Brandywine-Wallace Elementary School.
- Install pavement markings with Township Public Works forces or as part of the Township's paving program or another roadway/trail project.



Image of a striped shoulder on one side of the roadway for walking in Hideaway Farms Development in East Brandywine Township



Image of Pedestrian Only Shoulder with use of Pedestrian Symbol Pavement Marking on right

i Summary

AREA	East
SECTION	Community Park
SEGMENT	3
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path—Asphalt
GENERAL LIMITS	Pancoast Lane cul-de-sac (western) to Corner Ketch / Lyndell Road
GENERAL ALIGNMENT	Within existing 50' wide emergency access easement along residential driveway located 750' north of Hopewell Road
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.1 miles

📷 Existing Conditions

- Existing private asphalt driveway for three single family residential homes to access Corner Ketch / Lyndell Road.
- Existing 50' wide emergency access right-of-way for access between Pancoast Lane cul-de-sac from Corner Ketch / Lyndell Road.
- Emergency access right-of-way follows the asphalt driveway to the end and a rock base cartway with grass cover between the end off the driveway and the cul-de-sac.

✂️ Elements of Proposed Improvements

- Utilize the existing driveway or provide a 6' wide asphalt path adjacent to the existing drive. While the specific location of the trail requires further coordination and evaluation, providing a path within the existing emergency access right-of-way remains the preferred alignment and is the most direct and feasible option.
- Provide a paved path connection between the end of the driveway and Pancoast Lane cul-de-sac to connect with the proposed striped shoulder on the south side of Pancoast Lane.

🔊 Public Input

- Residents living along the emergency access right-of-way expressed opposition to use of the right-of-way for the East-West trail. Alternative alignments were evaluated, but had additional feasibility issues. The alignment along the emergency access right-of-way was retained. (See Appendix B.)

➡️ Next Steps

- Advance design and construction of E-CP-5 and E-CP-4 to provide a logical connection to the East Brandywine Township Park and Brandywine-Wallace Elementary School.
- Coordinate with adjacent property owners to obtain necessary easements for the path and discuss various design details for the path.
- Further evaluate use of existing driveway or providing a separate asphalt path for the East-West trail.



i Summary

AREA	East
SECTION	Community Park
SEGMENT	4
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path—Asphalt
GENERAL LIMITS	Corner Ketch / Lyndell Road to Brandywine-Wallace Elementary School eastern property boundary
GENERAL ALIGNMENT	Within existing trail easement along residential driveway located 750' north of Hopewell Road
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing trail easement</i>
LENGTH	0.1 miles

📷 Existing Conditions

- Existing 10' wide school access trail easement located on the north side of the existing shared asphalt driveway for three single family residential homes.
- Existing trail easement area is grass and relatively flat with some private fencing and landscaping on either side.

💰 Cost Estimate

- Approximately \$125,000—\$250,000 for design and construction of the improvements, assuming that the path can be built within the existing trail easement and there are no additional costs for right-of-way or utility relocations. These assumptions should be verified with topographic survey and during the preliminary engineering phase.

Note: Potential cost savings could be achieved if the work is completed as part of the Township's paving program, or in conjunction with another trail/roadway project, dependent on permit and funding requirements.

🛠️ Elements of Proposed Improvements

- Asphalt path within the existing trail easement.
- Pedestrian crossing of Corner Ketch Road at the two shared private driveways with high visibility marked crosswalk and flashing warning device. (Pedestrian crossing improvements to be coordinated with implementation of E-CP-3.)

➡️ Next Steps

- Advance design and construction of E-CP-5 to provide a logical connection to the East Brandywine Township Park and Brandywine-Wallace Elementary School. Coordinate with the Downingtown School District regarding E-CP-5 alignment and implementation and connection to the existing trail easement.
- Identify funding for design and/or construction.
- Advance design and permitting. Since Corner Ketch / Lyndell Road (SR 4037) is a state-owned roadway and the proposed improvements include a flashing warning device, the project will require a PennDOT permit.



i Summary

AREA	East
SECTION	Community Park
SEGMENT	5
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path—Asphalt
GENERAL LIMITS	Brandywine-Wallace Elementary School eastern property boundary to Dilworth Road
GENERAL ALIGNMENT	Within Brandywine-Wallace Elementary School property
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.3 miles

📷 Existing Conditions

- An existing grass and dirt worn path provides an informal connection to a residential area and trail easement east of the school (See E-CP-4).
- The school property includes the school building, playground, and play/ball fields surrounded by open grass area with trees and vegetation generally around the perimeter of the property.

🔊 Public Input

- Based on a coordination meeting (June 2017) with Downingtown Area School District representatives and a follow-up correspondence from the School Board (July 2017), the District expressed safety and security concerns regarding a path traversing the Elementary School property. The School Board is more supportive of a path along the school frontage on Dilworth Road.
- At both community workshops, residents living in this area noted that students walk to/from the school using existing dirt/grass paths leading to the school property. Residents also voiced concerns regarding the safety and privacy for the school and neighboring homes.

✂️ Elements of Proposed Improvements

- Based on the evaluation of East-West Trail alignment options in this area (See Appendix B), a path through the school property remains the preferred alignment and is the most direct and feasible option. The alignment shown on the maps in this report represents a general connection between the existing trail easement to the east and the Community Park to the west. Further coordination and design is necessary to identify a specific alignment for the path on the property.
- Pedestrian crossing of Dilworth Road with high visibility marked crosswalk and flashing warning device. Exact location of pedestrian crossing to be based on specific trail alignment on the Downingtown School District Property, sight distance, and operations of the driveways for the school and park.

➡️ Next Steps

- Continue coordination with the Downingtown Area School District and the community regarding the potential path alignment and design options within the school's property to address safety and security concerns.



i Summary

📷 Existing Conditions

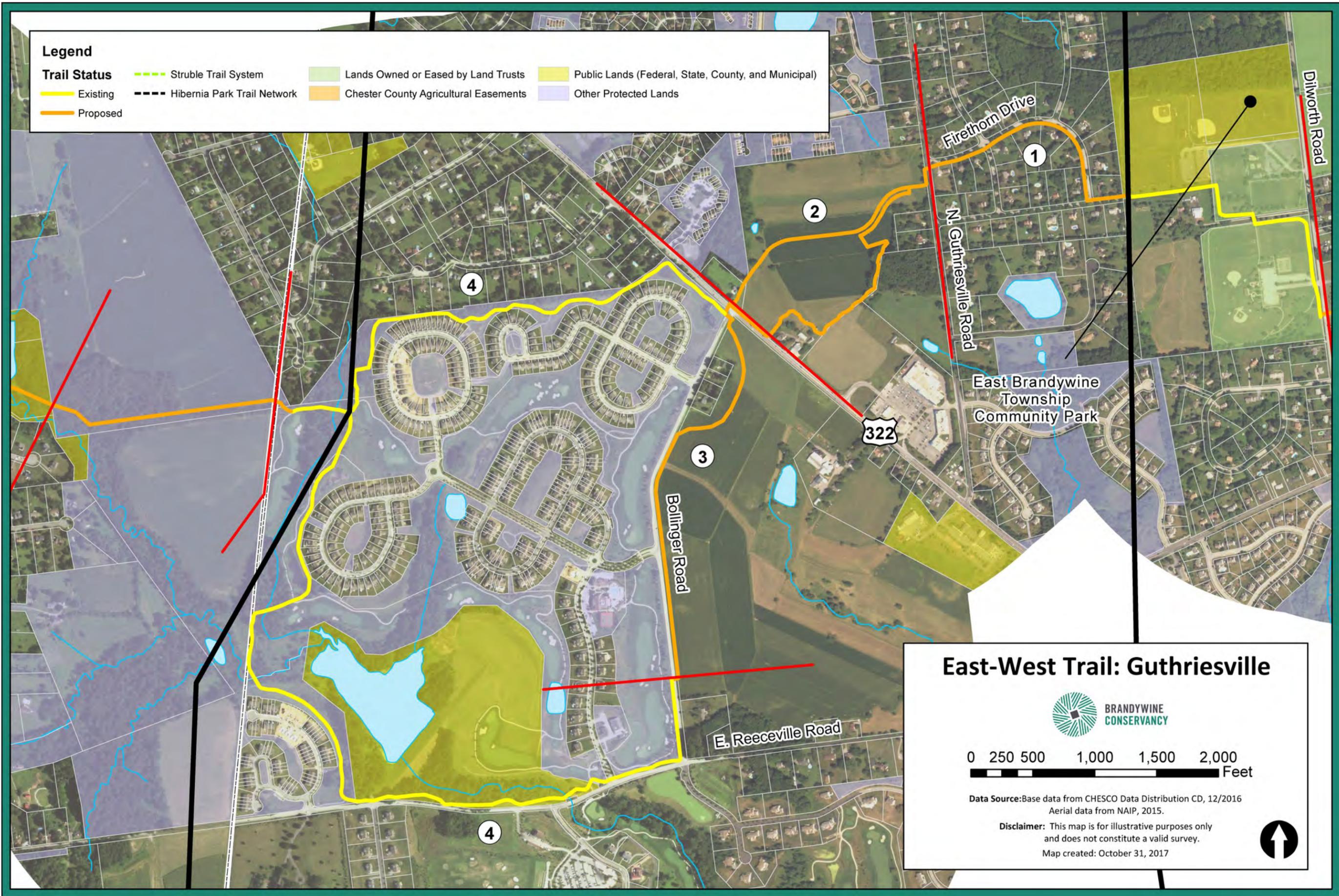
✏️ Elements of Proposed Improvements

AREA	East
SECTION	Community Park
SEGMENT	6
STATUS	Existing
FACILITY TYPE— SURFACE MATERIAL	Path—Asphalt
GENERAL LIMITS	Dilworth Road to Wildbrier Drive
GENERAL ALIGNMENT	Within East Brandywine Township Community Park
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing path</i>
LENGTH	0.4 miles

- Network of existing 6' wide asphalt paths within the East Brandywine Township Community Park provides a connection between Dilworth Road and Wildbrier Drive

- Wayfinding signage and or pavement markings may be needed within the Park to help trail users navigate along the East-West Trail Route.





East - Guthriesville

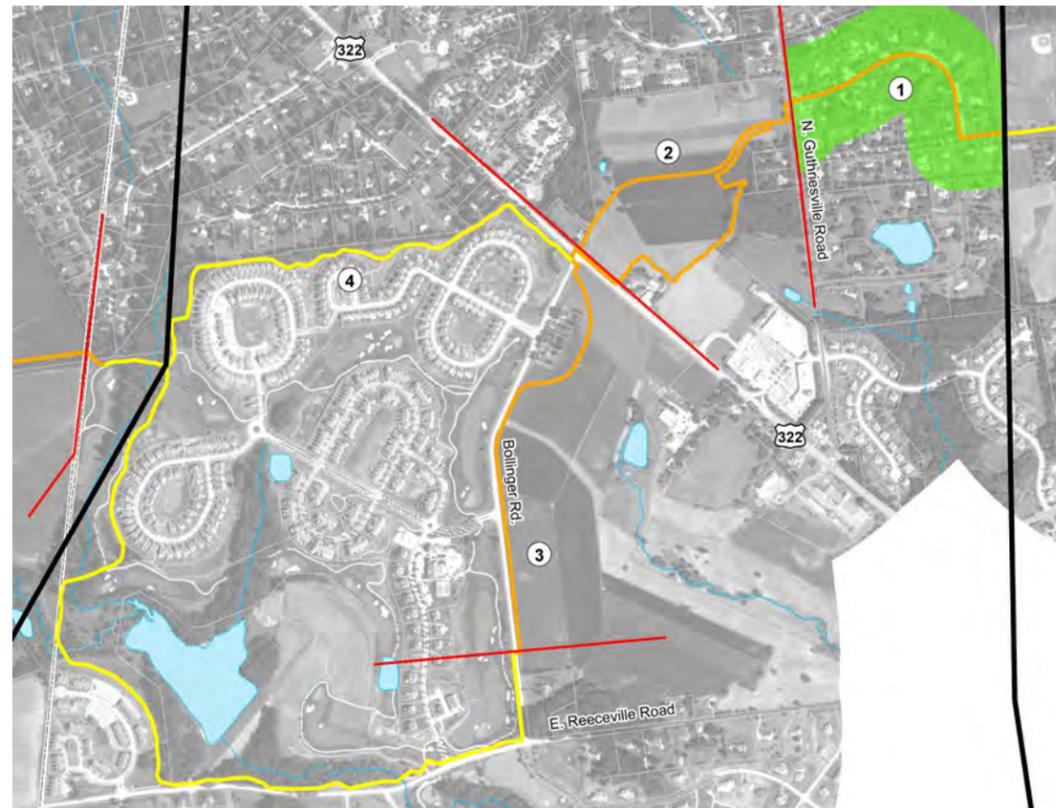
	E-GV-1	E-GV-2	E-GV-3	E-GV-4
Status	Proposed	Proposed	Proposed	Existing
Facility Type - Surface Material	On-Road: Striped Shoulder - One Side	Sidewalk - Concrete Secondary Connection: Path - Asphalt (4' wide)	Path - Asphalt	Path - Asphalt
General Limits (east to west)	East Brandywine Township Park to N. Guthriesville Road	N. Guthriesville Road to US 322 (including enhanced pedestrian crossings at N. Guthriesville Road and US 322)	US 322 to existing trail (on west side of Bollinger Road) that terminates 700' north of E. Reeceville Road	Around the perimeter of the Applecross Development located north of E. Reeceville Road
General Alignment	Wildbrier Drive (north side) Firethorn Drive (south side)	Warren Lane (north side) proposed as part of Mapleview Development on parcel UPI 30-2-48 Secondary Connection: Along southern property boundary of parcel UPI 30-2-48	Bollinger Road (east side)	Within Applecross Community
Property Needs / Coordination (minimal, moderate, major)	Minimal <i>On-road facility on Township owned roadways</i>	Minimal <i>Improvements proposed as part of active land development project</i>	Moderate	Minimal <i>Existing path</i>
Length (miles)	0.4	0.4	0.6	2.2

i Summary

📷 Existing Conditions

AREA	East
SECTION	Guthriesville
SEGMENT	1
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	On-Road: Striped Shoulder - One Side
GENERAL LIMITS	East Brandywine Township Park to N. Guthriesville Road
GENERAL ALIGNMENT	Wildbrier Drive (north side) Firethorn Drive (south side)
PROPERTY NEEDS / COORDINATION	Minimal <i>On-road facility on Township owned roadways</i>
LENGTH	0.4 miles

- Existing crushed stone and dirt worn path connection to the trail network in the East Brandywine Community Park at the east end of Wildbrier Drive
- Township owned roadways
- Low volume roadways serving only residential developments with no through traffic
- 25' cartway width
- No existing sidewalks or other bicycle/pedestrian facilities
- No pavement markings
- 25 mph speed limit
- Numerous driveways with mailboxes and landscaping adjacent to the roadway
- Relatively flat topography
- On-street parking permitted





Elements of Proposed Improvements

- 5' wide striped shoulder on the north side of Wildbrier Drive between East Brandywine Township Park and Firethorn Drive.
- 5' wide striped shoulder on the south side of Firethorn Drive between Wildbrier Drive and North Guthriesville Road
- Pedestrian symbol pavement marking along with wayfinding pavement markings or signs can be used to designate the shoulder for walking and aid in navigation.
- Upgrade the entrance and provide an asphalt path connection from the east end of Wildbrier Drive to the East Brandywine Township Community Park.



Cost Estimate

- Approximately \$6,000 for striping of one-sided shoulder with the pedestrian symbol pavement marking at key locations. This cost does not include improvements to the connection to the East Brandywine Township Community Park or wayfinding signage or markings.

Note: Potential cost savings could be achieved if the work is completed by Township Public Works forces, as part of the Township's paving program, or in conjunction with another roadway project.



Next Steps

- Advance design and construction of E-GV-2 to provide a logical connection between the East Brandywine Township Community Park and existing trails in Applecross development.
- Identify funding for design/construction of proposed improvements.
- Install pavement markings for one-sided shoulder with Township Public Works forces or as part of the Township's paving program or another roadway/trail project.
- Advance design/construction of upgrades to the entrance to the East Brandywine Township Community Park and connection to the existing trail network in the park.



Image of a striped shoulder on one side of the roadway for walking in Hideaway Farms Development in East Brandywine Township



Image of Pedestrian Only Shoulder with use of Pedestrian Symbol Pavement Marking on right

i Summary

AREA	East
SECTION	Guthriesville
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Sidewalk - Concrete Secondary Connection: <i>Path - Asphalt (4' wide)</i>
GENERAL LIMITS	N. Guthriesville Road to US 322 (including enhanced pedestrian crossings at N. Guthriesville Road and US 322)
GENERAL ALIGNMENT	Warren Lane (north side) proposed as part of Mapleview Development on parcel UPI 30-2-48 and UPI 30-2-49 Secondary Connection: <i>Along southern property boundary of parcel UPI 30-2-48</i>
PROPERTY NEEDS / COORDINATION	Minimal <i>Improvements proposed as part of active land development project</i>
LENGTH	0.4 miles

📷 Existing Conditions

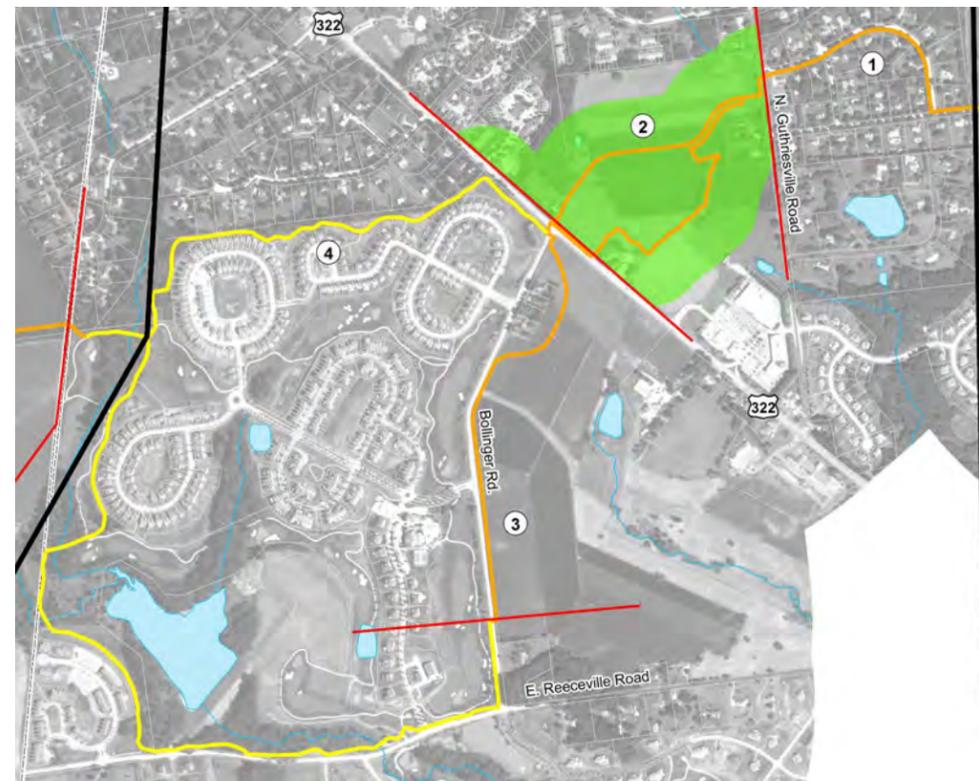
- Properties between N. Guthriesville Road and US 322 (UPI 30-2-48 and UPI 30-2-49) are currently used for residential and agricultural purposes.
- East Brandywine Township has granted final plan approval for Final Subdivision/Land Development Plans for the Mapleview land development project on these properties. The proposed development includes 154 townhouse units and a new roadway connection between US 322 and N. Guthriesville Road, known as Warren Lane.

✏️ Elements of Proposed Improvements

- The following improvements are proposed to be built as part of the Mapleview land development project:
- Sidewalk on the north side of Warren Lane between N. Guthriesville Road and US 322
 - Asphalt path long southern property boundary of parcel UPI 30-2-48 providing a connection between Warren Lane and US 322
 - High visibility striped crosswalk for a pedestrian crossing of N. Guthriesville Road at Firethorn Drive
 - Pedestrian crossing facilities at a signalized intersection of US 322 and Warren Lane/Bollinger Road

➡️ Next Steps

- Monitor implementation of pedestrian facilities proposed as part of the Mapleview land development project.



i Summary

📷 Existing Conditions

✂️ Elements of Proposed Improvements

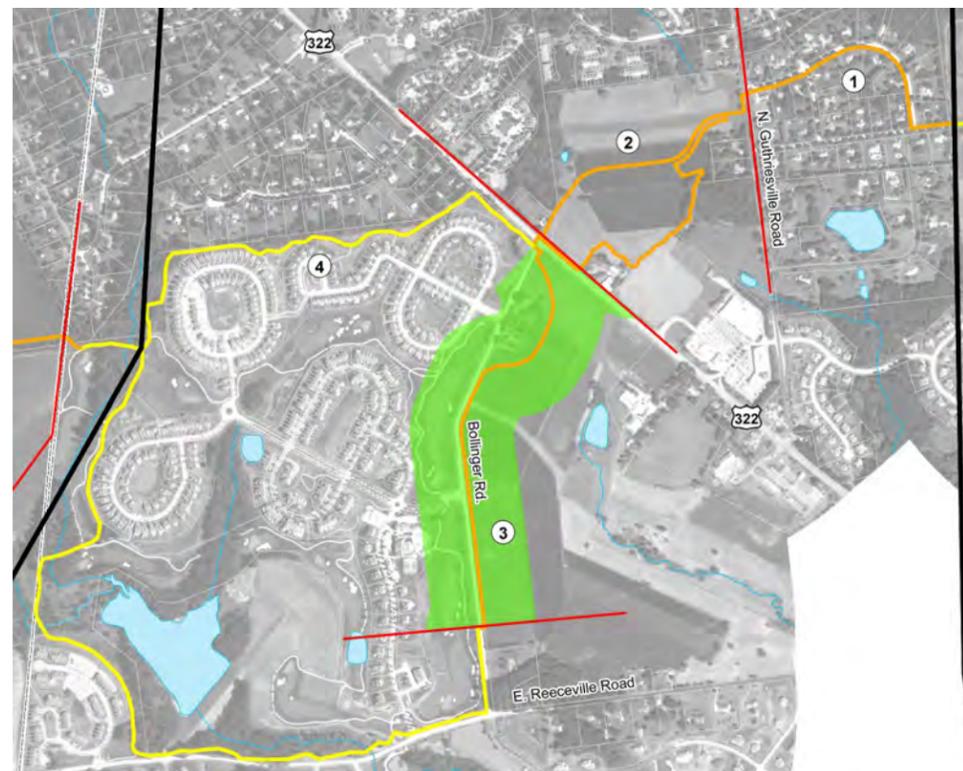
AREA	East
SECTION	Guthriesville
SEGMENT	3
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	US 322 to existing trail (on west side of Bollinger Road) that terminates 700' north of E. Reeceville Road
GENERAL ALIGNMENT	Bollinger Road (east side)
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.6 miles

- Property (UPI 30-5-3.6) is currently used primarily for agricultural purposes, but is owned by the Downington Area School District and has been considered for potential land development.

- Path connection between the pedestrian crossing at the US 322 and Bollinger Road intersection (proposed) and the existing trail on the west side of Bollinger Road as part of any future land development of UPI 30-5-3.6. The alignment shown on the maps in this report represents the general connection between existing and proposed facilities and includes a buffer area between the path and existing residential properties fronting Bollinger Road. Further coordination and design is necessary to identify a specific alignment for the path on the property.

➡️ Next Steps

- Monitor land development proposals and coordinate with the property owner/developer regarding the future alignment and design features of the path connection.



- If land development of the parcel does not advance:
- Develop a conceptual plan and cost estimate for the path.
 - Identify funding for design and/or construction of the path.
 - Coordinate with the property owner to obtain the necessary easement for the path.

i Summary

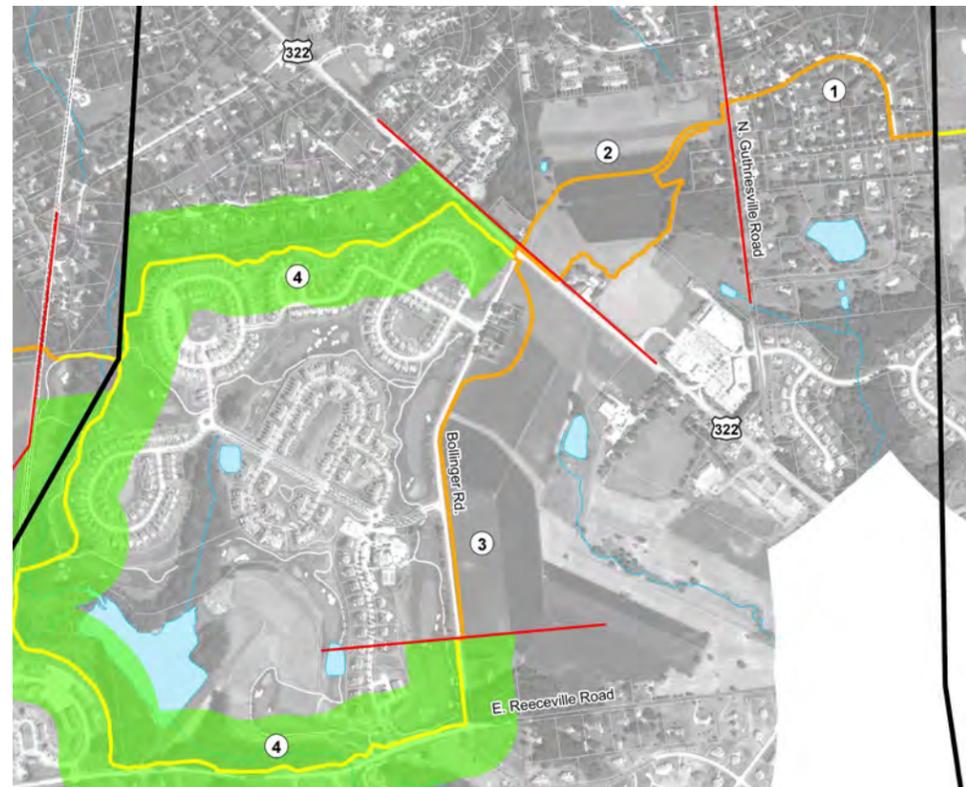
📷 Existing Conditions

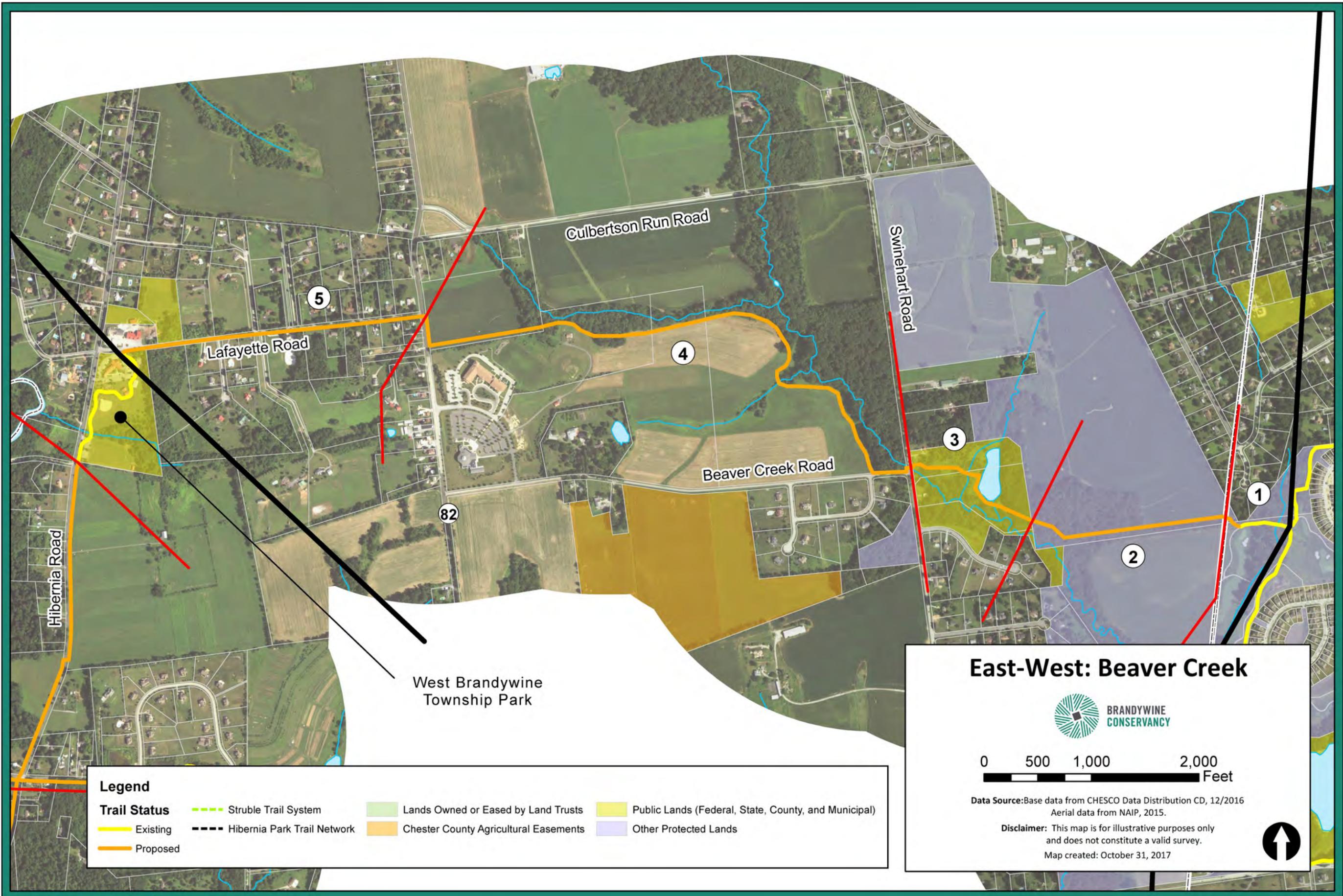
✏️ Elements of Proposed Improvements

AREA	East
SECTION	Guthriesville
SEGMENT	4
STATUS	Existing
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Within Applecross Community
GENERAL ALIGNMENT	Bollinger Road (east side)
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing path</i>
LENGTH	2.2 miles

- Existing network of asphalt paths (typically 8' wide) within the Applecross developments.

- Wayfinding signage and or pavement markings may be needed within the Applecross Community to help trail users navigate along the East-West Trail Route.





West - Beaver Creek

	W-BC-1	W-BC-2	W-BC-3	W-BC-4	W-BC-5
Status	Proposed	Proposed	Proposed	Proposed	Proposed
Facility Type - Surface Material	Path - Asphalt	Path - Asphalt	Path - Asphalt	Path - Asphalt	On-Road: Shared Lane
General Limits (east to west)	Existing trail in Applecross to western property boundary for Applecross Golf Course	Eastern property boundary to western property boundary for UPI 29-4-179	East side of Beaver Creek to Swinehart Drive	Swinehart Road to Manor Road (Route 82)	Manor Road (Route 82) to West Brandywine Township Municipal Complex
General Alignment	Within Applecross Golf Course	Along southern property boundary within parcel UPI 29-4-179	Within West Brandywine Township Property	Beaver Creek (south side)	Lafayette Road
Property Needs / Coordination (minimal, moderate, major)	Moderate	Moderate	Minimal <i>West Brandywine Township owned parcels (UPI 29-7-29, 29-7-29.1, and 29-4-179.1)</i>	Major	Minimal <i>On-road facility</i>
Length (miles)	0.1	0.4	0.3	1	0.5

i Summary

AREA	West
SECTION	Beaver Creek
SEGMENT	1
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Existing trail in Applecross to western property boundary for Applecross Golf Course
GENERAL ALIGNMENT	Within Applecross Golf Course
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.1 miles

📷 Existing Conditions

- Property is part of the Applecross Golf Course
- Existing paved golf cart paths in the area (including a bridge over Beaver Creek)

✂️ Elements of Proposed Improvements

- Utilize existing golf cart path for the trail with clear signage and wayfinding.
- Asphalt path connection from the existing golf cart path to W-BC-2.

➡️ Next Steps

- Advance implementation of W-BC-2.
- Coordinate with the Applecross Golf Course regarding the potential trail alignment within the property.



i Summary

AREA	West
SECTION	Beaver Creek
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Eastern property boundary to western property boundary for UPI 29-4-179
GENERAL ALIGNMENT	Along southern property boundary within parcel UPI 29-4-179
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.4 miles

📷 Existing Conditions

- Parcel UPI 29-4-179 includes areas that are wooded and areas used for agricultural purposes. The property has been proposed for residential land development.

✂️ Elements of Proposed Improvements

- Asphalt path along the southern boundary of parcel UPI 29-4-179 connecting proposed paths at Applecross Golf Course (to the east) and West Brandywine Township property (to the west). The alignment shown on the maps in this report represents a general connection between the proposed trails to the east and west. Further coordination and design is necessary to identify a specific alignment for the path on the property.

➡️ Next Steps

- Monitor implementation of pedestrian path to connect with W-BC-1 and W-BC-3 as part of a future land development project.
- If land development of the parcel does not advance:
- Develop a conceptual plan and cost estimate for the path.
 - Identify funding for design and/or construction of the path.
 - Coordinate with the property owner to obtain the necessary easement for the path.



i Summary

AREA	West
SECTION	Beaver Creek
SEGMENT	3
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	East side of Beaver Creek to Swinehart Drive
GENERAL ALIGNMENT	Within West Brandywine Township Properties (UPI 29-7-29, 29-7-29.1)
PROPERTY NEEDS / COORDINATION	Minimal <i>West Brandywine Township owned parcels (UPI 29-7-29, 29-7-29.1, and 29-4-179.1)</i>
LENGTH	0.3 miles

📷 Existing Conditions

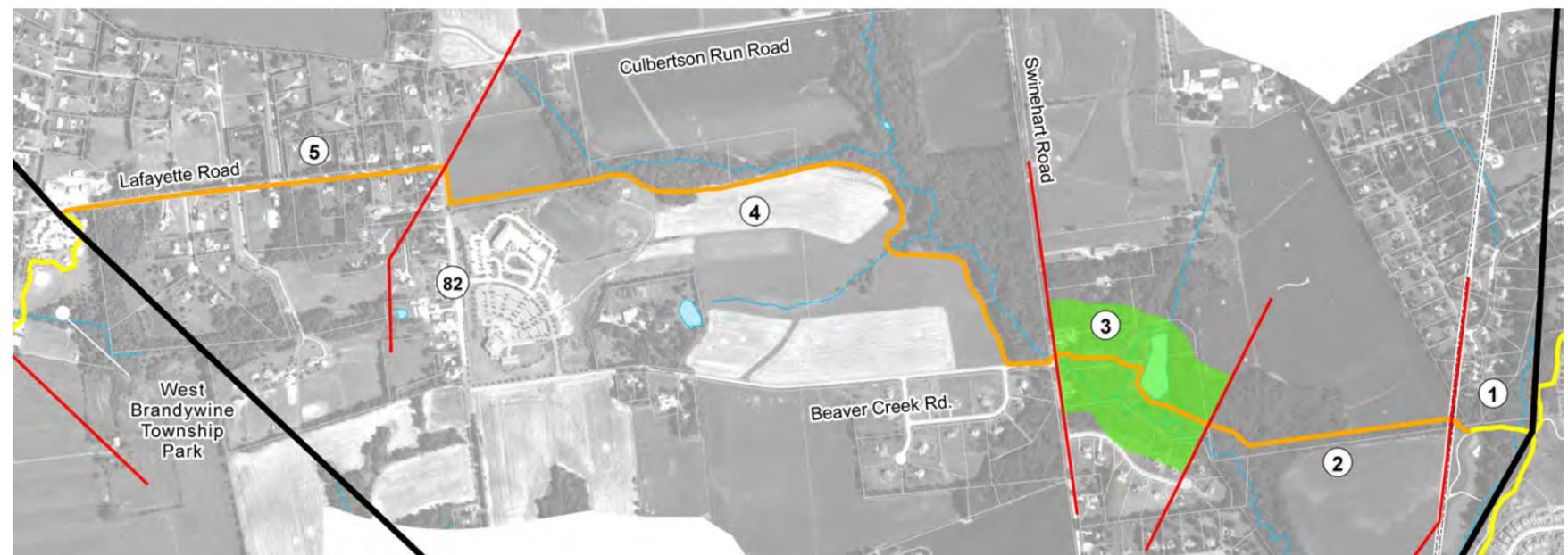
- West Brandywine Township owned properties includes wooded area, Beaver Creek and tributaries, and a small pond.
- Mowed grass paths around the existing pond.

✂️ Elements of Proposed Improvements

- Asphalt path around the existing pond and crossing Beaver Creek to connect the proposed path (to the east) to Swinehart Road (to the west). The alignment shown on the maps in this report represents a general connection between the proposed trails to the east and west. The alignment follows some of the existing mowed grass paths. Further coordination and design is necessary to identify a specific alignment for the path on the property.

➡️ Next Steps

- Advance implementation of W-BC-1 and W-BC-2.
- Develop a conceptual plan and cost estimate for the path.
- Identify funding for design and/or construction of the path.



i Summary

AREA	West
SECTION	Beaver Creek
SEGMENT	4
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Swinehart Drive to Manor Road (Route 82)
GENERAL ALIGNMENT	Beaver Creek (south side)
PROPERTY NEEDS / COORDINATION	Major
LENGTH	1.0 miles

📷 Existing Conditions

- Primarily agricultural and institutional land uses, including Saint Peter Catholic Church and Pope John Paul II Elementary School
- Beaver Creek, which is located within a heavily vegetated area

🔊 Public Input

- Some property owners expressed opposition to the proposed alignment within segment W-BC-4. Key concerns included privacy, liability, littering, and potential impacts to agricultural uses. (See Appendix A.)

✂️ Elements of Proposed Improvements

- Asphalt path that follows the Beaver Creek corridor (south side) and property lines between Swinehart Road and Manor Road (Route 82), including a pedestrian crossing of Manor Road (Route 82) with high visibility crosswalk and flashing warning device.
- The alignment shown on the maps in this report represents the general connection between Swinehart Road and Manor Road (Route 82). This general alignment was selected to minimize potential impacts to existing properties and agricultural uses on the properties. Further coordination and design is necessary to identify a specific alignment for the path on the property.

➡️ Next Steps

- Advance design and construction of W-BC-1, W-BC-2 and W-BC-3 to provide a logical connection to existing trails in Applecross.
- Coordinate with the Archbishop of Philadelphia regarding the potential trail alignment within the property.
- Identify funding and develop a conceptual plan and cost

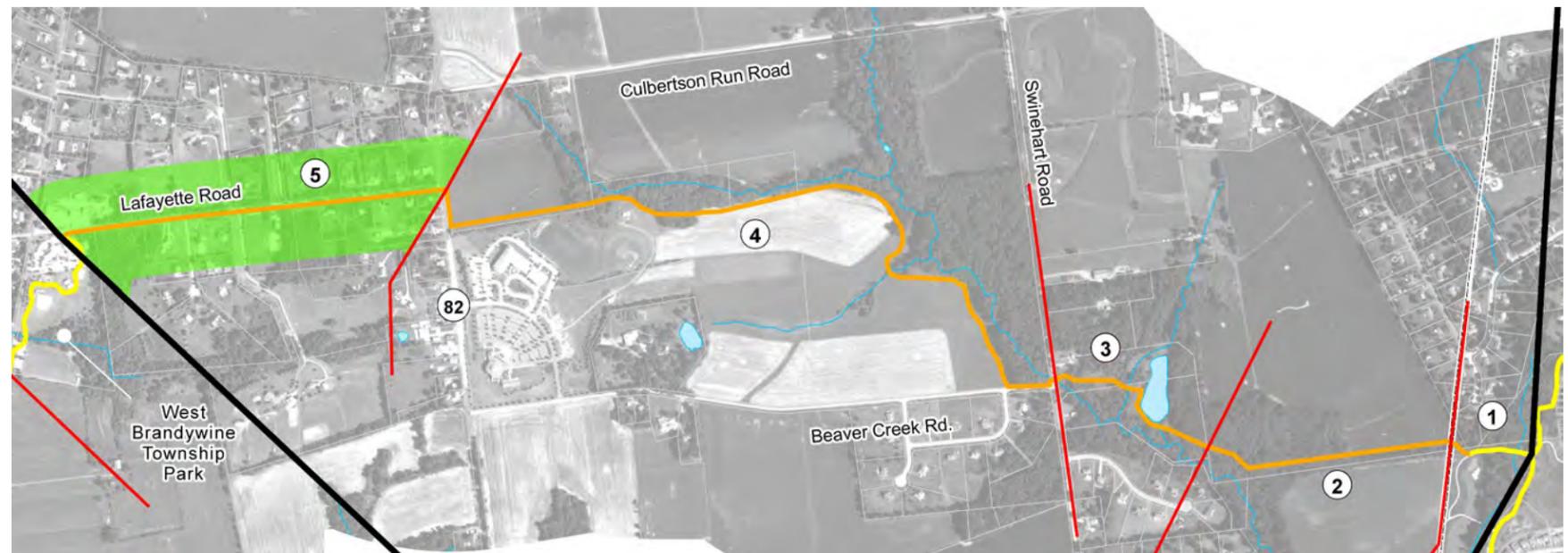


i Summary

📷 Existing Conditions

AREA	West
SECTION	Beaver Creek
SEGMENT	5
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	On-Road: Shared Lane
GENERAL LIMITS	Manor Road (Route 82) to West Brandywine Township Municipal Complex
GENERAL ALIGNMENT	Lafayette Road
PROPERTY NEEDS / COORDINATION	Minimal <i>On-road facility</i>
LENGTH	0.5 miles

- No shoulders on Lafayette Road
- Relatively flat topography and no horizontal curves on Lafayette Road
- Driveways, mailboxes, fences, landscaping, and select areas of steep slopes adjacent to the roadway (north and south sides of Lafayette Road)
- Heavy vegetation, including mature trees (north and south sides of Lafayette Road)
- Utility poles (south side of Lafayette Road)
- 35 mph posted speed limit on Lafayette Road





Elements of Proposed Improvements

- Shared lane pavement markings (sharrows) with centers at least 4' from edge of the pavement and placed immediately after intersections and every 250' thereafter.
- Post-mounted Bicycle May Use Full Lane Signs (R4-11, 30"x30") aligned (approximately) with shared lane markings.
- Appropriate traffic calming measures, especially at the eastern and western gateways. Additionally, provide routine speed enforcement and consider the installation of an electronic radar speed sign.



Cost Estimate

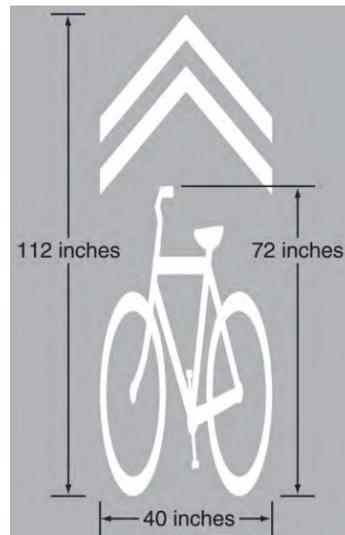
- Approximately \$7,000 for striping of sharrow pavement markings and signage. This cost does not include wayfinding signage or striping or traffic calming measures.

Note: Potential cost savings could be achieved if the work is completed by Township Public Works forces, as part of the Township's paving program, or in conjunction with another roadway project.



Next Steps

- Advance design and construction of W-BC-1, W-BC-2, W-BC-3, and W-BC-4 to provide a logical connection between the West Brandywine Township Park and existing trails in Applecross development.
- Identify funding for design/construction of proposed improvements.
- Install pavement markings and signage for shared lane with Township Public Works forces or as part of the Township's paving program or another roadway/trail project.



Shared Lane
Pavement Marking
(Sharrow)



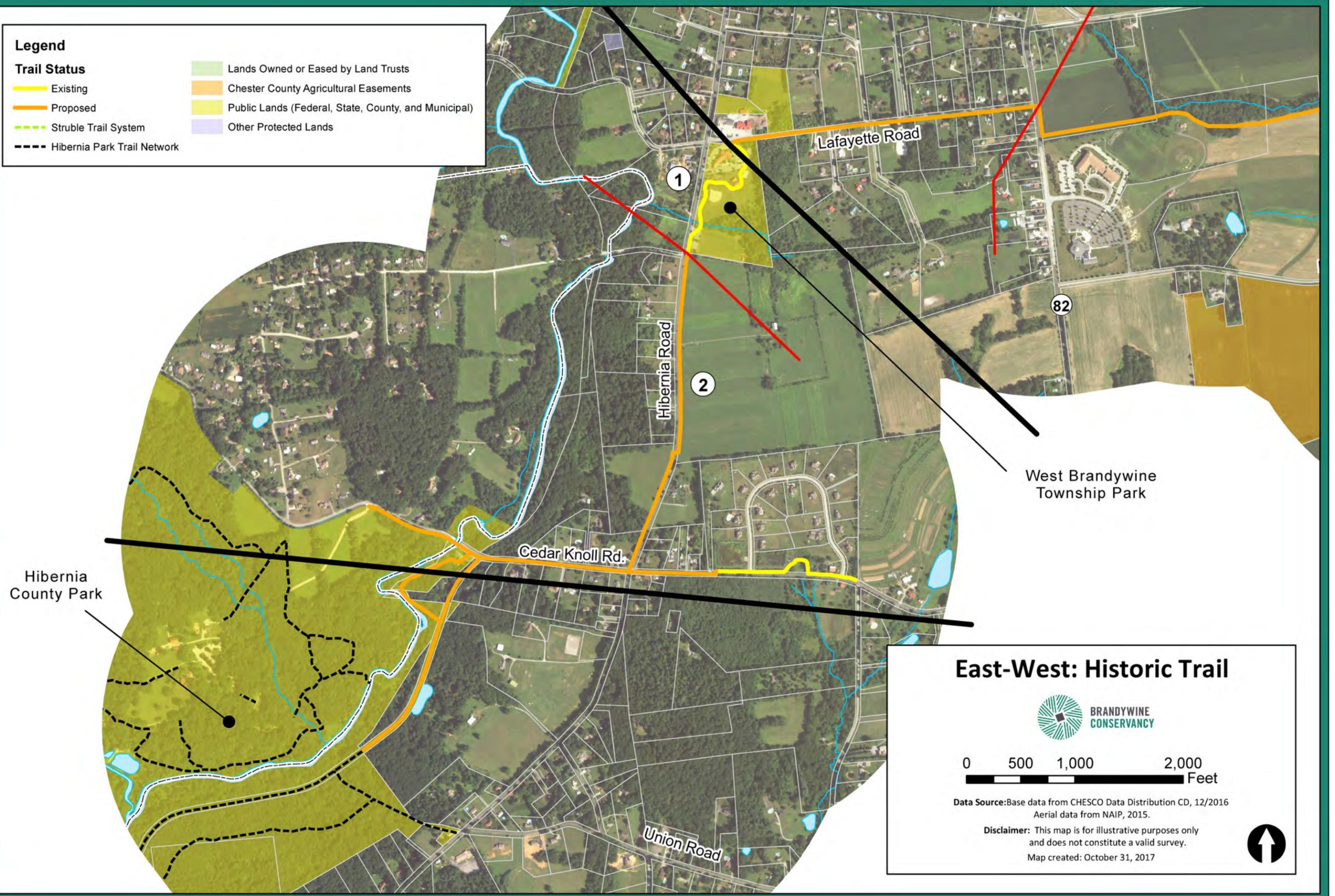
R4-11 Sign

Legend

Trail Status

- Existing
- Proposed
- Struble Trail System
- Hibernia Park Trail Network

- Lands Owned or Eased by Land Trusts
- Chester County Agricultural Easements
- Public Lands (Federal, State, County, and Municipal)
- Other Protected Lands



East-West: Historic Trail



Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.

Map created: October 31, 2017



West - Historic Trail

	W-HT-1	W-HT-2
Status	Existing	Proposed
Facility Type - Surface Material	Path - Asphalt	Path - Asphalt <i>Interim Treatment</i> <i>On-Road: Shared Lane</i>
General Limits (east to west)	Lafayette Road to Reid Road	Reid Road to Cedar Knoll Road
General Alignment	Within West Brandywine Township Municipal Complex and Community Park	Hibernia Road
Property Needs / Coordination (minimal, moderate, major)	Minimal <i>Existing path</i>	Moderate
Length (miles)	0.3	0.6

i Summary

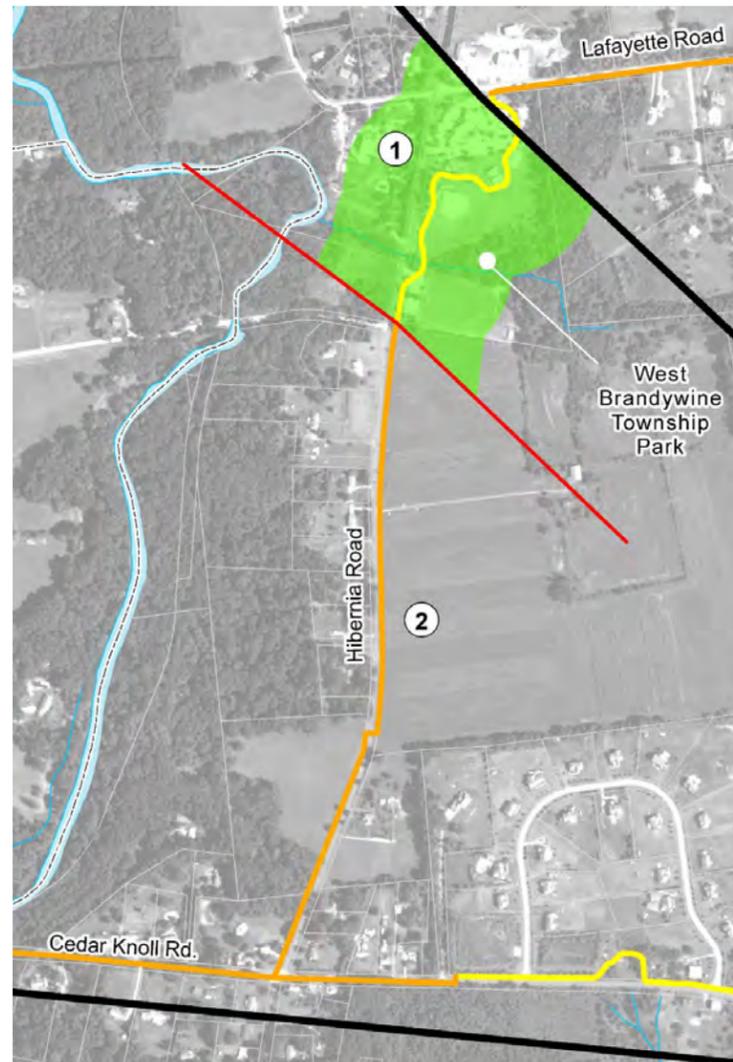
📷 Existing Conditions

✏️ Elements of Proposed Improvements

AREA	West
SECTION	Historic Trail
SEGMENT	1
STATUS	Existing
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Lafayette Road to Reid Road
GENERAL ALIGNMENT	Within West Brandywine Township Municipal Complex and Community Park
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing path</i>
LENGTH	0.3 miles

- Existing 6' wide asphalt path through the West Brandywine Township Municipal Complex and Park providing a connection between Lafayette Road and Hibernia Road.

- Wayfinding signage and or pavement markings may be needed within the Park to help trail users navigate along the East-West Trail Route.

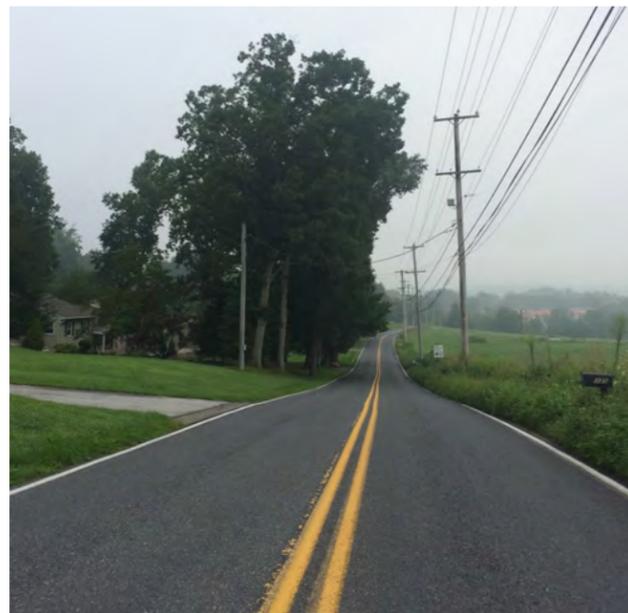


i Summary

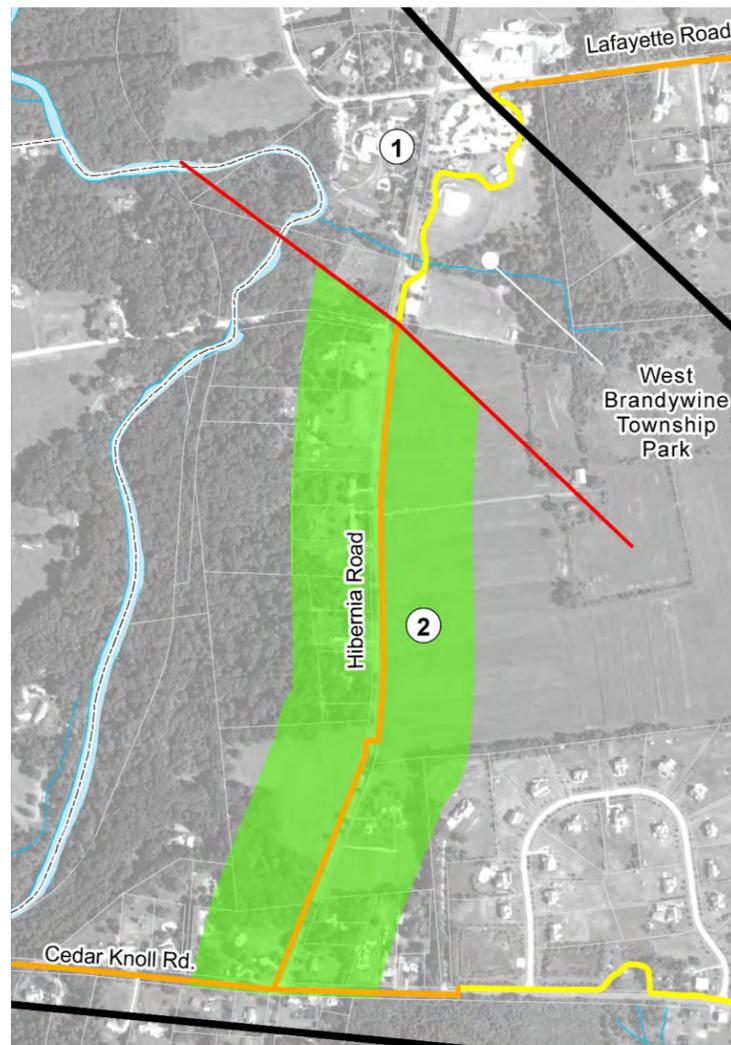
📷 Existing Conditions

🛠️ Elements of Proposed Improvements

AREA	West
SECTION	Historic Trail
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt <i>Interim Treatment</i> <i>On-Road: Shared Lane</i>
GENERAL LIMITS	Reid Road to Cedar Knoll Road
GENERAL ALIGNMENT	Hibernia Road
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.6 miles



- No shoulders on Hibernia Road
- Rolling terrain along Hibernia Road
- Primarily agricultural and residential land uses
- Driveways, mailboxes, landscaping, and select areas of steep slopes adjacent to the roadway (east and west sides of Hibernia Road)
- Heavy vegetation, including mature trees in select locations (east and west sides of Hibernia Road)
- Utility poles (east side of Hibernia Road)
- 40 mph posted speed limit



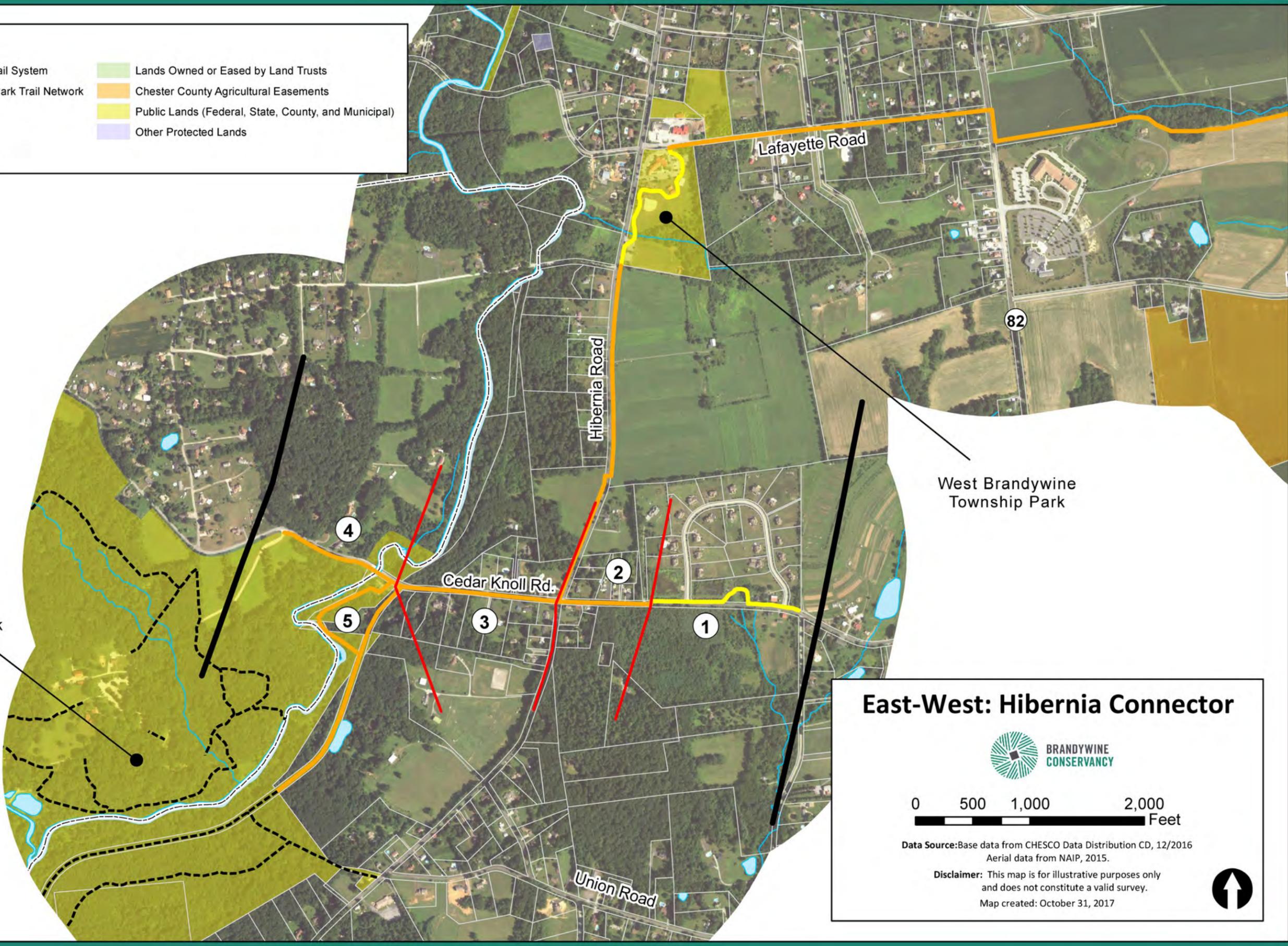
- Interim Treatment: On-Road Shared Lane*
- Lower the posted speed limit on Hibernia Road to 35 mph through coordination with PennDOT. Consider installation of traffic calming measures, particularly at the northern and southern ends.
 - Shared lane pavement markings (sharrows) with centers at least 4' from edge of the pavement and placed immediately after intersections
 - Post-mounted Bicycle May Use Full Lane Signs (R4-11, 30"x30") aligned (approximately) with shared lane markings
- Preferred Treatment: Off-Road Path*
- Asphalt path on the east side of Hibernia Road from the West Brandywine Township Park to horizontal curve located approximately 1000' north of Cedar Knoll Road.
 - Mid-block pedestrian crossing of Hibernia Road with high visibility marked crosswalk and flashing warning device. Advance warning signage and proper striping should be provided to promote the visibility of the crossing.
 - Asphalt path on the west side of Hibernia Road between 1000' north of Cedar Knoll Road to Cedar Knoll Road.

➡️ Next Steps

- Interim Treatment: On-Road Shared Lane*
- Install pavement markings and signage for shared lane with Township Public Works forces or as part of the Township's paving program or another roadway/trail project.
- Preferred Treatment: Off-Road Path*
- Develop a conceptual plan and cost estimate for the off-road path.
 - Identify funding for design and/or construction of the off-road path.
 - Coordinate with property owners to obtain necessary easements for the path.

Legend

- Struble Trail System
- Lands Owned or Eased by Land Trusts
- Hibernia Park Trail Network
- Chester County Agricultural Easements
- Trail Status**
- Existing
- Public Lands (Federal, State, County, and Municipal)
- Proposed
- Other Protected Lands



East-West: Hibernia Connector

BRANDYWINE CONSERVANCY

0 500 1,000 2,000 Feet

Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.
Map created: October 31, 2017

West - Hibernia Connector

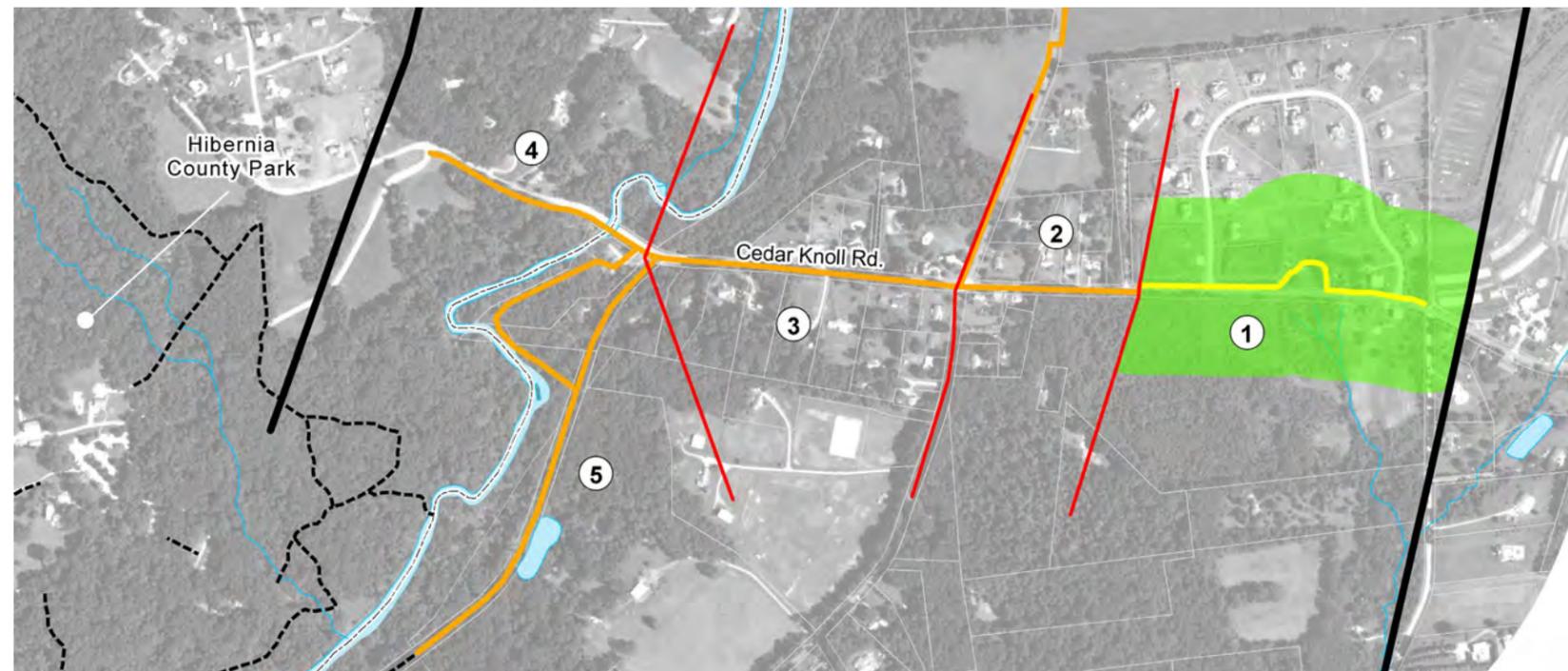
	W-HC-1	W-HC-2	W-HC-3	W-HC-4	W-HC-5
Status	Existing	Proposed	Proposed	Proposed	Proposed
Facility Type - Surface Material	Path - Asphalt	On-Road: Shared Lane <i>Note: Further evaluation of appropriate on-road facility treatments is necessary.</i>	On-Road: Shared Lane <i>Note: Further evaluation of appropriate on-road facility treatments is necessary.</i>	Path - Asphalt Striped shoulder - Existing roadway pavement on the bridge over the W. Branch of the Brandywine Creek	Path - Crushed Stone Path—Natural Surface along the east bank of the W. Branch of the Brandywine Creek
General Limits (east to west)	Gabel Road to 300' west of Mendenhall Drive (west)	300' west of Mendenhall Drive (west) to Hibernia Road	Hibernia Road to W. Branch Brandywine Creek	W. Branch Brandywine Creek to Park Road (Hibernia County Park Entrance)	Cedar Knoll Road to Rim Trail (existing) in Hibernia County Park
General Alignment	Cedar Knoll Road (north side)	Cedar Knoll Road	Cedar Knoll Road	Cedar Knoll Road (south side)	Abandoned railroad bed on east side of W. Branch Brandywine Creek
Property Needs / Coordination (minimal, moderate, major)	Minimal <i>Existing path</i>	Minimal <i>On-road facility</i>	Minimal <i>On-road facility</i>	Minimal <i>Two Chester County owned parcels (UPI 28-6-13 and 29-6-10)</i>	Moderate
Length (miles)	0.3	0.2	0.3	0.2	0.4

i Summary

📷 Existing Conditions

AREA	West
SECTION	Hibernia Connector
SEGMENT	1
STATUS	Existing
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt
GENERAL LIMITS	Gabel Road to 300' west of Mendenhall Drive (west)
GENERAL ALIGNMENT	Cedar Knoll Road (north side)
PROPERTY NEEDS / COORDINATION	Minimal <i>Existing path</i>
LENGTH	0.3 miles

- Existing 5' wide asphalt path on the north side of Cedar Knoll Road
- Grass buffer between the roadway and path
- Utility poles on the north side of Cedar Knoll Road



i Summary

📷 Existing Conditions

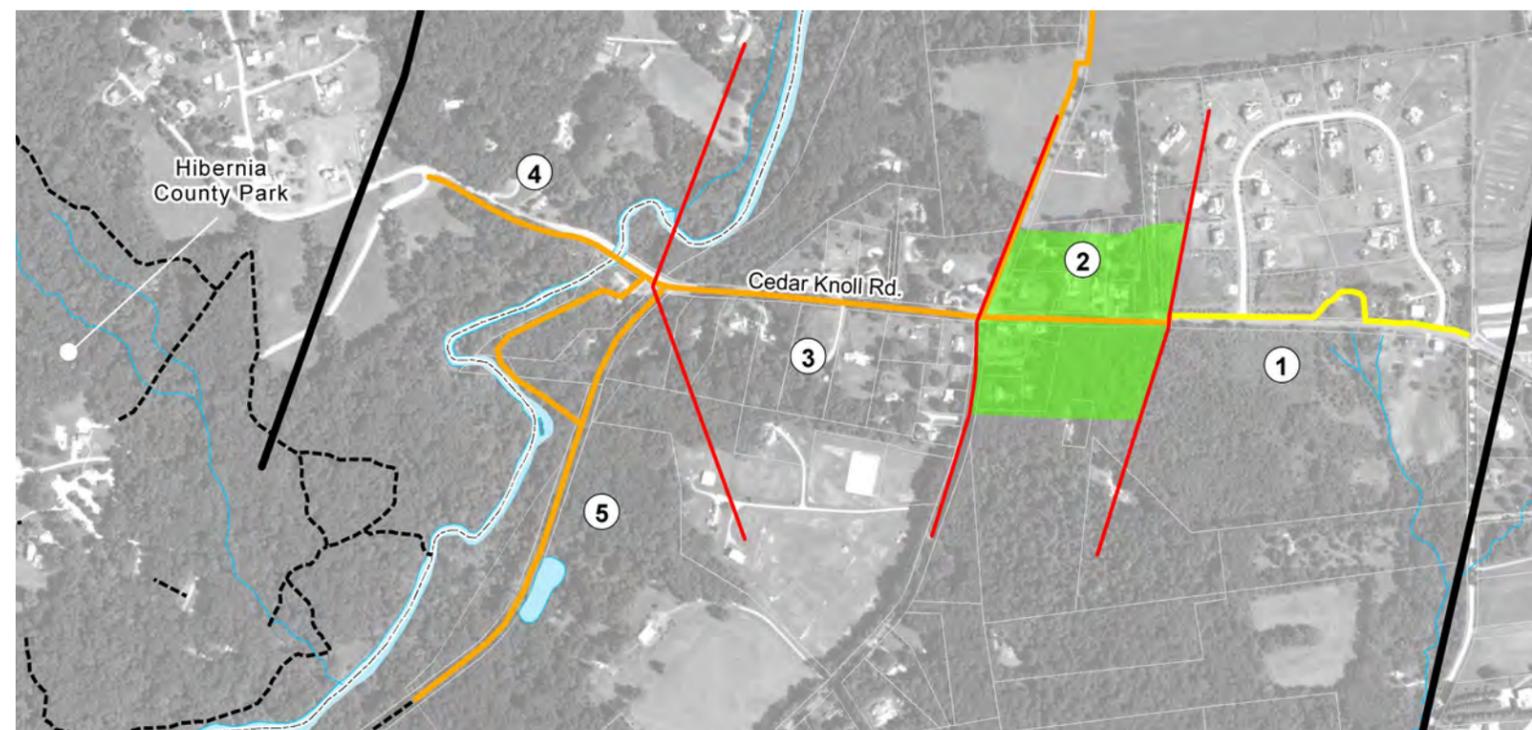
AREA	West
SECTION	Hibernia Connector
SEGMENT	2
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	On-Road: Shared Lane
GENERAL LIMITS	300' west of Mendenhall Drive (west) to Hibernia Road
GENERAL ALIGNMENT	Cedar Knoll Road
PROPERTY NEEDS / COORDINATION	Minimal <i>On-road facility</i>
LENGTH	0.2 miles

- Existing trail ends 300' west of Mendenhall Drive
- Narrow shoulders on Cedar Knoll Road
- Heavy vegetation (south side of Cedar Knoll and east of Hibernia Road intersection)
- Buildings and steep slopes close to the roadway at the intersection of Cedar Knoll Road and Hibernia Road
- Numerous residential driveways and mailboxes (north side of Cedar Knoll Road)
- Utility poles (north side of Cedar Knoll)
- 40 mph posted speed limit



🔊 Public Input

- At both community workshops, a conceptual plan for an off-road pedestrian path/sidewalk on the south side of Cedar Knoll Road for segments W-HC-2 and W-HC-3 was presented. (See page 3-54.)
- Residents living in this area and particularly along Cedar Knoll Road voiced their strong opposition to an off-road path along Cedar Knoll Road at both community workshops and in written comments.
- Based on public input received and concerns regarding potential impacts associated with the off-road pedestrian path/sidewalk, the preferred facility type for this segment was changed to an on-road shared lane facility. Further evaluation of specific on-road treatments is necessary.





Elements of Proposed Improvements

- Further evaluate options for providing an on-road facility through coordination with PennDOT, property owners, and the community. Potential options include shared lane pavement markings (sharrows) and signage, one-sided striped shoulder, or widened shoulders on both sides of Cedar Knoll Road. Minor roadway widening may be necessary to implement a safe on-road facility that can be used by bicyclists and pedestrians. Stormwater management improvements may also be necessary to address existing drainage issues and provide a safe on-road bicycle/ pedestrian facility.
- Lower the posted speed limit on Cedar Knoll Road to 35 mph through coordination with PennDOT.
- Identify potential traffic calming measures, especially at the eastern gateway. Additionally, provide routine speed enforcement and consider the installation of an electronic radar speed sign.



Next Steps

- Advance design and construction of W-HC-4 and W-HC-5 to provide a logical connection to Hibernia Park.
- Implement W-HC-2 in conjunction with W-HC-3.
- Evaluate options for providing an on-road facility.
- Coordinate with PennDOT, property owners, and the community during the evaluation of on-road facility options.
- Identify funding for design/construction of proposed improvements or opportunities to implement an on-road facility as part of a PennDOT roadway resurfacing or maintenance project.
- If necessary, advance design and permitting. Since Cedar Knoll Road (SR 4005) is a state-owned roadway, the project will require a PennDOT permit.
- Coordinate with PennDOT to lower the speed limit on Cedar Knoll Road to 35 mph.
- Monitor long term opportunities to provide enhancements to the selected on-road facility or an off-road pedestrian path/ sidewalk.

i Summary

AREA	West
SECTION	Hibernia Connector
SEGMENT	3
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	On-Road: Shared Lane
GENERAL LIMITS	Hibernia Road to W. Branch Brandywine Creek
GENERAL ALIGNMENT	Cedar Knoll Road
PROPERTY NEEDS / COORDINATION	Minimal <i>On-road facility</i>
LENGTH	0.3 miles

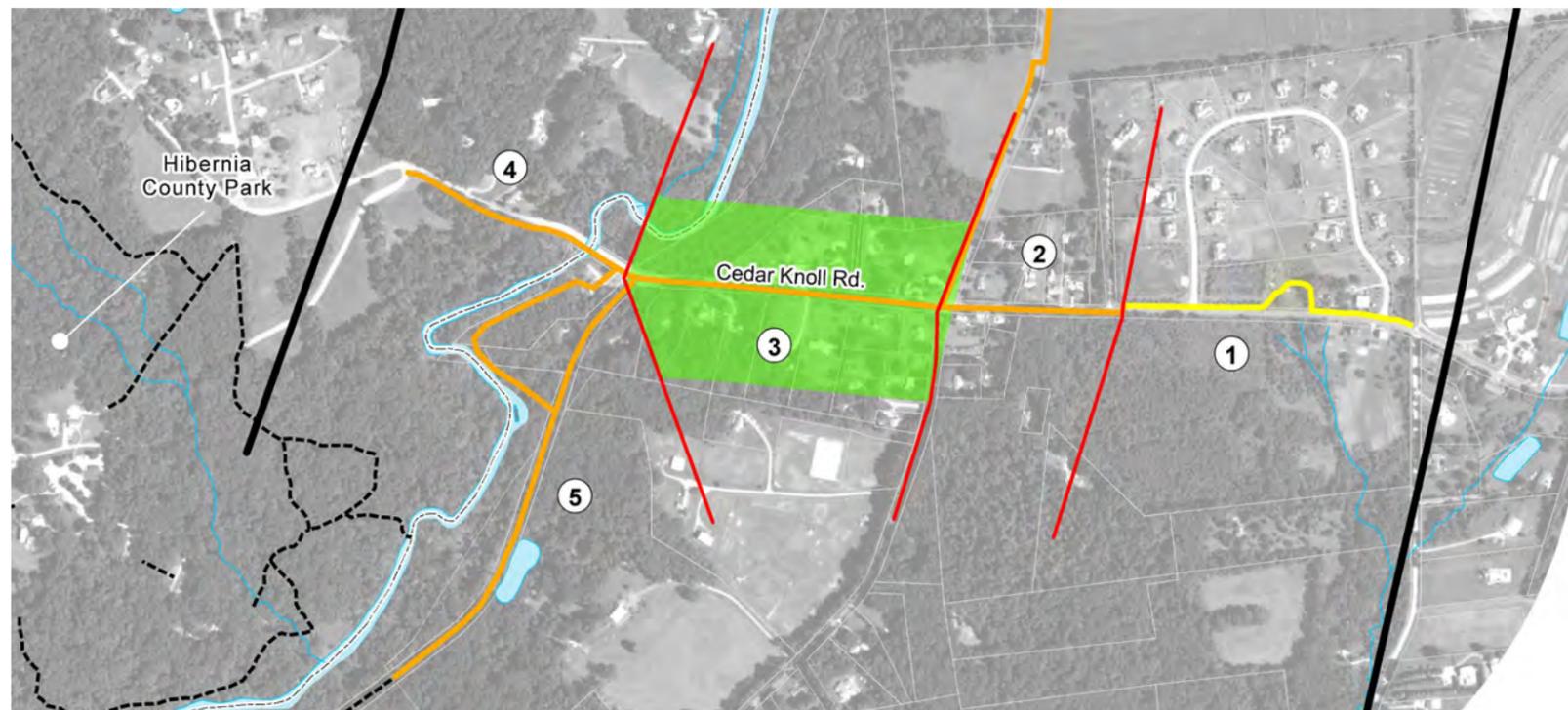
📷 Existing Conditions

- Narrow shoulders on Cedar Knoll Road
- Vegetation, including mature trees, and some steep slopes adjacent to the roadway (south side of Cedar Knoll Road)
- Numerous residential driveways and mailboxes (south side of Cedar Knoll Road)
- Utility poles (north side of Cedar Knoll)
- Issues with roadway drainage and stormwater management
- 40 mph posted speed limit



🔊 Public Input

- At both community workshops, a conceptual plan for an off-road pedestrian path/sidewalk on the south side of Cedar Knoll Road for segments W-HC-2 and W-HC-3 was presented. (See page 3-54.)
- Residents living in this area and particularly along Cedar Knoll Road voiced their strong opposition to an off-road path along Cedar Knoll Road at both community workshops and in written comments. (See Appendix A.)
- Alternative alignments to provide a connection to Hibernia Park were evaluated. (See Appendix B.)
- Based on public input received and concerns regarding potential impacts associated with the off-road pedestrian path/sidewalk, the preferred facility type for this segment was changed to an on-road shared lane facility. Further evaluation of specific on-road treatments is necessary.





Elements of Proposed Improvements

- Further evaluate options for providing an on-road facility through coordination with PennDOT, property owners, and the community. Potential options include shared lane pavement markings (sharrows) and signage, one-sided striped shoulder, or widened shoulders on both sides of Cedar Knoll Road. Minor roadway widening may be necessary to implement a safe on-road facility that can be used by bicyclists and pedestrians. Stormwater management improvements may also be necessary to address existing drainage issues and provide a safe on-road bicycle/ pedestrian facility.
- Lower the posted speed limit on Cedar Knoll Road to 35 mph through coordination with PennDOT.
- Identify potential traffic calming measures, especially at the eastern gateway. Additionally, provide routine speed enforcement and consider the installation of an electronic radar speed sign.



Next Steps

- Advance design and construction of W-HC-4 and W-HC-5 to provide a logical connection to Hibernia Park.
- Implement W-HC-3 in conjunction with W-HC-2.
- Evaluate options for providing an on-road facility.
- Coordinate with PennDOT, property owners, and the community during the evaluation of on-road facility options.
- Identify funding for design/construction of proposed improvements or opportunities to implement an on-road facility as part of a PennDOT roadway resurfacing or maintenance project.
- If necessary, advance design and permitting. Since Cedar Knoll Road (SR 4005) is a state-owned roadway, the project will require a PennDOT permit.
- Coordinate with PennDOT to lower the speed limit on Cedar Knoll Road to 35 mph.
- Monitor long term opportunities to provide enhancements to the selected on-road facility or an off-road pedestrian path/ sidewalk.

W-HC-2 & 3

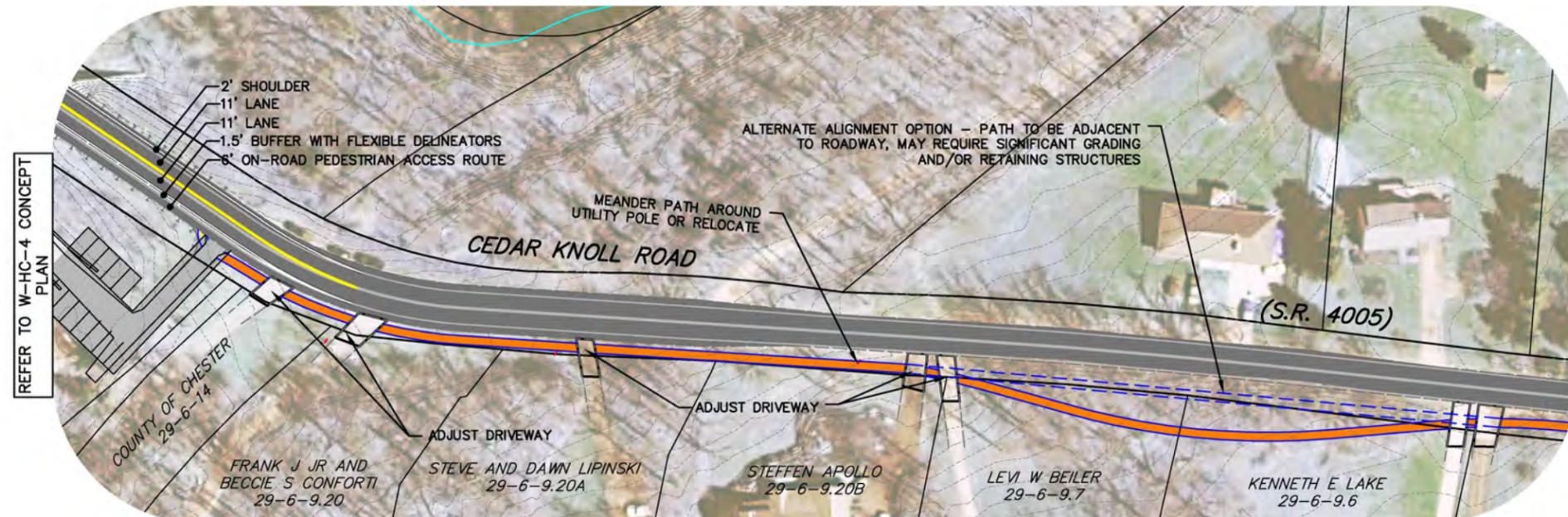
West - Hibernia Connector - 2 and 3 Conceptual Plan

Note: This conceptual plan and cost estimate for an off-road pedestrian path/sidewalk was presented at two community workshops and is included in this report for informational purposes. The preferred facility type for W-HC 2 & 3 was changed to an on-road facility based on public input and potential impacts.

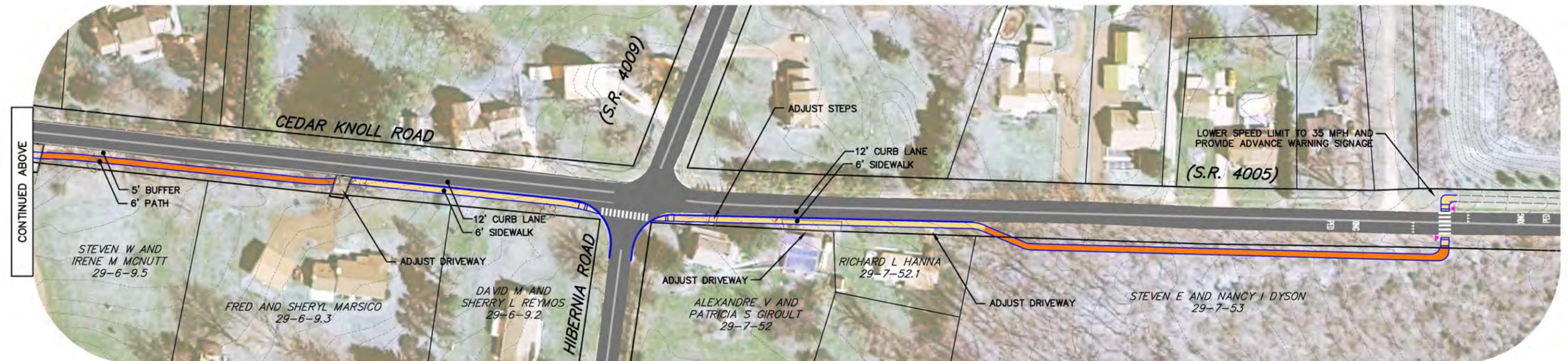
Cost Estimate

	W-HC-2	W-HC-3
Engineering & Permitting	\$ 98,000	\$ 112,000
Right-of-Way	\$ 25,000	\$ 58,000
Construction & Inspection	\$ 374,000	\$ 427,000
TOTAL (2017 Dollars)	\$ 497,000	\$ 597,000

Note: See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans



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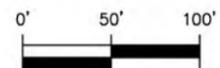
LEGEND

	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
					EXISTING UTILITY POLE

NOTES:

- EXISTING CONDITIONS DEPICTED ON THE CONCEPTUAL DESIGN EXHIBIT ARE BASED ON GIS DATA, AERIAL PHOTOGRAPHY AND LIMIT FIELD MEASUREMENTS ONLY.
- LEGAL RIGHT-OF-WAY LINES AND PROPERTY LINES ARE ESTIMATED BASED ON GIS DATA. LEGAL RIGHT-OF-WAY LINES OR PROPERTY LINES HAVE NOT BEEN INDEPENDENTLY VERIFIED THROUGH FIELD SURVEY OR TITLE/DEED RESEARCH.
- THIS EXHIBIT DOES NOT DEPICT REQUIRED EASEMENT LINES (TEMPORARY OR PERMANENT) WHICH WILL LIKELY BE REQUIRED FOR THE CONSTRUCTION OF THE TRAIL. THE SIZE AND LOCATION OF ALL EASEMENTS WILL NEED TO BE DETERMINED DURING THE PRELIMINARY ENGINEERING OF THE PROJECT.

SCALE



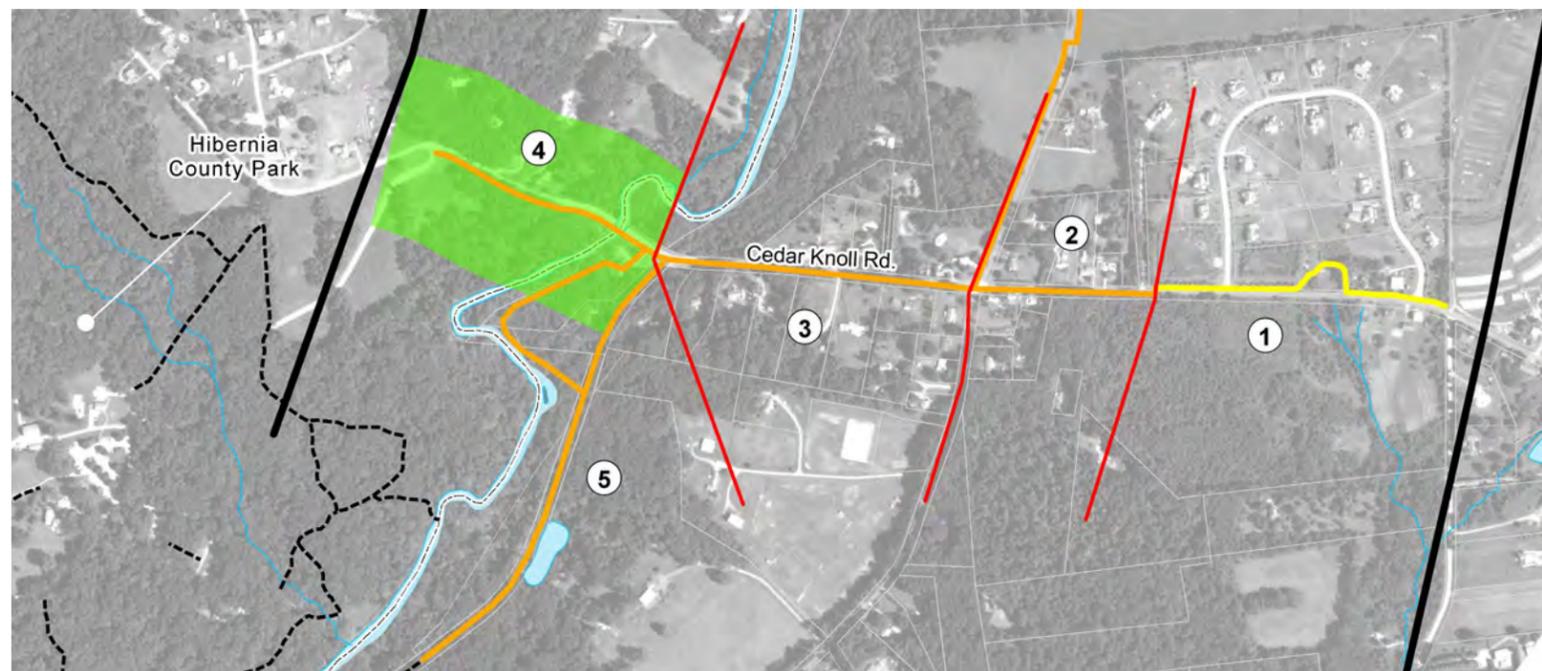
i Summary

📷 Existing Conditions

AREA	West
SECTION	Hibernia Connector
SEGMENT	4
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path - Asphalt Striped shoulder—Existing roadway pavement on the bridge over the West Branch of the Brandywine Creek
GENERAL LIMITS	W. Branch Brandywine Creek to Park Road (Hibernia County Park Entrance)
GENERAL ALIGNMENT	Cedar Knoll Road (south side)
PROPERTY NEEDS / COORDINATION	Minimal <i>Two Chester County owned parcels (UPI 28-6-13 and 29-6-10)</i>
LENGTH	0.2 miles

- Existing state-owned bridge carries Cedar Knoll Road over the West Branch of the Brandywine Creek. The bridge is 31.5' wide and includes two travel lanes, shoulders, and concrete barriers on the outer edges.
- Future trailhead parking lot just east of the West Branch of the Brandywine Creek with access via Cedar Knoll is proposed by Chester County.

- Steep slopes adjacent to the roadway, particularly west of the West Branch of the Brandywine Creek.
- Utility poles cross from the south side to the north side of Cedar Knoll Road, just west of the West Branch of the Brandywine Creek.
- 40 mph posted speed limit





Elements of Proposed Improvements



Cost Estimate



Next Steps

- See W-HC-4 Conceptual Plan on the next page.
- Asphalt path on either side of the Cedar Knoll Road Bridge over the West Branch of the Brandywine Creek, connecting to the future trailhead parking lot on the east end and Hibernia County Park entrance on the west end.
- Safety rail/fence between the path and steep slopes to the east of the Hibernia County Park entrance.
- Based on coordination with PennDOT District 6-0, consider utilizing the existing bridge carrying Cedar Knoll Road over the West Branch of the Brandywine Creek for a pedestrian connection. Restripe the existing travel lanes to provide a wider shoulder for pedestrians on the south side and possibly provide a physical barrier with appropriate end treatments between the pedestrian access route and travel lanes. The specific width of the travel lanes and shoulders, as well as the type and design of any barrier between the travel lanes and shoulder, will need to be reviewed and approved by PennDOT. (See typical section below is a graphical representative of this concept.)

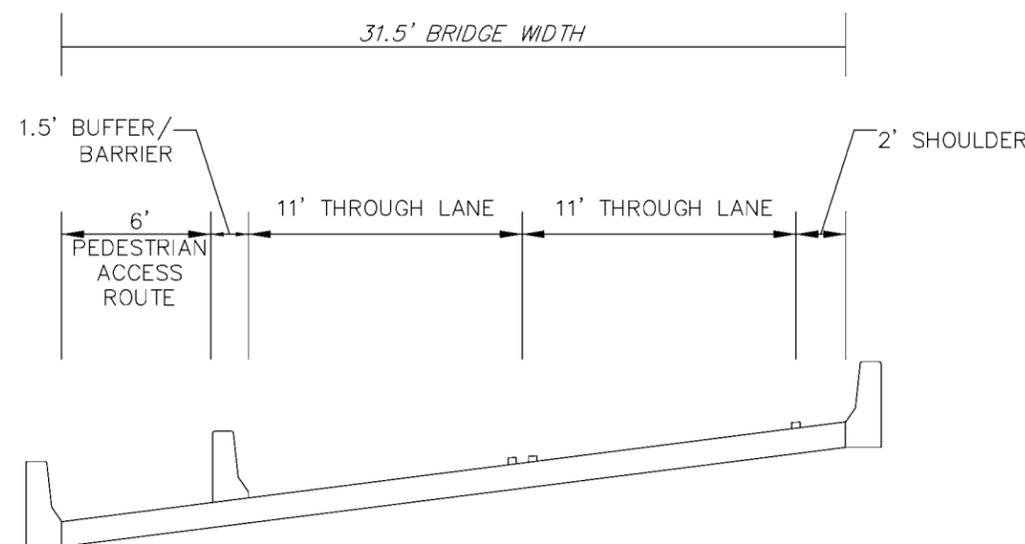
Engineering & Permitting	\$ 183,000
Construction & Inspection	\$ 841,000
TOTAL (2017 Dollars)	\$ 1,024,000

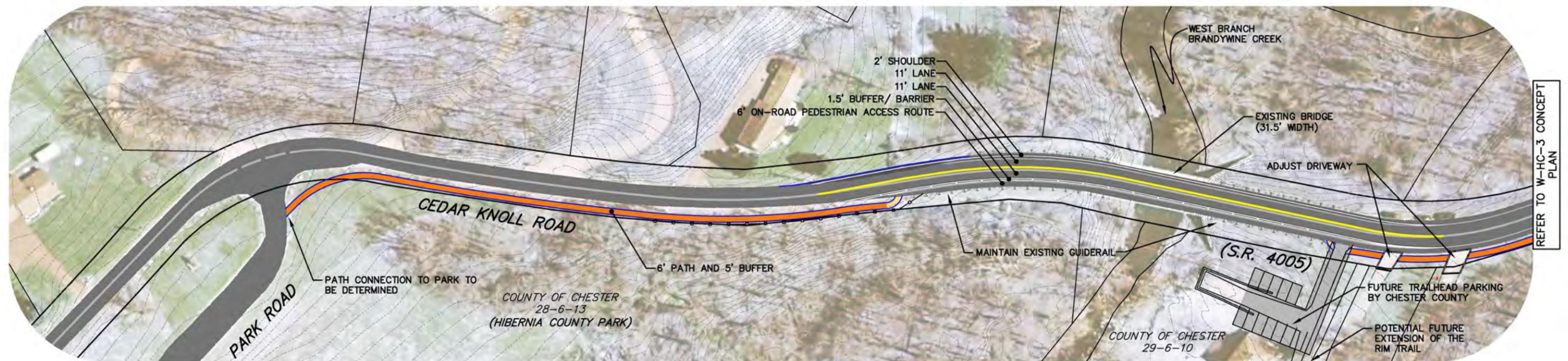
Note:

- The cost estimate includes a single face concrete barrier with architectural finish to match the existing Cedar Knoll Road bridge. If this type of barrier is not required or used, the cost could be reduced by up to \$400,000.
- See Appendix D—Engineer’s Conceptual Opinion of Cost for Capital Projects with Conceptual Plans

- Coordinate with Chester County regarding the design and construction of the proposed trailhead parking lot and future trail connections within Hibernia County Park.
- Coordinate with Chester County to further evaluate the potential of providing a trail bridge for bicyclists and pedestrians to cross the West Branch of the Brandywine Creek within Hibernia County Park, as an alternative to utilizing the existing Cedar Knoll Road bridge.
- Identify funding for design and/or construction. For budgeting purposes, an adjustment for inflation should be applied to the construction and inspection cost, once an anticipated year of construction is identified.
- Coordinate with the PennDOT Bridge Unit related to the installation of a new barrier on the structure, with respect to the additional loading on the structure and the attachment between the structure and barrier.
- Coordinate with PennDOT and Chester County to advance design and permitting. Since Cedar Knoll Roadway (SR 4005) is a state-owned roadway and modifications to an existing state-owned bridge are proposed, the project will require a PennDOT permit. Additionally, a PennDOT Maintenance Agreement may be required for segments of the path built within PennDOT’s right-of-way. Coordinate with the DEP for any required permits for work adjacent to the creek or on the existing bridge.
- Plan for long-term future trail connections north along the West Branch of the Brandywine Creek and/or former railroad corridor.

Typical Section for Cedar Knoll Road near the West Branch of the Brandywine Creek





REFER TO W-HC-3 CONCEPT PLAN

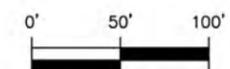
LEGEND

	PROPOSED ASPHALT PATH		PROPOSED CURB		EXISTING CURB
	EXISTING ASPHALT PATH		PROPOSED SIDE-MOUNTED FLASHING WARNING DEVICE		EXISTING EDGE OF PAVEMENT
	PROPOSED CEMENT CONCRETE ADA CURB RAMP		PROPOSED PAVEMENT MARKINGS		EXISTING PAVEMENT MARKINGS
	PROPOSED NEW GRASS AREA		PROPOSED SAFETY RAIL (FENCE)		EXISTING CONTOUR (2 FOOT INTERVAL)
	PROPOSED BOARDWALK OR PEDESTRIAN BRIDGE		PROPOSED OVERHEAD FLASHING WARNING DEVICE		EXISTING RIGHT-OF-WAY LINE
					EXISTING PROPERTY LINE
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SCALE



i Summary

📷 Existing Conditions

➡ Next Steps

AREA	West
SECTION	Hibernia Connector
SEGMENT	5
STATUS	Proposed
FACILITY TYPE— SURFACE MATERIAL	Path—Crushed Stone Path—Natural Surface along the east bank of the W. Branch of the Brandywine Creek
GENERAL LIMITS	Cedar Knoll Road to Rim Trail (existing) in Hibernia County Park
GENERAL ALIGNMENT	Abandoned railroad bed on east side of W. Branch Brandywine Creek
PROPERTY NEEDS / COORDINATION	Moderate
LENGTH	0.4 miles

- Existing Rim Trail to the south within Hibernia County Park.
- Abandoned railroad bed is partially intact.
- Chester County owns a significant portion of the abandoned rail line, but does not own property providing access to Cedar Knoll Road.

- Coordinate with Chester County regarding implementation of the natural surface path (or hiking trail) along the east bank of the W. Branch of the Brandywine Creek and planned trailhead parking lot on County owned property.
- Coordinate with Chester County to advance design and permitting for the crushed stone path along the abandoned rail line to Cedar Knoll Road. The County will need to secure right-of-way or easements for this path and will take the lead on implementation.
- Coordinate with Chester County regarding a new trail crossings of the West Branch of the Brandywine Creek within Hibernia County Park to better connect this path with the trail network within the park.
- Plan for long-term future trail connections north along the West Branch of the Brandywine Creek and/or former railroad corridor.





Chapter Four: Actions

Connecting Key Destinations

Implementation of the East-West Trail has begun, as there are several segments of existing trail and other areas where trail easements have been secured. Continued implementation of the trail will likely occur in a phased approach over time. With an initial focus of building logical connections to key destinations along the trail route, the larger link between the Struble Trail and Hibernia County Park will be made once all of the sections are complete. Priorities for implementation should start or emanate from the key destinations, including the Struble Trail, East Brandywine Township Park, Guthriesville/ Applecross Community, West Brandywine Township Park, and Hibernia County Park. These destinations were the basis for the limits of the six sections identified in Chapter Three.

The priority segments for implementation within each of the six sections are further described below and highlighted on the **Table of Priority Segments and Action Items** and **Implementation Map** on the following pages. Refer to the trail segment profiles presented in Chapter Three for additional details on the next steps identified for each segment.

Struble Connector Section

Implementation of the Struble Connector should start in the east at the Struble Trail and continue westward along the preferred alignment. The highest priority segment in the Struble Connector section is to advance design and construction of E-SC-1, which includes a new trail bridge over the East Branch of the Brandywine Creek to connect the Whittaker Memorial Trailhead Park and the proposed trailhead parking in East Brandywine Township with the Struble Trail in Uwchlan Township. The next step is to identify funding for design and construction of this segment. Potential funding sources include Greenways, Trails, and Recreation Program; C2P2; Chester County Open Space – Municipal Grants Program; and PECO Green Region.

Community Park Section

With the goal of linking residential areas with the East Brandywine Township Community Park and the Brandywine-Wallace Elementary School, the Community Park Section should be implemented from west to east, starting at the park. The next logical connection is to provide a link through the Brandywine-Wallace Elementary School property, known as segment is E-CP-5. This will require coordination with the Downingtown Area School District, since a path through the school property was not initially favorable to the School District. Part of the coordination with the School District should include evaluation and identification of a preferred alignment and design features for the path. Once planning and coordination for E-CP-5 is advanced, path

and on-road facilities to the east can be designed and constructed sequentially.

Guthriesville Section

Linking to the existing trail network in the Applecross development is a priority with the Guthriesville Section. Therefore, the improvements proposed as part of the Maplevue land development project, or segment E-CG-2, are the top priority for implementation. Key next steps for this segment include monitoring the design and progress of the pedestrian crossing of US 322 and sidewalk and path connections within the Maplevue development. Once a safe crossing is provided across US 322, the other two segments in this section can be advanced simultaneously.

Beaver Creek Section

Implementation of the Beaver Creek Section should start in the east, focusing first on providing a connection to the existing trails within the Applecross community with the design and construction of W-BC-1, W-BC-2, and W-BC-3. Given potential land development activity, a priority for implementation is evaluating and determining the preferred alignment through the property for segment W-BC-2. This may require coordination with the property owner/developer.

W-HT-2 is the priority segment for implementation in the Historic Trail Section of the East-West Trail starting at the West Brandywine Township. For this connection between the Community Park and Cedar Knoll Road, one option is to provide an on-road shared lane facility as a first step and interim treatment while funding is identified to develop a detailed conceptual plan and cost estimate for the off-road path.

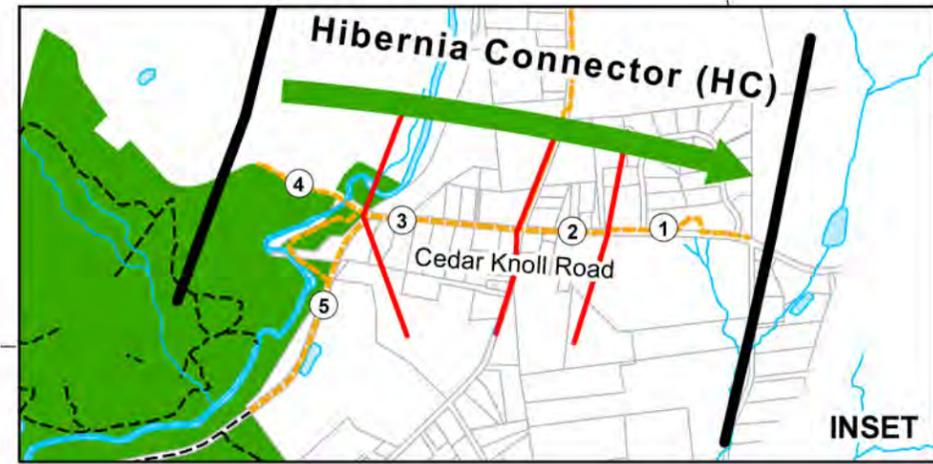
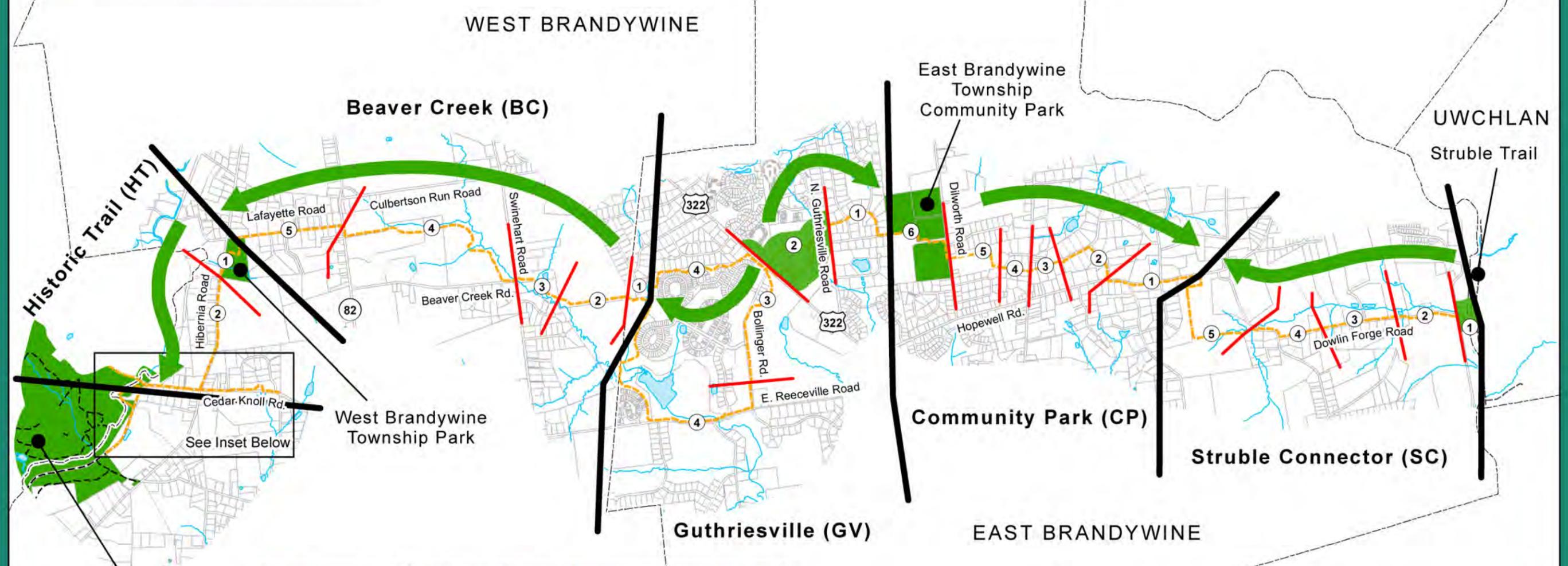
Implementation of the Hibernia Connector Section should be done through close coordination with Chester County regarding plans for Hibernia County Park. In particular, the County is planning a trailhead parking lot on Cedar Knoll Road and potential trail connections to the Rim Trail. Once the specific alignment for trail connections to Hibernia County Park are determined, implementation can be advanced for segments to the east, including W-HC-3 and W-HC-2.

Table of Priority Segments and Action Items

Section	Hibernia Connector (HC)	Historic Trail (HT)	Beaver Creek (BC)	Guthriesville (GV)	Community Park (CP)	Struble Connector (SC)
Segments for Implementation (<i>listed in priority order</i>)	<ol style="list-style-type: none"> 1. W-HC-4 or W-HC-5 2. W-HC-3 3. W-HC-2 	<ol style="list-style-type: none"> 1. W-HT-2 	<ol style="list-style-type: none"> 1. W-BC-2 2. W-BC-1 3. W-BC-3 4. W-BC-4 5. W-BC-5 	<ol style="list-style-type: none"> 1. E-GV-2 2. E-GV-1 3. E-GV-3 	<ol style="list-style-type: none"> 1. E-CP-5 2. E-CP-4 3. E-CP-3 4. E-CP-2 5. E-CP-1 	<ol style="list-style-type: none"> 1. E-SC-1 2. E-SC-2 3. E-SC-4 4. E-SC-5
Priority Action Item	<ul style="list-style-type: none"> - Coordinate with Chester County regarding design and construction of the proposed trailhead parking lot on Cedar Knoll Road and potential trail connections to the Rim Trail in Hibernia County Park, including W-HC-5 	<ul style="list-style-type: none"> - Implement interim treatment of an on-road shared lane for W-HT-2 - Identify funding for development of a conceptual plan and cost estimate for an off-road path for W-HT-2 	<ul style="list-style-type: none"> - Coordinate with the property owner and prospective developer regarding the preferred alignment and design features for W-BC-2, including future connections to the east and west 	<ul style="list-style-type: none"> - Monitor implementation of E-GV-2 as part of an active land development project 	<ul style="list-style-type: none"> - Coordinate with the Downingtown Area School District regarding the preferred alignment and design features for E-CP-5 	<ul style="list-style-type: none"> - Identify funding and advance design and permitting of E-SC-1 and E-SC-2. - Coordinate with Chester County regarding the design of E-SC-1
Page References for Priority Segment Profile	3-55 to 3-58	3-46	3-38	3-32	3-26	3-6 to 3-8
Primary Responsible Parties	<ul style="list-style-type: none"> - West Brandywine Township 	<ul style="list-style-type: none"> - West Brandywine Township 	<ul style="list-style-type: none"> - West Brandywine Township 	<ul style="list-style-type: none"> - East Brandywine Township 	<ul style="list-style-type: none"> - East Brandywine Township 	<ul style="list-style-type: none"> - East Brandywine Township - Uwchlan Township

Legend

- Trail Study Divider
- Section
- Segment
- Trail Alignment
- Implementation Nodes



East-West Trail: Implementation

BRANDYWINE CONSERVANCY

0 0.25 0.5 1 1.5 Miles

Data Source: Base data from CHESCO Data Distribution CD, 12/2016
Aerial data from NAIP, 2015.

Disclaimer: This map is for illustrative purposes only and does not constitute a valid survey.
Map created: October 31, 2017

Potential Funding Sources

Identification of funding is a critical next step to advance further planning, design, or construction of the East-West Trail segments. There are numerous public funding sources at the federal, state, regional, and county levels that could be appropriate and applicable for various action items. The Table of Current Competitive Grant Programs for Bicycle and Pedestrian Facilities highlights some of the current grants available for planning, design, and/or construction of various bicycle and pedestrian facilities. Each grant program has different eligible projects and uses of funds, matching requirements, and timelines for implementation.

The four programs listed at the top of the table are the best match to support design and construction of the East-West Trail. Recreational trails are eligible projects for these four programs and municipalities are eligible sponsors. Construction of bicycle and pedestrian facilities are eligible for federal funding through the Transportation Alternatives Set Aside and the Congestion Mitigation and Air Quality (CMAQ) programs. Key evaluation criteria for both programs is supporting multimodal transportation. Therefore, segments that provide connections between residential areas and schools, shops, and the regional trail network will likely be more competitive for these programs. The two Multimodal Transportation Fund (MTF) programs administered separately by Commonwealth Financing Authority (CFA) and PennDOT provide funding for a range of transportation improvements with a focus on supporting economic development and job creation. Municipalities and private developers are both eligible applicants for the MTF programs. Trail segments that are proposed as part of land development projects might be more competitive for these two programs. Finally, the Transportation and Community Development Initiative (TCDI) and Vision Partnership Program (VPP) are two grant programs that fund transportation planning activities and could be pursued for conceptual planning for select segments or for developing an overall wayfinding plan for the East-West Trail.

Table of Current Competitive Grant Program for Bicycle and Pedestrian Facilities

Program – Administering Agency	Program Details	Design/ Construction	Plans
Greenways, Trails and Recreation Program (GTRP) – Commonwealth Financing Authority (CFA) with DCED & DCNR	– Annual competitive grant program for state funds (Act 13) – 15% match; \$250,000 maximum – 2 - 3 year timeframe to complete the grant funded activities	✓ Trails	
Community Conservation Partnerships Program (C2P2) – DCNR	– Annual competitive grant program – Various federal and state funds – 50% match	✓ Trails	
Chester County Open Space – Municipal Grants Program – Chester County Open Space Preservation	– Annual competitive grant program for County funds – 50% match; \$100,000 to \$250,000 maximum for development grants – 3 year timeframe to complete the grant funded activities	✓ Trails	
PECO Green Region Program – Natural Lands Trust	– Annual competitive grant program for private funds – 50% match; \$10,000 maximum – 18 month timeframe to complete the grant funded activities	✓ Trails	
Transportation Alternatives Set Aside – PennDOT – Delaware Valley Regional Planning Commission (DVRPC)	– Federal transportation funds – Match requires funding all pre-construction activities – \$50,000 minimum and \$1 million maximum – 2 year timeframe to complete design, right-of-way, and utility clearance	✓	
Congestion Mitigation and Air Quality (CMAQ) – Delaware Valley Regional Planning Commission (DVRPC)	– Federal transportation funds – Match requires funding all pre-construction activities	✓	
CFA/DCED – Multimodal Transportation Fund (MTF) – Commonwealth Financing Authority (CFA)	– Annual competitive grant program for state funds (Act 89) – 30% match; \$100,000 minimum; \$3 million maximum – 2 – 3 year timeframe to complete the grant funded activities	✓	
PennDOT – Multimodal Transportation Fund (MTF) – PennDOT	– Annual competitive grant program for state funds (Act 89) – 30% match (based on grant award); \$100,000 minimum; \$3 million maximum – 3 year timeframe to complete the grant funded activities	✓	
Transportation and Community Development Initiative (TCDI) Program – Delaware Valley Regional Planning Commission (DVRPC)	– Competitive grant program for federal transportation funds – 20% match; \$25,000 minimum; \$100,000 maximum – 2 year timeframe to complete the grant funded activities		✓
Vision Partnership Planning (VPP) Program – Chester County Planning Commission	– Biannual competitive grant program for County funds – 30% match; \$50,000 maximum for plans or ordinances and \$30,000 maximum for planning studies – 1–3 year timeframes to complete grant funded activities, depending upon the type of project		✓

Most of the grant programs require matching funds. In addition to the general operating funds, both East and West Brandywine Townships may have funds available for trail implementation through the collection of Earned Income Tax (EIT) for open space and fees-in-lieu of the dedication of recreational facilities for land development activities.

Other Action Items

In addition to pursuing funding and advancing planning, design, and construction of specific segments of the East-West Trail, there are several overarching activities that will support implementation of the East-West Trail and expand the network of connected bicycle and pedestrian facilities in the area.

Support continued proactive trail planning through established municipal Trail Committees

Both East and West Brandywine Townships have active Trail Committees that are leading the planning and development of trail connections within each municipality and beyond. While the East-West Trail should continue to be a focus for trail planning and development in the Townships, the two Trail Committees should also continue to plan for other near term and long term trail connections in the Township. Other trail connections can support access to the East-West Trail. The Trail Committee can also assist with developing plans and policies for future trail operations and maintenance.

Update Township plans and ordinances

The sponsor municipalities should consider updating plans and policies to recognize and incorporate the East-West Trail preferred alignment and facility types. In order to be consistent, the sponsor municipalities should consider the following plan and ordinance updates.

East Brandywine Township

- Update the Official Map to depict the preferred alignment of the East-West Trail.

West Brandywine Township

- Incorporate the East-West Trail into the Comprehensive Plan during the next update (beginning December 2017)
- Revise the Township’s Streets and Sidewalks and/or Sub-division

and Land Development Ordinance to define the facility types identified in this plan and provide design standards for each facility type proposed in the Township.

Uwchlan Township

- Update the Official Map to show the proposed new trail bridge and connection across the East Branch of the Brandywine Creek.

Develop an East-West Trail Wayfinding Master Plan

East Brandywine, West Brandywine, and Uwchlan Township should continue to work together to develop a unique identity, logo, wayfinding, and interpretative signage for the East-West Trail. Wayfinding will be especially important for some existing portions of the trail, such as the trail networks in East Brandywine Community Park, Applecross Community, and West Brandywine Park. The Wayfinding Master Plan can be done in advance or after some additional segments of the trail are constructed.

Coordinate with Chester County on connections to the County’s Struble Trail and Hibernia Park

Chester County, which owns and maintains both the Struble Trail and Hibernia Park, is a key partner for implementation of the East-West Trail. The three sponsor municipalities should continue to coordinate regularly with the Chester County—Facilities and Parks Department regarding the County’s plans at each anchor for the East-West Trail.

Coordinate with PennDOT

Opportunities to implement improvements along the East-West Trail Route may be identified through continued coordination with PennDOT District 6-0. Additional coordination with PennDOT will be required for the design and permits for improvements within the right-of-way along state owned roadways. Additionally, flashing warning devices and improvements at signalized intersections will require PennDOT’s approval.

Coordinate with land owners and developers

Property owners and developers are important potential partners for implementation. The sponsor municipalities should continue to engage property owners on design features that address concerns related to safety and privacy. Additionally, the Townships should work closely with developers during the land development process to have segments of the trail constructed and integrated into new land development projects.

Coordinate with neighboring municipalities and Chester County on future regional trail connections

The sponsor municipalities should coordinate with neighboring municipalities and Chester County to support expansion of the regional trail network, including extensions of the Struble Trail and future trail connections to Hibernia County Park.

Plan for future trail operations and maintenance

As construction for new trail segments begins, the sponsor municipalities should coordinate to provide consistent guidelines for trail use and operations. Once additional segments of the trail are constructed, there may be a need to educate motorists and trail users about trail use and safety. In addition, the sponsor municipalities should collaborate regarding ongoing trail maintenance, particularly for the porous pavement. For example, the municipalities may want to jointly purchase or share a vacuum system to maintain the pavement’s effectiveness. All three Townships should plan and budget for future trail operations and maintenance.