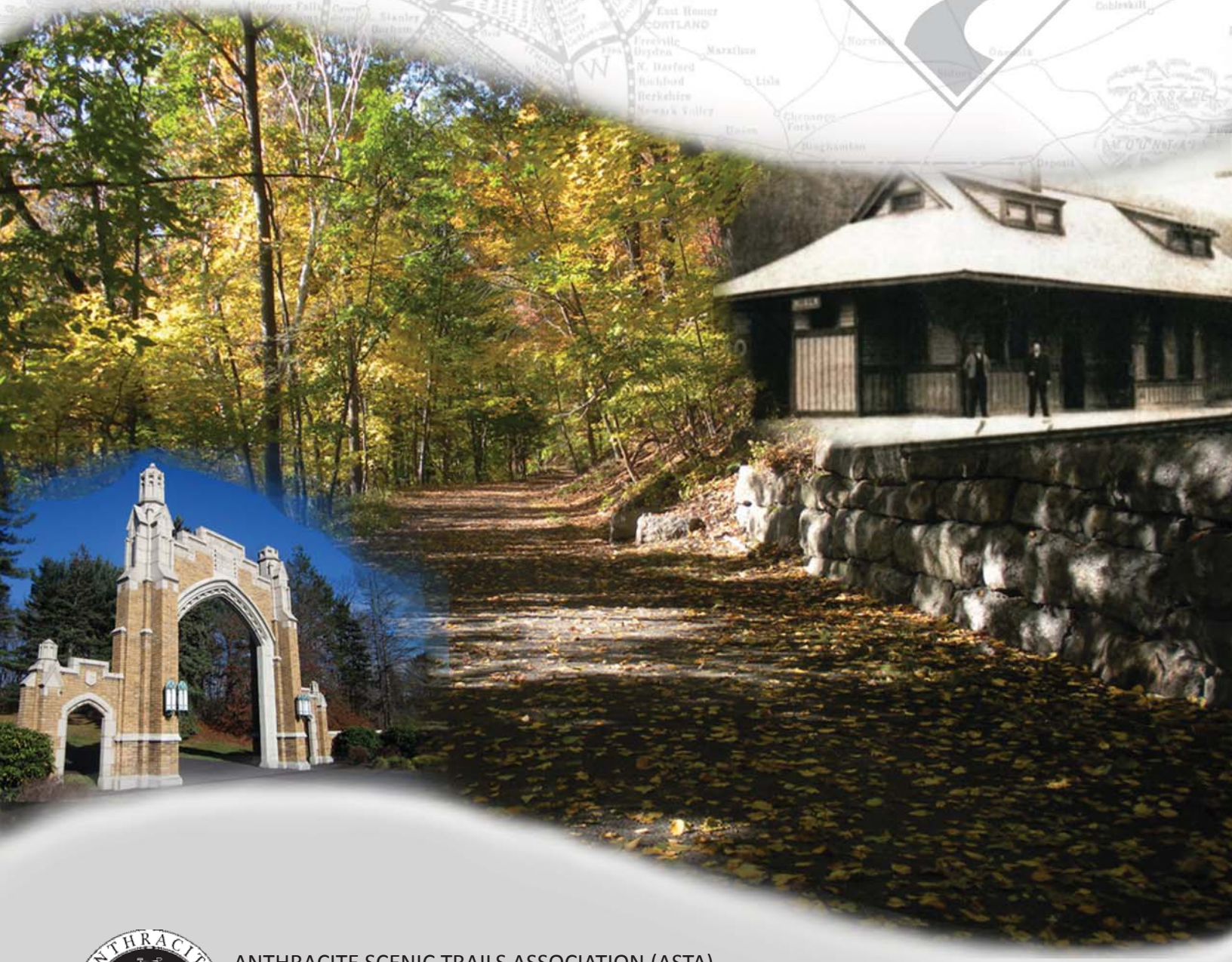
Back Mountain Trail Feasibility Study/Master Plan



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BACK MOUNTAIN TRAIL MASTER PLAN/FEASIBILITY STUDY

PREPARED FOR:

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I. Executive Summary



The Lehigh Valley Railroad had historic importance within the Back Mountain Region and today its abandoned ROW has importance as a catalyst for continued development of the Back Mountain Trail. Where accessible and intact, the railroad corridor provides the most cost-effective, and most direct route for ASTA's proposed trail between Dallas, Noxen and Ricketts Glen State Park.

The Anthracite Scenic Trails Association (ASTA) is a non profit volunteer group of trail supporters who have joined together to promote and coordinate the acquisition, preservation and conservation of abandoned and out of service railroad rights of way (ROW) into recreation trails.

One important historic railway that has been a focus for ASTA is the Lehigh Valley Railroad (LVRR). In 1963, thirty-three years after this railroad Right-of-Way (ROW) was abandoned, ASTA managed to acquire easements and recorded deeds within Luzerne County for public use of several portions of this corridor, which were transformed into the Back Mountain Trail.

The Back Mountain Trail is the first rails-to-trails project in Luzerne County. It is overseen by the Back Mountain Trail Council who is in charge of operations, maintenance, volunteer events and all other business related to the trail. The documented success of the Back Mountain Trail has energized ASTA and the Back Mountain Trail Council and has facilitated the establishment of an even loftier goal - to extend the trail from Dallas, past Harveys Lake and Noxen, to near Ricketts Glen State Park.

The Lehigh Valley Railroad had historic importance within the Back Mountain Region and today its abandoned ROW still has importance as a catalyst for continued development of the Back Mountain Trail. Where accessible and intact, the railroad corridor provides the most cost-effective, and most direct route for the proposed trail between Dallas, Noxen and Ricketts Glen State Park.

With expansion, the Back Mountain Trail has the potential to become an important recreation and destination trail that spans across and connects several boroughs and townships within both Luzerne and Wyoming Counties. The trail can provide ample recreation, transportation, and education opportunities within several environments and habitats, ranging from urban/suburban to rural and wooded.

This project contains components of both a master site plan and a feasibility study as dictated by PA DCNR. The project is centered on the Lehigh Valley Railroad ROW; however, to allow for flexibility, the study area was expanded to a corridor approximately 1/2 mile wide on each side of the rail line. By widening our study area, in the areas of non-feasible ROW sections, the adjacent land was investigated for alternate bypass routes to maintain a contiguous proposed trail.

First, analysis and planning was required to determine the conditions, the ownership and the availability of the old rail line ROW to become the main backbone of the Back Mountain Trail extension. Developing a trail on the entire length of the ROW was considered non-feasible due to private property issues and physical constraints, uncovered during the planning process. Many sections of the ROW are completely removed or destroyed by new development and structures, and several intact portions are owned privately by owners not interested in the trail on their property. However, several long sections were deemed feasible and have plenty of potential for a trail.

The Wilkes-Barre, Dallas, and Harveys Lake Railroad Trolley ROW was also investigated for an alternative route to connect the center of Harveys Lake with the center of Dallas; however, the majority of this ROW has also been lost to private ownership and residential development and was classified as non-feasible. Regardless, a trail alternative route around the southern tip of Harveys Lake was still proposed because this provides potential for a loop trail around the lake - a great selling point for the Trail and a potential asset for the community. The route would follow dirt roads (“share the road”) and utilize a newly constructed trail through hilly, woodland terrain overlooking the Lake.

An important component of this plan was public participation, mainly because a large portion of the trail ROW was privately owned. In order to increase public involvement several techniques were used: development of a well-rounded study committee; public and municipal meetings; distribution, collection and analysis of user surveys; key person interviews; field walks open to the public; meetings with ASTA; and the use of email, mail and websites to disseminate information. All of the information received via letters and meetings provided a basic consensus: there is an interest in having a trail in the Back Mountain, however, there are concerns over privacy for residents and safety between pedestrians and vehicles. The cumulative outcomes from public participation guided the alignment of the Back Mountain Trail and the preparation of this plan. Specific to this project, the public and municipal meetings, the study committee meetings and the user surveys were the most effective techniques used to gain insight and help direct this planning process.

For the Back Mountain Trail Extension, the vision was to create a trail that utilizes as much of the abandoned rail line ROW as possible to make important community connections through several municipalities. The proposed trail starts just above Lower Demunds Road in Dallas Township, at the end of the existing Back Mountain Trail, and terminates at Mountain Spring Lake in Ross Township, near Ricketts Glen State Park. It connects the hubs of Dallas, Misericordia University, Harveys Lake, Noxen, and many other points of interest along the way. To best describe the trail extension, the plan is broken into four main sections: from Dallas to Misericordia University, Misericordia University to Harveys Lake, Harveys Lake to Noxen, and Noxen to Mountain Spring Lake.

The proposed trail follows along the LVRR ROW as closely as possible while utilizing the public ROWs to replace areas of the old rail line that were considered non-feasible. The proposed trail uses the LVRR ROW from Lower Demunds Road until PA 309 where it deviates from the ROW and follows alongside State Route 309 with a few alternative routes that connect to New Goss Manor and the Dallas School District Campus. The proposed trail then works its way to Lake St. via lightly traveled side streets through downtown Dallas Borough where it connects to various shops, restaurants, and businesses.

From this location, the proposed trail follows alongside the ROW on Lake Street until it reconnects with the LVRR ROW on Mercy Center Drive, near Misericordia University. Connections to the University are made in this area and will likely be one of the most used sections of the trail. From here, the trail follows the old rail line through Fern Knoll Burial Park and then veers off the LVRR ROW into a wooded area before crossing Country Club Road. The primary route follows the ROW until it connects with Lake Street once again. An alternative route follows hillside contours and utilizes a utility ROW before emerging at Lake Street. From here, the trail route follows the ROW on Lake Street, Kunkle Road, and Lakeside Drive. Signage and street improvements would be needed here to increase safety. Possibilities exist for offshoots from the Back Mountain Trail extension to outlying areas, which facilitates creation of a broader reaching trail network.

The proposed trail route leaves Lakeside Drive and continues on the ROW through the abandoned Hanson's Amusement Park. This is one of the key areas on the trail as great opportunities exist to develop and utilize the parkland to create a welcoming, interpretive and enjoyable place that would become highly used. The trail passes between a mobile home court and private landowners before reconnecting with the ROW that follows State Route 29 into Wyoming County.

The proposed trail, from here until it terminates at Mountain Spring Lake, follows mostly on the ROW or on seldom used roads for the rest of its route. The ROW is used until it reaches Noxen where the proposed trail follows local roads. Alternative routes and connections exist but are not proposed in this section of the trail. At Mountain Spring Lake the proposed trail terminates at a trail head while connecting to the Ricketts Glen State Park trail network.

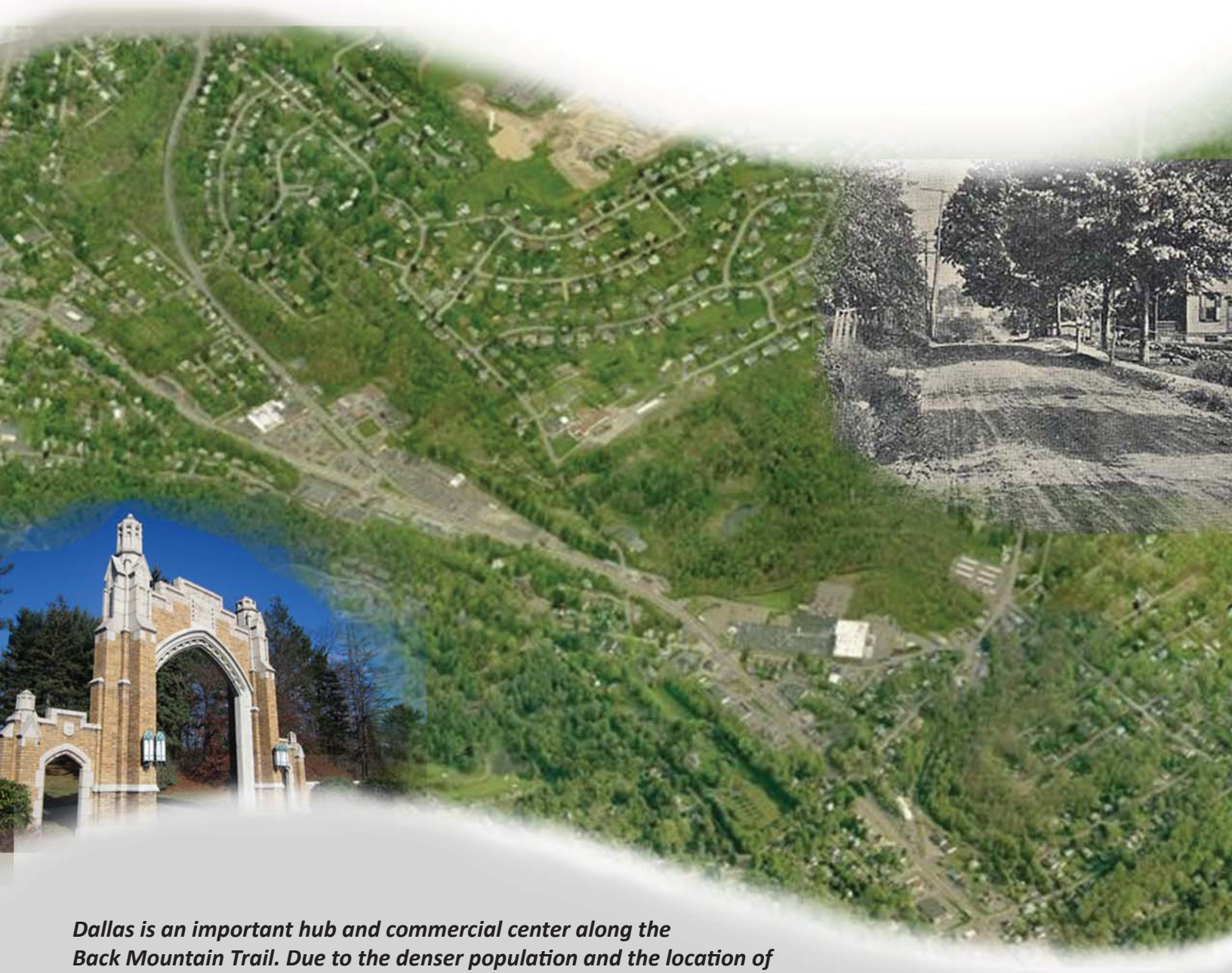
In order to build this trail many discussions and partnerships are required between ASTA and municipalities, as well as, with property owners. These partnerships may involve outright acquisition and/or agreements (easements) for property use, security, safety, operations and maintenance. To move forward with trail development, it is best to break the trail into phases that can be developed over time. It is crucial to start getting some portions of trail built because progress breeds momentum. The most common ways to prioritize trail development are: focus on the areas of least resistance and areas of known partnerships; or areas that are crucial to the overall success, goals and connectivity of the trail.

The section from the existing Back Mountain Trail to Misericordia University is the first phase because of it's proximity to the existing trail, as well as, its connections to downtown Dallas. The next phase is from Mountain Spring Lake to Noxen due to the small amount of resistance for the trail, already established partnerships with the Commonwealth and interest that can be gained from Ricketts Glen visitors. The next connection is between Noxen and Harveys Lake, leaving the section from Dallas to Harveys Lake as the last phase of the trail. This section of trail was placed as the last phase due to the higher percentage of constraint areas with private properties. Over time and after construction of previous phases, there is potential for increased interest and momentum in the trail, which may now encourage fruitful partnership with landwonwers in phase 4. Additionally, other routes that are currently unknown may present themselves or sections along the proposed route may become available.

Additionally, to gain an understanding of the costs associated with building the trail an opinion of probable cost was developed. The total project costs may be upwards of $7,633,844.68. However, some of the largest priced items, such as land acquisition and easements, can change greatly depending on property ownership and land value. A better understanding of the cost to build the trail can be understood once appraisals of each of the properties are conducted, as well as, agreements with current property owners. Even though the cost for building the trail is shown to be about $305,350.00 per mile, this has much variability and really depends on which section is being constructed. This unique trail may utilize dirt roads, a downtown Dallas streetscape, the existing railroad ROW, an asphalt shoulder, or a new stone dust trail, which can greatly impact construction costs.

Future development of the Back Mountain Trail will not be easy, particularly within Dallas and Harveys Lake. Many obstacles exist, most notably agreements with private property owners. However, the Back Mountain Trail has the potential to link communities, provide a strong, marketable asset for these communities, and create recreational opportunities for everyone in the surrounding area.

II. Introduction



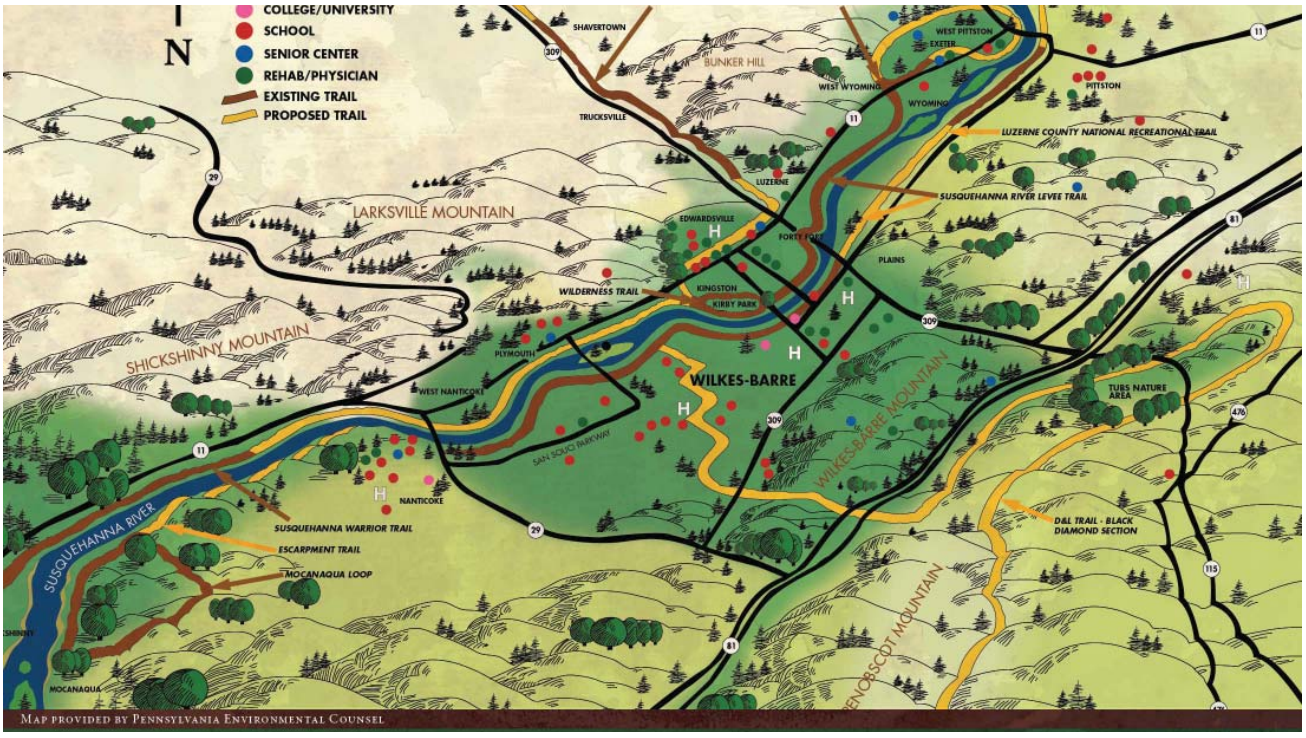
Dallas is an important hub and commercial center along the Back Mountain Trail. Due to the denser population and the location of Misericordia University, the demand for and the potential use of the trail is higher in this area.

ASTA and the Back Mountain Trail

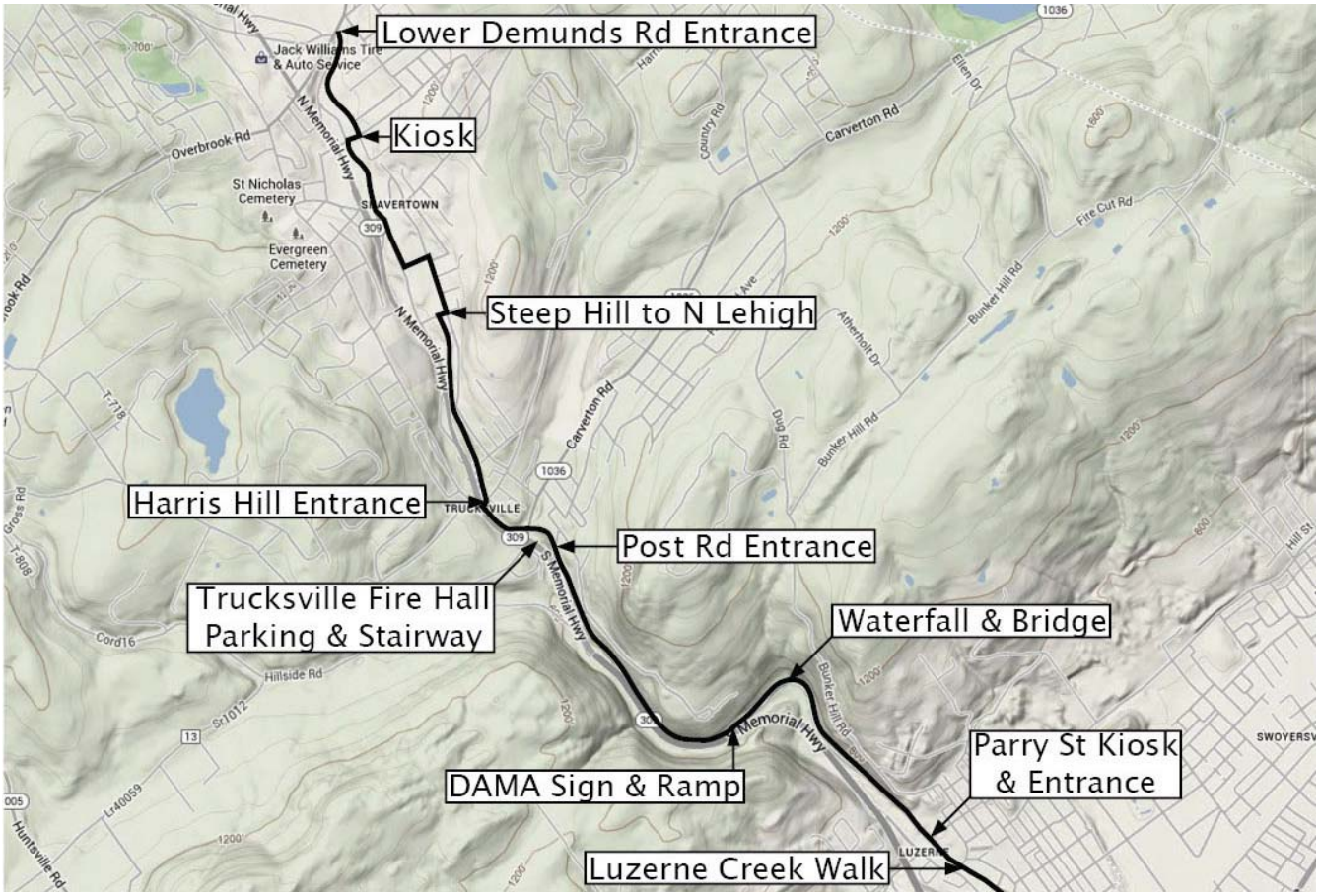
The Anthracite Scenic Trails Association (ASTA) is a non-profit volunteer group of trail supporters who have joined together to promote and coordinate the acquisition, preservation and conservation of abandoned and out of service railroad rights of way (ROW) into recreation trails. The trails are located within the Susquehanna River Valley and currently connect to or have the potential to connect with the Pocono Mountains and the Endless Mountains. By transforming these rights of way into a network of linear trails/parks, ASTA seeks to preserve and protect natural resources, historic landmarks, and scenic beauty; to promote appropriate forms of transportation; and ultimately, to connect with the developing state and national trail networks (regional connectivity) (1).

One important historic railway that has been a focus for ASTA is the Lehigh Valley Railroad (LVRR). Thirty-three years after this railroad Right-of-Way (ROW) was abandoned, in 1963, ASTA managed to acquire easements and recorded deeds within Luzerne County for public use of several portions of this corridor. The conversion of "rails to trails" was initiated in 1996 and 2.2 miles were constructed, which enabled bicyclists and pedestrians safe access through a mountain "cut" between the Wyoming Valley and the Back Mountain communities. This trail was named the Back Mountain Trail. Two more miles of trail were constructed in 2009 and helped extend the trail from Luzerne Borough to Lower Demunds Road in Dallas Township (2).

The Back Mountain Trail is the first rails-to-trails project in Luzerne County and it is overseen by the Back Mountain Trail Council who is in charge of operations, maintenance, volunteer events and all other business related to the trail. The documented success of the Back Mountain Trail has energized ASTA and the Back Mountain Trail Council and has facilitated the establishment of an even loftier goal - to extend the trail from Dallas, past Harveys Lake and Noxen, to near Ricketts Glen State Park.



The map above depicts potential trails that the Back Mountain Trail can connect to, which would greatly increase overall regional connectivity (3).



Existing conditions/layout of the Back Mountain Trail. The trail currently ends at Lower Demunds Road (4).

Project Goal and Study Purpose

The Back Mountain Trail has the potential to become an important recreation and destination trail that spans across and connects several boroughs and townships within both Luzerne and Wyoming Counties. The trail can provide recreational opportunities within several environments and habitats, ranging from urban/suburban to rural and wooded.

The goal is for continued expansion of the Back Mountain Trail through the Back Mountain, making more widespread and regional connections to hubs like Harveys Lake and Noxen, all the way to Ricketts Glen State Park. Additional connections will be made between commercial areas throughout downtown Dallas up to Misericordia University, connecting students with shops and restaurants in the town. The trail transcends strictly recreational benefits, and facilitates economic vitality and fosters alternative transportation options. Connections to hubs, commercial centers, community facilities, as well as, natural features and nature adds to the value of this trail.

The abandoned Lehigh Valley Railroad corridor, which traversed the area, has the potential for conversion into a trail and it represents the preferred and most optimal route. However, analysis and planning is required to determine the conditions, the ownership and availability of this old rail line to become the main backbone of the Back Mountain Trail extension. This planning effort, with public involvement, is essential to identify the best route for the Back Mountain Trail between Lower Demunds Road in Dallas Township and Mountain Spring Lake near Ricketts Glen State Park.

This project was financed in part by a grant from the Community Conservation Partnerships Program, Keystone Recreation Park and Conservation, under the administration of the Pennsylvania Department of Conservation and Natural Resources (DCNR), Bureau of Recreation and Conservation, with matching funds provided by Luzerne County.

This project contains components of both a master plan and a feasibility study; PA DCNR defines these types of studies as follows:

Feasibility Study

A feasibility study is a professionally prepared study to determine community support, market characteristics, physical/structural assessment, the legal feasibility and financial capability to acquire, develop or rehabilitate, manage and sustain a property (5). For this report, the study centered on the old Lehigh Valley Railroad (LVRR) Right-of-Way (ROW) that historically stretched from downtown Dallas to Mountain Spring Lake near Ricketts Glen State Park. This feasibility study determined which sections of the ROW were still feasible and able to be converted into a trail by ASTA. This information was then used to create a trail alignment for the extension of the Back Mountain Trail through Dallas to Mountain Spring Lake.

Master Plan

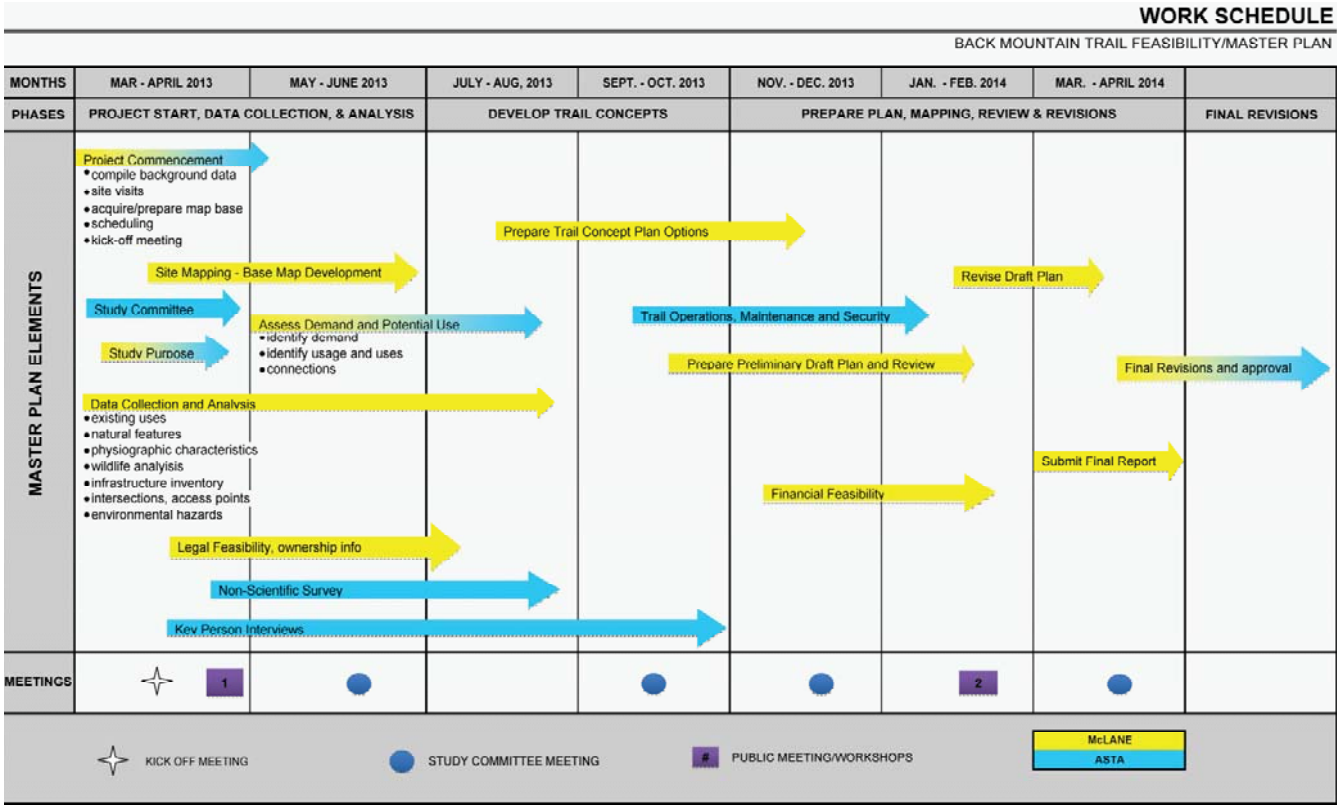
A master plan is a site-specific study that includes an analysis of site information activities, facilities, maintenance, and operations. These studies lead to completion of a site development drawing in conformance with current design standards and cost estimates for the full development or redevelopment of a trail or other recreational-use sites (6).

The master site planning process has several standard elements defined by PA DCNR that are crucial for the development of a consensus planning document. In general, the process requires the compilation of background information, the incorporation of public input into the plan via several techniques (public meetings, user surveys, interviews, etc.) and the critical review of alternative concepts to identify a consensus plan.

A crucial portion of the planning process is an on-site investigation and the subsequent completion of a site inventory and analysis. This step helps with conceptual brainstorming, the determination of site assets and constraints, the identification of important natural and man made features, the identification of potential conflicts within the site or with adjacent land uses and it helps to uncover any factors that may hinder the future implementation and development of the trail.

Another deliverable of the planning process is preparation of a phased and itemized opinion of probable cost. This item will help ASTA make informed decisions about the feasibility of plan implementation, the allocation of resources and it provides financial milestones for fund-raising or when applying to funding agencies and grant programs. Finally, the planning process also discusses the opportunities for increased American with Disabilities Act (ADA) accessibility throughout the proposed trail extension.

PA DCNR views master site plans as “a research, public input and an analysis process that leads to a size type and location plan for the full development or redevelopment of a park site (trail corridor, in this case).” The end product of the master site plan process is a long-range, phased consensus planning document. By encouraging public input and ideas throughout this process, the desired outcome is not only development of the trail but the development of a sense of pride, usership and ownership.



Above is the project work schedule that depicts the scope of work and milestones.

Project Objectives

The first objective of the study is to conduct an inventory and analysis of the old railroad ROW, which is approximately 26 miles long, from Dallas to Ricketts Glen State Park. Many sections of the ROW is intact and the rail bed still exhibits the same overall characteristics as when the railroad stopped functioning, minus the tracks. Unfortunately for ASTA, several portions of the old rail line have been removed or destroyed with development and the majority of the intact ROW is currently privately owned. Due to variability in ownership and condition, a complete analysis on the ROW is an important component for determining feasibility and eventual preparation of a trail master plan.



Trail destination and proposed terminus: Mountain Spring Lake.

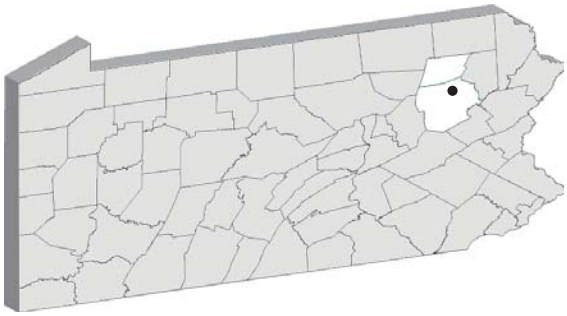
Once the ROW is analyzed, the next objective is the determination of the best trail alignment that connects destination points and at a minimum meets the two commencement/terminus goals - Lower Demunds Road and Mountain Spring Lake. Alternative routes that can bypass any documented 'non-feasible' sections of the ROW were considered as a means to connect as much of the feasible LVRR ROW as possible and to promote a contiguous trail.

Study Area

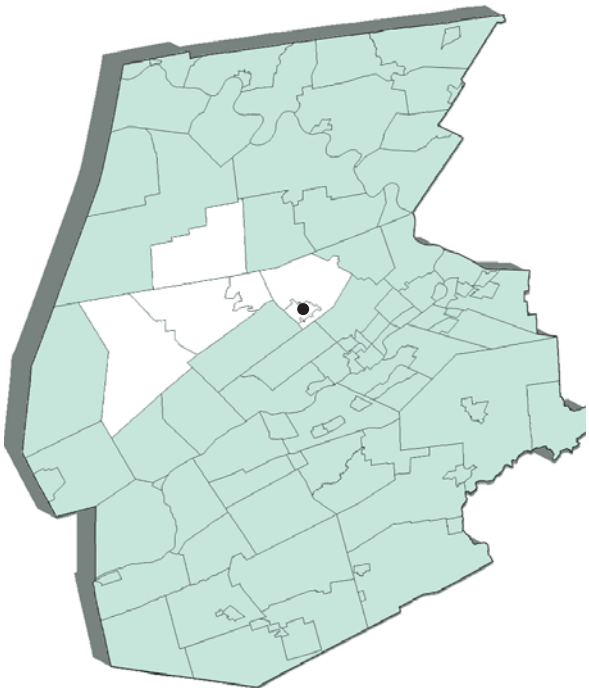
The right of way (ROW) under study is the Lehigh Valley Railroad. The old rail road, depicted in blue on the adjacent map, passes through Dallas, continues north to Harveys Lake and then into Wyoming County and Noxen before turning southwest, back into Luzerne County, through State Game Lands #57 and terminating near Ricketts Glen State Park. To allow for flexibility, the study area was expanded to a corridor approximately 1/2 mile wide on each side of the rail line. By widening our study area, in the areas of non-feasible ROW sections, we still searched adjacent land for alternate bypass routes to maintain a contiguous proposed trail. Searching for trail alignment further than a 1/2 mile did not make sense because, even if a viable route existed, it would divert the proposed trail too far from the ideal ROW alignment and the known destination points and hubs, as well as, increased trail length and overall costs.

There are no major boundaries for the proposed trail. The only restrictions set by ASTA's goals are meeting the two end locations (Lower Demunds Road and Mountain Spring Lake) and making important community connections along the way. The natural features that may become a constraint within portions of the study area are larger hills and Harveys Lake, which requires the trail to meander to avoid steep slopes and the Lake itself. The largest constraints for the ROW under study, is existing development that has demolished the ROW and current private ownership of the LVRR ROW.

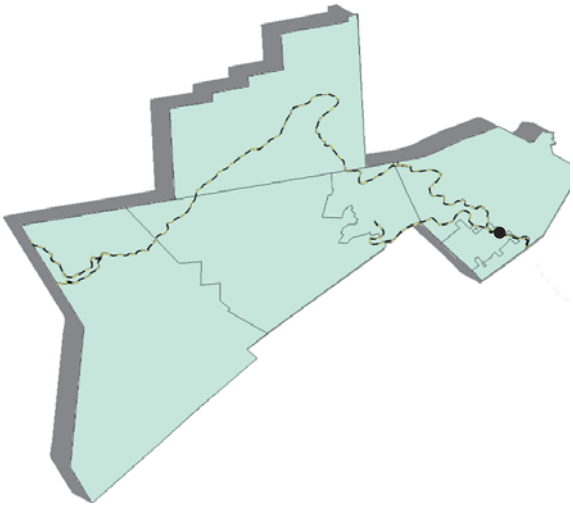
Transforming the old rail line into a useable trail ensures the existence of the ROW long into the future. Even as development continues to change the landscape of Luzerne and Wyoming Counties, the LVRR ROW can be a strong backbone that connects major population hubs to recreation and the regions important past.



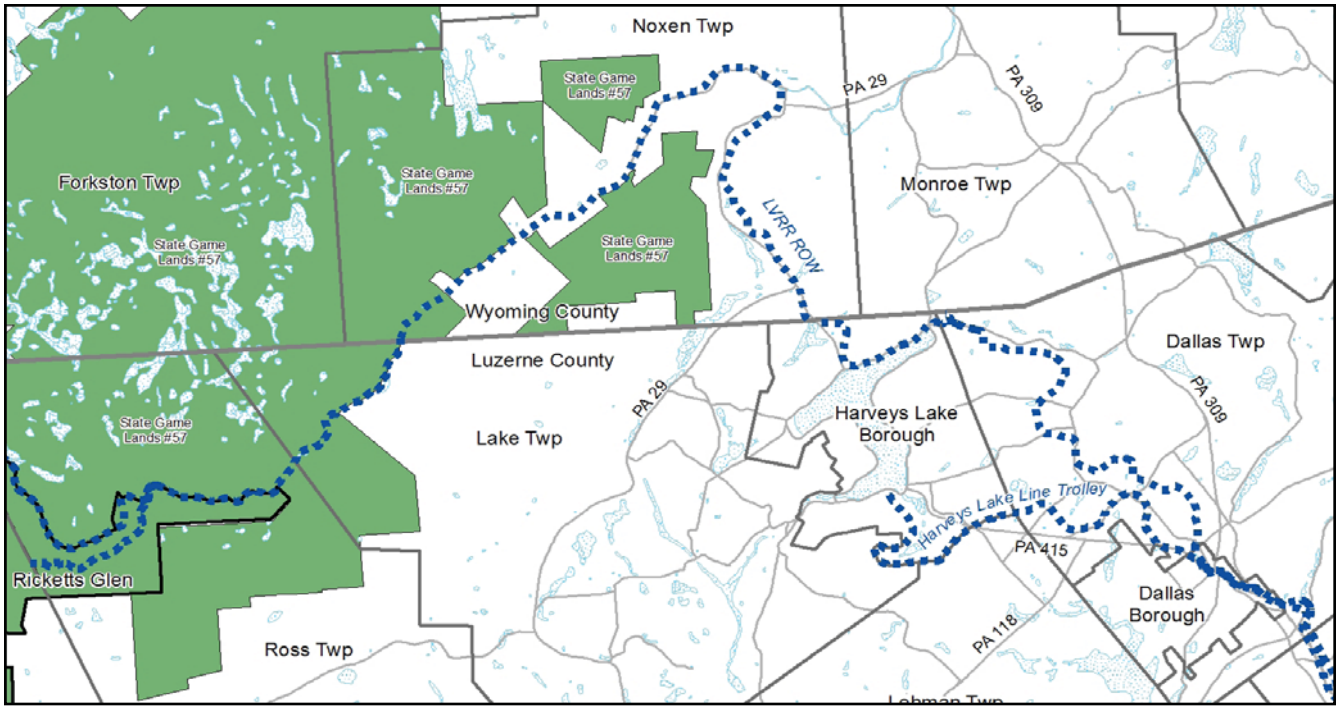
Statewide location of Dallas, PA.



Bi-county (Wyoming/Luzerne) location of Dallas, PA.



Municipal-level location of Dallas, PA.



The study area is a corridor, 1 mile wide, centered around the abandoned LVRR.

Study Limitations

A limitation of all planning documents is maintaining the relevance of the planning components over time and inevitable changes. This plan may lose relevance if conditions within the study corridor change, especially physical development of the ROW and property ownership. Even in the last few years there have been major changes, mostly centered around land acquisition and the willingness of private land owners to work with ASTA. Keeping abreast of changes within the LVRR ROW, which has potential for both positive and negative impacts on trail development, is crucial.

Additionally, one of the main sources of data used for this study was GIS. Despite the great amount of information that was gained through GIS, there are several constraints with this data including dated information and/or incorrect lines and property boundaries. During the study it was discovered that portions of the railline on GIS were located up to fifteen feet from the location where it actually ran.

During the study it was important to respect private property and follow the wishes of the owner if our presence was not welcome. However, this posed many issues when determining the conditions of the old ROW. In several sections the ROW was only able to be viewed from aerial maps or the public ROW, reducing the ability to visit all areas within the Study Area.

Finally, the large size of the study area posed several problems, including limiting the ability to make connections with every individual property owner and making it difficult to speak with all key stakeholders. Through letters and public meetings we tried to reach as many people as possible, however, a few letters were returned to sender (used GIS database addresses) and in many locations within Wyoming County there was no response from property owners, making it difficult to get their opinion on the trail alignment. However, workshops and meetings will be ongoing as the trail progresses into construction phases.

Study Organization

In the following chapters the characteristics of the ROW are broken down and described in both a generalized and more detailed fashion. General information is presented in Chapter III and the demand for and potential use of the trail is described in Chapter V. Public participation, which is crucial for a Feasibility Study/Master Plan is outlined in Chapter IV. The physical inventory and assessment chapter (Chapter VI) presents information attained during background research and field inventory along the ROW. The trail concept chapter (Chapter VII) explains and depicts the most feasible trail alignment for the Back Mountain Trail Extension. The subsequent chapters discuss a phased approach to trail development, cost estimates, funding, operation and maintenance (Chapters VIII & IX).

Chapter III: Background
Chapter IV: Public Participation
Chapter V: Demand for and Potential Use of the Trail
Chapter VI: Physical Inventory and Assessment of ROW
Chapter VII: Trail Concept Plan
Chapter VIII: Trail Operation, Maintenance and Security
Chapter IX: Phased Plan/Financial Feasibility

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III. Background



Noxen is an important destination along the Back Mountain Trail and this area highlights the more rural and wooded sections along the trail. There is also potential to connect with a historic train station being restored by the North Branch Land Trust.

Project Area History

Lehigh Valley Railroad

A portion of the Lehigh Valley Railroad is the focal point for this study. It extends from Dallas to Harveys Lake, up to Noxen and terminates at Mountain Spring Lake near Ricketts Glen State Park.

Chartered in 1846, the Lehigh Valley Railroad (LVRR) began as the Delaware, Lehigh, Schuylkill, and Susquehanna Railroad. Five years later, in 1851, through the efforts of Asa Packer, construction of a line between Mauch Chunk (Jim Thorpe, PA) and Easton, PA was initiated and it was completed in 1855. The railroad initially was a transporter of anthracite coal within the Lehigh Valley to cities such as Bethlehem, PA, Easton, PA, and Allentown, PA; however, extensions during the 1860s and 1870s expanded service from Buffalo, New York to Jersey City, New Jersey (1).

The LVRR became well-known for its passenger service as it acquired smaller railroads and connected various small towns with cities. The star of the LVRR fleet was the luxurious Black Diamond Express. In service from 1896-1959, the train had a full kitchen, smoking room, observation parlor, and plush passenger cars.

During World War I, the LVRR's New York City terminal was designated Pennsylvania Station by the United States Railroad Administration. Penn Station is now an icon located in the heart of New York City. The LVRR was bought by the Pennsylvania Railroad in 1962 after the LVRR suffered years of financial losses. Most of the passenger service was removed during this time and after filing for bankruptcy in 1970, much of the freight lines were removed from service as well. In 1976, the remainder of the LVRR came under control of Consolidated Rail (Conrail) with only a small line in operation in the Southern Tier of New York.



Ad for Black Diamond Express, circa 1900 (2).

The ROW studied during this Feasibility Study/ Master Plan, was originally built by businessman Albert Lewis in 1885. This line transported ice and timber to the Wyoming Valley. In 1887, Lewis sold this line to the Lehigh Valley Railroad. Interest in logging the vast forested land along Bowman Creek encouraged the LVRR to expand a section of railroad that connected Mountain Spring Lake to Noxen and it was completed by April 1892. Connections to other rail lines such as the Loyalsock Railroad and the Sullivan Railroad Company established an interconnected network throughout what is Ricketts Glen State Park today. The line remained in service until 1963 when the Pennsylvania Railroad took control of the struggling LVRR and shut down much of the railroads in the region (3).

Harveys Lake Trolley Line

Chartered in 1885, the Harveys Lake Railroad Company was organized by Albert Lewis. His strategic connection to the Lehigh Valley Railroad made the Harveys Lake RR part of a new route between the Wyoming Valley and New York State. The line opened in 1887 and connected the valley to the village of Alderson near Harveys Lake, however, it was sold to the LVRR later that year. In 1893, John B. Reynolds secured a charter for the Luzerne, Dallas, and Harvey's Lake Railway (LD&HL). This line was to connect with the West Side line in Luzerne; however difficulties arose during construction of the electric trolley line in 1895. Due to the geology of the area between the Valley and the Back Mountain, the least restrictive route was along Toby Creek. However, property owners, in particular Albert Lewis who owned a sizable amount of land in the Back Mountain, weren't amiable to having the railroad built. Also, due to the fact that the LD&HL was an electric railroad it didn't have the rights to eminent domain. A workaround to this was conceived by Reynolds by chartering a steam railroad - the Wilkes-Barre and Northern Railroad - which did have the rights to eminent domain. Afterwards, the rights to the LD&HL were transferred to this new company. Construction continued through 1897 when the line was finally completed.

The Wilkes-Barre and Northern Railroad's operation ended in the summer of 1898 with the foreclosure of the companies assets after financial troubles throughout the first year and a half of its operation. The company was reformed as the Wilkes-Barre, Dallas, and Harveys Lake Railroad (WBD&HL). This new railroad focused on passenger service transporting people from Luzerne to Trucksville and then to Dallas and Harveys Lake. Along the way it stopped at several parks, cemeteries, and towns such as Fernbrook Park in Dallas. The company operated until the late 1930s when factors such as the Depression, competing bus companies, and highway construction for automobiles steadily eroded the customer base. The WBD&HL ended service in 1939 (4).

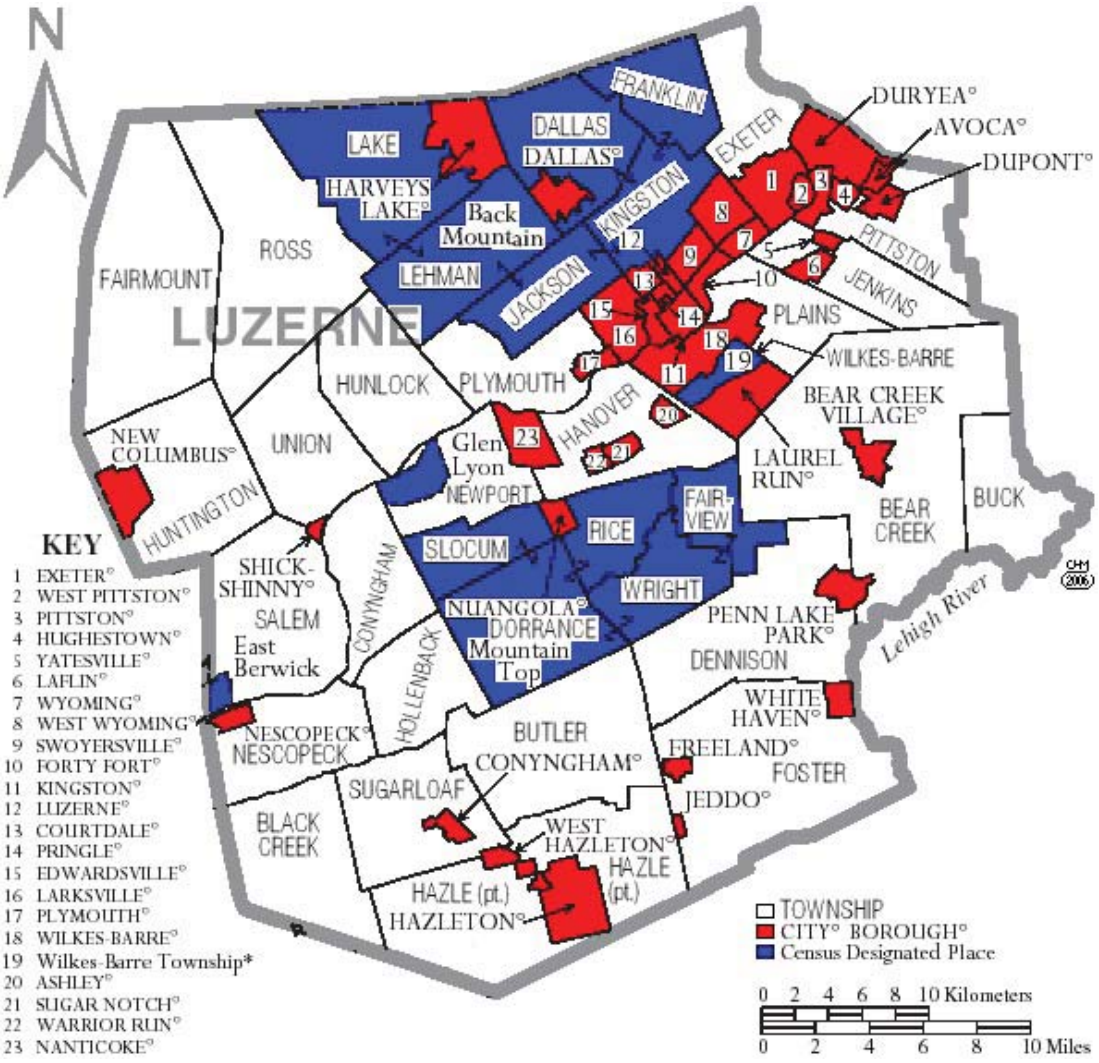


Harveys Lake Trolley at Outlet Station, circa 1910 (5).

General Information and Demographics - Luzerne County

Luzerne County is situated in Northeastern Pennsylvania—a historic anthracite area known as The Coal Region. Founded in 1786, Luzerne County consists of a total land area of over 890 square miles with an additional 16.3 square miles of open water. It is bordered by seven other counties (Lackawanna, Sullivan, Wyoming, Columbia, Schuylkill, Carbon, and Monroe). It's population was estimated to be 321,027 people in 2012. Wilkes-Barre is the county seat and the city is part of the Scranton—Wilkes-Barre metropolitan area (6).

Luzerne County is made up of seventy-six municipalities, as depicted below in a United States Census Bureau map. The following municipalities are located within our study area: Dallas Borough, Harveys Lake Borough, Dallas Township, Lake Township, and Ross Township.

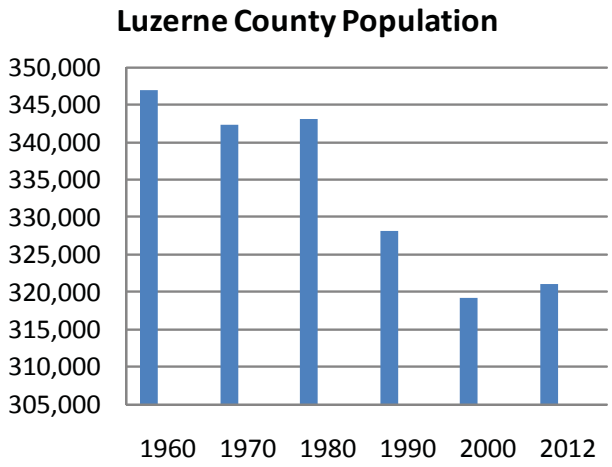


(7)

Luzerne County has a rich industrial history based on an abundance of anthracite coal deposits. This led to tremendous growth with an influx of immigrants from many different countries. While coal mining no longer plays a significant role in the region today, its impact on the cultural heritage remains its lasting legacy. Luzerne County's prime location, within a few hours drive of major metropolitan areas along with a strong cultural heritage and scenic natural features, makes for an exciting opportunity to build a trail that enhances, interprets and builds upon these elements.

Population Data of Luzerne County

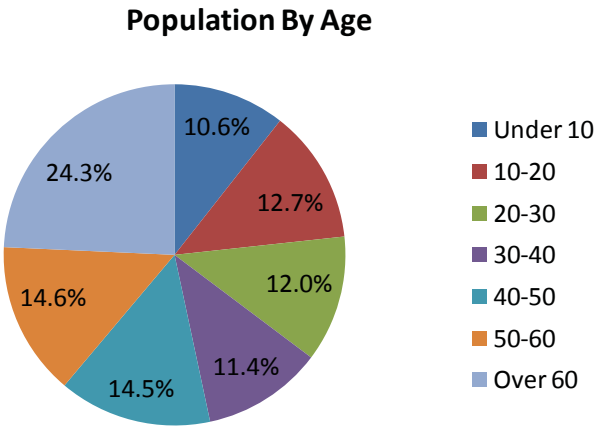
The U.S. Census Bureau estimates that the population of Luzerne County was 321,027 in 2012; up slightly from the 2010 Census (50.9% is female and 49.1% is male). Eighty percent of the population lives in urbanized areas and 20% live in rural areas. The population density is determined to be 360.4 people per square mile, higher than the state average of 283.9 people per square mile. Luzerne County's racial makeup showed the majority of its population to be White (92.7%) followed by Hispanic (8.0%), African American (4.3%), and Asian (1.1%). Luzerne County is the only county in the United States with a plurality of citizens reporting Polish (22%) as their primary ancestry followed by Italian (16%), Irish (14%), German (12%), Slovak (5%), and English (4%).



Of the reported 131,052 households in the county, 19.8% have children under the age of 18 and 18.4% have persons over the age of 65. The median age was 41 years. Eighty eight percent of the population are high school graduates or higher and 20.5% hold a Bachelor's Degree or higher. The homeownership rate within the county was 67.8% and the median home value was $119,500. The median household income was $43,486 and 15.1% of the population was below the poverty line (8).

Population Trends in Luzerne County

Since 1992, data reveals Luzerne County's migration outflow outpaced its migration inflow. This resulted in negative population growth up until 2001; however, migration inflow has increased. For the time period 1990-2008, there were 89,660 people migrating to Luzerne County and 86,478 leaving the area. New Jersey, New York, and other Pennsylvania counties have been the origin of most new residents of Luzerne County. Overall, Luzerne County's population numbers have reached a stable range since dropping from higher numbers in the 1980's (9).



History of Luzerne County

History of the County and more specifically local history of the Back Mountain is important to research because history can provide insight into possible unique and exciting destination points that can be interpreted along the proposed trail.

The history of Luzerne County begins with Native American tribes who inhabited the land centuries ago, specifically the Iroquois that lived and hunted throughout the territory. White settlers, moving northwest from Philadelphia and west from other areas, moved to the region in the early 1750s. Settlements in the area led to many skirmishes with the Indians through the 1760s. Further unrest followed in the winter of 1769, this time between Connecticut and Pennsylvania settlers fighting over land claims in the Wyoming Valley (the First Yankee-Pennamite War). Militia men from the Penn Family were sent to the valley to protect a trading outpost on the Susquehanna River. By the Spring of 1770,

300 more Connecticut Yankees arrived to assist the original 40 Yankees in the area. The conclusion of the War happened in April 1770 when the Paxtang Boys along with other Yankees captured Fort Wyoming, thus gaining control of the area for the next six years. In 1770, the city of Wilkes-Barre—named for John Wilkes and Isaac Barre (colonial sympathizers in the British Parliament)—was established.



Depiction of the Battle of Wyoming, July 3, 1778 (10).

On July 3, 1778, British and Indian forces gained control of the valley in the Battle of Wyoming. In response, General John Sullivan entered the valley and destroyed native villages and farmland which effectively ended Native American activity in the valley. Following the Revolutionary War, the newly created Federal Government ruled that the Wyoming Valley belonged to Pennsylvania with the Decree of Trenton in 1782. Following this legislation, Pennsylvania ruled that the Connecticut Yankees had to give up their lands and in May 1784, they were forcibly removed. The Yankees returned in November and destroyed Fort Dickinson. Eventually, a compromise was created that allowed the Yankees to maintain ownership of their lands and Luzerne County, named for Chevalier de la Luzerne, the French Minister to the United States during the latter stages of the Revolutionary War, was created in 1786.

In 1790, the Schuylkill coal fields were discovered, and in 1808, Judge Jesse Fell, of Wilkes-Barre, successfully burned anthracite coal for the first time. So began a period of great transformation. Luzerne County became one of the major hubs of the anthracite coal industry—the largest known deposit in America was being mined in this region, from Carbondale in the north to Wilkes-Barre in the south. In the mid-1800s and early 1900s, hundreds of thousands of immigrants arrived to work in the mines, transforming the Wyoming Valley from a farming area to a metropolitan area. An influx German, Welsh, Irish, Italian, Polish and Eastern Europeans brought with them their cultures and heritage that help make the area what it is today.



Coal miners shoveling coal onto minecart (11).

The coal industry's impact proved to be both beneficial and calamitous. The county's new found wealth, combined with an impressive canal and rail system, and the general modernization of the entire region was often overshadowed by violent strikes, poor working conditions, and a series of deadly mine disasters. In 1897, at the Lattimer Mine near Hazleton, a Sheriff along with other men shot and killed 16 miners and wounded

38 others in what would become known as the Lattimer Massacre. In 1902, the United Mine Workers, some 140,000 in number, began a strike which lasted nine months and required the assistance of President Theodore Roosevelt to be settled. On January 22, 1959, miners from the Knox Coal Company, in the Wyoming Valley, punched through the floor of the Susquehanna River flooding the mines with an estimated 10.37 billion gallons of water. Twelve miners lost their lives and the result of this disaster with many of the interconnect mines flooded as a result of the disaster, mining operations declined significantly, essentially shut down the anthracite industry in Northeast Pennsylvania.

Hurricane Agnes, a formidable storm and heavy rainmaker, hit the area in June of 1972 causing massive flooding and over one billion dollars in damage. Twenty-five thousand homes and businesses in Luzerne County were destroyed as the Susquehanna River crested at a then record of 40.9 feet. The storm claimed 122 lives and its effects still resonate in the area today (12).

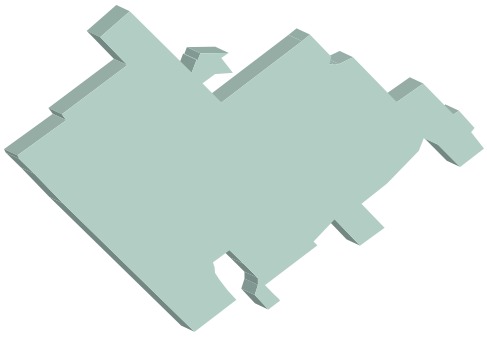


Market Street, Wilkes-Barre, PA, June 23, 1972 (13).

Municipal Data - Luzerne County

Dallas Borough

Dallas Borough was incorporated in 1879 with land taken from Dallas Township (14). It is approximately 2.29 square miles in area. It had a population of 2,807 in 2012, up slightly from the 2010 estimate with a population density of 1,226 people per square mile. All residents of the Borough live in urbanized areas. 52.8% of the population is female and 47.2% is male and the median age is 42 years. Dallas Borough's racial makeup shows that the majority of the population is White (96.1%) followed by Asian (1.4%), Hispanic (0.9%), and African American (0.7%). The majority of ancestry is German (15.8%) followed by Irish (15.3%), Polish (15.1%), Italian (13.8%), English (9.4%), and Welsh (4.5%). The median household income was $59,286 in 2011 and the median house value was $168,784. Thirteen percent of the population lives below the poverty line. Ninety-six percent have a high school degree or higher and 47.8% hold a Bachelor's Degree or higher (15).



Dallas Boro.
2.29 Sq Mi.

Dallas Township

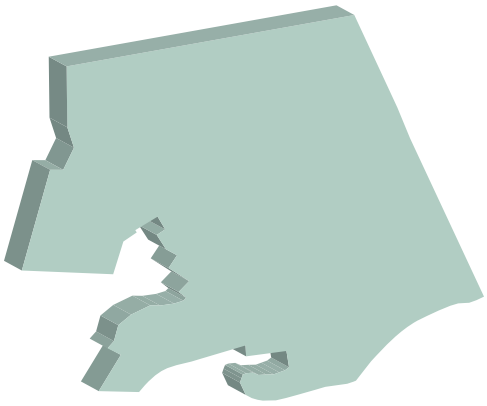
Dallas Township was formed in 1817 with land taken from Kingston Township. It was named after Alexander J. Dallas, the 6th U.S. Treasury Secretary and father of George M. Dallas, who was Vice President to under President James K. Polk (16). It is approximately 18.7 square miles in area. It had a population of 8,994 in 2010 with a population density of 437 people per square mile. Seventy nine percent live in urbanized areas and 21% live in rural areas. Fifty-five percent of the population is female and 45.1% is male and the median age is 41.8 years. Dallas Township's racial makeup shows that the majority of the population is White (98%) followed by Asian (0.7%), Hispanic (0.6%), and African American (0.2%). The majority of ancestry is German (17.7%) followed by Irish (14%), Italian (13.9%), Polish (13.1%), English (7.4%), and Welsh (5.3%). The median household income was $62,609 in 2011 and 6.3% live below poverty line (17).



Dallas Twp.
18.7 Sq Mi.

Harveys Lake Borough

Harveys Lake Borough was incorporated in 1968. The lake was discovered by Benjamin Harvey, one of the earliest settlers of the Wyoming Valley, in 1781. The lake itself is the largest natural lake by volume contained entirely in Pennsylvania and it was formed by glaciers. It is approximately 660 acres in area and estimated to be over 100 feet deep in its deepest part (18). The borough has an overall area of 5.35 square miles. It had a population of 2,798 in 2012 with a population density of 523 people per square mile. Sixty-four percent of the population lives in urbanized areas while 36% live in rural

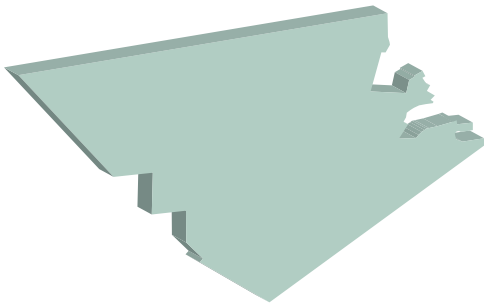


Harveys Lake Boro.
5.35 Sq Mi.

areas. Fifty-one percent of the population is male while 49.4% is female and the median age is 45.7 years. Harveys Lake's racial makeup shows that the majority of the population is White (97.3%) followed by Hispanic (0.6%), Asian (0.5%), and African American (0.2%). The majority of ancestry is German (19.5) followed by Irish (12.8%), Polish (12.1%), Italian (9.5%), Welsh (8.4%), and English (7%). The median household income was $66,288 in 2011 and the median home value was $158,095. Approximately 8% of the population lives below the poverty line. Ninety-five percent of the residents have a high school degree and 33.8% hold a Bachelor's Degree or higher (19).

Lake Township

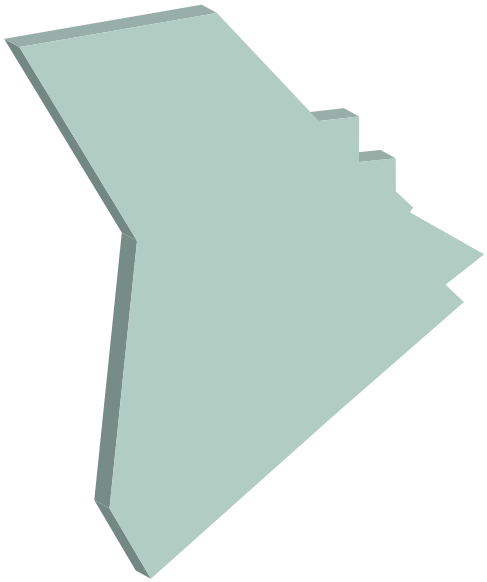
Lake Township was formed in 1841 with land taken from Monroe and Lehman Townships (20). It has an area of 26.7 square miles. It had a population of 2,049 in 2010 (all residing in rural areas) for a population density of 77 people per square mile. Fifty one percent of the population is male with 49.3% being female and the median age is 40.1 years. Lake Township's racial makeup shows that the majority of the population is White (99.1%) followed by Hispanic (0.2%), American Indian (0.2%), and Asian (0.1%). The majority of ancestry is German (18.9%) followed by Polish (13.5%), English (11.1%), Irish (10%), Italian (9.1%), and Welsh (8.1%). The median household income was $47,373 in 2011 and 11.2% live below the poverty line (21).



Lake Twp.
26.7 Sq Mi.

Ross Township

Ross Township was formed in 1842 with land taken from Union and Lehman Townships. It is named after General William S. Ross, who was a judge for the county (22). It is 43.2 square miles in area. In 2010, the population was 2,937 (all residing in rural areas) for a population density of 68 people per square mile. 50.3% of the population is male with 49.7% being female. The median age is 42.7 years. Ross Township's racial makeup shows that the majority of the population is White (98.9%) followed by Hispanic (0.1%), Asian (0.03%), and American Indian (0.01%). The majority of ancestry is Polish (14.3%) followed by German (13.8%), English (11.5%), Irish (8.5%), Italian (7.2%), and Welsh (3.5). The median household income was $56,204 and 9.4% live below the poverty line (23).

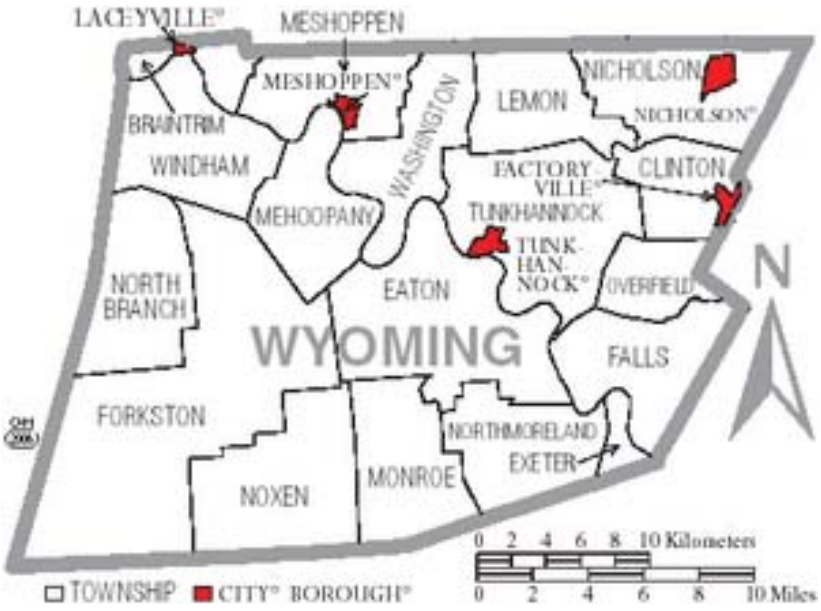


Ross Twp.
43.2 Sq Mi.

General Information and Demographics - Wyoming County

Wyoming County is located in a scenic and pastoral section of Northeastern Pennsylvania. The name "Wyoming" is derived from a Native American word meaning "extensive meadows." Founded in 1842 with land taken from Luzerne County, Wyoming County consists of a total land area of over 397 square miles with an additional 7.6 square miles of open water. It is bordered by five other counties (Lackawanna, Luzerne, Sullivan, Bradford, and Susquehanna). Its population was estimated to be 28,125 people in 2012 and Tunkhannock is the county seat (24).

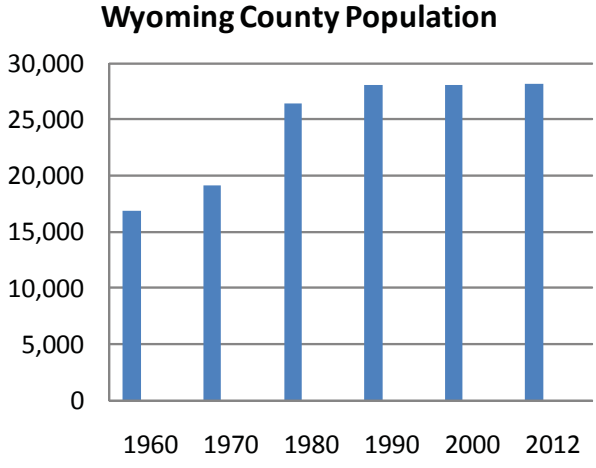
Wyoming County is made up of twenty three municipalities, as depicted below in a United States Census Bureau map. Noxen, located in the southern portion of the County, is the only municipality within our study corridor.



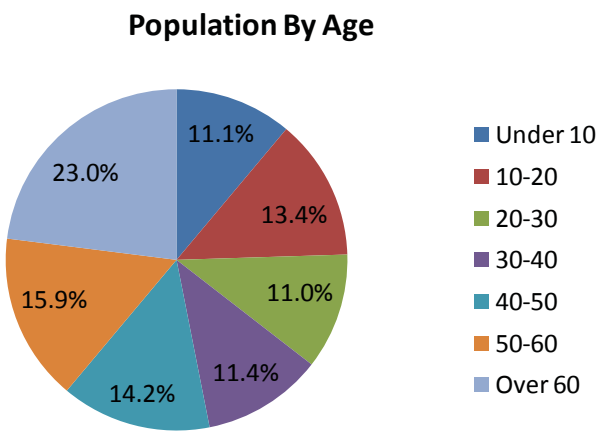
(25)

Population Data for Wyoming County

The U.S. Census Bureau estimates that the population of Wyoming County was 28,125 in 2012, down slightly from the 2010 Census. Approximately, 49.9% of the population is female and 50.1% is male. 17% of the population live in urbanized areas and 83% live in rural areas. The population density is determined to be 71.2 people per square mile, well below the state average. Wyoming County's racial makeup showed the majority of its population to be White (97.5%) followed by Hispanic (1.7%), African American (0.9%), and Asian (0.4%). The majority of ancestry is German (20%) followed by Irish (13%), English (12%), Polish (12%), Italian (8%), and Welsh (4%). Of the reported 11,037 households, 20.8% have children under the age of 18 and 17.3% have persons over the age of 65. The median age is 42 years. Eighty-nine percent of the population is a high school graduate or higher and 17.6% hold a Bachelor's Degree of higher. The homeownership



rate within the county is 77.4% and the median home value is $150,000. The median household income is $48,626 and 12.3% of the population is below the poverty line, lower than the state average (26).



History of Wyoming County

As mentioned above, historical information about Wyoming County and Noxen, in particular, is important because it can provide insight into possible unique and exciting destination points that can be interpreted along the proposed trail.

Present day Wyoming County was first settled after the 1779 Sullivan Expedition in what is now the Tunkhannock area. The county was established in 1842 with land taken from Luzerne County. After settlements began growing, much of the land was used for farming which continues to this day. Wyoming is known for its wooded hills and mountains and pastoral farmland. Many parcels of the western part of the county belonged to the original town of Braintrim, a Connecticut settlement (27).

Much of the industrialization that occurred within the county was focused on local production and exhibited a frontier spirit. A collection of occupations from 1871 show that most of these jobs were blacksmiths, foundrymen, clothiers, harness makers, mill workers, shoe makers, wagon makers, and tannery workers (28).



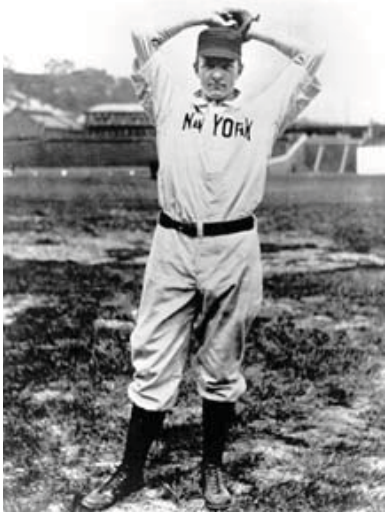
Interior of a tannery (29).

In 1915, the Delaware, Lackawanna, and Western Railroad completed construction of the Tunkhannock Viaduct, an enormous concrete bridge spanning a valley created by the Tunkhannock Creek. Designed by Abraham Burton Cohen, the bridge is constructed with 167,000 cubic yards of concrete and over 1,100 tons of steel. It stands 240 feet above stream level and is 2,375 feet long. The

twelve arches span 180 feet and can withstand 6,000 pounds per square foot. It cost $1,735,000 to build which is approximately $40,000,000 today. In 1969, the Historic American Engineering Record affirmed that the bridge is one of the largest concrete bridges in the world. In 1975, the American Society of Civil Engineers designated the bridge as a National Historic Civil Engineering Landmark and in 1977, it was named to the National Register of Historic Places (30).



Tunkhannock Creek Viaduct, Nicholson, PA (31).



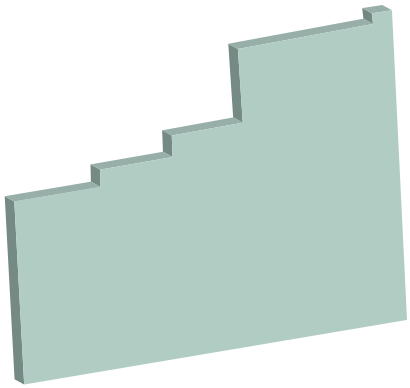
Baseball Hall of Famer Christy Mathewson (33).

Professional Baseball Hall of Famer Christy Mathewson was born in Factoryville on August 12, 1880. Mathewson graduated from Keystone Academy (now Keystone College) before continuing onto Bucknell University. Afterwards, he played semiprofessional baseball before joining the New York Giants. He was the dominant pitcher of the early 20th Century accumulating 373 wins and over 2,500 strikeouts. In the 1905 World Series, he pitched three shutouts leading the Giants to victory over the Philadelphia Athletics. In 1918, Mathewson enlisted in the U.S. Army and served in the Chemical Service along with Ty Cobb. He was involved in a gassing accident while in service and contracted tuberculosis which ultimately claimed his life. He was elected to the Inaugural Class of the Pro Baseball Hall of Fame along with Babe Ruth, Ty Cobb, Honus Wagner, and Walter Johnson. He died on October 7, 1925 at Saranac Lake, NY at the age of 45 and is buried at Lewisburg Cemetery in Lewisburg, PA adjacent to Bucknell University (32).

Municipal Data - Wyoming County

Noxen Township

Noxen Township was incorporated in 1895 with land taken from Monroe Township (34). It has a land area of 28.5 square miles. In 2012, the population was 951 (all residing in rural areas) with a population density of 33 people per square mile. Approximately, 49.4% of the population is male with 50.6% being female. The median age is 41.4 years. Noxen Township's racial makeup shows that the majority of the population is White (98.2%) followed by African American (0.4%) and American Indian (0.2%). The majority of ancestry is German (17.2%) followed by Irish (12.1%), English (11.3%), Polish (11%), Welsh (5.5%), and French (4.8%). The median household income was $49,250 in 2010 and 17.1% live below the poverty line (35).



Noxen Twp.
28.5 Sq Mi.

Past Planning Documents

A document entitled "***Dallas Corners to College Misericordia Connector Feasibility Study"*** was prepared for ASTA in 2005. The plan suggested the trail alignment follow portions of Lake Street, as well as, areas along Toby Creek near Misericordia's parking lot. However, portions of this study are now out-dated due to recent development and there still is opposition to the trail behind private properties and along Toby Creek (36).

There have been a few planning documents that have been focused on greenways and trails in the Back Mountain Area. The largest of these is the ***Lackawanna & Luzerne Counties Open Space, Greenways, and Outdoor Recreation Master Plan***. This document, which was completed in 2004, focused on the importance, conservation, and development of open space, greenways, trails, parks, and other features and the connections and potential connections between them on a bi-county scale. This document can be obtained through the Luzerne County Planning Commission (37).

A feasibility study was conducted in 2008 at a regional scale that included all of Sullivan County as well as parts of Luzerne, Lycoming, Bradford, and Columbia counties for snowmobile and ATV usage on trails. The ***Endless Mountains Trail Feasibility Study*** evaluated a demand and possible implementation of multi-use trails that included snowmobile and ATV access. This study included parts of northwestern Luzerne County, where a portion of the LVRR ROW passes. This study can be found on the PA DCNR website (38).

A ***greenway and trail master plan of the Harveys Creek watershed*** was produced in 2011. This plan focused on efforts to create a trail in the Harveys Creek watershed in Dallas, Lehman, and Lake townships as well as Dallas and Harveys Lake Boroughs. This planned aimed to connect with the existing Back Mountain Trail and the Susquehanna Warrior Trail (39).

A Dallas Borough master plan outlining planning recommendations was completed in 2009 and it is available on their website. Highlights include providing more recreation space, greenspace, and streetscape improvements to the downtown area. A proposed trail could fit in with the recommendations of this plan (40).

A ***Dallas Township comprehensive master plan*** is currently being completed and it aims at providing guidelines for future development. This plan focuses on land usage, housing, economic development, transportation, community services, and natural resources. Including provisions for a trail system would increase the chances of a trail being implemented. Information on this plan is available on the Township's website (41).

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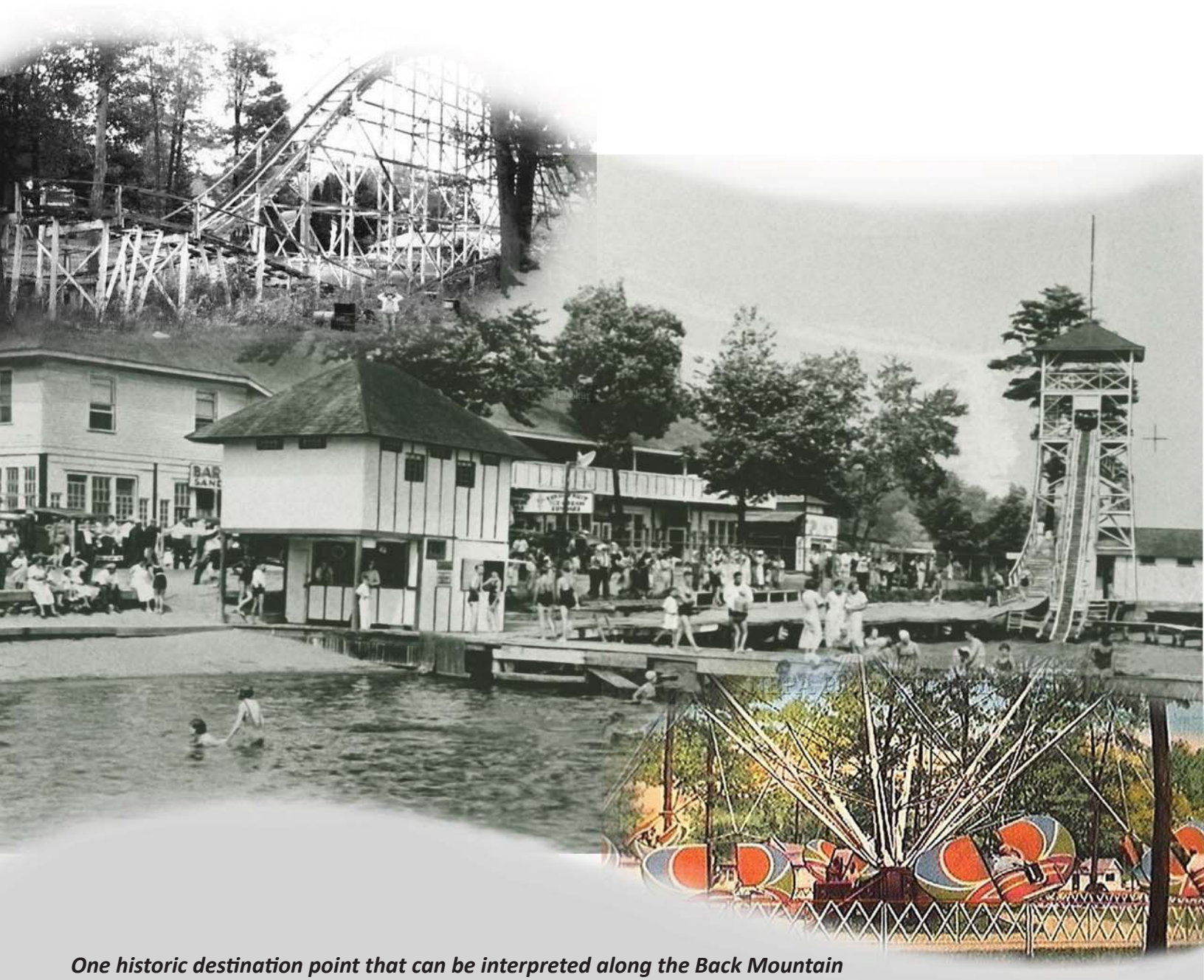
IV. Public Participation



One historic destination point that can be interpreted along the Back Mountain Trail is Hanson's Amusement Park. A gateway and picnic area is proposed in this area. Interpretation points like this one give uniqueness and interest to the trail.

Public Participation Process

One of the most important aspects of a master plan and feasibility study is public involvement in the process. Without a complete understanding of what the needs and the wants are of people in the study area, implementation of a trail would be pointless. Residents within the immediate and surrounding communities will determine whether a trail is successful or not simply by how often they use it, which directly affects safety and maintenance.

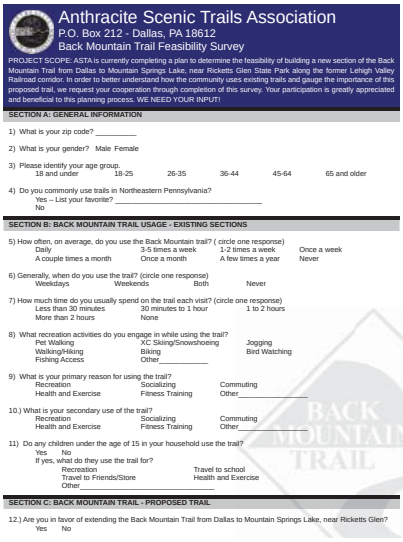
Several techniques were used to engage the public in the preparation of this plan. These included: development of a well-rounded study committee; public and municipal meetings; distribution, collection and analysis of user surveys; key person interviews; field walks open to the public; meetings with ASTA; and the use of email, mail and websites to disseminate information. The cumulative outcomes from each of these techniques guided the alignment of the Back Mountain Trail and the preparation of this plan. Specific to this project, the public and municipal meetings, the study committee meetings and the user surveys were the most effective techniques used to gain insight and help direct this planning process.

Letters

In the beginning of this particular study the focus was on people who would be most impacted by the trail; specifically those owning property on or adjacent to the proposed route (the rail line). Before field visits were conducted, letters were sent to property owners explaining the planning process and that field visits were to be conducted. In order to give property owners the opportunity to express their opinion, the consultants contact information was provided and owners were encouraged to contact the consultants at any point if they had comments or questions about the study. Within the first few weeks several owners had contacted McLane Associates explaining that they were not interested in the trail and would like their property left alone. Once a property owner expressed they were not interested in the project, his or her property was highlighted in red on our base mapping, whereas, property with owners that wanted to be present during field visits or wanted to further discuss the trail were highlighted in yellow on any maps being used to conduct field work. Red parcels were avoided during field work. A copy of this letter is attached in the Appendix. Letters were also sent to municipalities, in an attempt to receive municipal input, as well.

Public Survey

Understanding the uses of the trail is an important aspect of the study. In order to do this a survey was created to gauge the public's anticipated use of the trail. The survey was broken down into four parts. The first part provided general information about the survey taker like where he or she lived and age. The next section tried to understand how often the survey taker uses existing trails in the area and for what purposes. The third section focused on what the survey taker anticipated his or her use of the proposed extension of the Back Mountain Trail would be and what facilities were most important to have. Finally, an area was provided for additional comments and for anyone to sign up for additional information. The survey helped understand the needs and wants of the community, as well as, the trails potential usages.



Anthracite Scenic Trails Association
P.O. Box 212 - Dallas, PA 18612
Back Mountain Trail Feasibility Survey

PROJECT SCOPE: ASTA is currently completing a plan to determine the feasibility of building a new section of the Back Mountain Trail from Dallas to Mountain Springs Lake, near Ricketts Glen State Park along the former Lehigh Valley Railroad corridor. In order to better understand how the community uses existing trails and gauge the importance of this proposed trail, we request your cooperation through completion of this survey. Your participation is greatly appreciated and beneficial to this planning process. WE NEED YOUR INPUT!

SECTION A: GENERAL INFORMATION

1) What is your zip code? _____

2) What is your gender? Male Female

3) Please identify your age group.
18 and under 18-25 26-35 36-44 45-64 65 and older

4) Do you commonly use trails in Northeastern Pennsylvania?
Yes – List your favorite? _____
No

SECTION B: BACK MOUNTAIN TRAIL USAGE - EXISTING SECTIONS

5) How often, on average, do you use the Back Mountain trail? (circle one response)
Daily 3-5 times a week 1-2 times a week Once a week
A couple times a month Once a month A few times a year Never

6) Generally, when do you use the trail? (circle one response)
Weekdays Weekends Both Never

7) How much time do you usually spend on the trail each visit? (circle one response)
Less than 30 minutes 30 minutes to 1 hour 1 to 2 hours
More than 2 hours None

8) What recreation activities do you engage in while using the trail?
Pet Walking XC Skiing/Snowshoeing Jogging
Walking/Hiking Biking Bird Watching
Fishing Access Other_____

9) What is your primary reason for using the trail?
Recreation Socializing Commuting
Health and Exercise Fitness Training Other_____

10.) What is your secondary use of the trail?
Recreation Socializing Commuting
Health and Exercise Fitness Training Other_____

11) Do any children under the age of 15 in your household use the trail?
Yes No
If yes, what do they use the trail for?
Recreation Travel to school
Travel to Friends/Store Health and Exercise
Other_____

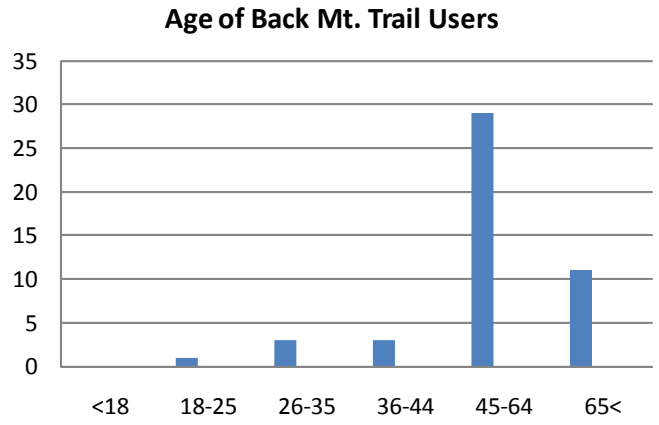
SECTION C: BACK MOUNTAIN TRAIL - PROPOSED TRAIL

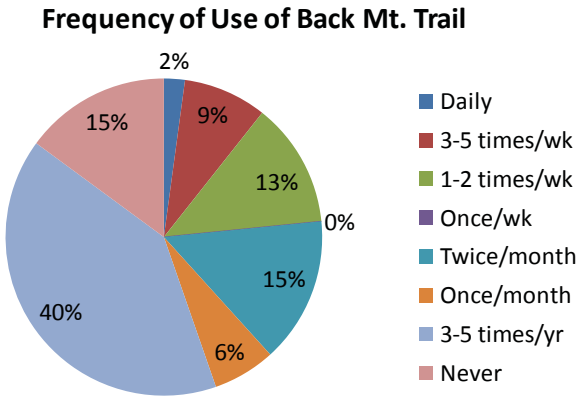
12.) Are you in favor of extending the Back Mountain Trail from Dallas to Mountain Springs Lake, near Ricketts Glen?
Yes No

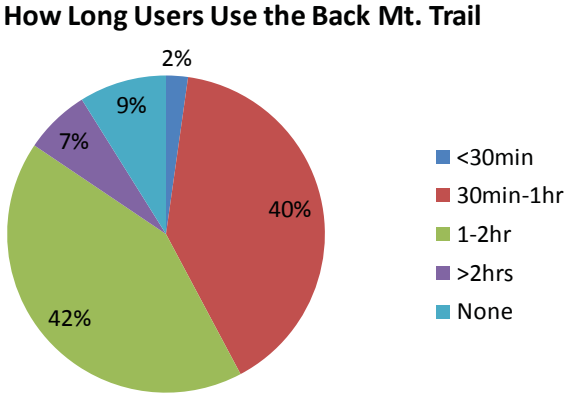
User Survey

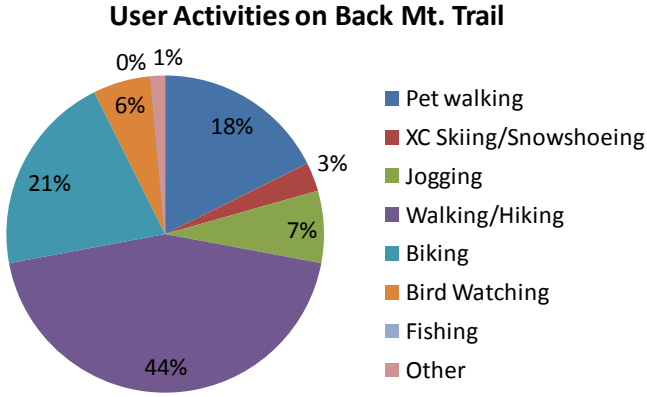
Results of the Survey

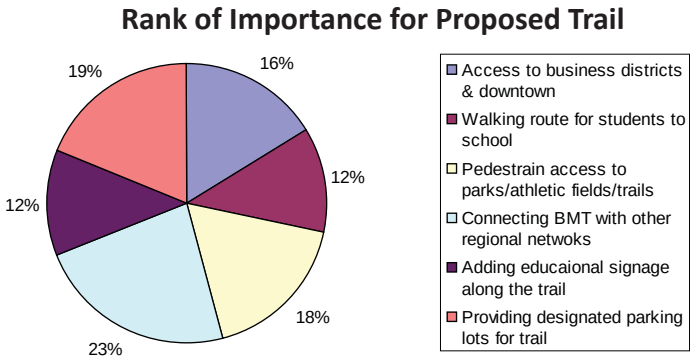
The survey was circulated via email, at the public meeting, via handouts and mail to approximately 1000 people. By the beginning of January 2014, 47 surveys were filled out and returned. The largest age group that participated was between the ages of 45 and 64, with the majority living in the 18612 zip code. Overall, people indicated that they used existing trails occasionally throughout the year for recreation, health and exercise. In general, those who filled out the survey indicated that they would utilize the new section for the same reasons as the existing sections with the most common use being walking and hiking. The majority of participants wanted a new section built and thought the most beneficial facilities to the trail would be restrooms and available parking. Additionally, it was indicated that the most important connections the trail could make were with other regional trail networks and athletic facilities. A copy of the survey and results can be found in the Appendix.











Public Meeting

One public meeting/workshop was held during the course of the project. ASTA decided to hold this public meeting later in the design process because the most important tasks were letters to property owners and completion of field work. Once a tentative trail alignment was selected, the public meeting was held to explain where we were in the process and to give anyone the opportunity to openly discuss the trail and any issues. In order to encourage residents within close proximity to the ROW to attend, letters were sent to any property owners on or adjacent to the proposed trail in both Luzerne and Wyoming County, along with, letters to property owners on alternative routes. Additionally, notices were placed in local papers to inform everyone about the meeting. Overall the meeting was well attended.



Tom McLane and Paul Bechtel (consultants) speaking at the first public meeting.



Scott Grundowski (consultant) discussing the proposed trail with Carl Noto at the first public meeting.

At the beginning of the meeting everyone was asked to sign in and they were given a packet with a copy of the slideshow, map of the old rail line, and legal options for trails on private property. A copy of the packet can be found at the back of this document in the Appendix. The meeting was broken down into two parts. The first was an overall group session, facilitated by a powerpoint presentation describing the feasibility study process, the background of the project and the benefits of trails. Immediately after this, an open group discussion was held to answer any general questions or concerns about the trail. Following the group session, the 2nd part was the 'break out session'. This gave the public the opportunity to discuss their specific concerns or questions about sections of the proposed trail. Two large maps were located at the front of the room with several blow up areas that could be used for more congested areas of the trail.

The overall atmosphere of the meeting was positive and its format provided plenty of opportunities for the public to express their opinion. During the group section some of the largest concerns discussed were vandalism along the proposed and existing trails, trail safety, liability, options for neighboring properties, and the need for a trail with ATV access in Wyoming County. A cluster of attendees from New Goss Manor, who were not interested in the trail indicated, that they felt the trail would not be a benefit in New Goss Manor and it may encroach on their privacy. At the same time, many examples were provided by both the audience and presenters about trails becoming an asset for communities and the positive outcomes of trails in both urban and residential areas.

During the breakout session attendees were able to speak individually with the consultants. The biggest issue many people mentioned centered on privacy, especially where the trail was close to residential areas, like New Goss Manor and in a section just past Country Club Road, where there is an existing path. Some attendees even expressed interest in working with ASTA as the project progresses, including Fern Knoll Cemetery next to Misericordia University.

Municipal Meetings

In lieu of a second public meeting, the consultant attended a scheduled, public, monthly municipal meeting for each of the municipalities where the LVRR ROW and the proposed Back Mountain Trail passes through. In our opinion this technique provided more valuable information about the proposed trail alignment than a second public meeting. These meetings were attended in an attempt to bring awareness to the Borough Councils or Township Boards and the public in attendance that a trail feasibility study/master plan was being completed and that a potential trail alignment was established. Immediate feedback provided by the elected officials and the public concerning the trail route(s), ranged from traffic flow concerns to pedestrian safety to property and trail access issues. The municipalities were given a copy of the draft report along with a map of their borough or township that depicted the proposed trail alignment. They were also asked to provide an official response to ASTA on municipal letterhead that stated their current thoughts on the proposed alignment, their amicability towards the trail as a whole and any concerns or suggestions. The letter is found in the Appendix. Only Ross Township returned a formal letter.

Dallas Borough, February 17, 2014

The Council members greeted this project favorably but raised concerns with pedestrian safety along sections in the Dallas Shopping Center, PA 309, and Lake Street. There may be potential zoning issues as well due to the development of a recreational use within a commercial district. A question was raised whether the Council would like to see a trail run through downtown Dallas or should it be placed elsewhere. Alternative routes along Dorchester Drive towards the Dallas School District Campus and elsewhere were brought up. They are working on a Master Site Plan for their Borough and PennDOT is planning a new roundabout at the Borough center, which can potentially dovetail with the Trail Project.

Safety concerns are always paramount in the design of a trail. However, they are considering safety issues at the shopping center or the roadway based on how it exists today; not how it would exist in the future after final design and development. For example, in our opinion, the Shopping Center would benefit from a new parking stall and lane layout that has potential to safely accomodate a trail.

Dallas Township, February 18, 2014

The Township Board viewed the proposal favorably with pedestrian safety as their biggest concern, especially along Lake Street. The Supervisors do want to see the trail connect with the Hildebrandt Learning Center and Geisinger off of Dorchester Drive.

Harveys Lake Borough, February 19, 2014

Members of the Harveys Lake Borough Council were supportive of trail, however, the council does not believe the trail along Lakeside Drive, to the north of the Lake, is feasible due to homeowner opposition. Homeowners typically fight any improvements proposed within the ROW. They do like the idea of the trail alignment extending around the southern portion of the Lake, especially the potential of connecting the trail with the Borough center and commercial district.

They suggested using the old Trolley line where possible and several dirt roads that have minimal traffic and may be more appropriate for the trail, like Troxell Switch Road. Another benefit of the southern route is the predominance of larger parcels owned by one property owner rather than multiple small parcels and multiple property owners along Lakeside Drive to the north.

Noxen Township, March 4, 2014
Members of the Noxen Township Council were favorable to the proposed trail route. They were concerned with whether or not to allow ATV usage in this section of the trail. Should trail implementation progress in this area, a formal work session for property owners would be needed. They suggested talking to the North Branch Land Trust who is restoring the Noxen Train Depot which could serve as a destination point or trail head. There were concerns with flooding from Bowman Creek, so flood mitigation should be integrated in trail building. Concerns about proper signage being provided along Mountain Road, Stull Road, and Wilson Road were raised as well since these roads are used, albeit lightly, during the summer months.

Ross Township, March 4, 2014
The Ross Township Council were supportive of the trail. They were asked about ATV usage along Mountain Rd. They said there is some but that it is prohibited by the PA Game Commission. There were no immediate concerns to the trail using Mountain Rd. This road is seldom used except during hunting season and even then it is lightly used. Several offshoot trails were highlighted off of Mountain Road that can serve as possible routes in the future.

Lake Township, March 12, 2014
A public meeting was held during the Lake Township Council meeting to discuss a proposal for a wastewater treatment plant proposal in the township. This increased the meeting attendance and allowed more people to hear about and comment on the trail project. Approximately 40 people were in attendance along with television station, WBRE. There were no immediate reactions either positive or negative. The Council expressed their wish to allow the public time to review the route and no immediate concerns were raised during the meeting.

Study Committee

The well rounded committee was comprised of the ASTA Board and the Back Mountain Trail Council. Meeting time helped keep the project moving forward and helped keep all parties aware of recent findings, future work tasks and proposed strategies. Having feedback from the members made it easier to ensure the project was going smoothly and that all needs were being met. Complete meeting agendas and minutes are found in the Appendix.

February 19, 2013
The initial meeting was held on March 19, 2013 due to postponement from snow. The first meeting was a kick-off meeting that went over the main project goal to determine the best route from Lower Demunds Road in Dallas to Ricketts Glen State Park. A group activity was organized to determine known opportunities and constraints. A project schedule was then determined for meeting dates and for a public meeting date. Finally, the next steps of the project were examined.

June 19, 2013
A discussion was had on how to best contact property owners. A feasibility plan survey was reviewed to determine how the study should be viewed for the public. A group activity was organized to update opportunities and constraints. Key persons were identified and discussed on whom should be interviewed. Finally, and update on the inventory and analysis was provided by the consultant.

August 13, 2013
A report was given on the feasibility study, explaining that with help from Pennsylvania Environmental Council (PEC) several hundred surveys were emailed and mailed to residents in the Back Mountain including all property owners along the proposed trail alignment. Mapping was presented to the board with private property owners that had stated they were not interested in the trail highlighted in red and those that would be willing to discuss it further highlighted in yellow. This map sparked some discussion over other possible trail alignments.

September 17, 2013
Updated mapping was presented to the board with more feedback from property owners that were either interested or not interested in the trail. Possible new routes around the privately owned property were discussed and it was agreed that a list of important key person interviews would be prepared and given to the board for review.

October 15, 2013
A powerpoint depicting a complete inventory of the ROW broken down into mile segments was presented to the board, along with the feasibility status of each section. Additionally, a copy of a proposed letter to Property owners was presented to the board for review and comment, along with the request of adding several more property owners from Wyoming County to the mailing list that were not included in the original mailing. A list of contact information for Key Person Interviews was supplied and the board was asked to review and contact the consultant with any comments or questions.

February 6, 2014
A presentation of the Report Draft was completed by the consultant, which described what was completed and what needed to be done. An overview of the information in the report was provided, as well as, descriptions of the accompanying maps. Five hard copies of the report were submitted along with several copies of the report on a compact disk.

Pennsylvania Environmental Council (PEC)

The Pennsylvania Environmental Council (PEC) protects and restores the natural and built environments through innovation, collaboration, education, and advocacy. PEC believes in the value of partnerships with the private sector, government, communities, and individuals to improve the quality of life for all Pennsylvanians. They have an existing partnership and working relationship with ASTA and they agreed to assist with community awareness for this project (1).

Using email, mail and websites, the Pennsylvania Environmental Council (PEC) based in Luzerne assisted ASTA with the dissemination of the user surveys, letters and with publicizing the public meeting. The user survey was emailed to 330 recipients from PEC's databases and it was mailed to 655 property owners within the study area. Another 305 letters were mailed to property owners with land within or abutting the railroad ROW or the proposed trail alignment.

PEC prepared a press release and distributed it to fourteen local press outlets announcing the November 19, 2013 public meeting. It was also circulated to 330 email contacts in the ASTA database. The press release was published in the Citizens Voice and a reporter did attend the public meeting. Founded in 1978, the Citizens Voice had a 2005 circulation number of 32,862, mostly Luzerne County residents. The article read:

"*Anthracite Scenic Trails Association and the Back Mountain Trail Council plan to expand the Back Mountain trail, and are seeking input. ASTA has hired a consultant to study various trail routing alternatives along parts of the former Lehigh Valley Railroad corridor, to connect the Back Mountain Trail with Mountain Springs Lake. A public meeting will be held at 6 p.m. Tuesday in room 206 of Misericordia University's science building. The purpose of the meeting is to explain the project goals and show the regional trail alignment opportunities and constraints. "Your attendance is encouraged because public input is vital to the success of this planning process, and information gained will ultimately determine the proposed and most feasible route," ASTA president Judy Rimple said (2)."*

Key Person Interviews

ASTA and McLane Associates completed key person interviews as needed and as initiated by property owners. After letters were received and after the public meeting, several meetings were completed to answer and document any questions or concerns from landowners. The interviews were completed over the phone, through email and a few were completed via in-field walks at the landowners property. In a sense, all potential users and stakeholders can be classified as "key persons," especially during the trail alignment and site inventory and analysis phase when the importance of a parcel is not fully known. Thus, multiple informal key person interviews were also completed during our field visits. The names and notes for these meetings have been provided to ASTA so they can follow up in the future, if required for discussions about easements, acquisitions or partnerships. The consultant nor the client felt publishing names and personal information was necessary for this report.

References

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V. Demand for and Potential Use of Trail



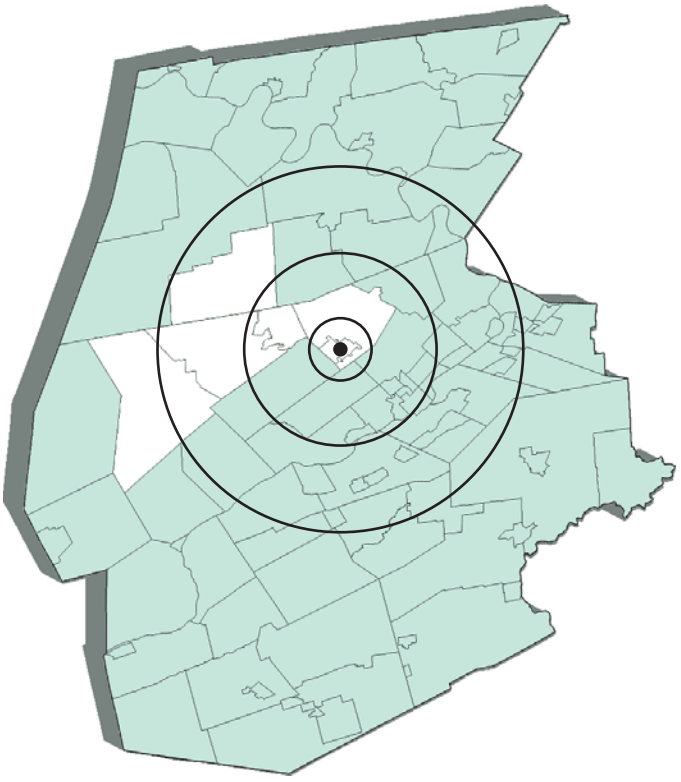
Harveys Lake is a primary natural destination point along the trail. It has long been a hub for recreation, culture, entertainment and relaxation for Back Mountain residents and tourists. This is the largest natural lake, by volume, in Pennsylvania and it is a selling point for the Back Mountain Trail.

Demand for the Back Mountain Trail

Determining the need and demand for a trail is paramount and often dictates the success of a trail network, once it is constructed. This need and demand can be gauged by the surrounding communities and the people who would benefit from a trail. One method to test public interest was a survey, which was made available to the public and sent to homeowners adjacent to the potential trail and ROW. It had questions regarding current use of existing trails, interest in having a Back Mountain extension and amenities that would be beneficial along the trail. Overall the outcome was positive, with most responders being interested in the trail. The largest number of responses came from the Dallas area between the ages of 45 and 64. Over 3/4 of the responders already utilized some portion of a trail in the area with the biggest uses being walking, hiking and biking for interests of health and exercise. However there were other uses including cross country skiing, bird watching and plant and wildlife identification. The only disinterest in the trail was expressed by individuals that did not want the trail located so close to their homes due to privacy concerns.

Interaction with stakeholders during a public meeting also helped further identify community needs and wants. The overall outcome of the meeting was validation that a trail extension of the Back Mountain Trail is supported. The meeting also clarified that the biggest concern with the trail is the loss of privacy, if a trail was aligned too closely to residential properties. NIMBY (not in my backyard) was clearly evident but subdued for this project and most in attendance were amenable and supportive of the project.

The Back Mountain Region has adequate history, natural features and destination points to interpret and highlight. However, currently there is not a connecting trail within the northwest portion of Luzerne County or southern Wyoming County that can be utilized for both local recreation and regional tourism. The Back Mountain Trail can fill this void. Additionally, connecting hubs like Dallas and Noxen with important natural features within Ricketts Glen (one of the best hikes in PA) and Harvey Lake (largest natural volume lake in PA) is an attractive benefit to this trail.



Project Scope of Radius depicting 5, 15, and 30 mile areas.

Project Service Area

The nearly 26 mile long study corridor from Dallas Township to Mountain Spring Lake would connect with the existing Back Mountain Trail that extends eastward into Luzerne Borough. A contiguous trail of this length would have a large-scale area of influence in the region. The study corridor also connects with trail networks within State Gamelands #57 and Ricketts Glen State Park. Other possible connections within the Project Service Area could be made with Francis Slocum State Park and the Susquehanna Warrior Trail and existing trails in Wyoming County near Tunkhannock.

The project service area depicted in the map represents areas emanating from Dallas, PA in lengths of 5, 15, and 30 miles. Since Dallas is

the most populated area, it is viewed as the center point for the project service area. The majority of potential trail users would come from within five miles of the trail. This area covers Dallas Borough, adjacent parts of Dallas Township as well as parts of Lehman, Kingston, and Franklin townships. A larger area within 15 miles would bring in additional users from the Wyoming Valley, parts of Wyoming County that lie outside of the study corridor, and other northern Luzerne County townships. This is where most of the outlying trail connections would be made. The final probable service area would likely be within 30 miles of Dallas. This would bring in possible connections to trail networks in the Wyoming Valley and beyond as well as connecting to Tunkhannock in Wyoming County. These connections would bring in significantly more possible users and increase the success rate of the trail.

Based on the projections in the project service area, possible travel times would range from 5-40 minutes by vehicle. This would cover most of the populated areas within Luzerne and Wyoming Counties. Future expansion into a greenway corridor linking communities outside of the service area would generate an even greater increase in usage and expand travel times to 1-2 hours if a large scale greenway network comes to fruition.

Potential Use of the Back Mountain Trail

Through public participation it was easy to understand that the largest usage of the trail would be for exercise and recreational purposes, however, there are many potential uses for the trail that can increase the amount of people that use the trail and create year round interest. Additionally, the changing land uses (urban to rural, commercial to residential)also facilitates the increased opportunity for a variety of trail functions and uses. The trail may be used for recreation such as biking and running, along with opportunities for education and pet walking. In more urban settings the trail can be utilized for transportation to a variety of community connections and destinations. In more rural areas, a focus can be on enjoying nature through identification of plants and animals along the trail, while some clearly-defined sections may provide access to alternative transportation such as snow mobiles and ATVs.

Potential Trail Uses:

Environmental Education	Pet Walking	Cross Country Skiing
Wellness	Access to Shops/Restaurants	Community Connections
Hiking	Fishing Access	Picnicking
Transportation	Walking	Biking
Running	Snow Shoeing	Bird Watching

With this many activities there is potential to create year round interest, create a trail unique to this area, and create a destination trail in a region that is in need of one.

Initial Usage Levels:

Based on usage levels of the existing Back Mountain Trail from Luzerne Borough to Lower Demunds Road in Dallas, as determined by discussions with ASTA and the submitted User Surveys, it is possible to infer that 100-150 people would use the trail per week (1). A more accurate representation of usage via volunteer trail counts on the existing trail would provide better base data for estimating initial usage levels of the Back Mountain Trail extension.

Projected Future Use Levels:
Should approval for a proposed trail along the LVRR ROW become accepted, a significantly greater number of people would become potential users. The railroad ROW runs through the heart of several municipalities. Several thousand people live within a one-mile wide corridor along this ROW. Approval for a trail on the ROW itself or nearby would bring in many potential users for the trail. A broad spectrum of users could be between 1500-2000 people per month, on the low end. There are nearly 15,000 people along the study corridor and this number is a conservative estimate based on GIS and Census data that was used to average the number of households and the people per household, respectively. Greater connections to amenities in municipalities along the corridor would also bring in more potential users and increase the success rate of the trail.

Seasonal Versus Year-Round Usage:
This proposed trail has the benefit of offering year-round usage. As listed previously, the number of potential activities for usage on the trail provides users the ability to use the trail for the entire year. Naturally, more people would use the trail during the spring, summer, and fall months, however, potential trail uses are available during the winter months as well. There would likely be a spike of users during the spring and fall months as the weather is fair enough to entice people to use the trail and the vegetation goes through their blooming and fall foliage changes. Usage will wane during the winter months but users who cross-country ski, etc., would appreciate what the trail has to offer.

Benefits of Trails

Trails are interconnected routes that provide access to outdoor recreation and educational opportunities, promote community wellness, and provide pedestrian friendly routes in urban areas. They are used to connect to or interpret historical, cultural features such as historically important industrial centers or residential areas. Trails are often viewed too narrowly in terms of the benefits they can provide. Trails often follow natural features such as streams, rivers, and lakes. Thus, trails not only improve human lives but can also improve the quality of life for animals and the environment as a whole through land preservation. Described below are just some of the many benefits trails can provide for trail users, the environment and the community.

Economic

Trails are positive benefits to the local economy for communities. They provide opportunities for economic renewal and growth through increased property values and an increase in consumer spending at local businesses. Trails can lead to increased economic growth through increased revenue for local businesses and an increase in number of available jobs for a community's residents. According to a 2009 study for the Lackawanna River Heritage Trail (LRHT), 128,000 people used the trail located along the Lackawanna River. This resulted in $28.3 million in direct economic impact on communities along the river where the trail passes through. The spending amount included the purchase of hard goods (bikes, footwear, clothing), soft goods (food, beverages), and overnight accommodations at local hotels (2).



A person runs on a trail through woodland.



A class learning about wildlife habitat.

A trail through the heart of the Back Mountain can provide a similar economic impact on these communities.

Open space and trails are highly valued and they are becoming more common in residential neighborhoods. People value places to both actively and passively recreate and trails are one of the main facilities that can accomdate both receration types. A 2005 economic analysis conducted by Methow Valley Sport Trails Association (MVSTA) in Washington State, and the Methow Conservancy, found that "People buying homes and real estate in the Methow Valley are on average willing to pay 11.5% more per acre for properties near trails (within ½ mile)." By having a trail located close to their properties, homeowners will likely see their home and property values increase.

Health

One of the biggest benefits trails can provide is on a trail user's health. Many Americans do not exercise, either through choice or due to a person's schedule. This has led to dramatic increases in health problems such as obesity, heart disease, diabetes, and an increase in the probability of developing cancer. According to a 2003 study by the Centers for Disease Control and Prevention (CDC), approximately 300,000 deaths in the U.S. were attributed to obesity and the economic costs of this was nearly $117 billion (4). In many communities, people do not have access to trails or parks close to their homes. By having a trail close to where they live, people are more likely going to use it for health reasons as it provides a safe route for walkers, joggers, runners, bicyclists and others. Implementing trails in communities also provides inexpensive opportunities for exercise in close proximity to urban, suburban, and rural residential areas. Additionally, people of all ages can use a trail for exercise aiding in their wellness.

Environmental

Trails provide corridors for people and wildlife and help to protect important and environmentally sensitive areas. Due to residential and commercial development, the natural habitats for animals routinely becomes fragmented, isolating wildlife and important native plant species. This reduces the quality of the natural environment and harms many delicate ecosystems. A trail helps to promote and protect these vital aspects of the environment. Since many trails run along rivers and streams, such as the trail proposed in this document, they can aide in riparian restoration and environmental rehabilitation. This can greatly reduce the risk of damaging flooding along streams and rivers.

Trails can also improve air quality and traffic quality by providing alternative transportation routes for people within communities. By reducing the number of cars on roadways, not only does traffic flow more efficiently but it also reduces the amount of harmful hydrocarbons released into the atmosphere through a car's exhaust. Reducing these harmful emissions helps those with respiratory problems such as asthma, breathe easier (5).

Historical / Cultural Preservation

Trails are primary motivator for historical and cultural preservation. This is one of the key factors for this proposed trail as it focuses on the historical aspects of the trail. By featuring nodes with

informational kiosks in opportune areas, residents of the community and trail users can attain a greater appreciation for the place in which they live or are visiting. Trails can also provide education opportunities for classes by having a field day in which students walk the trail and learn about the history behind it and the culture of the area (6).



The historic Oneonta Hotel, Harveys Lake, PA, circa 1910 (7).

Potential Connections / Trail Linkages

The Lehigh Valley Railroad ROW passes through six municipalities in two counties. There are numerous possibilities to connect with amenities such as parks, schools, municipal buildings, fire halls, golf courses, shops, restaurants, and more in these municipalities. In addition to these public and private amenities, there are many residential neighborhoods and businesses that people can utilize the trail to access these locales. In more densely populated areas, residents can use the trail to access amenities. This would reduce vehicular traffic on local roadways, helping to ease congestion and exhaust emissions. Employees of local businesses along the trail can use it during their lunch or break times for their health. This would become an attractant to businesses outside of the area who are looking to open new locations or re-locate altogether. A multi-use, multi-municipal trail such as the one proposed here would become a strong marketable asset for the Back Mountain area and it can help to promote positive growth.

There are few trails in the area outside of the existing Back Mountain Trail. This lack of a trail network in a relatively dense populated area such as the Back Mountain further exhibits the need for a well-designed and properly planned trail. There are only two other trail networks in the area outside of the Back Mountain Trail, the trail network in Francis Slocum State Park and the trail network in Ricketts Glen State Park. There has been an effort by the Pennsylvania Environmental Council to create a trail within the Harvey Creek watershed in Harveys Lake and Lehman Township. This could be advantageous for future development of the Back Mountain Trail. By combining trail building efforts with a proposed Harvey Creek trail, this could increase the chances of approval to build onto the existing Back Mountain trail.

The majority of the ROW passes through residential and rural lands. These land uses are compatible with a trail and would add to their attractiveness. There isn't much active farmland along the ROW but there is scenic pastoral land in Dallas Township along the ROW and a trail would help to promote these areas and the uniqueness of the trail to visitors from outside of the immediate area. There are two school districts within the ROW of way corridor - Dallas and Lehman school districts. Organizing with the school boards to develop educational opportunities would help to increase community awareness of the trail and also help to instill pride and fondness for the trail. Additionally, there is a commercial strip along the ROW in Dallas Borough. A trail network with connections to these stores, shops. restaurants, and businesses would help to improve revenue for these places.

References

1. Back Mt. Trail Usage, http://www.explorepatrails.com/singletrail.aspx?id=145
2. LRHT, http://www.lhva.org/docs/LRHT%20Trail%20User%20Survey%20and%20Economic%20 Impact%20Report%202009.pdf
3. MVSTA, http://mvsta.com/results.pdf
4. CDC, http://www.cdc.gov/nccdphp/dnpa/pdf/aces-workingpaper1.pdf
5. Environmental Benefits, http://www.americantrails.org/resources/benefits/BenefitsGrnwy.html
6. Historical Preservation, http://www.americantrails.org/resources/benefits/BenefitsGrnwy.html
7. Oneonta Hotel, http://cnynews.com/hotel-oneonta-the-largest-hotel-on-the-largest-lake-in-pennsylvania/

Note:
The proposed trail is not shown on this map. Please refer to the Concept Maps in the Trail Concept Plan Section for the location of the proposed trail.

State Game Lands # 57

Wyoming County

Luzerne County

Noxen Twp

Monroe Twp

Harveys Lake Borough

Lake Twp

Ross Twp

Lehman Twp

Dallas Twp

Dallas Borough

To Mt. Springs Lake and Ricketts Glen State Park

Bowman Creek

Harveys Lake

Harveys Creek

LVRR ROW

Mountain Road

PA 29

PA 309

PA 415

PA 118

Lake Catalpa Rd

Lakeside Dr

2nd St

Carpenter Rd

Lake St

Harveys Lake Line Trolley Row

Country Club Rd

Upper Demunds Rd

Lower Demunds Rd

W Center Hill Rd

Schoolhouse Rd

Church Rd

Outlet-Loyalville Rd

Outlet Rd

Community Connection Opportunities

Railroad

Proposed Route

Alternative Route

Wetlands/ Water

Streams

Civic/Public Space

Commercial/ Institutional Space

Recreation/ Open Space

Scale: 1" = 4,200'

0 2,100 4,200 8,400 16,800

N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

Type	Number	Name	Ownership	Description
Commercial / Institutional Space *Eat, Shop, Live*	1	Offset Paperback	Private	Paper Binding Plant
	2	Dallas Shopping Center	Private	Restaurants, Stores
	3	Shopping Center	Private	Walgreens, Gas Station, Convenience Store
	4	Shopping Center	Private	Weis, Bank
	5	Shopping Strip	Private	Restaurants, Stores, Used Car Lot
	6	Stores	Private	Hardware Store, Stores
	7	CVS	Private	CVS Pharmacy, Stores
	8	Shopping Strip/Misericordia University	Private	Restaurants, Stores, Misericordia University
	9	Shopping Strip	Private	Restaurants, Stores, Agway, Back Mt. Vet Hospital
	10	Payne Printery	Private	Payne Printing Co.
	11	Misericordia University	Private	University Buildings, Athletic Fields, Residence Halls
	12	Stores	Private	Stores, Bank
	13	Country Club Shopping Center	Private	Restaurants, Stores
	14	Dallas Mobile Home Park	Private	Mobile Home Park
	15	Housing Complex	Private	Duplex Housing Complex
	16	Frontier Communications	Private	Frontier Comm., Country Club Apts., Gas Station
	17	Back Mt. Bowl	Private	Back Mt. Bowl, Stores
	18	Yalick Farms	Private	Multi-Family Housing Complex
	19	Stores	Private	Bank, Turkey Hill, Car Care Center
	20	Housing Complex	Private	Duplex Housing Complex
	21	Harvey's Lake Veterinary Hospital	Private	Veterinary Hospital
	22	Mixed Use Center	Private	Grotto Restaurant, Housing Complex, Stores
	23	Restaurant	Private	Restaurant
	24	Beaumont Inn	Private	Bed and Breakfast
	25	Harvey's Lake Rod & Gun Club	Private	Rod & Gun Club

Community Connection Opportunities

A trail along the LVRR ROW would connect trail users with many amenities in their locales. The map provided, illustrates 75 businesses, restaurants, stores, playgrounds, schools, and municipal amenities that a proposed trail could connect to. The map is broken down into three colors: yellow represents Commerical/Institutional spaces, blue represents Civic/ Public spaces, and green represents Recreation/Open space. These spaces are further divided into public and privately owned descriptions. The majority of these connections are within Dallas and Harveys Lake. Additional connections could be made into Lehman Township. In all, there are over 40 public amenities that can be reached via a proposed trail along the LVRR ROW. There are also numerous housing complexes, residential neighborhoods, and businesses that can have a positive economic impact on the area as well. As a trail attains more use, further connections and developments can be made bringing users closer together and to their communities.

Type	Number	Name	Ownership	Description
Civic / Public Space *Learn, Volunteer, Worship*	1	Dallas School District Campus	Public	Dallas / Wycallis Elem., Dallas Middle / High School
	2	Back Mt. Memorial Library	Public	Library, Playground
	3	Gate of Heaven Church	Public	Catholic Church
	4	Dallas Borough PD / Post Office	Public	Police Dept., US Post Office
	5	Dallas Methodist Church	Public	Methodist Church
	6	American Legion	Public	American Legion
	7	Meadows Nursing Home	Public	Nursing Home
	8	Dallas Fire & Ambulance	Public	Fire Dept., Ambulance
	9	Mountainside Manor	Public	Rehabilitation Clinic
	10	Trinity United Presbyterian Church	Public	Presbyterian Church
	11	Dallas Twp. Municipal Building	Public	Municipal Building
	12	PA Game Commission	Public	Game Commission Building
	13	St. Paul's Lutheran Church	Public	Lutheran Church
	14	Dallas Fire & Ambulance	Public	Fire Dept., Municipal Building
	15	Dallas Baptist Church/Franklin Fire Dept.	Public	Baptist Church / Fire Dept.
	16	Jewish Community Center	Public	Civic Building
	17	Harvey's Lake Municipal	Public	Borough Building, Police Dept.
	18	Our Lady of Victory Church	Public	Catholic Church
	19	Noxen Elementary	Public	Elementary School
	20	Harvey's Lake Post Office	Public	US Post Office
	21	Harvey's Lake Fire Dept.	Public	Fire Dept.
	22	Alderson Methodist Church	Public	Methodist Church
	23	Kunkle Fire Dept.	Public	Fire Dept., Ambulance
	24	First United Methodist Church	Public	Methodist Church
	25	Noxen Vol. Fire Company	Public	Fire Dept.

Type	Number	Name	Ownership	Description
Recreation / Open Space *Play, Reflect, Relax*	1	Newberry Estates Country Club	Private	Golf Course, Tennis Courts, Swimming Pool
	2	Sacred Heart Slovak Cemetery	Public	Cemetery
	3	Dorchester Land Development	Public	Geisinger Building, Natural Woodland / Wetland
	4	Woodlawn Cemetery	Public	Cemetery
	5	Park	Public	Basketball Court, Open Space
	6	Wardan Cemetery	Public	Cemetery
	7	Dallas Twp.	Public	Baseball / Football Fields, Playground
	8	Fern Knoll Burial Park	Public	Cemetery
	9	Irem Country Club	Private	Golf Course
	10	St. Mary's Cemetery	Public	Cemetery
	11	St. John's Cemetery	Public	Cemetery
	12	Dallas Borough Playground	Public	Basketball / Tennis Courts, Playground
	13	Forest Echo Bird Sanctuary	Private	Wildlife / Nature Conserve
	14	Luzerne County Fairgrounds	Public	Open Space
	15	Chapel Lawn Cemetery	Public	Cemetery
	16	Lehman Golf Club	Public	Golf Course
	17	Joe's Marina	Private	Marina
	18	Harvey's Lake Beach Association	Private	Beach
	19	Harvey's Lake Borough	Public	Baseball Field, Park
	20	Harvey's Lake Beach Club	Private	Beach
	21	Hanson's Amusement Park	Private	Abandoned Amusement Park, Open Space
	22	Harvey's Lake Yacht Club	Private	Lake Docks, Woodland
	23	Noxen Twp.	Public	Baseball Field, Open Space
	24	Pennsylvania Game Commission	Public	Woolands, Wetlands, Dirt Roads, Streams
	25	Ricketts Glen State Park	Public	Woolands, Wetlands, Streams, Trails, Open Space

VI. Physical Inventory and Assessment of the ROW



The history of ice-harvesting, which was an important industry in the Back Mountain and a catalyst for the construction of the Lehigh Valley Railroad, should be interpreted along the Trail. Signage that explains this industry and other historic economic drivers can provide an educational component to the trail, which dovetails nicely with recreation and enhances the value and appeal of the Trail, as a whole.

Methodology

Since rail traffic ceased, the Lehigh Valley Railroad corridor has undergone major changes, both legally and physically, which makes the complete inventory and assessment of the LVRR ROW an important component in determining trail feasibility and the best location and alignment for the proposed Back Mountain Trail extension. The first step to this analysis is gathering information and data from county records, public input, and available maps. Completing this process was crucial in understanding what should be considered during field work and what portions of the ROW were un-accessible due to property ownership. After gathering this information the next step was a physical inventory and analysis of the ROW to assess the current conditions, understand the physical constraints and reinforce and ground truth some of the digital data gathered in the office. The review of site features, both man-made and natural, was limited to the areas within the study area corridor. The corridor is 25.8 miles long and 1 mile wide for a total area of 16,512 acres or 25.8 square miles.

Physical Inventory and Assessment of the ROW - General

Physiographic Analysis

Length and Dimensions of the ROW

The LVRR ROW within our study area, from Lower Demunds Road in Dallas to Mountain Spring Lake near Ricketts Glen State Park, is 25.80 miles long. In areas where the ROW still exists, it is generally bermed up between 2-5 feet high and is 12-15 feet wide. There are several locations where these dimensions do not match and they are described within the Physical Inventory and Assessment of the ROW - Detailed section.

Railroad Bed

The railroad bed is comprised of elevated fill material with a modified stone base and the railroad bed is very compacted and stable in most areas. Some herbaceous vegetation and shrubs, like Tartarian Honwysuckle, have overtaken the unused portions of the rail bed.

Surrounding Land Use

Land use is a mix of urban and residential/commercial development near Dallas and Harveys Lake. The area north and west of Harveys Lake is dominated by woodlands, many acres of which are protected by the Commonwealth.

Stormwater Management

Stormwater is still effectively being managed along most sections of the remaining ROW. Typical swales, which are commonplace along rail lines, are still intact in many locations and they handle stormwater. However, there is visible erosion in several locations of the ROW where the railroad bed is within the floodplain. These areas are described within the Physical Inventory and Assessment of the ROW - Detailed section.

Steep Slopes and Topography

The majority of the LVRR ROW passes through interesting terrain. A variety of hills, valleys, natural land, urbanized areas, and more makes this a very scenic route. Most of the developed lands along the corridor lies east of Harveys Lake as the ROW passes through Dallas. Much of this land is private residential properties with patches of natural woodland throughout. Across the county line, in Wyoming County, the majority of the terrain is mountainous woodland. From Noxen to the ROW's

terminus at Mountain Spring Lake, the ROW parallels Bowman Creek through native woodland with minimal development. The descriptions that follow accompany their respective topographical maps:

T1

As the ROW passes through Dallas, much of it has been developed into a commercial corridor. The ROW passes through wetlands near Lower Demunds Road in Dallas at a low elevation point of 1031 feet. From there, it continues through a commercial strip with some residential parcels along the way. It rises over 100 feet throughout this section. Also, Toby Creek and Trout Brook flow through this area.

T2

As the ROW leaves Dallas Borough and enters Dallas Township, its elevation is about 1269 feet above sea level. The high point in the area is a tower on Chestnut Ridge near Irem Temple Country Club at an elevation of 1690 feet. Wetlands can be found east of the ROW near PA 309. The ROW begins to transition into pastoral scenery through rolling hills and open meadows.

T3

The Harveys Lake Trolley ROW passes through relatively flat land until it crosses PA 415 where it follows a ridge before it enters Harveys Lake. Numerous residential neighborhoods have been built upon the ROW in this section. Once it crosses the highway, it transitions into native woodland sandwiched between two hills. When the Trolley loops around a ridge, wetlands form at the bottom and empty into the lake. It terminates at the lake at an elevation of 1260 feet.

T4

The LVRR ROW weaves through hillsides in Dallas Township before entering Harveys Lake at an elevation of 1287 feet. Several hillside peaks are found east of the lake and the ROW works its way around these peaks. It leaves Harveys Lake through Hanson's Amusement Park and continues north towards Noxen alongside PA 415.

T5

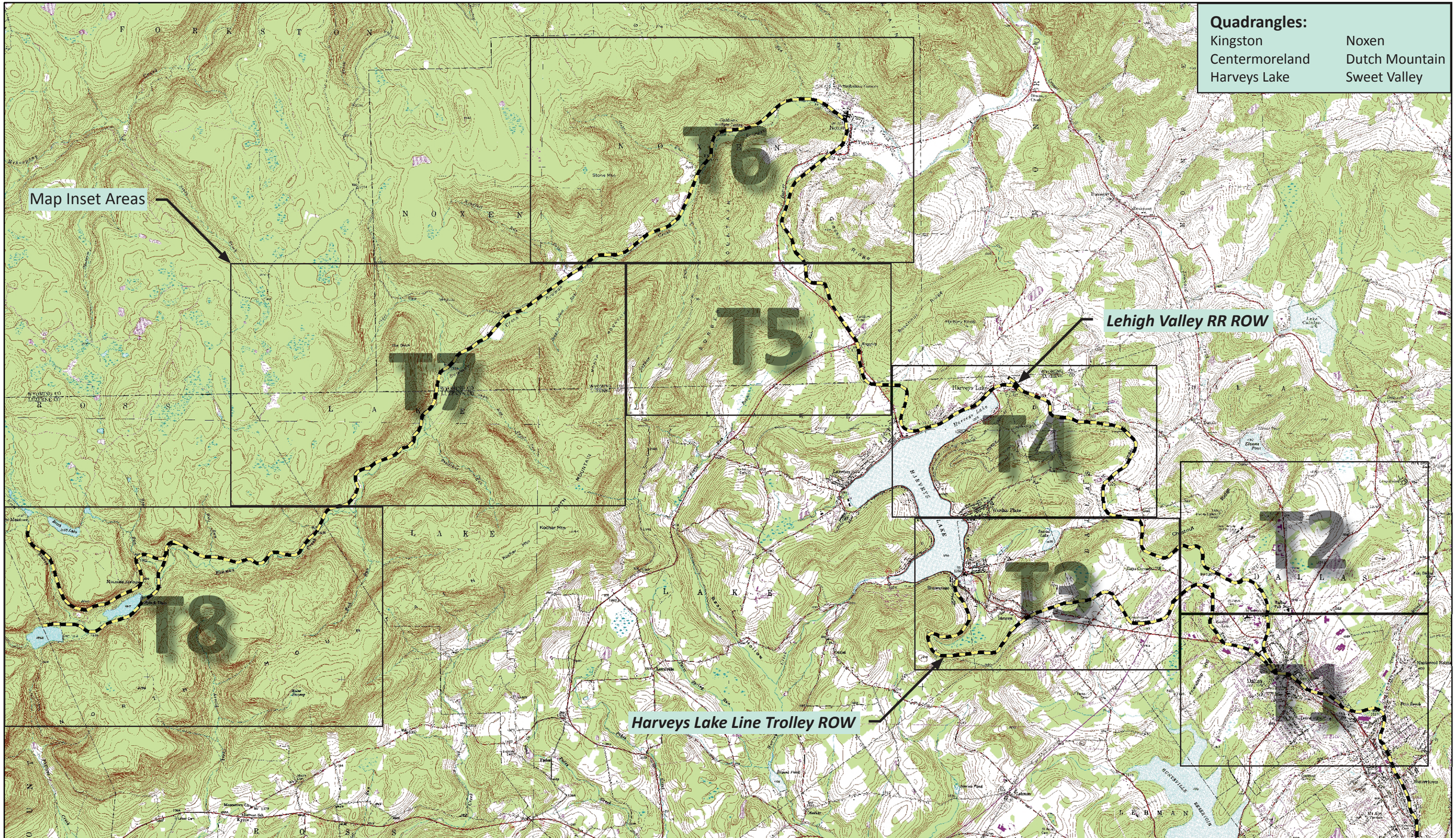
As the ROW enters Wyoming County, it continues through dense native woodland. Several ponds, wetlands, and streams are found in this area. Where PA 415 terminates with PA 29, the elevation is 1183 feet. Galkas Pond is found to the east of the ROW near the intersection of the two highways. Beaver Run and Sorber Run flow northeast to Bowman Creek in this area as well. Sorber Mountain peaks in this region at an estimated elevation of 1840 feet to the west of the ROW.

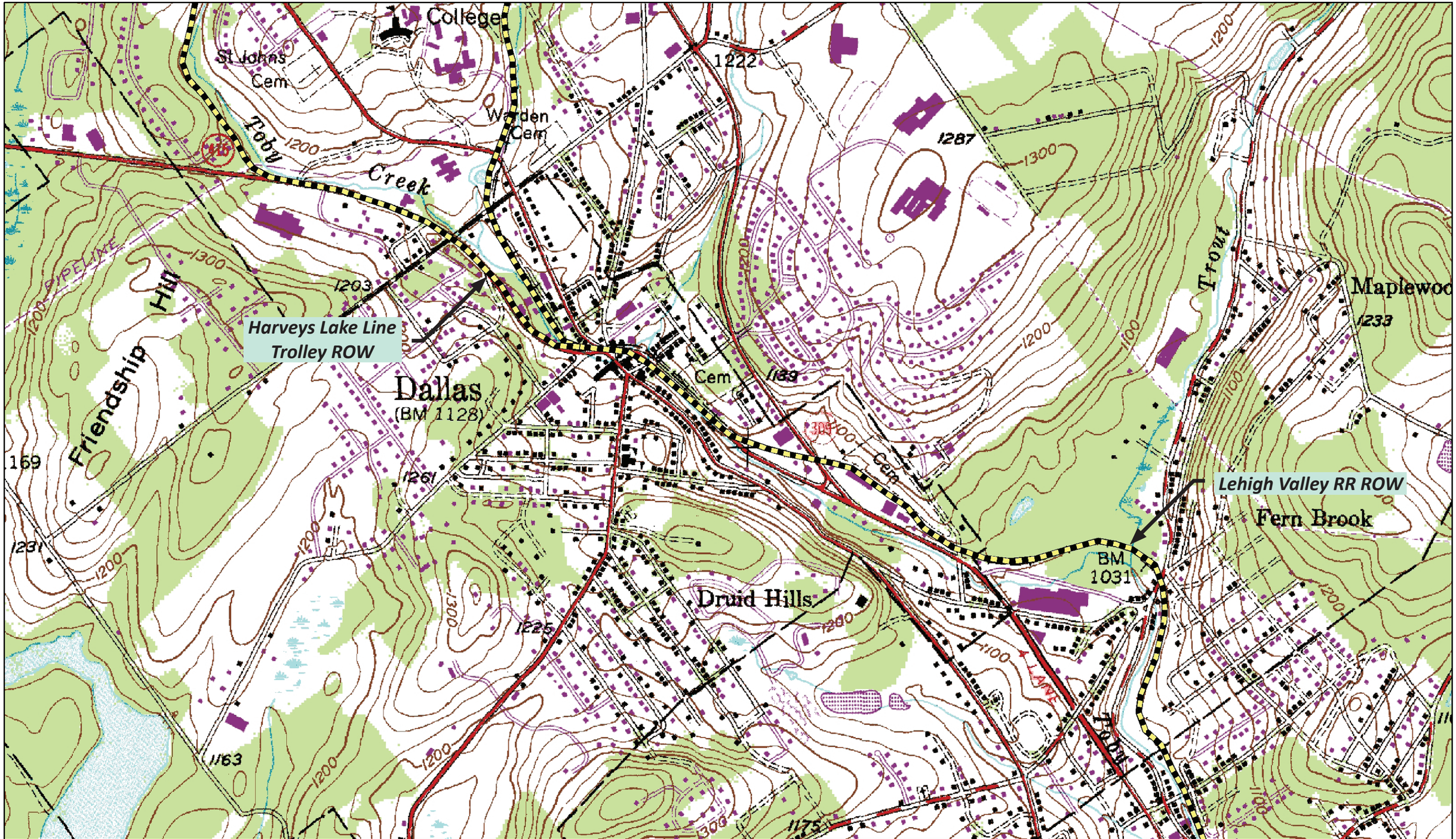
T6

The ROW gets sandwiched between Grassy Ridge to the east and Sorber Mountain to the west. Grassy Ridge peaks at 1608 feet. Beaver Run forms a valley between the two mountains and this is where the ROW was built. PA 29 follows alongside to the west of the ROW in this valley as well. As the ROW enters the village of Noxen, large tracts of land have been cleared to the east of the ROW. The town is roughly 1000 feet above sea level. The ROW crosses Beaver Run and then crosses Bowman Creek. To the north of the ROW once it turns west from Noxen, taller mountains are formed topping 2200 feet in elevation. Stone Mountain features a plateau with wetlands on top. Bowman Creek carves a valley between the mountains illustrating its power. Numerous logging and now access roads to the windmills are scattered throughout this section.

T7

This section features State Game Lands (#57) and the mouths of several streams. Broad Hollow Run, Sugar Run, and Butternut run flow north into Bowman Creek. Stone Run and Cider Run flow south into Bowman Creek. Steep slopes to the north side of the ROW extend upward nearly 900 feet to a plateau


Quadrangles:
Kingston
Centermoreland
Harveys Lake
Noxen
Dutch Mountain
Sweet Valley
Map Inset Areas
T6
T5
T7
T4
T3
T2
T1
T8
Lehigh Valley RR ROW
Harveys Lake Line Trolley ROW
USGS Topographical Map
Wooded Areas
Cleared Areas
Water
Wetlands
Railroad
Buildings
Main Roads
Secondary Roads
Scale: 1" = 7,000'
0 3,500 7,000 14,000 21,000
N
Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T1 - Dallas

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

Scale: 1" = 1,000'

0 500 1,000 2,000 4,000

Kingston Quadrangle

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

T2 - Dallas Township

Lehigh Valley RR ROW

Harveys Lake Line Trolley ROW

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

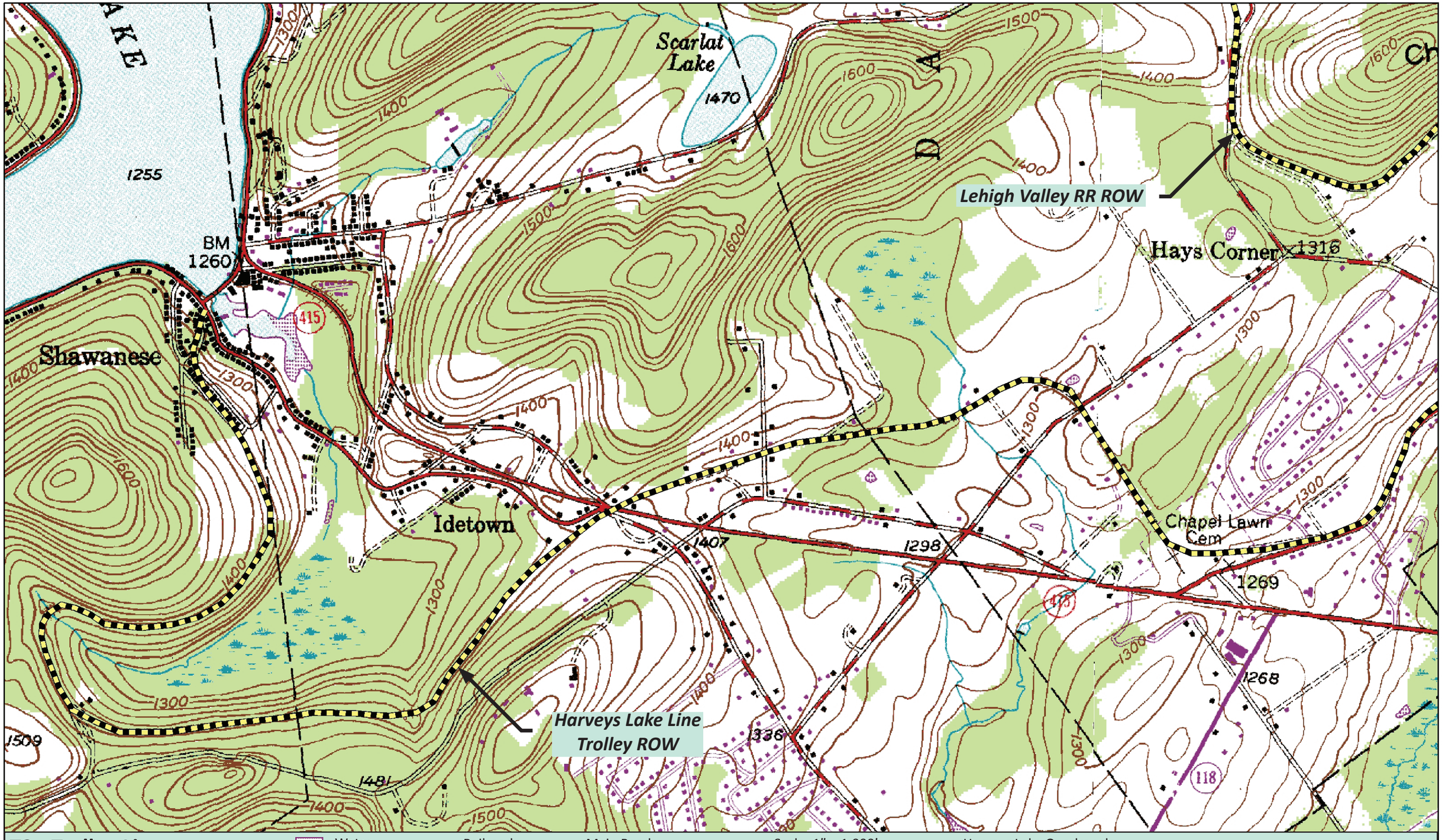
Scale: 1" = 1,000'

0 500 1,000 2,000 4,000

N

Centermoreland Quadrangle

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T3 - Trolley Line

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

Scale: 1” = 1,000’

Harveys Lake Quadrangle

0 500 1,000 2,000 4,000

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T4 - Harveys Lake

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

Scale: 1” = 1,000’

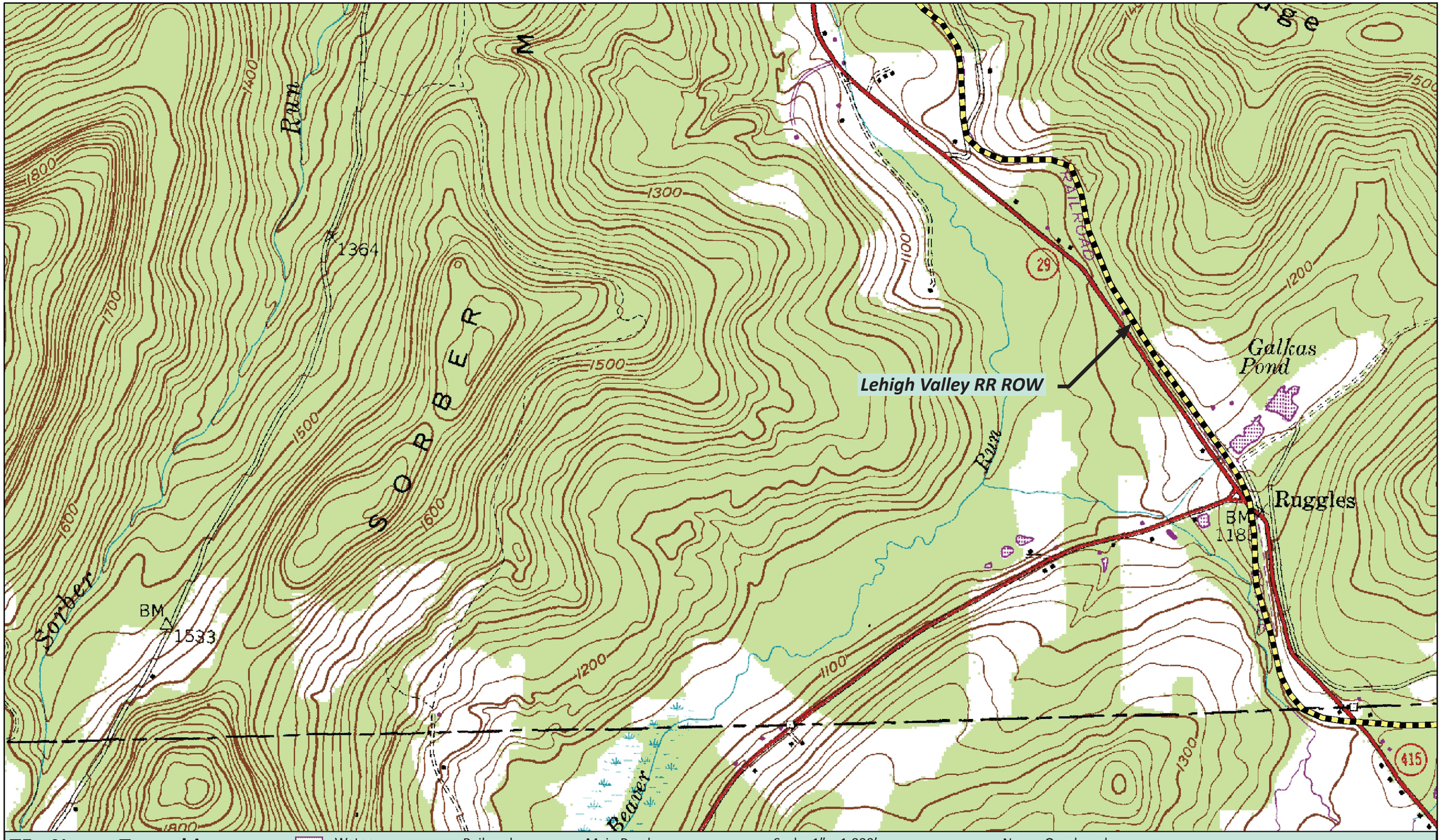
0 500 1,000 2,000 4,000

Harveys Lake Quadrangle

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T5 - Noxen Township

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

Scale: 1" = 1,000'

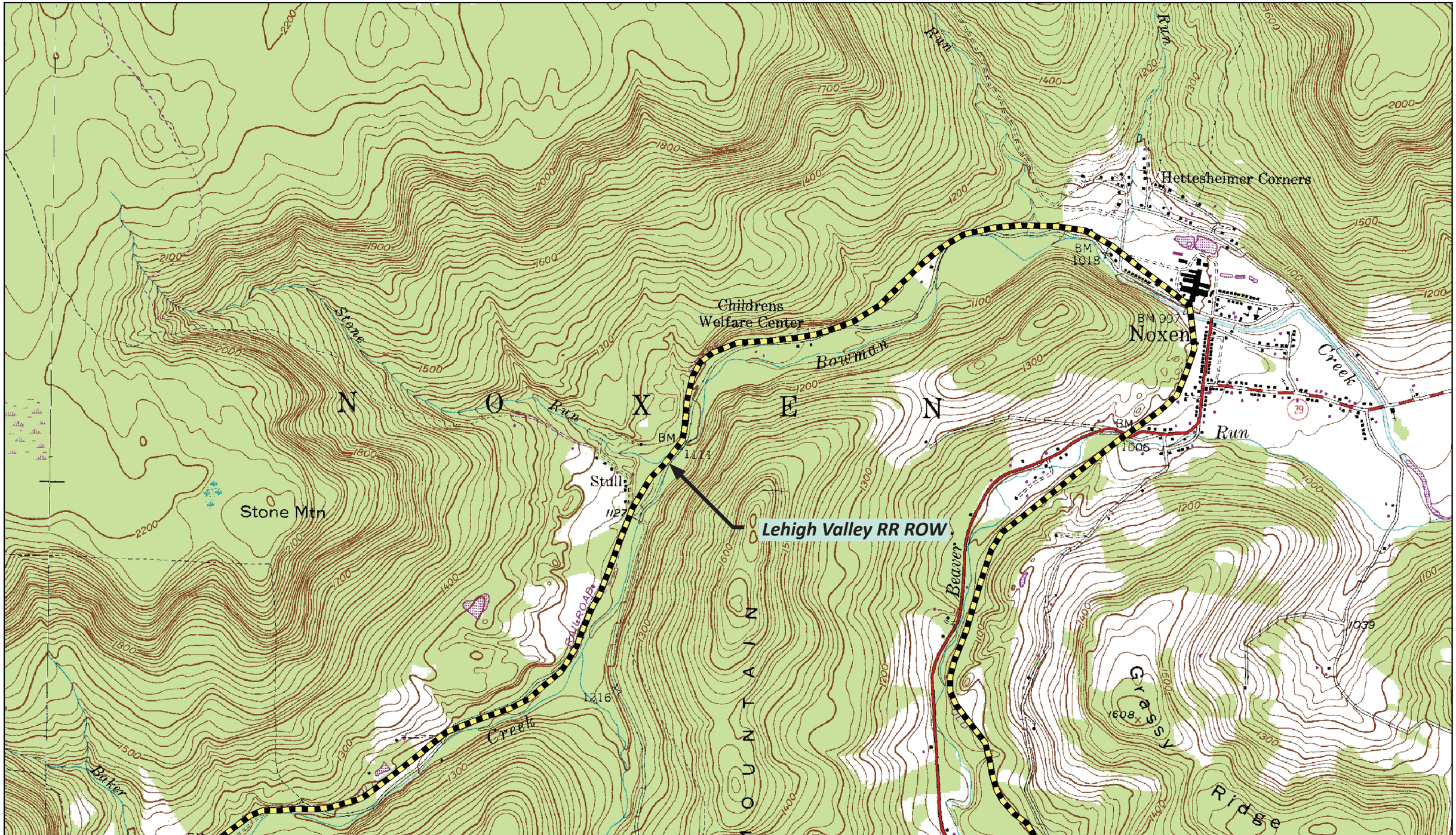
0 500 1,000 2,000 4,000

Noxen Quadrangle

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T6 - Noxen Township

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

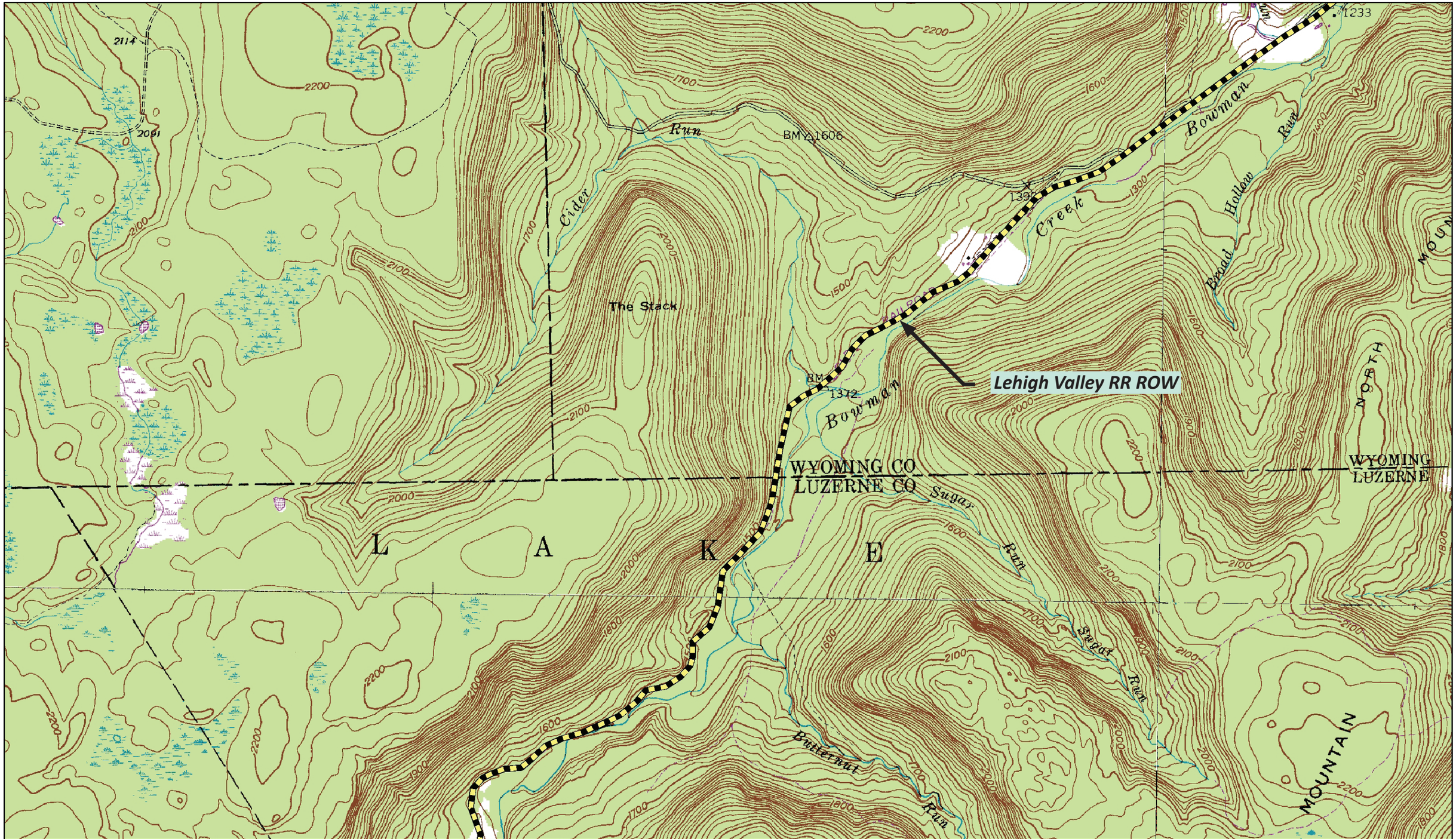
Scale: 1" = 2,000'

0 1,000 2,000 4,000 6,000

Noxen Quadrangle

N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T7 - Lake Township

Water · Railroad · Main Roads

Wooded Areas · Cleared Areas · Wetlands · Buildings · Secondary Roads

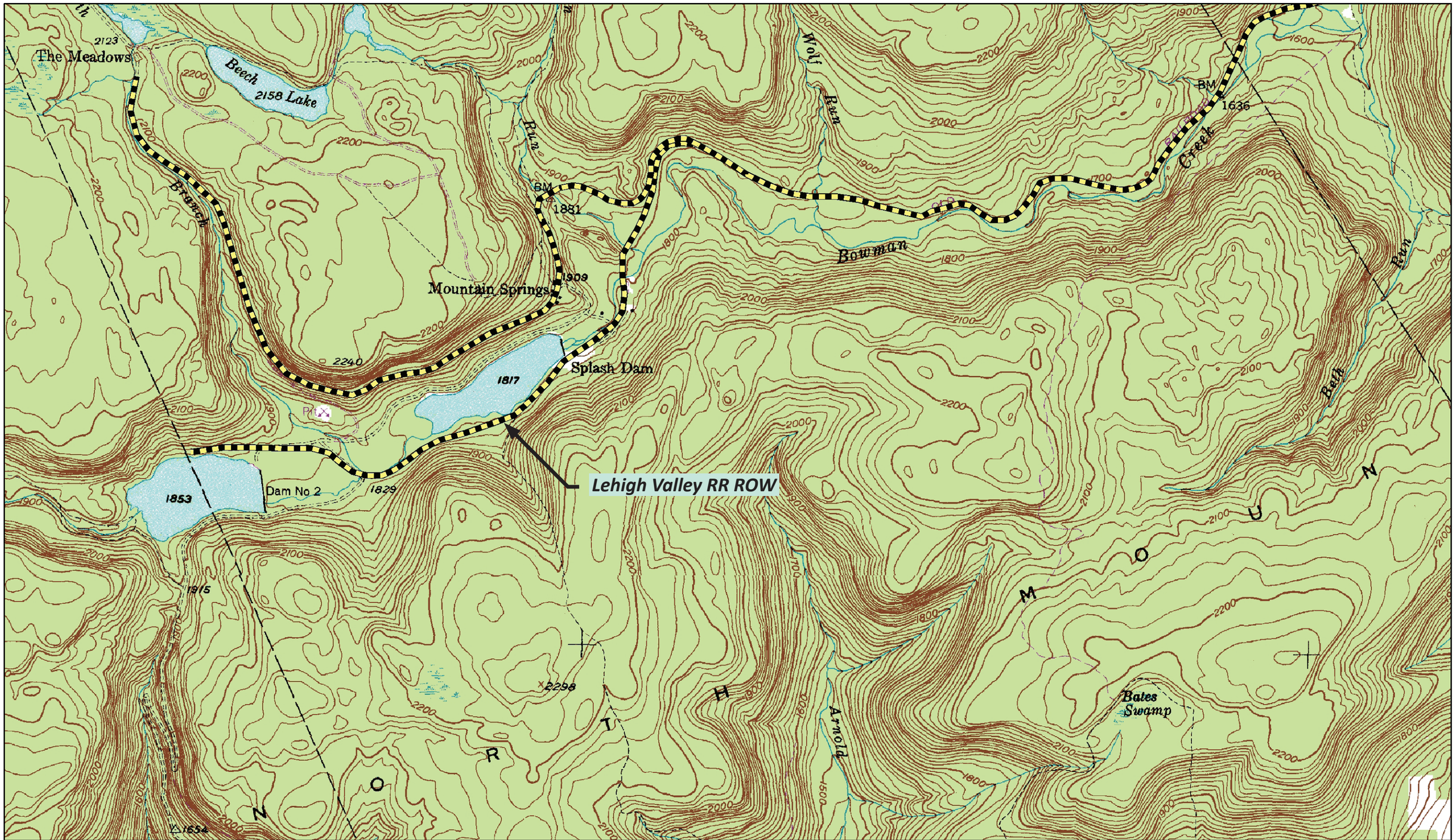
Scale: 1" = 2,000'

Dutch Mt. Quadrangle

0 1,000 2,000 4,000 6,000 N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



T8 - Mt. Spring Lake

Wooded Areas | Cleared Areas | Water | Wetlands | Railroad | Buildings | Main Roads | Secondary Roads

Scale: 1” = 2,000’ — Sweet Valley Quadrangle

0 1,000 2,000 4,000 6,000 N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

that features many wetlands. An interesting natural feature called “the Stack” is seen in this area to the north of the ROW.

T8

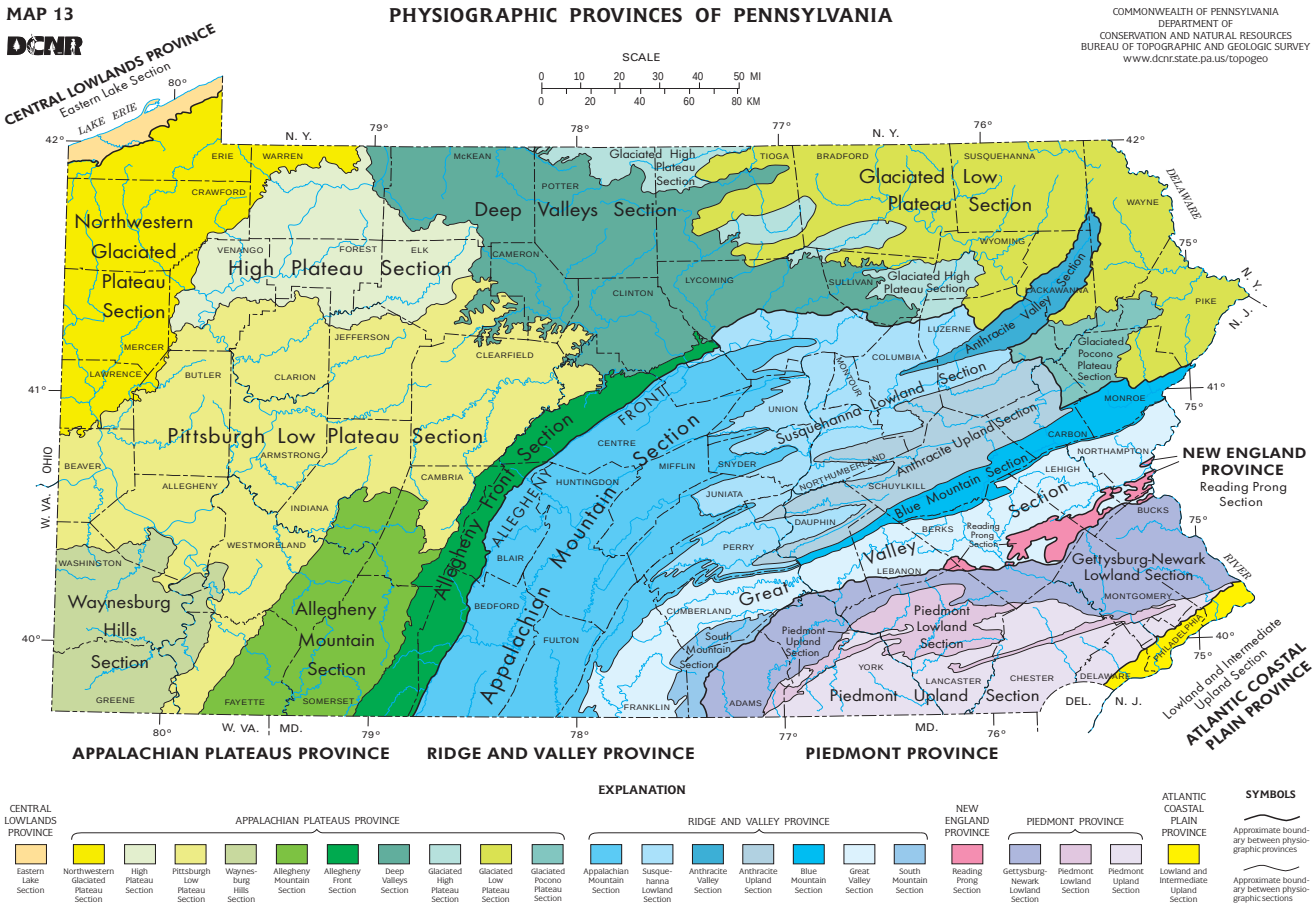
The ROW slopes uphill nearly 200 feet as it reaches Mountain Spring Lake. The valley created by Bowman Creek is much wider in this section. Beth Run, Wolf Run, and Arnold Creek all empty into Bowman Creek wihtin this area. The ROW terminates at an elevation of 1853 feet at the man made lake. Before doing so, the ROW meanders through wetlands created by the convergence of the North and South branches of Bowman Creek along with the dam. Continuing to the north, one would enter Ricketts Glen State Park and find Beech Lake off to the right along with a very large wetland. Eventually, a trail user would exit the park onto PA 487 (1).

Geology and Soils within the Study Corridor

Geology of Study Corridor

The Study Area Corridor is located within the Glaciated High Plateau and the Glaciated Low Plateau Sections of the Appalachian Plateaus Province (2).

The Glaciated High Plateau Section consists of broad to narrow, rounded to relatively flat, elongate uplands separated in most places from the adjacent Glaciated Low Plateau Section by a steep-sloped, well defined escarpment. These uplands are dissected by steep to shallow valleys. Each elongate upland corresponds to a syncline whose axis is in the approximate center of the up-land. The Deep Valleys Section occurs in north-central northeastern Pennsylvania in parts of Bradford, Columbia,



Luzerne, Lycoming, McKean, Potter, Sullivan, Tioga, and Wyoming counties. Outstanding Scenic Geological Features in the Section includes Ricketts Glen.

The Glaciated Low Plateau Section includes an area of diversified topography in northeastern Pennsylvania. The topography consists of rounded hills and broad to narrow valleys all of which have been modified by glacial erosion and deposition. Swamps and peat bogs are common in the eastern part of the Section. The Section reflects the interplay between bedrock of various types, mainly sandstones and siltstones, and glacial erosion and deposition. The more erosion-resistant rocks form the hills, while the less erosion-resistant rocks occur in the valleys. Glacial deposits, mainly glacial till or sand and gravel, may occur anywhere, but are found mainly in the valley bottoms and margins. Outstanding Scenic Geological Features in the Section includes Harveys Lake.

The underlying geology of most of the corridor from Dallas, through Harveys Lake and Noxen is the Catskill Formation the Devonian Geologic Age (360 to 408 million years ago). The Devonian Age is sometimes called the "Age of Fishes' because fish became abundant during this time. To the west and southwest of Noxen, as the corridor approaches Ricketts Glen, the underlying geology transitions from Catskill to a mix of Burgoon Sandstone, Huntley Mountain Formation and Pocono Formation. The Geologic Age also shifts to the Mississipian.

The rocks of the Catskill Formation are largely dominated by a succession of grayish-red sandstone, siltstone, shale and some conglomerate and mudstone in fining-upward cycles. The Burgoon sandstone Formation is a crossbedded, quartzitic sandstone with some conglomerate near its base. The Huntley Mountain Formation is composed of two sandstone sequences. The Pocono Formation is composed of light-to olive-gray, fine to medium grained, crossbedded sandstone, siltstone and conglomerate. The main rock type within the entirety of the study area corridor is Sandstone. PA DCNR describes Sandstone as a sedimentary rock in which more than 50 percent of its particles are sand-sized (0.002–0.08 inches in diameter). It looks like sand held together by cement. Sandstones can be found in a variety of shades of white, red, green, and gray.

Soils within Study Corridor

Onsite soils were identified using Arc GIS and shape files obtain from the GIS departments in Luzerne County, Wyoming County and online via PASDA. Soil information and descriptions were obtained using the Soil Survey of Luzerne County, Pennsylvania (3) and the Soil Survey of Lackawanna and Wyoming Counties, Pennsylvania (4). Additional, soil data was reviewed using the on-line, interactive web resources through USDA/NRCS (5) and some was taken verbatim from the Pennystone Project website (6), which is a useful resource for basic soils data.

Morris soil series are deep, somewhat poorly drained soils that developed in medium-textured glacial till from red sandstone, siltstone and shale. They are found on concave lower side slopes, in drainageways, and on broad, gentle hilltops. They typically have a very dark gray to dark-brown channery layer at about 11 inches that overtops a brown and grayish brown mottled layer. A dense fragipan that restricts root penetration and water movement can be found within 11 and 22 inches. Many lands with this soil have been cleared and now remain idle with some crops including corn, hay, pasture and small grains, depending upon the year. Native vegetation includes red maple, hemlock, black ash, sugar maple, white pine and oaks. Taxonomy: coarse-loamy, mixed, active, mesic Aeric Fragiaquepts.

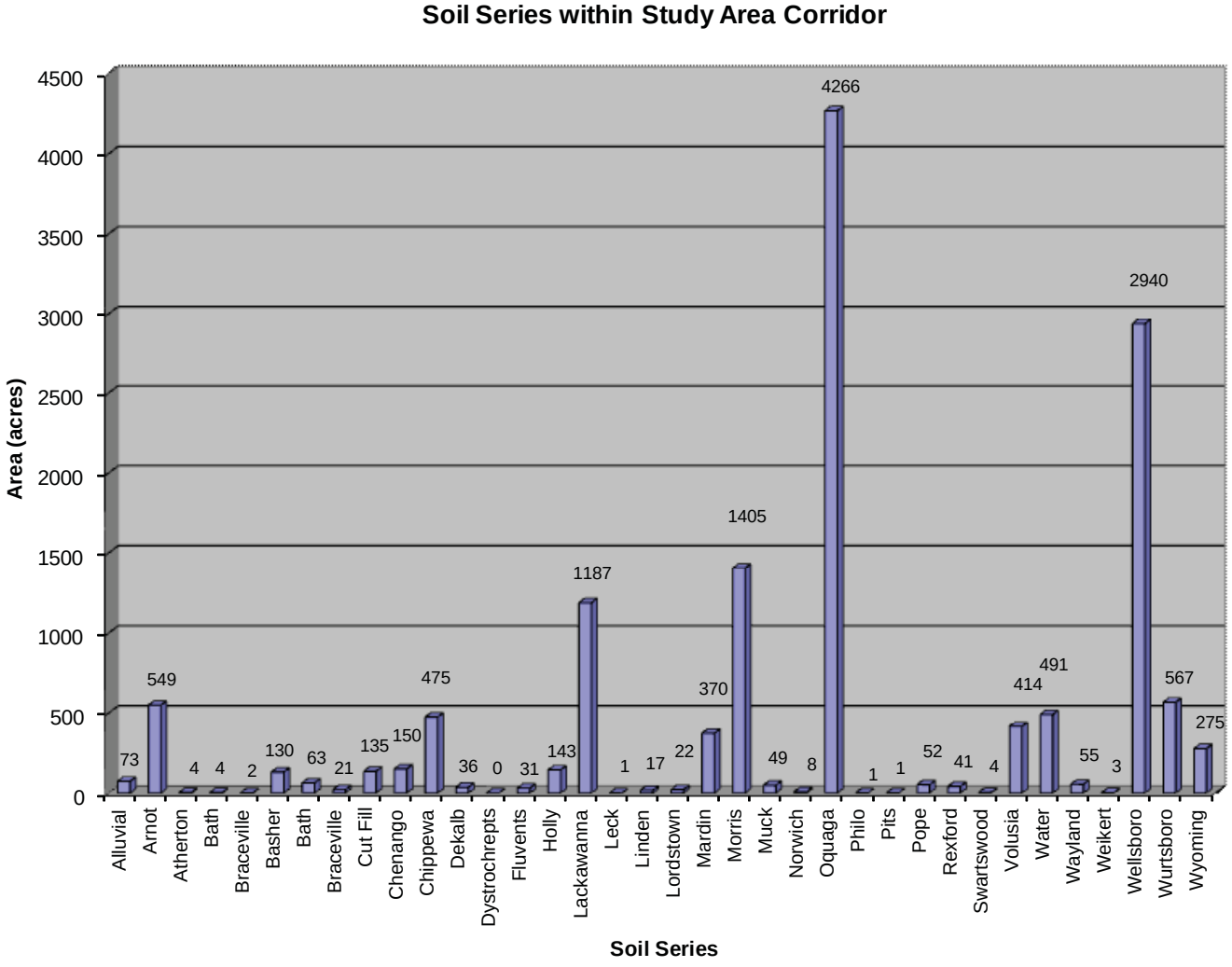
The Wellsboro series consists of very deep, moderately well and somewhat poorly drained soils formed in till derived from red sandstone, siltstone, and shale. Slope ranges from 0 to 50%. Permeability is moderate in the surface and upper subsoil layers and slow or very slow in the lower

subsoil and substratum. This series is common on hillsides and ridgetops and typically are found as mixed hardwood forests dominated by sugar maple, beech, red oak and white pine. Wellsboro soils are deep flaggy, stony, channery and silt loams with moderate permeability formed in firm till derived from reddish sandstone, shale and siltstone, often with a fragipan at 14 to 26 inches and typically with a seasonal zone of saturation around 15 inches in March and April. Taxonomy: coarse-loamy, mixed, active, mesic Typic Fragiudepts.

Basher soil series consist of moderately well-drained, very deep (as much as 100 inches to bedrock) soils formed in recent alluvial deposits derived from acidic reddish siltstone, shale and sandstone. Taxonomy: coarse-loamy, mixed, active, mesic Fluvaquentic Dystrudepts.

Weikert soil series are well drained, shallow mostly shaly, flaggy, stony and silt loams formed in residuum of interbedded fine-grained sandstone, siltstone and interbedded gray and brown acidic shale. Taxonomy: loamy-skeletal, mixed, active, mesic Lithic Dystrudepts.

Wayland soil series are poorly drained, deep silt and silty clay loams formed in recent alluvium in low or slackwater floodplain areas of streams receiving upland runoff containing some calcareous drift. Soils are frequently flooded and a seasonal zone of water saturation is the surface from November



through June in many areas. Organic matter content in the surface horizon is about 6 percent, and the soils meet the criteria to be classified as hydric. Taxonomy: fine-silty, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts

Lackawanna soils are well drained, very deep channery and very stony loams with moderate permeability formed in till from materials parented by shale, siltstone and reddish-colored sandstones. A dense fragipan starts between 17 and 36 inches. Taxonomy: coarse-loamy, mixed, active, mesic Typic Fragiudepts.

Oquaga soils are excessively drained, moderately deep soils with moderate permeability formed in a thin mantle of reddish till, with lithology dominated by the local and underlying reddish sandstone, siltstone and shale. Taxonomy: loamy-skeletal, mixed, superactive, mesic Typic Dystrudepts.

Lordstown soil series are well drained, deep channery, stony and silt loams, with moderate permeability, formed in frost-churned (cryoturbated) materials and till parented by sandstone and siltstone on landforms controlled by bedrock in glaciated and dissected plateaus. Taxonomy: coarse-loamy, mixed, active, mesic Typic Dystrudepts.

Pope soil series are well drained, deep loams, sandy loams and silt loams formed in alluvium on floodplains that are rarely to frequently flooded from alluvium of acidic sandstone, siltstone and shale. Coarse-loamy, mixed, active, mesic Fluventic Dystrudepts

Rexford soils are poorly drained, deep loams formed in water-sorted materials mostly from gray shales and sandstones, with a fragipan at 15 to 24 inches. Taxonomy: coarse-loamy, mixed, active, mesic Aeric Fragiaquepts.

Chippewa soils are poorly drained, very deep soils developed from till deposits dominated by siltstone, shale and sandstone rock fragments with a dense fragipan between 10 and 24 inches. Organic matter is around 6 percent and saturation is to the surface in spring. Taxonomy: fine-loamy, mixed, active, mesic Typic Fragiaquepts

Wyalusing series consist of deep, poorly drained soils that developed in medium-textured, moderately coarse textured and coarse textured alluvial deposits. They occur along many streams and are dominated by Kentucky Bluegrass, White Clover and other water-tolerant plants like Redtop. Wooded areas are comprised of maple, beech and elm trees. The series typically has a 9 inch mottled plow layer of dark grayish-brown silt loam overtop a subsoil of mottled dark-gray loam and fine sandy loam with grayish-brown, yellowish red and gray mottles. These soils are subject to flooding and the water table is within 6 inches of the surface.

Holly Soils are poorly drained, deep mostly silt loams with moderately high permeability and formed in the alluvium from upland areas of noncalcareous sandstone and shale as well as low-lime drift on slopes up to 3 percent. Soils are rarely to - more typically - frequently flooded and rarely to occasionally ponded. Zones of saturation at or just below the surface are common, usually in winter to spring months but year round in some areas. Taxonomy: Fine-loamy, mixed, active, nonacid, mesic Fluvaquentic Endoaquepts.

Natural Features

The mile-wide study corridor travels through various interesting terrain and natural features. There are over twenty creeks and streams that flow through the corridor and several wetlands. Intact woodlands and waterbodies dot the corridor, as well.

Hydrology Definitions

The following definition is used by the U.S. Army Corps of Engineers (USACE) and the Pennsylvania Department of Environmental Protection (PA DEP) when administering the above regulatory requirements: A "wetland" is "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

According to the Pennsylvania Clean Streams Law of 1931, "Waters of the Commonwealth" shall be construed to include "any and all rivers, streams, creeks, rivulets, impoundments, ditches, water courses, storm sewers, lakes, dammed water, ponds, springs and all other bodies or channels of conveyance of surface and underground water, or parts thereof, whether natural or artificial, within or on the boundaries of this Commonwealth."

According to PA Code, Title 25, Chapter 105.1 the definition of a watercourse is "a channel or conveyance of surface water having defined bed and banks, whether natural or artificial, with permanent or intermittent flow."

Additionally, the Pennsylvania Code provides the following definitions: An intermittent stream is "a body of water flowing in a channel or bed composed of substrates primarily associated with flowing water, which during periods of the year is below the local water table and obtains its flow from both surface runoff and groundwater discharges," and; an ephemeral stream is a "water conveyance which lacks substrates associated with flowing waters and flows only in direct response to precipitation in the immediate watershed or in response to melting snowpack and which is always above the local water table."

There are twenty-four (24) named streams and many more features that meet the definition of a watercourse that are located within the study area corridor. The majority of the watercourses, especially to the north and west of Harveys Lake are classified by PA DEP Chapter 93 as high-quality cold water fishery (HQ-CWF). The primary stream within the corridor is Bowman Creek, and every stream north of Harveys Lake empties into this watercourse. It is also the largest and most powerful creek in the corridor. Several streams flow through undisturbed land and provide important habitat for fish and wildlife. Toby Creek is an important watercourse that flows through Dallas with potential recreation and aesthetic benefits, however, its value as an environmental resource is lessened by the lack of riparian buffer and high stormwater loading from the urbanized landscape. Maintaining streams which already have high quality water, as well as, improving ones that are distressed or impaired should be important during trail design, construction and maintenance (7).

Corridor Sub-Watersheds

There are twenty-four sub-watersheds within the LVRR ROW corridor. They are part of the larger Middle Susquehanna Basin which covers area from near the New York border in Bradford County to Sunbury, PA. The largest sub-watershed in the study area is the Bowman Creek Watershed which has an area of over 1,760 acres followed by the Harvey Creek Watershed and Leonard Creek watershed.

Several smaller watersheds drain into the Bowman Creek Watershed and it is an environmentally sensitive watershed that is prone to damaging flooding. The longest segment of the ROW runs through the Bowman Creek watershed from the village of Noxen all the way to Mountain Spring Lake. The next longest segment runs through the Toby Creek watershed in Dallas. Much of this watershed has been developed which makes stormwater management important for the overall health of Toby Creek. Overall, the majority of the ROW drains into the Bowman Creek watershed, particularly in areas around Harveys Lake and northward. Areas south of the lake, drain into the Susquehanna River.

Wetlands

Based on GIS data, there are 1,430 acres of wetlands within the one mile-wide study corridor. However, it should be noted that over 600 acres of this total includes Harveys Lake. The majority of these wetlands are forested/shrub wetlands. The largest areas of wetlands, aside from Harveys Lake, can be found at the following locations: at the mouth of Trout Brook where it empties into Toby Creek at Lower Demunds Road in Dallas, alongside Toby Creek between Lake St. and PA 415 near Misericordia University, at the Marina at Harveys Lake, the confluence of Beaver Run and a tributary just off of PA 415 north of Harveys Lake, and along Bowman Creek. Wetlands are important natural filters, natural flood control facilities and important habitats. They should be avoided, if possible, or minimally disturbed and mitigated.

Floodplains

There are 250 acres of floodplains within the study corridor. The two largest floodplains within the corridor belong to Bowman Creek (the largest) and Toby Creek. Development in Dallas and Harveys Lake areas has encroached upon the floodplains to many creeks and streams. As increased development of greenfield (undeveloped natural) lands occurs through the corridor, so too does the increase in stormwater runoff. This increase in stormwater runoff increases the volume of untreated water that local creeks and streams carry during storm events. As seen during flooding of Bowman Creek in 2006, the flooding damaged most the areas adjacent to the creek. A large portion of stream banks were eroded and felled trees and debris subsequently clogged waterflow. Maintaining a riparian buffer along these streambanks is vital for natural flood protection. A trail network along streams is one thing that can help to reduce floodplain encroachment by other development and allow for riparian restoration projects.

Significant Natural Features

There are some significant natural features along the LVRR ROW. Toby Creek, Leonard Creek, Beaver Run, and Bowman Creek along with Harveys Lake are the most significant waterbodies within the corridor. A patchwork of natural woodland and open meadow dominate the landscape between Dallas and Harveys Lake. Native forestland dominates the landscape from Harveys Lake to Noxen and Mountain Spring Lake. Much of these woodlands are dominated by native hardwood trees such as Oaks, Maples, Pines, and Hemlocks. As the ROW follows alongside Bowman Creek in State Gamelands #57, tall, steep, south facing rocky slopes with outcrops can be found in this section. The natural valley made by Bowman Creek creates very steep, densely wooded tall mountainsides that lead up to a large geologic plateau at an elevation of 2,200 feet above sea level.

Natural Areas Inventory

A review of the Natural Areas Inventory for Luzerne County and Wyoming County, prepared by the Pennsylvania Natural Heritage Program, Western Pennsylvania Conservancy was completed to identify natural features within the mile-wide study corridor. The corridor does traverse several interesting terrains and natural features. There are over twenty creeks and streams that flow through the corridor and multiple wetland complexes. Native forest land with mature native hardwoods are perched atop rocky soils developed from millions of years of erosion. Below are the natural features that the PA

DCNR has called out for its importance.

Boulder Run Swamp is located in Lake and Ross Townships. It is an acidic shrub swamp near the edge of the Allegheny Front. This area features an upland Red Spruce forest to the northeast, a palustrine Red Spruce swamp to the northwest , and a Highbush Blueberry and Sphagnum wetland to the south. Additional dominant plants include: Leatherleaf, Black Spruce, Large and Small Cranberry, Sheep Laurel, Sundew, Sedges, and others. The swamp is composed of peat moss soils and features a small floating mat area adjacent to a pool. This site is a breeding spot for two PA-Threatened species.

Harveys Lake is the largest natural lake by volume in the state. It features some plant species now considered rare due to local development along the lake and invasive species. There are three plant species labled Endangered in the lake: Beck's Water Marigold, Vasey's Pondweed, and Grassy Pondweed. These species were located in the lake in 2003. Invasive plants such as Fanwort (native to Florida), a rooted aquatic plant and Purple Loosestrife along the shoreline, are aggressive invaders and are crowding out other native species.

State Gamelands #57 are located in Ross, Lake, and Noxen Townships. This area features extensive south-southeast facing rocks and outcrops. Four animal species of concern have been spotted here. The majority of the forest is deciduous with Black Cherry, Red Maple, Birch, and Striped Maple being the prime tree species.

Beech Lake is located in State Gamelands #57, this site features a small natural pond, wetlands called the Meadows, and man-made Beech Lake. A young hardwood forest dominated by Red Maple surrounds the lake. There are two species of concern; Narrow Leaf Gentian and Small Floating Manna Grass. These species have small populations but currently do not have any imminent threats, however, maintaining present hydrology is important. There are also a couple animal species of concern: Arctic Skipper (butterfly species) and Northern Saw Whet Owl are threatened by mowing meadowlands in spring and summer months.

Mountain Spring Lake is located between Ross and Fairmount Townships, there are two man-made lakes that was created by a splash dam. Lake #1 is located in woodland and is only accessible by trails. Lake #2 is the lake featured in this study. They are wholly enveloped by natural forest. The land is public and maintained by the PA Game Commission and the Fish and Boat Commission. There are four species of concern located in Lake #1: Screw-Stem, Silver Bordered Fritillary, Fall Dropseed Muhly, and Narrow Leaf Gentian. There are also four species of concern located in Lake #2: Narrow Leaf Gentian, Fall Dropseed Muhly, Small Floating Manna Grass, and Purple Bladderwort. Lake #1 has had two major disturbances with the removal of vegetation for the construction of the dam and the removal of the dam itself. The dam at Lake #2 is in poor condition and the lake was drained by the Fish and Boat Commission (8).

Identified Conservation Areas include:

North Mountain (Important Bird Area)
Ricketts Glen State Park (Important Mammal Area)
Beth Run (High Quality Cold Water Fishery)
Butternut Run (High Quality Cold Water Fishery)
Bean Run (High Quality Cold Water Fishery)
Wolf Run (High Quality Cold Water Fishery)
Sorber Run (Exception Water Values)
Sugar Run (High Quality Cold Water Fishery

Vegetation

The Terrestrial & Palustrine Plant Communities of Pennsylvania manual helps to better categorize both terrestrial and palustrine (wetland) plant communities within Pennsylvania. A plant community

is defined as an assemblage of plant populations sharing a common environment and interacting with each other, with animal populations and with the physical environment.

The ROW lies within the Ridge and Valley forest group. Typically on ridge tops where the soil isn't as moist as sloping ridges, there are trees that prefer acidic and sandy soil like a few pine and oak species. As for open fields, or where there are openings in the canopy, woody shrub-like plants such as Mountain Laurel thrive. As the slope decreases and there is a greater flow of water, hemlock species dominate most of the canopy with white pines. However, in areas where the slope isn't steep and the soil acidity is low, trees like American Beech and Red Maple tend to grow. Other maples like Sugar Maple, prefer to grow on slopes that are rocky. Down in the valleys, along stream beds, birch and aspen species seek out soils rich in minerals. Adjacent to rivers in areas that flood seasonally, it is typical to find Sycamore and birch species.

In general terms, forests have 60% to 100% tree cover; whereas, woodlands have between 10% and 60% tree cover. Contrary to terrestrial communities, palustrine type communities are subject to surface flooding or periods of prolonged saturation during the growing season and vegetation is a least partially hydromorphic. The palustrine areas are located along portions of several creeks and streams, particularly in the last sections of the ROW west of Noxen. The manual does not categorize meadow or field communities, which are present on a few sites, as well.

There were several aggressive, weedy species and invasive plants observed during field walks. Tartarian Honeysuckle dominates the rail bed near the Fern Knoll Cemetery. Stilt grass, garlic mustard, knotweed and other grasses and forbs are located on stream banks along several streams. Purple Loosestrife and other aggressive invasive species were spotted around Harveys Lake and this species is detrimental to native species. Invasive shrubs on slopes along bermed areas and hillsides such as Japanese Barberry is present as well. Japanese Barberry has and sometimes is presently used as a ornamental shrub in landscapes, however, it is highly invasive. Since a significant portion of the ROW runs alongside several creeks and streams, several of which exhibit important ecological habitats to fish and wildlife, it is very important to mitigate any invasive plant species in these areas (9).

Wildlife Analysis within the Corridor

Typical songbirds and wildlife, like rabbits, squirrels, chipmunks and deer were observed and they utilize the ROW and proposed trail corridor for habitat, cover, and foraging. However, the ROW would not be considered special habitat and its development into a formal trail will not greatly impact wildlife. There were no observed livestock crossings. Due to the already developed nature of the trail and the location within residential/commercial areas, the field visits and research did not identify any wildlife that may be harmful to trail users. Additionally, the proposed trail would not negatively impact wildlife habitat.

Structures within the Corridor

The first structure along the LVRR ROW is a large drain pipe that channels water underneath the ROW near the Storage Unit Facility on Lower Demunds Road. This pipe is in need of cleaning and repair as it has been damaged from previous flooding. Further up from this point is a planting bed adjacent to the Sunoco Gas Station off Memorial Highway and Dorchester Drive. This structure is situated directly on top of the ROW.

The next several structures are located along PA 309 and PA 415. There are a couple stores located

on the ROW adjacent to the Dallas Shopping Center. The Weis supermarket is located on it as well. Following alongside PA 415, there are several stores that are now situated on the ROW. A very decrepit bridge next to Mill St. just down from the U.S. Post Office in Dallas is also found on the ROW. Continuing further, an abandoned gas station sits within the ROW at the intersection of Church and Lake Streets with PA 415. Across from Lake Street, a beverage distributor is located on it as well as several more buildings belonging to Misericordia University and some stores as well. Before the ROW cross Center Hill Rd., a garage for Misericordia University now sits on the ROW and across the road, a facility for the Meadows Nursing Home is also on the ROW.

The next structure that might possibly represent an encroachment to the trail is an ink toner business off Country Club Road. The ROW passes very close to this property. There a few very close private residences adjacent to the ROW along Spencer Road, off of Lake Street. Once past here, there are no structure issues until the ROW reaches Harveys Lake.

When the ROW enters the Lake alongside Lakeside Drive, there are many structures such as garages and lake houses built on the ROW for the entire length of the ROW in this area. Once the ROW turns north towards Noxen, it enters the old Hanson's Amusement park. It passes close to condemned buildings at the entrance. There are some picnic areas located here and an old cinder block restroom as well.

The ROW leaves the park and enters what is now a mobile home park. There are a couple of homes located on the ROW in this area. Once past the court, the next structure is a very nice old viaduct that crosses a Beaver Run tributary. The ROW then crosses PA 415 and a home and a garage are now located on it.

The ROW then crosses PA 415 again near where it intersects with PA 29 and is very close a private residence. The ROW crosses another residence's driveway further up. From here, there are no glaring issues with structures up to Noxen.

Before the ROW enters Noxen, a bridge to cross Beaver Run no longer exists. The ROW loops behind, closely, to several private residences before crossing Bowman Creek. The bridge in this location also no longer exists. From here, it crosses Stull Road across the parking lot of the Noxen Vol. Fire Company. Just up from this location sits the Noxen Train Depot, which is in the process of being restored. Close by this location, the ROW passes behind several private residences, which feature some sheds that sit on the ROW.

The next location has the ROW running behind a few homes along Stull Road. The ROW is being utilized as a driveway for a residence here. From here, the ROW passes near a few residences and cabins, as it gets closer to the State Gamelands. There is an old dilapidated bridge located near the intersection of Stull Road, Sorber Mountain Road, and Wilson Road.

Once the ROW enters the State Gamelands #57, there are no longer any buildings within the corridor. There are a couple wooden bridges that cross some small creeks and their locations are described in the Detailed Analysis of the ROW section. A large stone buttress where the ROW exits Mountain Road exists near where Bean Run empties into Bowman Creek. The buttress has lost its central span that crossed the creek, likely due to flooding.

The last few structures are located near Mountain Spring Lake. A splash dam was located on Lake #1 of the man-made lake and has since been removed. There are some remnants left. A large open gravel

area now exists just down from Lake #2 that used to be a railroad turnaround. There aren't many remnants located here. The concrete dam for Lake #2 is still standing but is in poor shape. The PA Fish and Boat Commission has since drained the lake to prevent a dam collapse. There are some small footpaths located around this spot. The last structure is located on a rocky dirt road that leads from Mountain Road down to the lake. It is the remnants of a wooden bridge that was washed away due to flooding. There is no longer vehicular access here and is only accessible by hiking over the creek.

Infrastructure and Utilities

Only clearly visible signs of infrastructure or utilities ROW's were noted. A PA One Call will be required for all proposed trail locations during the future design and construction phases. One obvious utility structure within the ROW is a raised manhole cover on Mercy Center Drive in Dallas next to Misericordia University. Just north of this location is an electrical utility line and a gas line that serves the local residences. There is also an observed water line that serves Fern Knoll Burial Park and the nearby residential neighborhoods. Coordination with utility companies during implementation of a trail is crucial, expecially when deviating from the LVRR ROW.

Entering Dallas Township, there were no observed markings for utilities that are buried within the ROW. An electrical utility line exists on UGI property off Stredney Road. This might be an issue should the ROW not be feasible. However, access to this property could represent a possible alternative route.

From here, there were no observed or obvious conflicts with utilities within the corridor until the ROW reaches Noxen. There are electrical utility lines that cross the ROW adjacent to Hackling Street. These shouldn't pose an issue to a proposed trail. Once past this location, there are no obseved issues with utilities within the corridor.

Intersections and Access Points

There are numerous intersections and potential access points along the ROW. The first intersection is at Lower Demunds Road in Dallas where the existing trail ends. This is an access point for users to move south along the existing trail or north on a proposed route. There isn't available vehicular parking as there are private businesses on both sides of the road. The next intersection is at Dorchester Drive in Dallas. There is potential access here for vehicular parking in a vacant parking area adjacent to the Dallas Shopping Center. Also, proposed improvements along the shopping center and PA 309 make this segment of the ROW a prime access point.

The ROW originally crossed what is now PA 309 and continued along what is now PA 415. The proposed route runs along PA 309 before crossing at Grandview Ave. The ROW intersects Church St. and Lake St. There is pedestrian access available here but no provisions for vehicular parking. The ROW intersects Center Hill Road and then Lake St. again before continuing alongside Misericordia University. Access points with the University are available and would be an advisable arrangement. The ROW intersects with Country Club Rd before continuing into Dallas Township. Potential vehicular parking access might exist in this location.

The ROW then intersects with Carpenter Rd. and 2nd St. and is defined with raised berms in these locations. Local pedestrian access is available. Users traveling by vehicle may park alongside the road here. The ROW then intersects with Kunkle Rd. near the lake. Most of the ROW in this section is on

private property which is deemed unfeasible. The proposed route would be along Kunkle Rd. Vehicular parking would have to be along the roadside. The ROW then runs along what is now Lakeside Drive before turning north and intersecting with PA 415 twice before continuing alongside PA 29. These access points are along private property and state highways and are not the most admirable locations to access the ROW.

The ROW continues north towards Noxen only intersecting with Dimmick Hill Rd., a very lightly used dirt road. There is a small area off to the side of the road here where it might be possible for a few vehicles to park barring any private property issues. It allows very good access to both directions of the trail. The ROW then intersects PA 29 just before it reaches Noxen. There is a large dirt area next to a Noxen municipal building that would allow for vehicular parking. However, only one side of the ROW is accessible in this location as it cut off by Beaver Run. The ROW then crosses Bowman Creek and intersects with Stull Rd. before continuing alongside it. There is a small footbridge to cross the creek but the road is blocked off by a guardrail and vegetation.

There is an intersection with Wilson Rd. and Sorber Mountain Rd. near the small village of Stull. This is a very lightly used intersection and features a small pull off area for a few vehicles to park. From here, the ROW continues along Wilson Rd. and then Mountain Rd. There are only a few intersections with dirt roads in State Game Lands #57. During field work, there were no users along this last section of the ROW. There are pull off areas periodically for vehicular parking if users want to access more of the gamelands. The penultimate intersection is where the ROW splits to go south of Mt. Spring Lake and north into Ricketts Glen State Park. The north route continues along Mountain Road and the southern part goes through woodland. There is enough space for cars to pull off and park. There is no other access to other parts of the gamelands in this section. The final intersection is with a steep, rocky dirt road that leads from Mountain Rd. to Mountain Spring Lake. Part of this road is washed away, however. There are a few pull off areas and access to the southern part of the ROW can be made here.

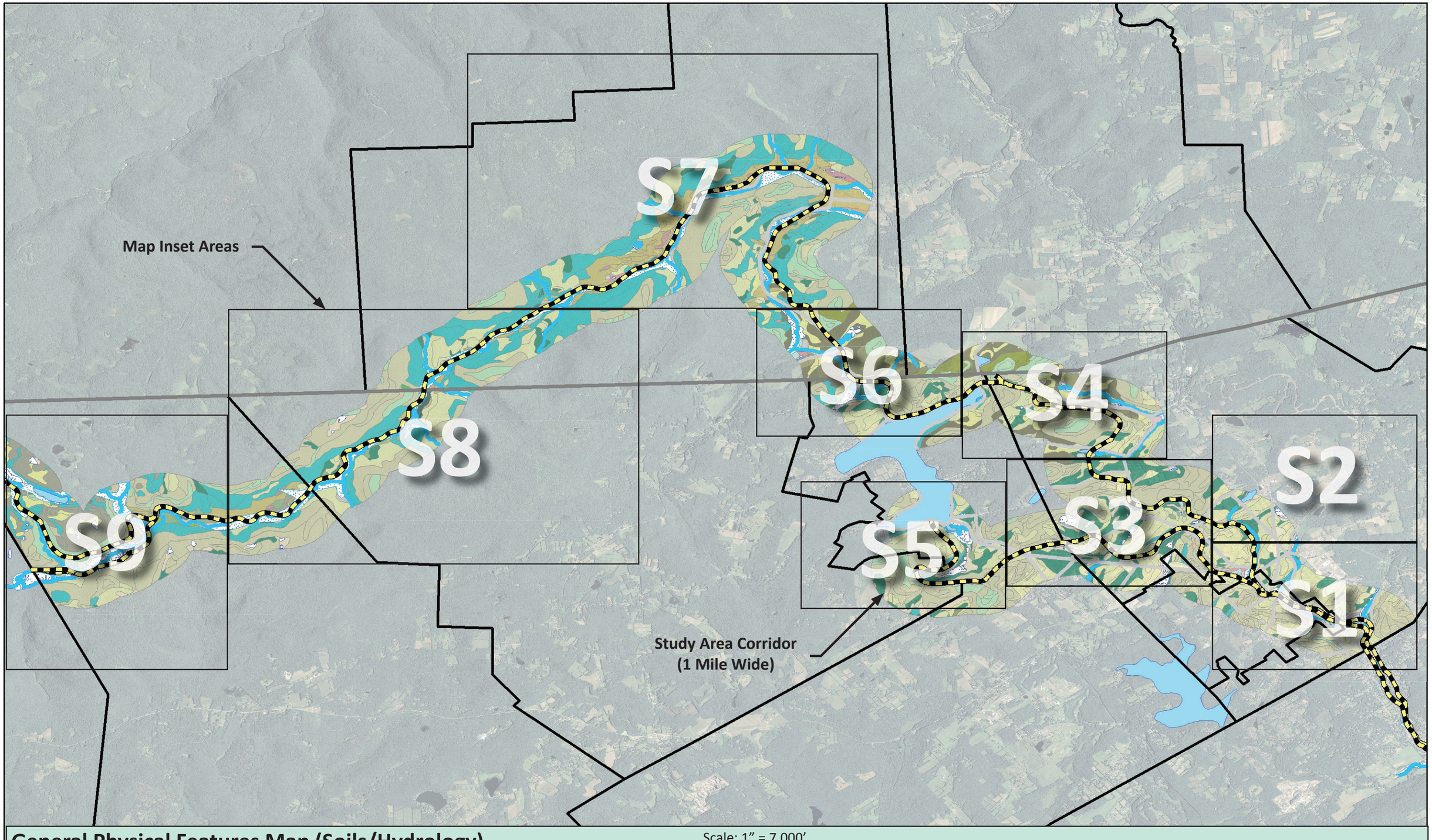
Environmental Hazards

No environmental issues were found within the ROW or the proposed trail alignment that would have a direct negative impact to trail users or the environment. Based on field visits and information reviewed on the PA DEP Enviromapper website, there does not appear to be a need for environmental assessment studies (Phase I or II) relative to toxic waste disposal or other environmental hazards. However, this should be revisited once the trail centerline is fully defined. There may be additional environmental assessments required, if any water obstructions or wetland encroachments area unavoidable.

Please refer to this soil series legend when reviewing the attached General Physical Features (Soils/ Hydrology) Maps, at the end of this section.

Soil Series Legend

- Alluvial (Ag)
- Arnot (ArB, ArD, ArC, AsD, ASE, ASF)
- Atherton (At)
- Basher (Bf)
- Bath (BaB, BaC, BaD, BbD, BkD, BnB, BnD)
- Braceville (BcB, BrA, BrB, BrC)
- Chenango (ChA, ChB, ChC)
- Chippewa (CIA, CIB, CnB)
- Cut Fill (CF)
- Dekalb (DdB, DdD, DEF)
- Dystrochrepts (DYE)
- Fluvents (FA)
- Holly (Ho, Hm)
- Lackawanna (LaB, LaC, LaD, LbD, LcA, LcB, LcD, LCE, LEF)
- Leck (LkD)
- Linden (Ln)
- Lordstown (LeB, LeC, LeD, LxB, LxD)
- Mardin (MaB, MaC, MaD, McB, McC, McD, MfB, MfC, MhB, MhD)
- Morris (MoB, MoC, MrB, MrC, MsB, MsC, MxB, MxD)
- Muck (Mu)
- Norwich (NcA, NcB, NxB)
- Oquaga (OcB, OcC, OcD, OfC, OIB, OIC, OID, OpB, OpD, OxB,OxD, OXF, OYE)
- Philo (Ph)
- Pits (Pk)
- Pope (Pp, Ps)
- Rexford (RdA, RdB, ReA)
- Swartswood (SwD, SxB)
- Volusia (VcA, VcB, VcC, VfB, VoB, VoC, VrB, VrC, VxB, VxD)
- Water (W)
- Wayland (Wa)
- Weikert (WeB)
- Wellsboro (WcC, WcD, WgB, WgD, WIA, WIB, WIC, WID, WmB, WmD)
- Wurtsboro (WrB, WrC, WtB, WtD)
- Wyoming (WyA, WyB, WyC, WyD, WyE, WyF)



General Physical Features Map (Soils/Hydrology)

Railroad · Streams · Roads · Floodplains · Wetlands

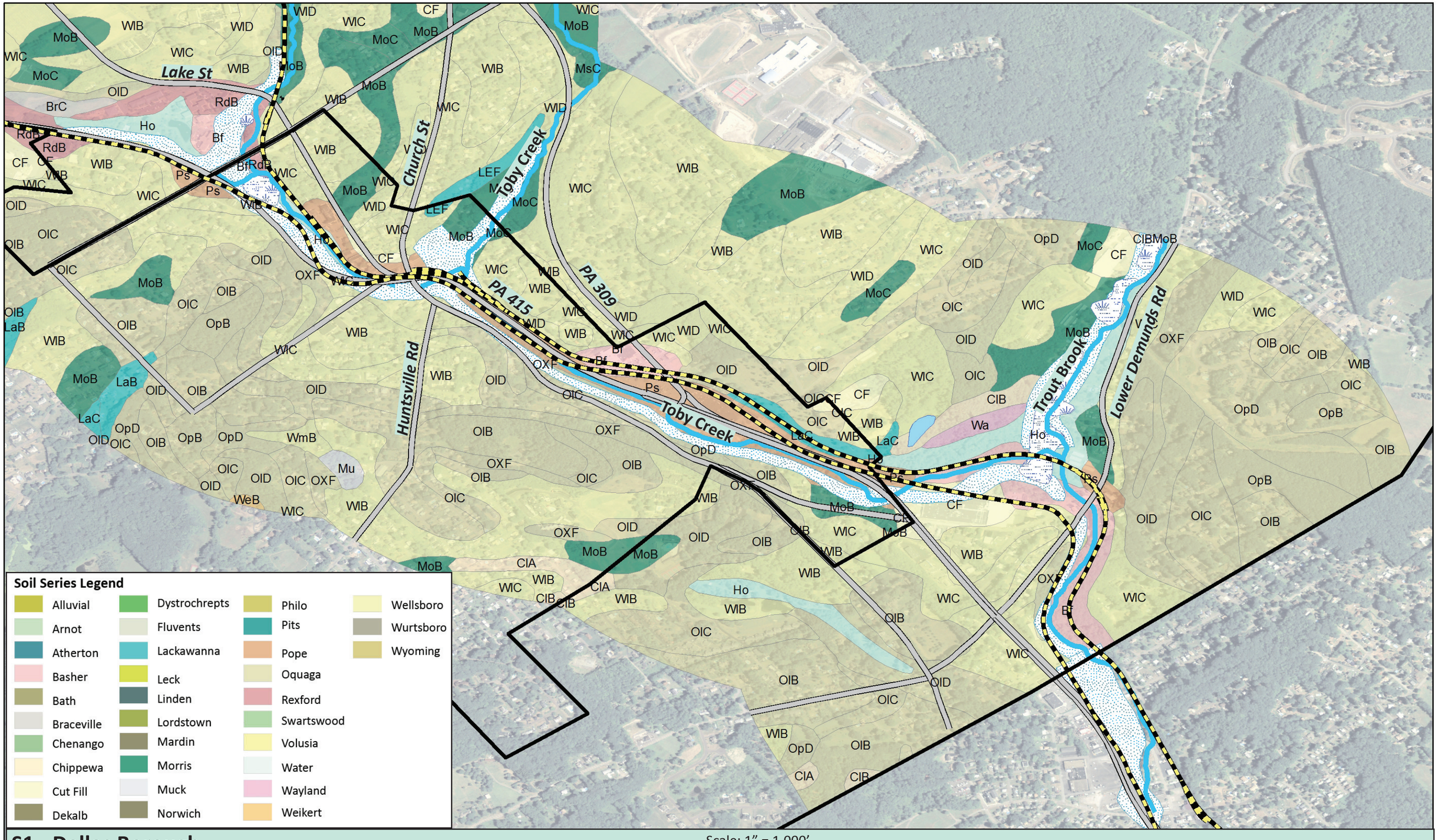
Scale: 1" = 7,000'

0 3,500 7,000 14,000 21,000

N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



S1 - Dallas Borough

Railroad Streams Roads Floodplains Wetlands

Scale: 1" = 1,000'

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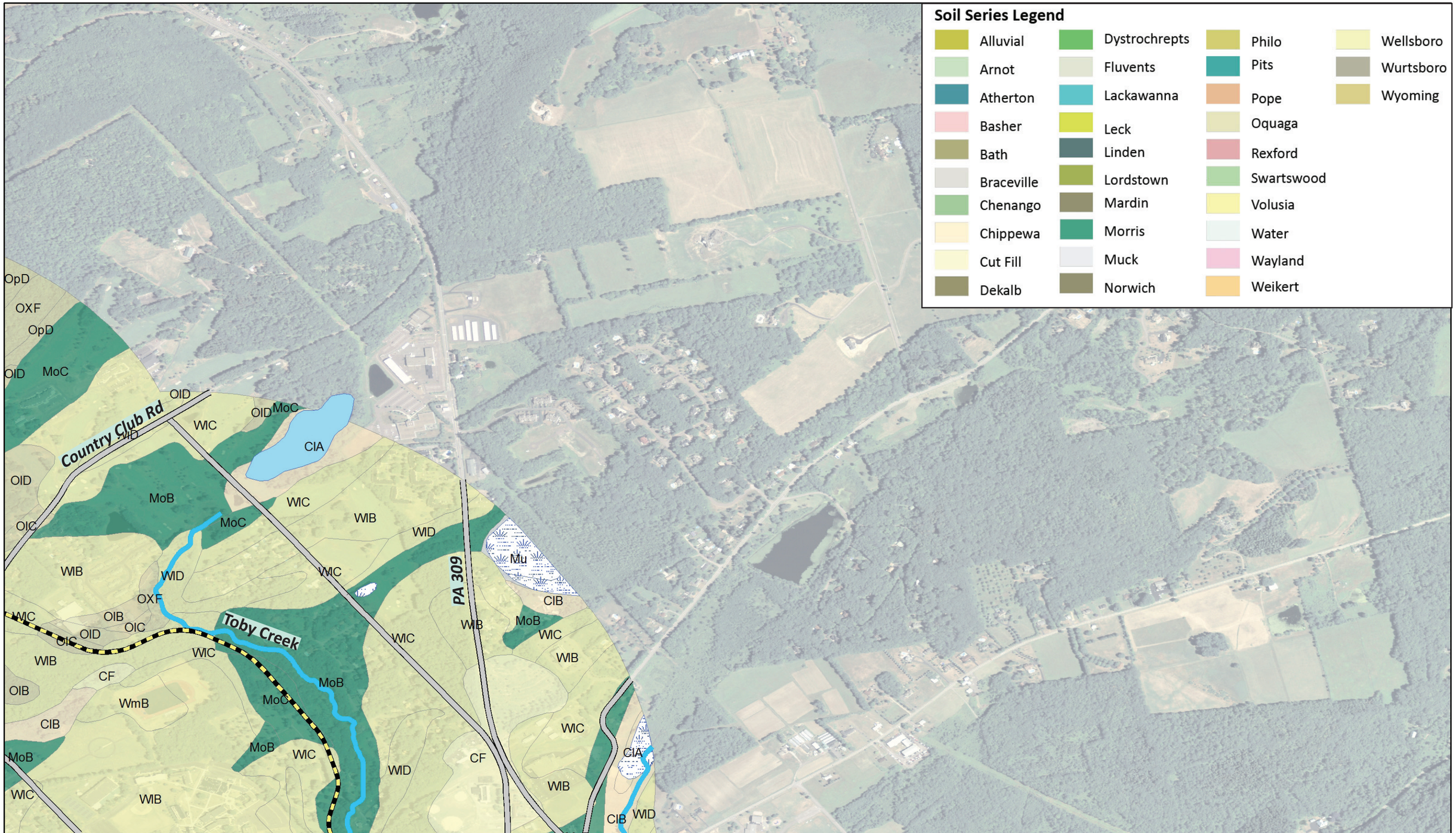
N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



S2 - Dallas Township

Railroad · Streams · Roads · Floodplains · Wetlands

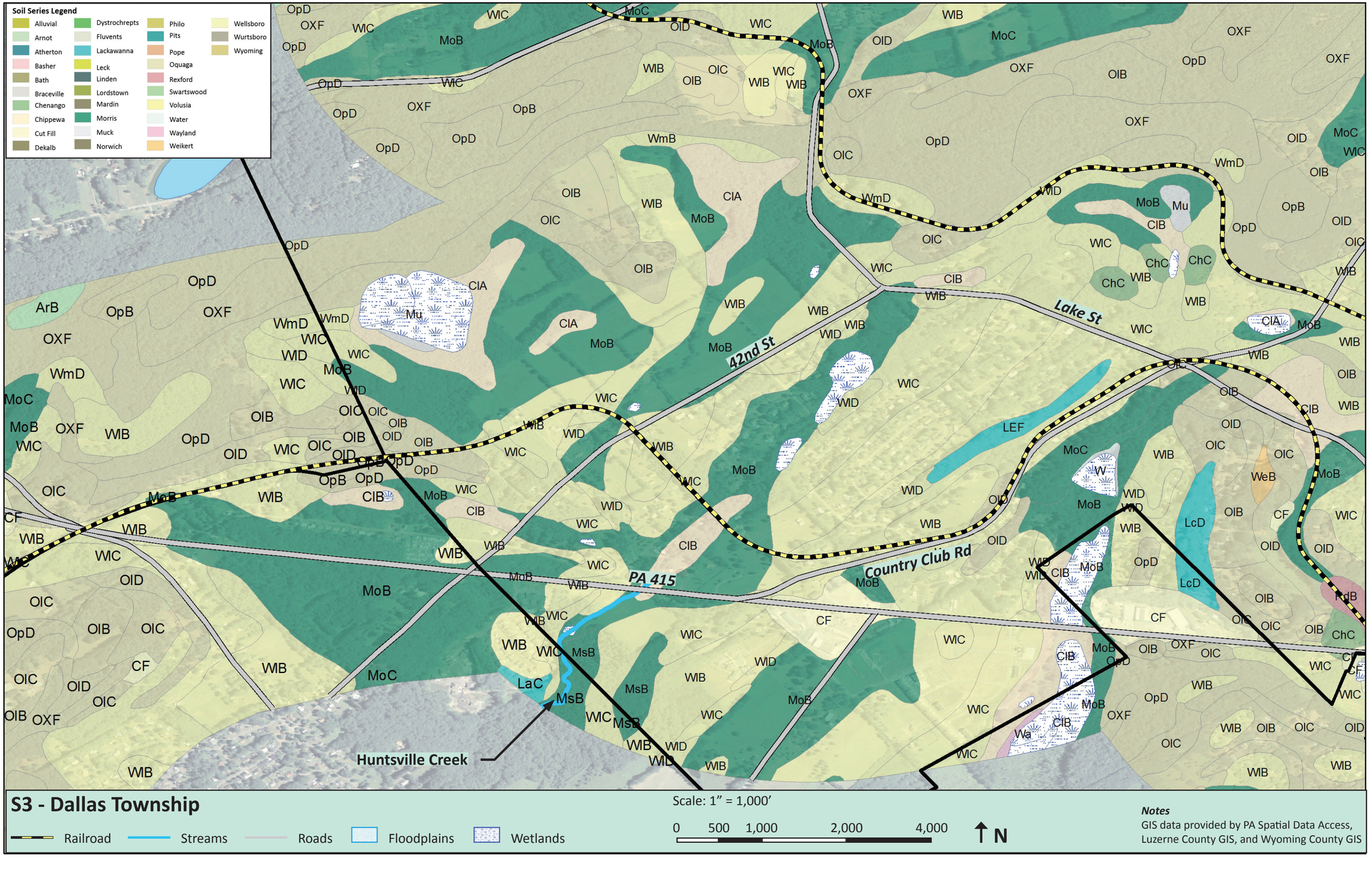
Scale: 1” = 1,000’

0 500 1,000 2,000 4,000

N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS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Alluvial
Arnot
Atherton
Basher
Bath
Braceville
Chenango
Chippewa
Cut Fill
Dekalb
Dystrochrepts
Fluvents
Lackawanna
Leck
Linden
Lordstown
Mardin
Morris
Muck
Norwich
Philo
Pits
Pope
Oquaga
Rexford
Swartswood
Volusia
Water
Wayland
Weikert
Wellsboro
Wurtsboro
Wyoming
Lake St
42nd St
PA 415
Country Club Rd
Huntsville Creek
S3 - Dallas Township
Railroad
Streams
Roads
Floodplains
Wetlands
Scale: 1" = 1,000'
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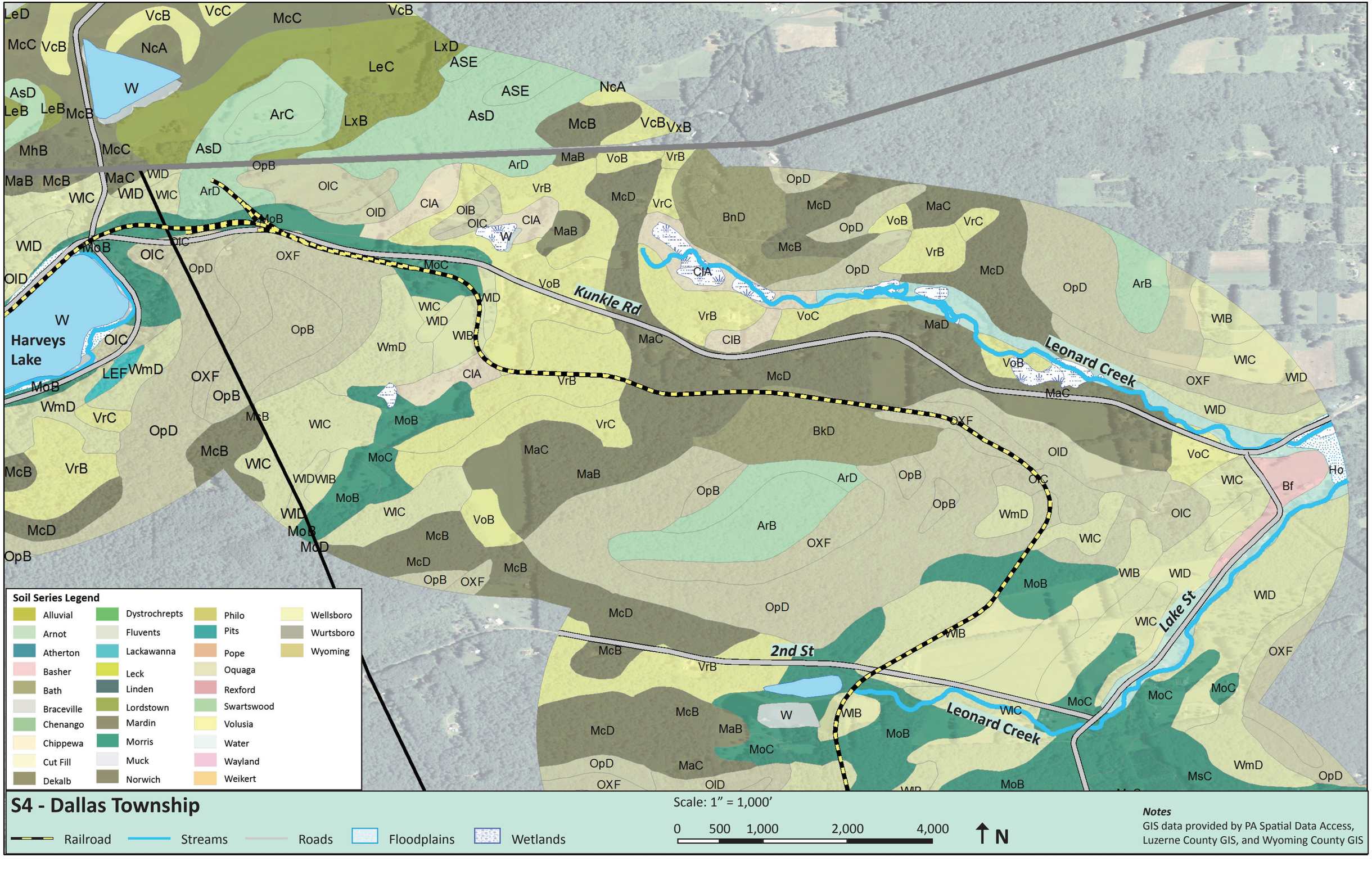
N
Notes
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



S4 - Dallas Township

Railroad Streams Roads Floodplains Wetlands

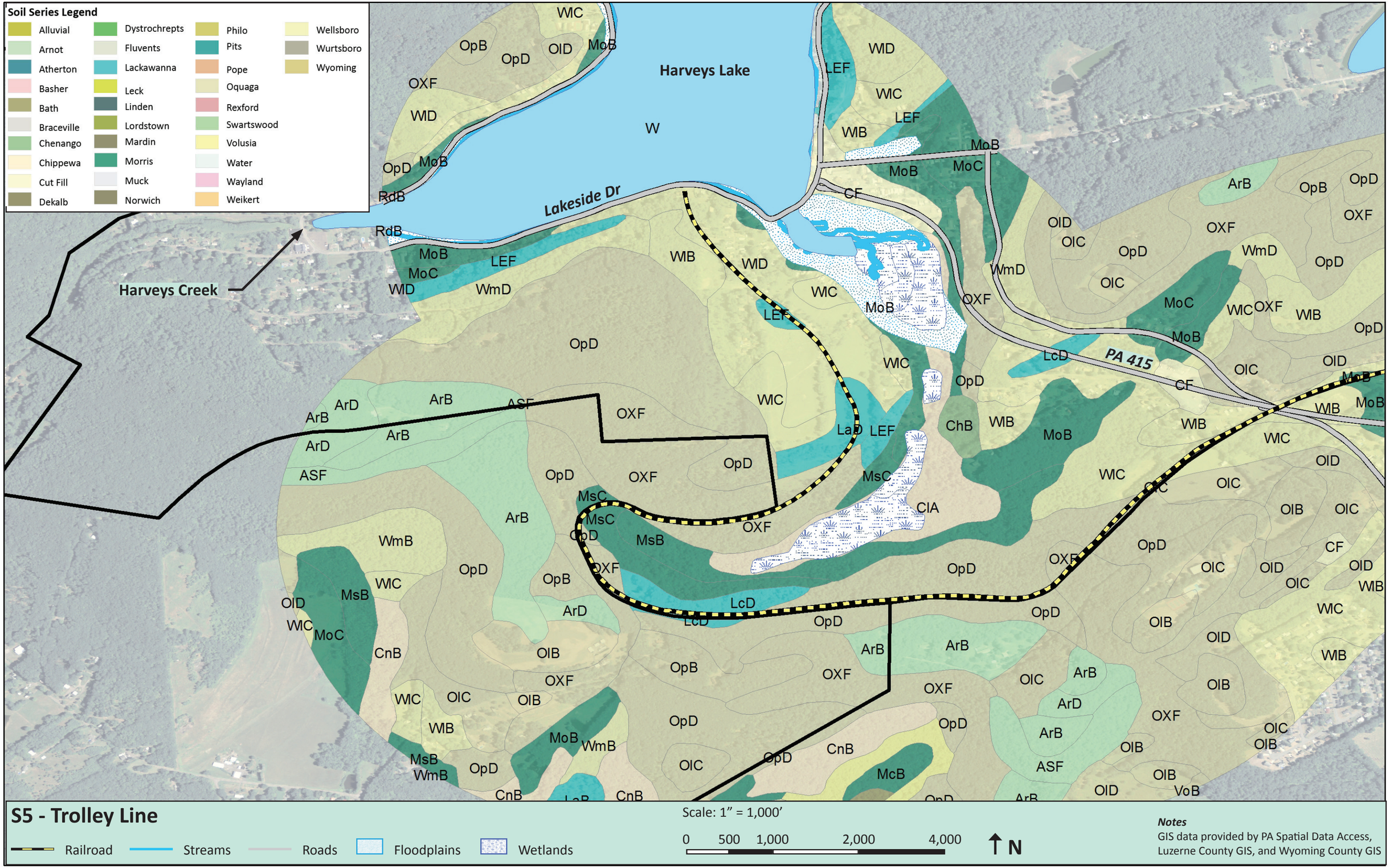
Scale: 1" = 1,000'

0 500 1,000 2,000 4,000

N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS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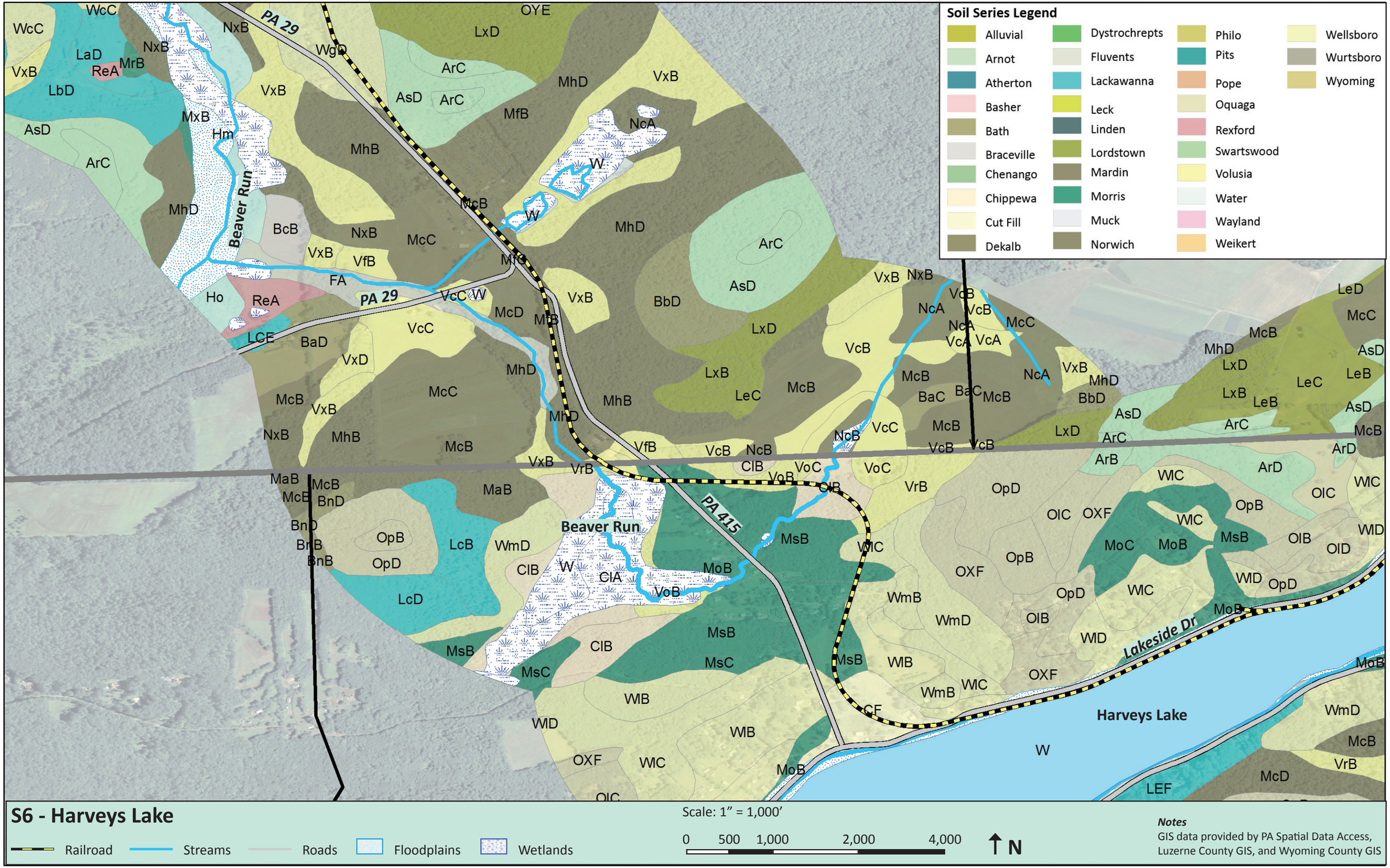
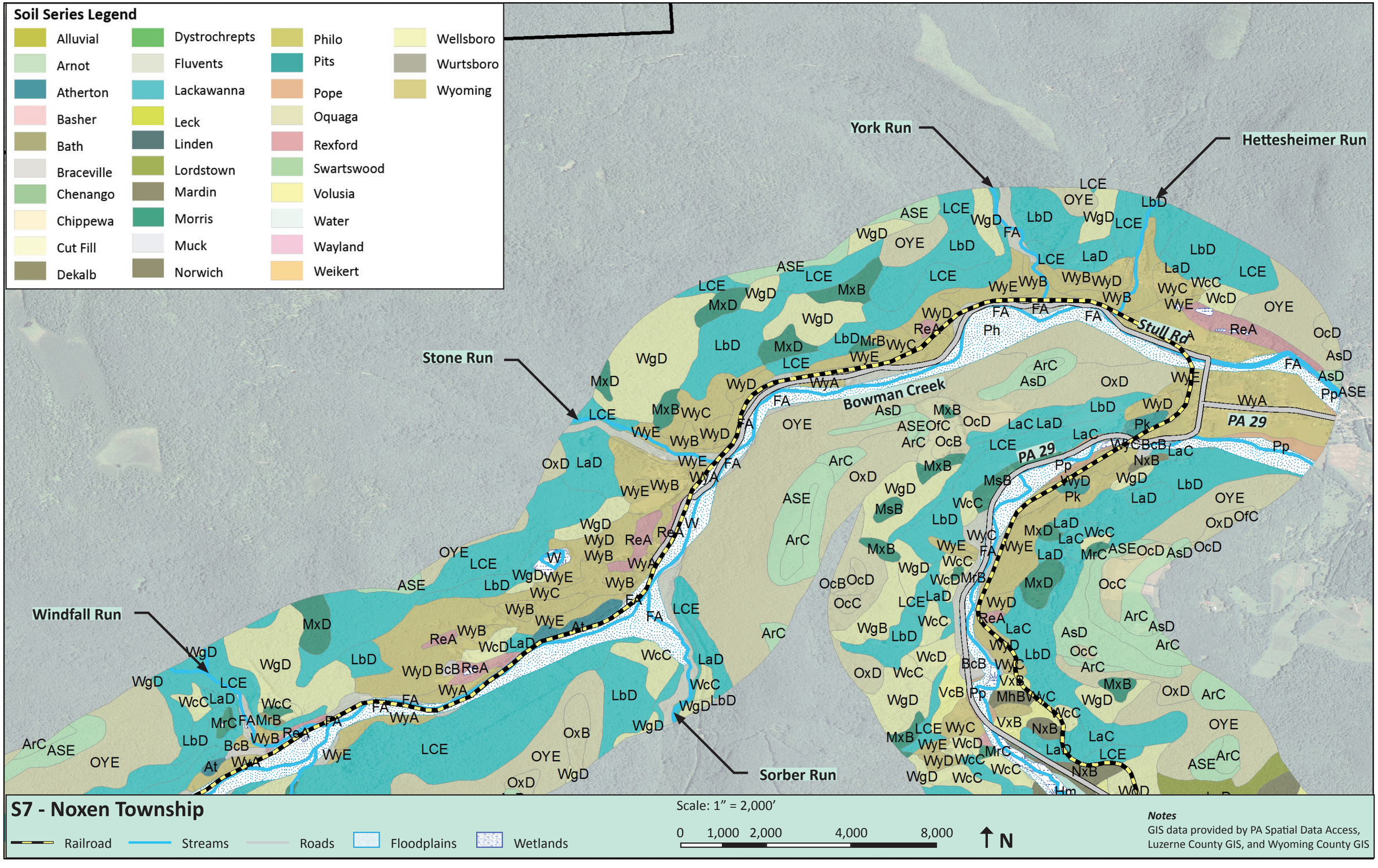
Arnot
Atherton
Basher
Bath
Braceville
Chenango
Chippewa
Cut Fill
Dekalb
Dystrochrepts
Fluvents
Lackawanna
Leck
Linden
Lordstown
Mardin
Morris
Muck
Norwich
Philo
Pits
Pope
Oquaga
Rexford
Swartswood
Volusia
Water
Wayland
Weikert
Wellsboro
Wurtsboro
Wyoming
Harveys Lake
W
Lakeside Dr
Harveys Creek
PA 415
S5 - Trolley Line
Railroad
Streams
Roads
Floodplains
Wetlands
Scale: 1" = 1,000'
0 500 1,000 2,000 4,000
N
Notes
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



S6 - Harveys Lake

Railroad | Streams | Roads | Floodplains | Wetlands

Notes
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS


Soil Series Legend
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Atherton
Basher
Bath
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Dystrochrepts
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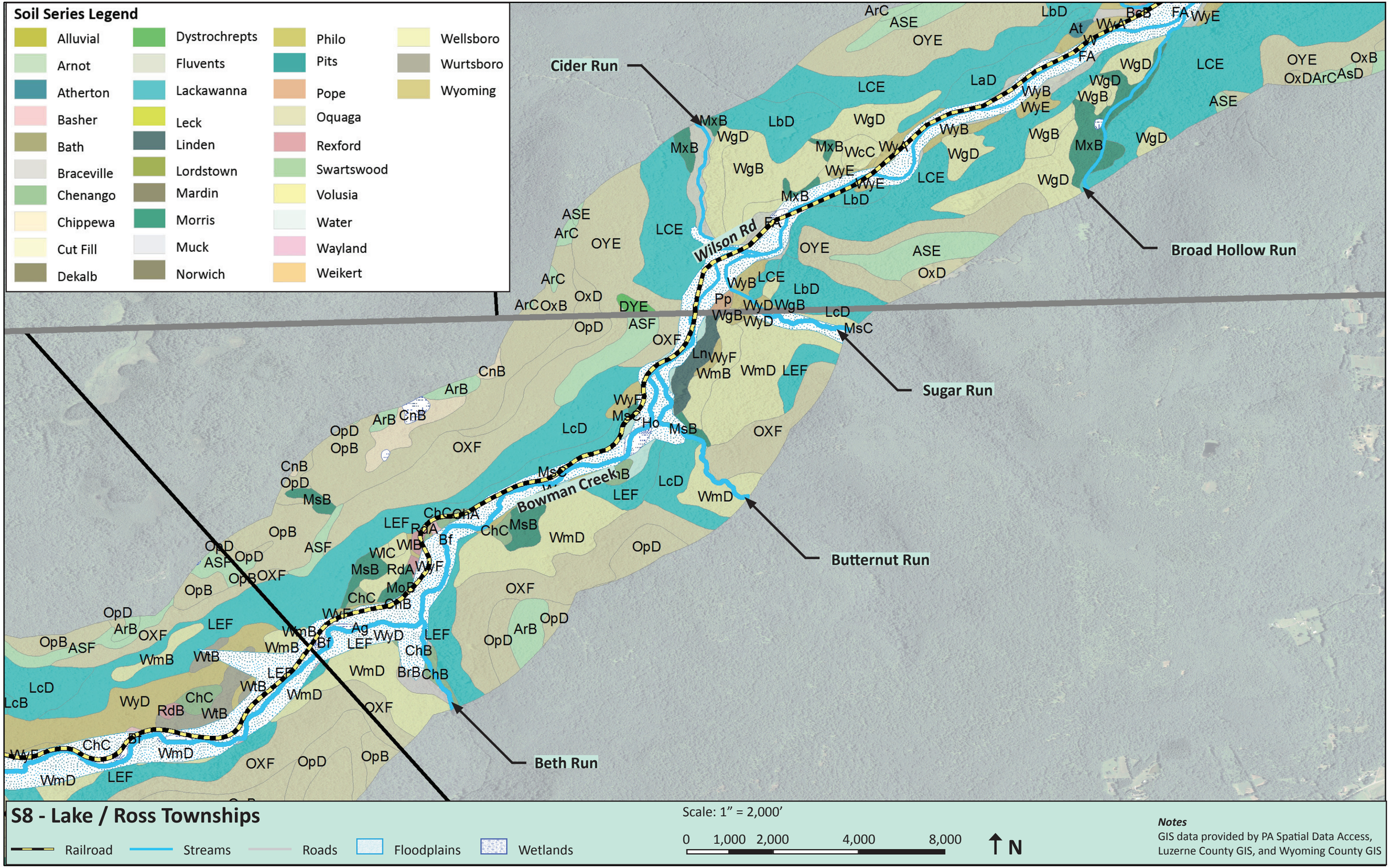
Leck
Linden
Lordstown
Mardin
Morris
Muck
Norwich
Philo
Pits
Pope
Oquaga
Rexford
Swartswood
Volusia
Water
Wayland
Weikert
Wellsboro
Wurtsboro
Wyoming
York Run
Hettesheimer Run
Stone Run
Windfall Run
Sorber Run
Bowman Creek
Stull Rd
PA 29
S7 - Noxen Township
Railroad
Streams
Roads
Floodplains
Wetlands
Scale: 1" = 2,000'
0 1,000 2,000 4,000 8,000
N
Notes
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS


Soil Series Legend
Alluvial
Arnot
Atherton
Basher
Bath
Braceville
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Chippewa
Cut Fill
Dekalb
Dystrochrepts
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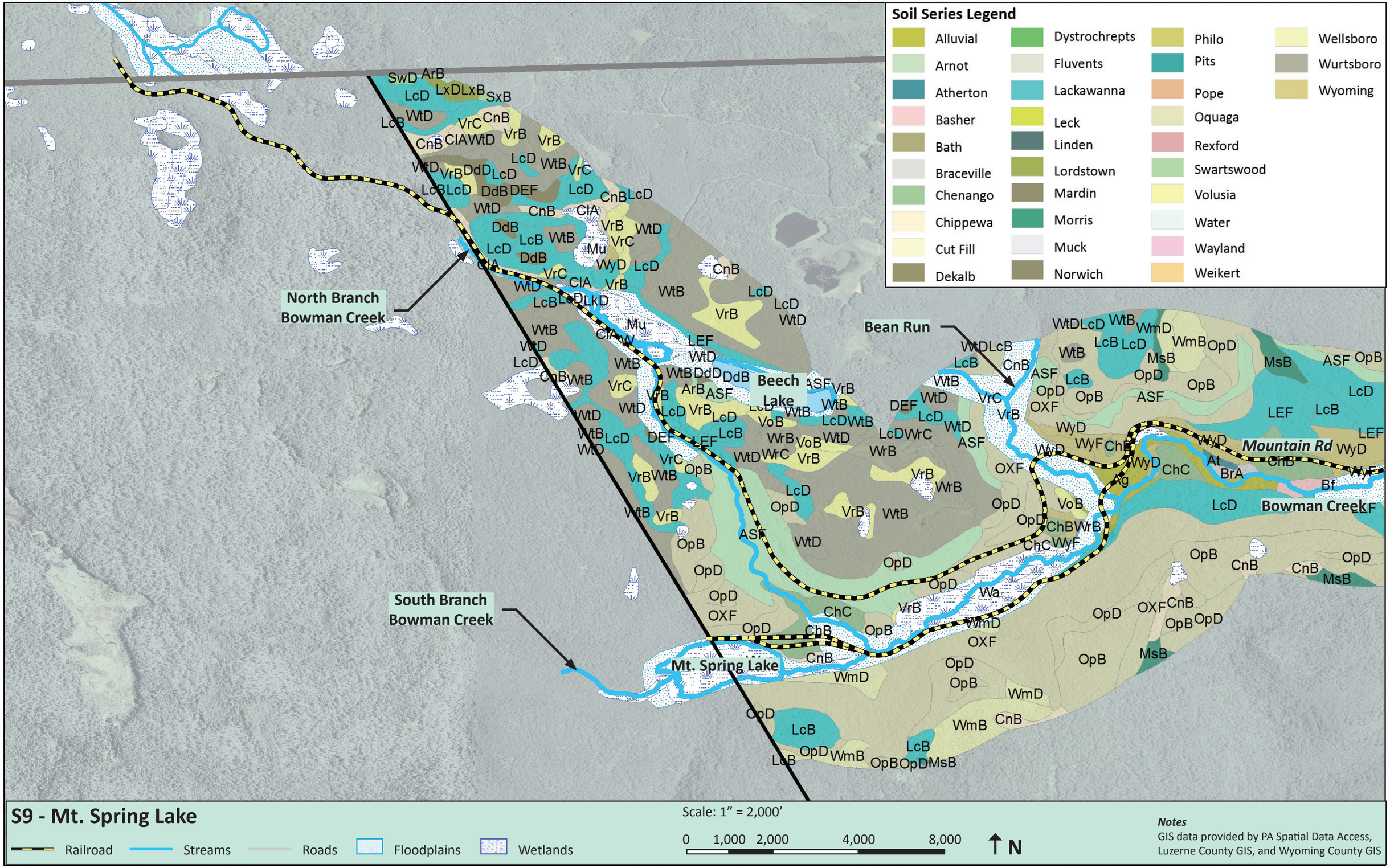
Linden
Lordstown
Mardin
Morris
Muck
Norwich
Philo
Pits
Pope
Oquaga
Rexford
Swartswood
Volusia
Water
Wayland
Weikert
Wellsboro
Wurtsboro
Wyoming
Cider Run
Broad Hollow Run
Sugar Run
Butternut Run
Beth Run
Wilson Rd
Bowman Creek
S8 - Lake / Ross Townships
Railroad
Streams
Roads
Floodplains
Wetlands
Scale: 1" = 2,000'
0 1,000 2,000 4,000 8,000
N
Notes
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



S9 - Mt. Spring Lake

Railroad · Streams · Roads · Floodplains · Wetlands

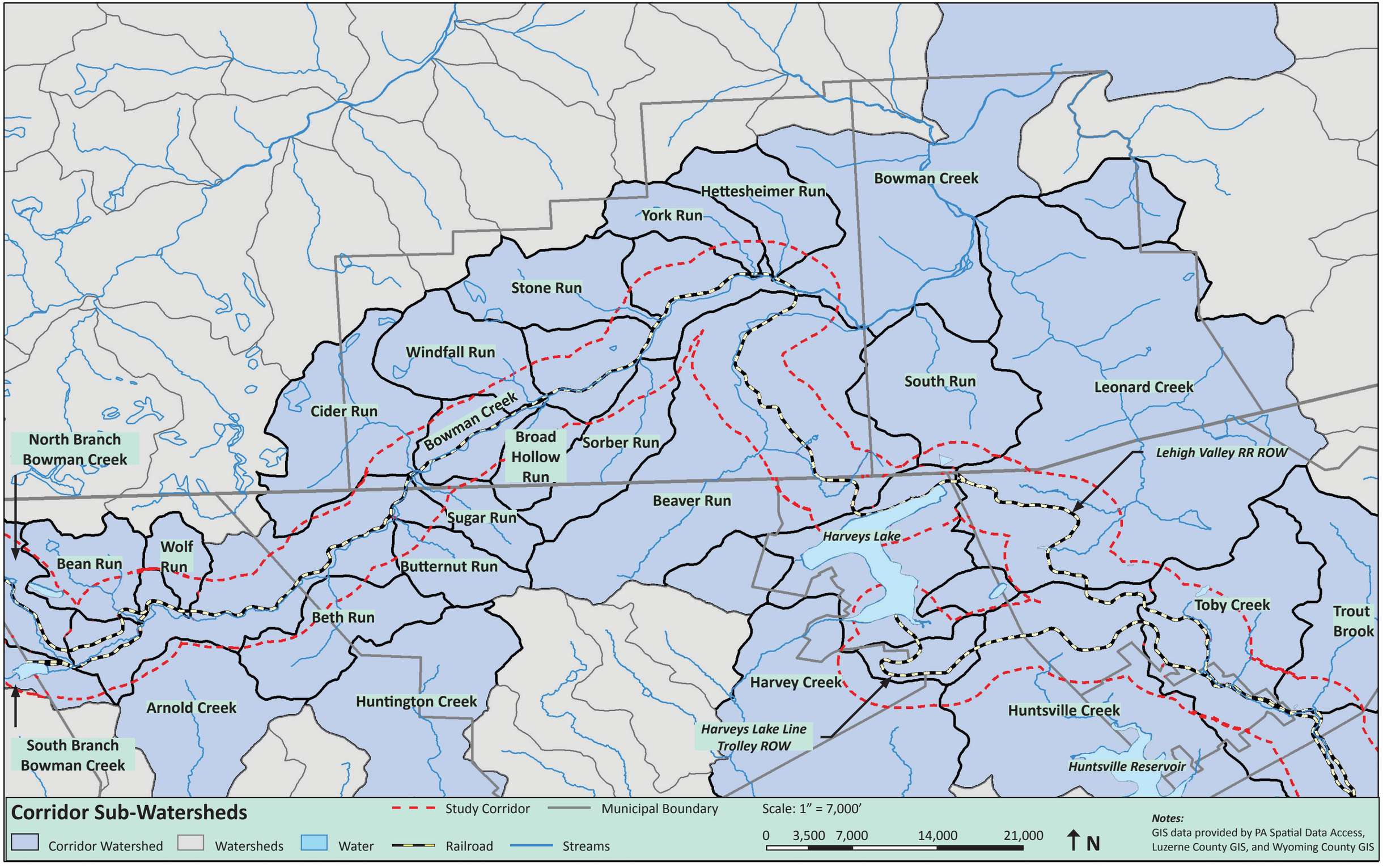
Scale: 1" = 2,000'

0 1,000 2,000 4,000 8,000

N

Notes

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS


Hettesheimer Run
Bowman Creek
York Run
Stone Run
Windfall Run
South Run
Leonard Creek
Cider Run
Bowman Creek
North Branch
Bowman Creek
Broad
Hollow
Run
Sorber Run
Lehigh Valley RR ROW
Beaver Run
Sugar Run
Harveys Lake
Wolf
Run
Bean Run
Butternut Run
Toby Creek
Trout
Brook
Beth Run
Harvey Creek
Arnold Creek
Huntington Creek
Huntsville Creek
Harveys Lake Line
Trolley ROW
South Branch
Bowman Creek
Huntsville Reservoir
Corridor Sub-Watersheds
Study Corridor
Municipal Boundary
Scale: 1” = 7,000’
Corridor Watershed
Watersheds
Water
Railroad
Streams
0 3,500 7,000 14,000 21,000
N
Notes:
GIS data provided by PA Spatial Data Access,
Luzerne County GIS, and Wyoming County GIS

Physical Inventory and Assessment of the ROW - Detailed

Lehigh Valley Railroad ROW

After gathering general information about the ROW (described above), the next step was to determine the most feasible trail route through a detailed physical inventory and analysis of the abandoned Lehigh Valley Railroad ROW. In order to completely understand which portions of the ROW are still suitable for a trail and which parts are no longer existing, several site visits were conducted to document and analyze the physical conditions of the ROW. Site visits involved walking along the old railroad in mile increments, where possible, and recording factors such as the following:

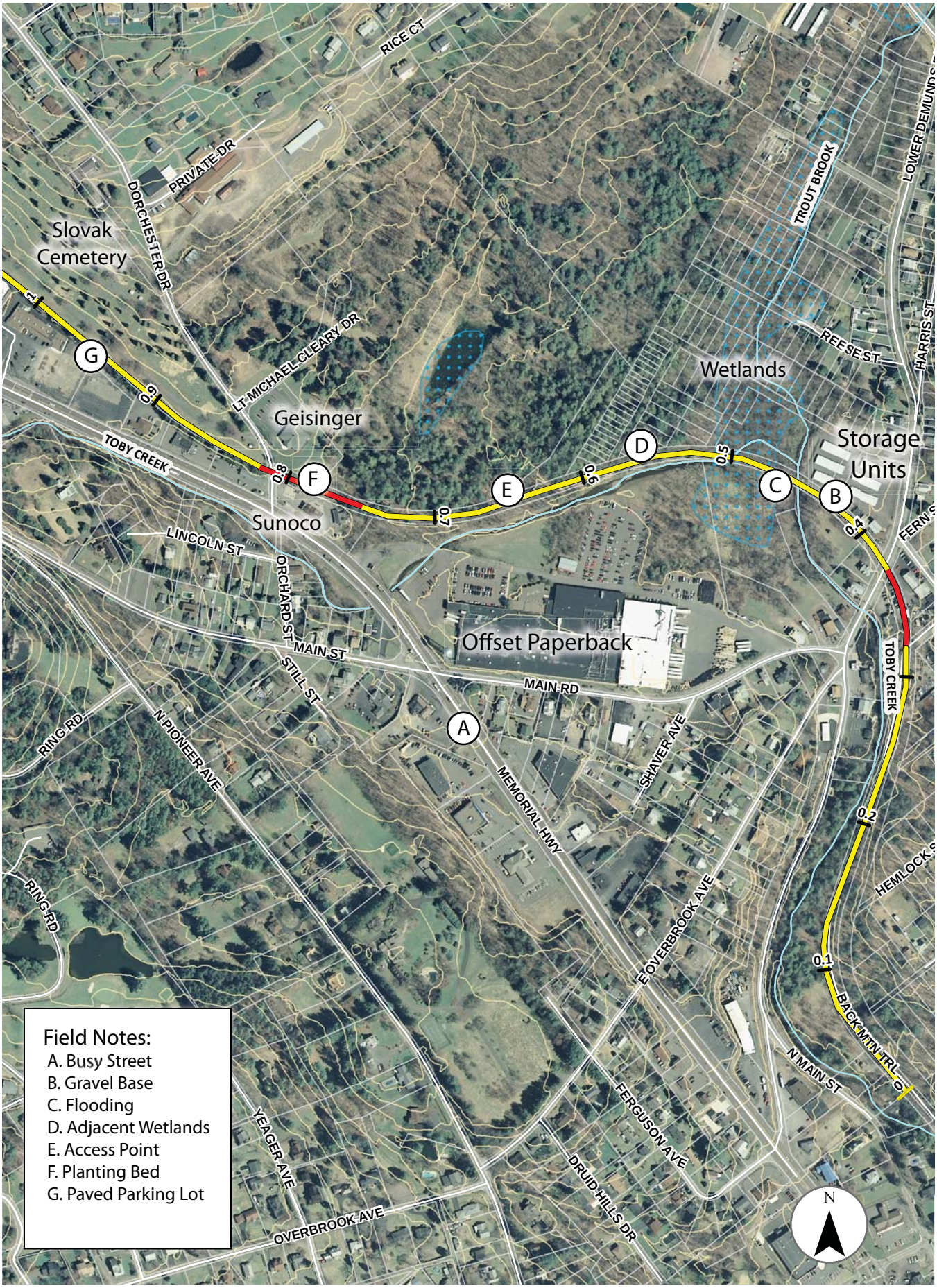
Physical dimensions of the ROW
Railroad bed material composition
Proximity of structures
Vegetation
Natural features
Intersections and access points
Topography
Surrounding land use
Erosion and drainage issues
Wildlife
Utilities
Environmental hazards

The section of the ROW through Dallas Borough has undergone the most changes and has been mostly removed and developed. Portions past Misericordia University into Dallas Township became much more obvious and are currently being utilized as trails and driveways.

The overall length of the ROW examined is 25.8 miles long and spans a variety of landscapes. The inventory and analysis commenced approximately 0.4 miles before Lower Demunds Road on the existing section of the Back Mountain Trail. This allowed for the assessment of conditions of the existing trail and to better determine what the optimal conditions should be for the proposed trail. For clarity, the ROW is divided into one mile long sections in the more densely populated areas and is described as feasible or non-feasible along the actual railroad ROW. The ROW past Misericordia University, is broken down into two mile long sections. As the ROW continues into Noxen Township to Mountain Springs Lake, near Ricketts Glen State Park, sections are broken down into longer segments due to the similarity of the landscape in these areas. Lastly, the ROW sections that were located on un-accessible private properties were not able to be assessed and these sections were considered non-feasible.

Sections of the ROW are provided with a map that indicates whether a section is feasible (marked in yellow; ● Feasible) or non-feasible (marked in red; ● Non-Feasible) along with general field notes taken while conducting site visits. Additionally, detailed descriptions of the trail, according to factors described above, accompany the maps with their location indicated on the ROW. These descriptions are also indicated as feasible or non-feasible with yellow and red bullet points accordingly.

Mile 0.00 – 1.00 Map



Mile 0.00 – 1.00:

The majority of the ROW is classified as feasible; however, its real potential for conversion into a trail is dependent upon cooperation / partnerships between property owners and ASTA.

Feasibility:

● 0 - 0.30:

This is an existing section of the Back Mountain Trail. This stone dust section serves as a template for the design of future extensions to the Back Mountain Trail. The trail continues under forest canopy cover along Toby Creek and North Main Street.

● 0.30 - 0.35:

Back Mountain Transmission is located within the ROW at this location. The parking lot and a building prevents passage and forces the trail to deviate from the ROW, however, trail users already utilize Terrace Street.

● 0.35 - 0.75:

The ROW crosses Lower Demunds Rd. and continues across the parking lot of a storage unit facility (B). It gently slopes toward a crossing over Toby Creek (C) at mile 0.45 and continues into woodlands. The creek is sent through two 4' wide, 34' long pipes that are built in four sections. When these clog, water appears to run over the top, eroding soil. From here, the ROW is about 13-15' wide and has herbaceous plants growing on it as it passes under thick canopy trees. At approx. mile 0.50, the ROW suffers from major erosion due to Toby Creek flooding events. Additionally, on both sides of the ROW appears to be wetlands (D) until mile 0.55. The ROW reverts back into a 13-15' wide berm that is covered with low herbaceous plants until mile 0.75. Bordering the ROW to the south, is a narrow row of trees and the Offset Paperback site. The north side is bordered by woodland with a small trail/access point (E) at approx. mile 0.65.

Plant species identified included: Stilt Grass, Norway Spruce, Norway Maple, Black Walnut, Witch Hazel, Red Maple, Box Elder, Tartarian Honeysuckle, Golden Rod, Black Cherry, Sweet Birch, Hemlock, and Poison Ivy.



Mile 0.40: alongside storage units.



Mile 0.60: overgrown but still definable.



Mile 0.75: alongside the back of a Sunoco gas station.

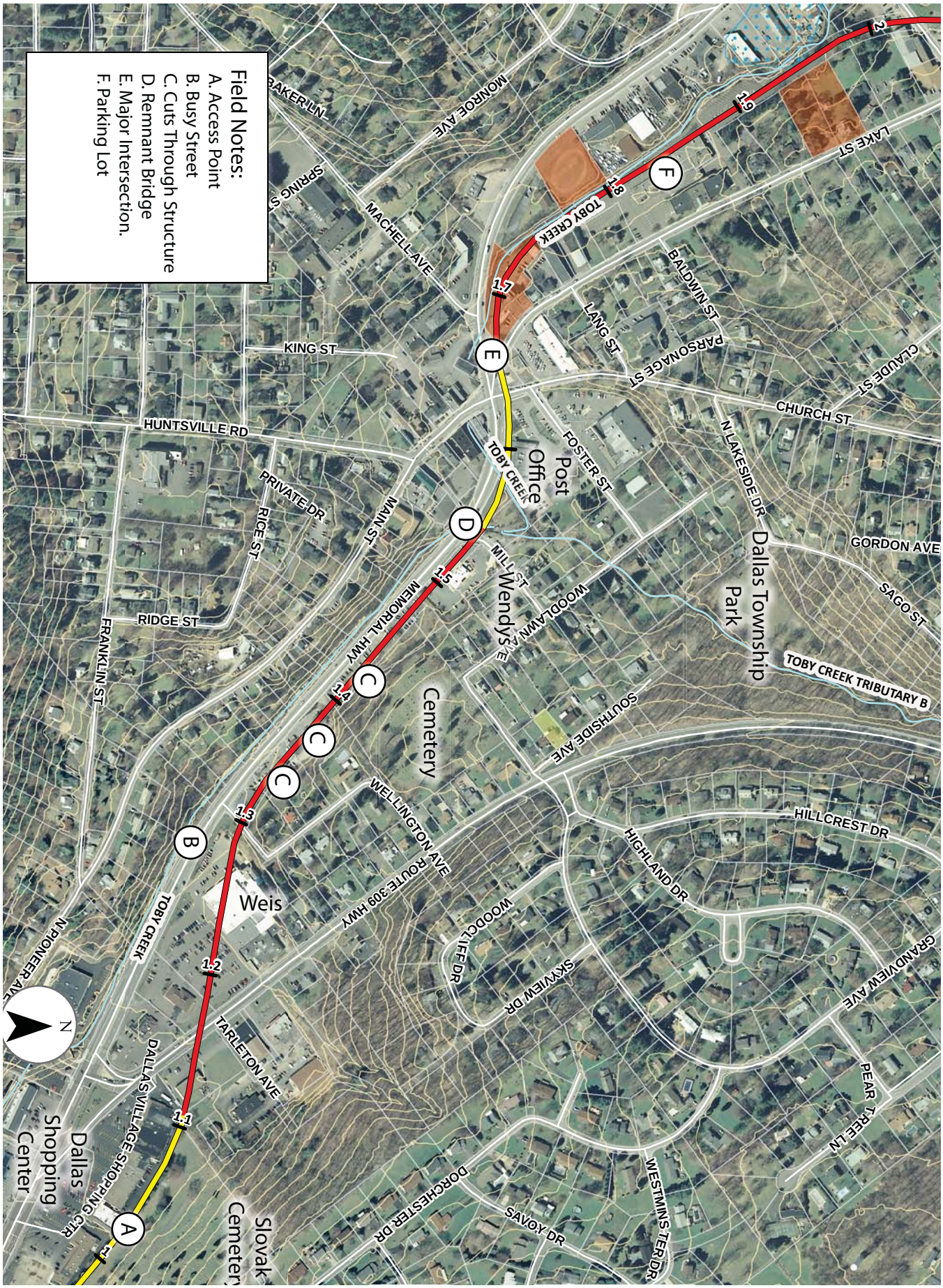
● 0.75 - 0.80:

At mile 0.75, a Sunoco gas station is located on the ROW. A 5-10% sloped planting bed composed of Knockout Roses and Junipers is situated within the ROW. The planting bed separates the Sunoco parking lot from Geisinger to the north.

● 0.80 - 1.00:

The ROW then crosses Dorchester Dr. at mile 0.80 and continues along an access road of the Dallas Shopping Center adjacent to the Sacred Heart Slovak Cemetery. To the north side is a wire fence and a row of mostly Fir trees that separate the cemetery from the Dallas Shopping Center.

Mile 1.00 – 2.00 Map



Mile 1.00 - 2.00:

The majority of the ROW in this section is classified as unfeasible. The reasoning behind this classification is the ROW physically does not exist anymore and it has been developed as a commercial and transportation district. Additionally, areas on either side of the ROW consist of steep slopes, parking areas, and heavy vehicular traffic making the area undesirable. There is still potential to incorporate the trail into new construction projects within the shoulder or streetscaping along Church St., Lake St., and the Memorial Highway intersection.



Mile 1.25: Weis parking lot.

Feasibility:

- 1.00 - 1.10:

The ROW continues along an access road for the Dallas Shopping Center and provides an opportunity for an entrance or access point from the Shopping Center just past mile 1.00.

- 1.10 - 1.55:

A Monroe Car Care building is located within the ROW and it then crosses PA 309 at mile 1.15. After crossing, it continues across the Weis parking lot and a small shed is located on the ROW at mile 1.28. The ROW crosses Wellington Ave. at mile 1.30 and continues along PA 415. Several businesses are now within the ROW in this section. The ROW continues through what is now a Wendy's parking lot and then crosses Mill St. at mile 1.55.



Mile 1.45: Alongside Memorial Highway.

- 1.55-1.65:

The ROW crosses Mill Street and Toby Creek two times. Immediately west of Mill Street is an old RR bridge that no longer reaches both banks. The other side of the bridge is a flat, overgrown piece of land that extends back to Toby Creek. At this second stream crossing there is no trace of the old bridge. From here, the ROW gently slopes up the mowed lawn of the U.S. Post Office at mile 1.60. From here, it crosses Church Street then an abandoned gas station and Lake St. at mile 1.65.

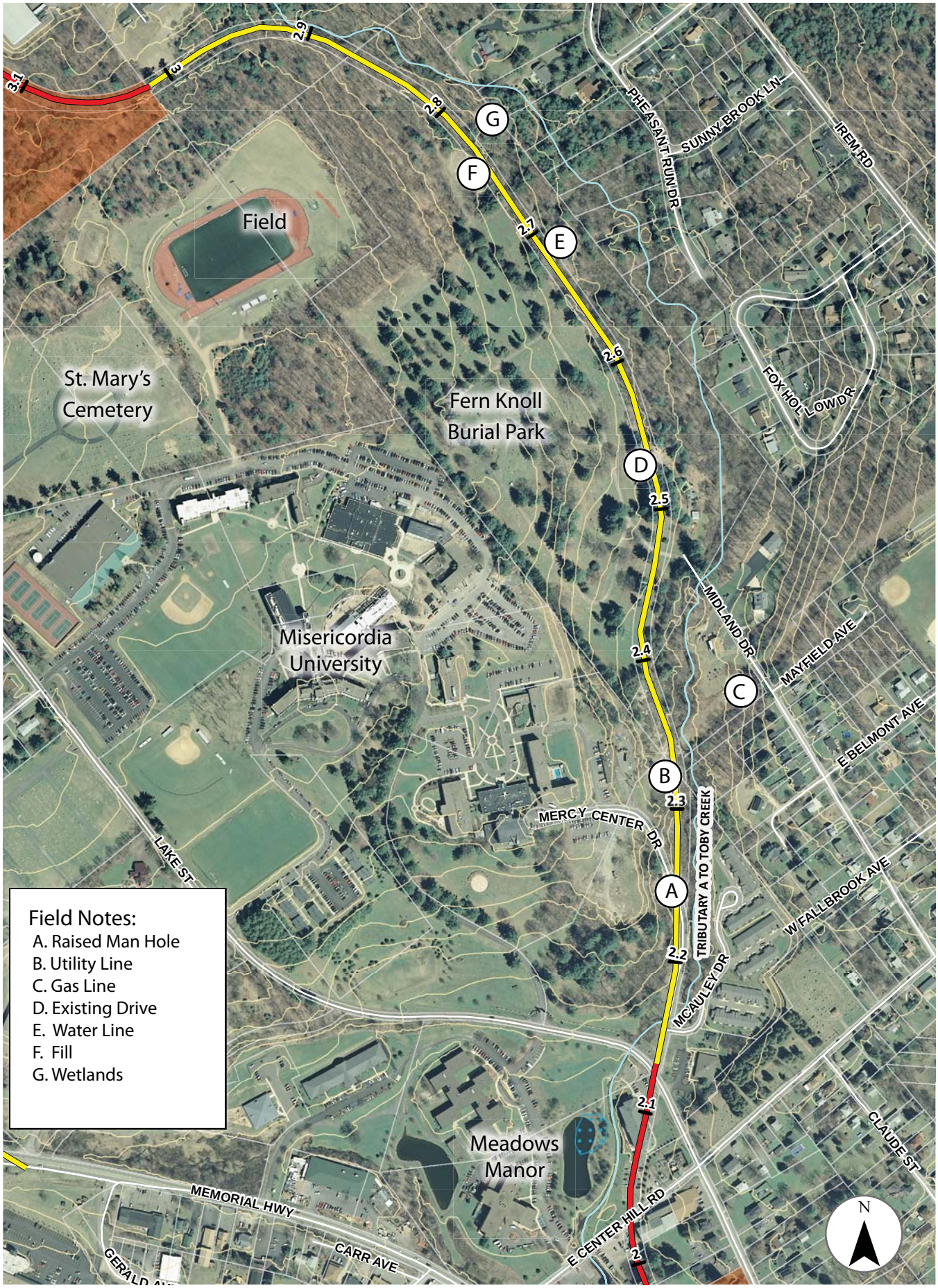
- 1.65-2.00:

The ROW continues along Toby Creek, with more commercial properties and parking lots situated within the corridor until mile 1.97. Overall, the section is paved until the end where it enters a small wooded area surrounding a Misericordia University building and gravel parking lot. From here it slopes down to meet grade.



Mile 1.90: Misericordia University parking.

Mile 2.00 – 3.00 Map



Mile 2.00 - 3.00:

The section from mile 2.00 – 2.14 is considered unfeasible because the ROW no longer exists and it is on private property. From mile 2.14 – 3.00, it is feasible because of extra room along Mercy Center Drive that can accommodate walkers and bikers and the overall flat topography and intact nature of the ROW.



Mile 2.50: Fern Knoll Burial Park drive.

Feasibility:

- 2.00 - 2.12:

A Misericordia University building sits on top of the ROW at mile 2.00, then the ROW gently slopes up to Center Hill Road. It then crosses a parking area for the Meadows Manor Assisted Living Center and continues through the corner of the building and back across a small parking lot at mile 2.12.

- 2.12 - 2.25:

The ROW is currently a small mowed grass area adjacent to the Meadows property and it slopes up to Lake Street. After crossing the street, the ROW continues along what is now Mercy Center Drive, a two way, low traffic roadway that leads up to Misericordia University. At the beginning of this road, there is also is a grass path the leads toward the front entrance of the University that has potential to be used as a connection fromt eh trail to the University. The west side of the road is a steep wooded slope, whereas, the other side of the road is bordered by a short strip of mowed grass and Toby Creek.

- 2.25 - 2.40:

Just before mile 2.25, the ROW exits what is now Mercy Center Drive and continues as a mowed path, underneath a utility line corridor, until about mile 2.35 where the utility lines cut off the path. This short section is bordered by a steep sloping hill on the south side and Toby Creek on the other. Across the creek is a wooded area and a few residential parcels. Past the utility lines, the ROW becomes an overgrown area with shrubs and young trees and is generally flat until mile 2.40.

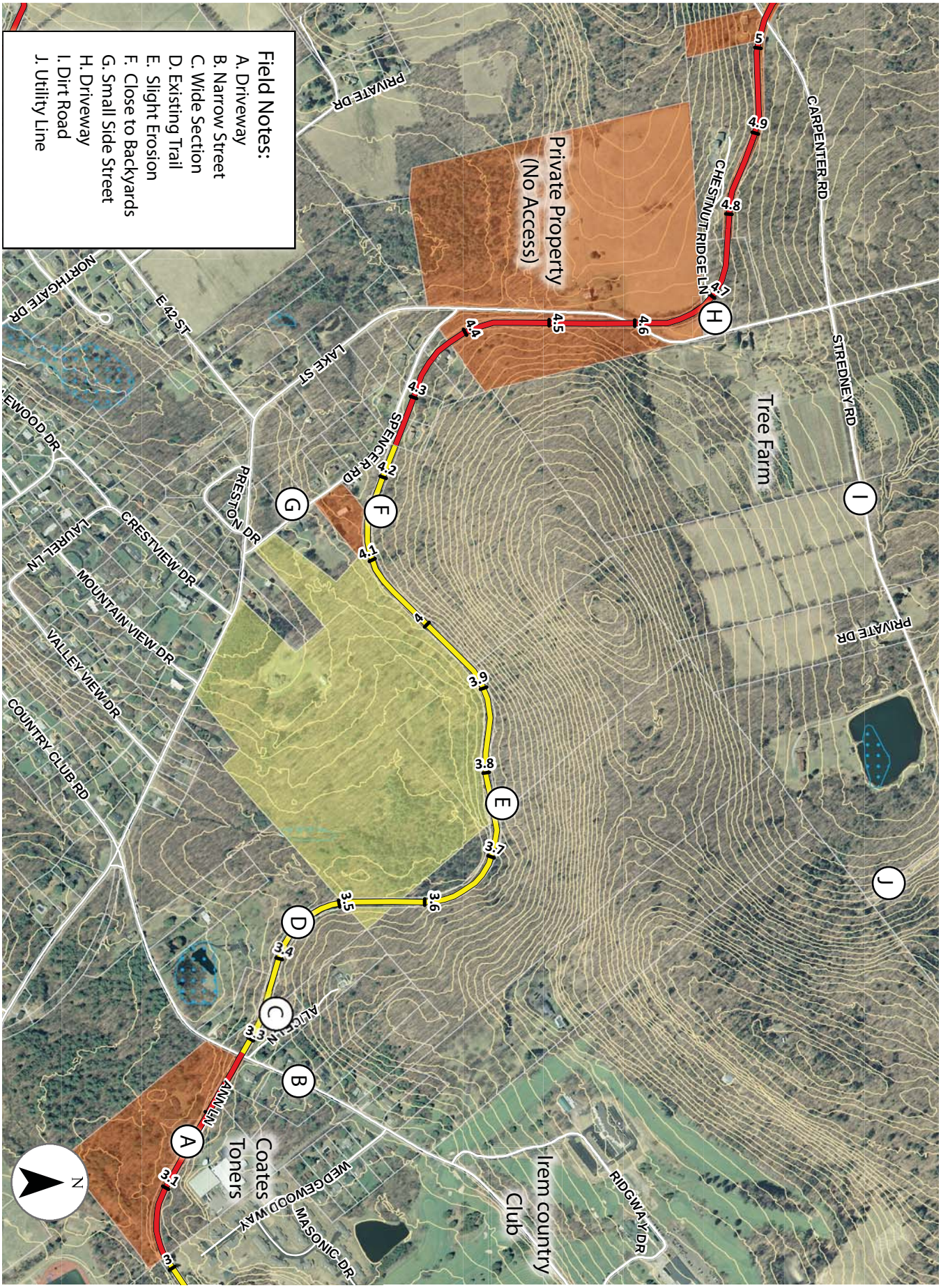
- 2.40 - 3.00:

The ROW from mile 2.40 to 2.50 is comprised of mowed lawn at the east corner of Fern Knoll Burial Park. There is a slight cross slope at this location and the ROW then becomes a drive bordered by pine trees on the southern side. At approx. mile 2.55, the ROW enters a wooded area and is roughly 13-15' wide and it is covered with shrubs. Near mile 2.70, a marker for an underground water line is visible, however, it does not appear to have impacted the ROW. At mile 2.75, excess fill material (F) from the cemetery is placed on the ROW. Just past this area, the ROW becomes less of a berm and flattens out with the forest floor. A small foot path appears in this section and curves around Misericordia University property. It is bordered by a steep hill on its north side that slopes down to wetlands (G) and Toby Creek.



Mile 2.90: Foot path wrapping around Misericordia University.

Mile 3.00 – 5.00 Map



Mile 3.00 – 5.00:

At this point, segments of the ROW are described and detailed in 2-mile increments, due to the similarity of the landscape and the more rural and less developed nature of the ROW. The majority of this section is considered non-feasible due to private property issues, however, a section is considered feasible because of an existing trail located on it.

Feasibility:

- 3.00 – 3.28:

The ROW could not be assessed because the consultant did not have permission to access the property. From the public right of way, it appears the ROW is generally flat woodland with a majority of the ROW now being a dirt roadway utilized as a driveway. The ROW does pass behind a commercial property.



Mile 3.30: Driveway off Country Club Road.

- 3.28 – 3.30:

The ROW crosses Country Club Road at mile 3.28 and becomes a gravel path. Adjacent to the street the path is approx. 25' wide and has room for vehicles to park. During site visits, a few cars were seen parked in this area and a storage unit is located to the back of the open area. On either side of the space is a small wooded buffer and residential parcels. Overall, the base of the area is made of compacted dirt from the vehicles and gravel.



Mile 3.80: Existing trail.

- 3.30 - 4.00:

An existing trail is located on the ROW and is generally flat with a gravel base. Parts of it are bermed up about 4-6' and is approx. 13-15' wide. Other portions have a hill to the north that slopes back toward the path and other areas have 5' berms on the sides. There is slight erosion in several areas due to water runoff, however, overall, the ROW is intact and feasible.



Mile 4.60: ROW crosses Lake St.

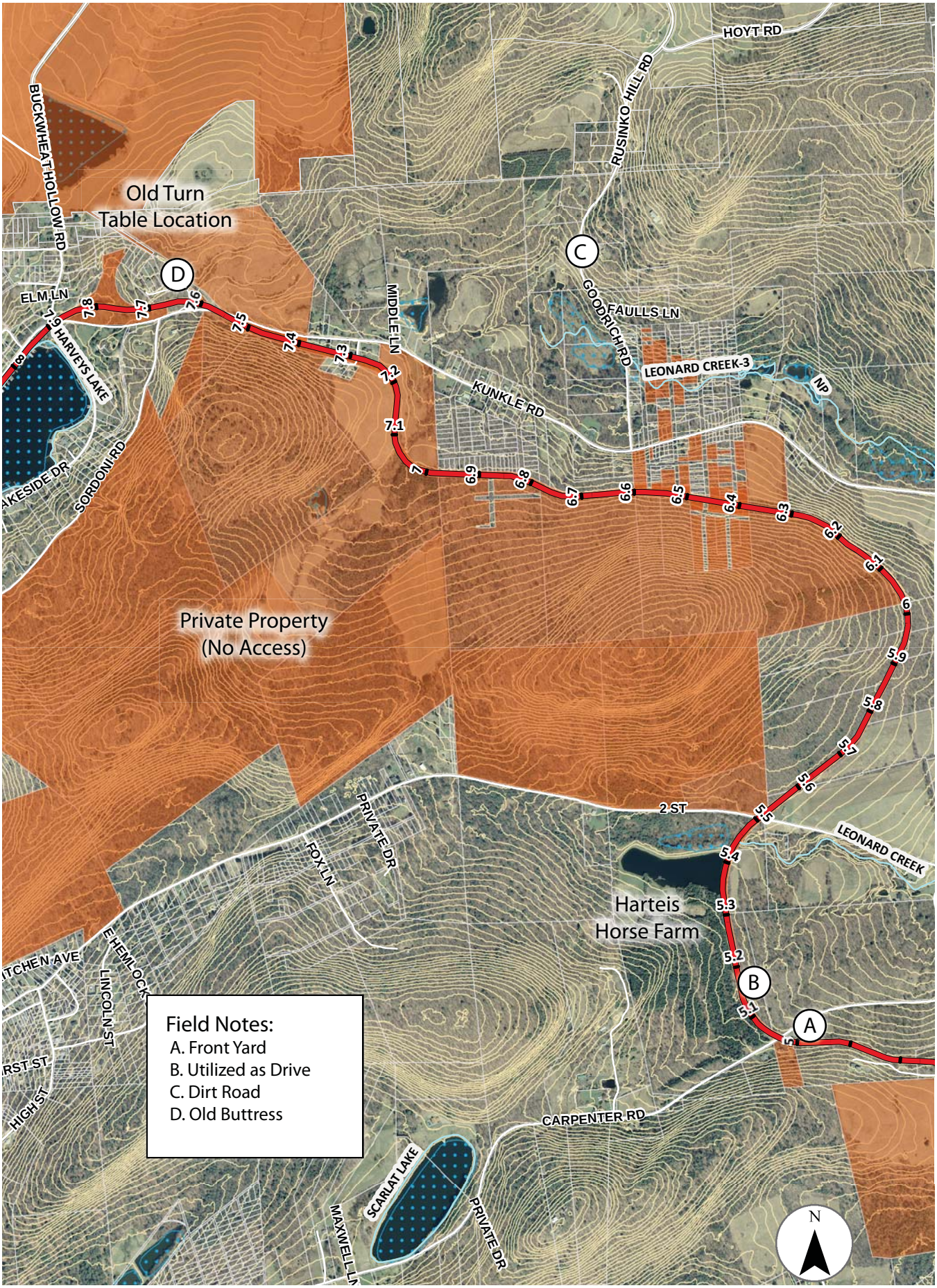
- 4.00 – 4.23:

The ROW continues as an existing dirt trail (approximately 13-15' wide). Even though this section is considered feasible, around mile 4.10, it is located close to adjacent residential parcels with owners who are not interested in the trail. Past this section, the ROW continues through a deciduous canopy to Spencer Road.

- 4.23 – 5.00:

At approx. mile 4.23, the ROW passes onto private properties and continues to mile 5.00. Around mile 4.40, it leaves developed private parcels and continues into natural woodland. Except for the overgrown shrubs, the ROW appears to be generally intact, however, the current owners have indicated they are not interested in a trail. At mile 4.60, the ROW crosses Lake Street and continues as an elevated berm covered in small trees and shrubs. At mile 4.70, the ROW is no longer visible from the public right of way as it crosses a private drive and continues into natural woodland.

Mile 5.00 – 8.00 Map



Mile 5.00 – 8.00:

This segment of the ROW is detailed in a three mile long length due to private property ownership and lack of authorized access. For the majority of this section, the ROW passes through a woodland of dense mature Basswoods and Maples. Most of this section was only able to be assessed from the public right of way.

- 5.00 - 5.50:

The ROW crosses Carpenter Rd. at mile 5.05 and continues as a private driveway to a horse farm. It has a gravel base and is approximately 25' wide. From aerial photos, it passes by a pond from mile 5.40 - 5.50.



Mile 5.50: ROW berm adjacent to 2nd St.

- 5.50 - 7.50:

The ROW crosses 2nd St. at mile 5.50. It is bermed up 4' high and is approx. 13-15' wide on both sides of the road. It continues alongside cleared meadowland to mile 5.76 where it enters woodland again and becomes undefinable from the public right of way.

- 7.50 - 7.60:

The ROW once again appears from the woodland alongside Kunkle Rd. near mile 7.50. From the road, the ROW is discernible based on topography and old railroad ties that can be seen at this location. Once across Kunkle Rd., the ROW slopes down away from the roadway as a dirt driveway that leads to an old stone buttress. It then continues as a slightly elevated berm deeper into the woodland and leads to an old turn around location near mile 7.60.



Mile 7.50: Off Kunkle Rd facing east.

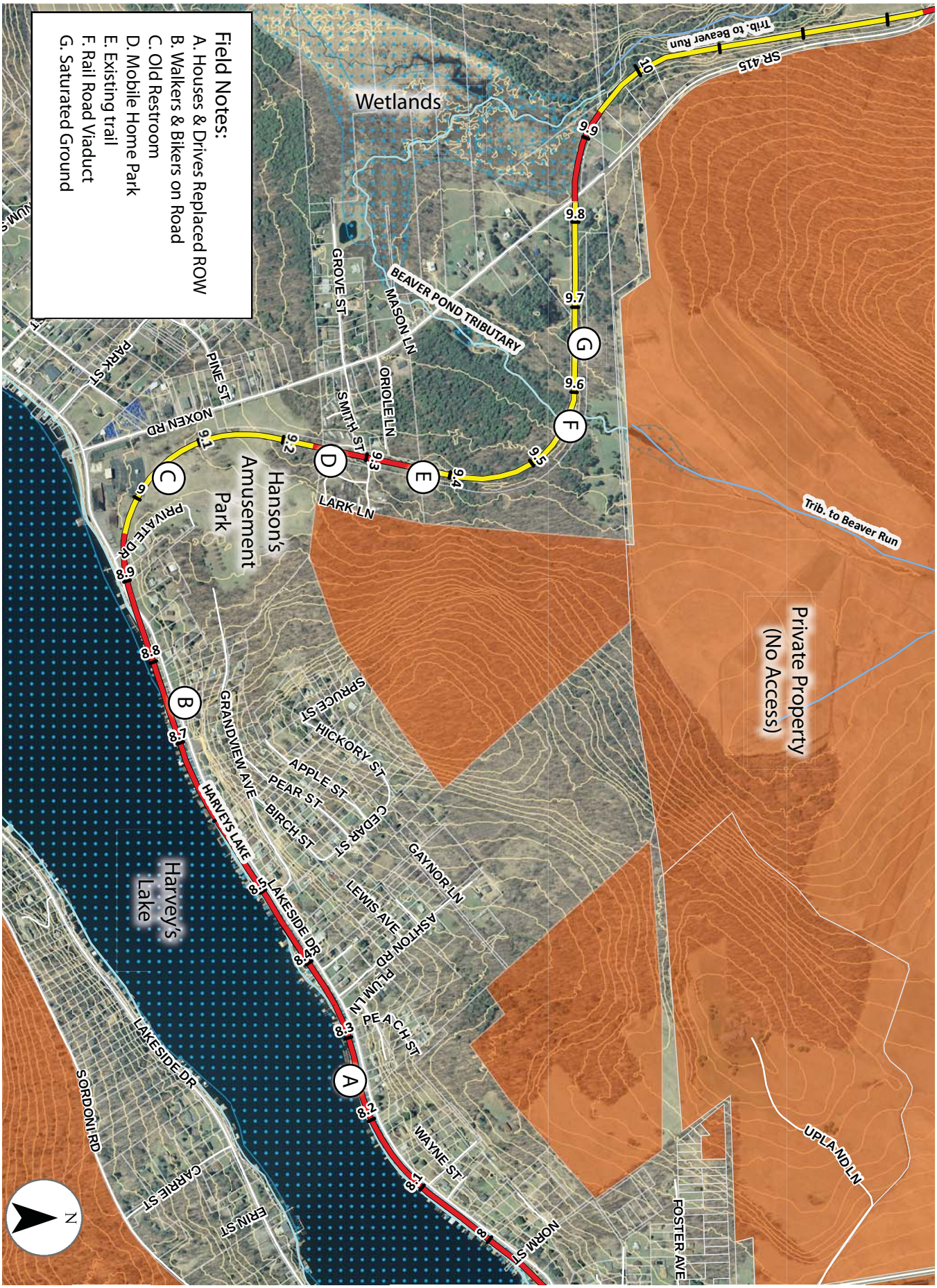
- 7.60 - 8.00:

The ROW continues alongside Kunkle Rd. about 60' from the roadway in woodland. At mile 7.90, the ROW emerges from woodland and enters the northeast corner of Harveys Lake. From here, it continues along Lakeside Drive on the northern side of Harveys Lake. The ROW is no longer discernible due to development on both sides of Lakeside Drive.



Mile 7.50: Railroad ties adjacent to Kunkle Rd.

Mile 8.00 – 10.00 Map



Mile 8.00 – 10.00:

The first part of the ROW in this section follows along the northern side of Harveys Lake before it turns to the north towards Noxen. The ROW in this section is deemed unfeasible due to private property issues. The majority of the rest of the ROW from Hanson's Amusement Park to PA 415 is generally feasible with a short unfeasible section that goes through a mobile home court.

Feasibility:

- 8.00 - 8.90:

The ROW along the northern side of Harveys Lake passes through private property and railroad ties are visible in several driveways. The ROW is flat through this section and provides stunning views of the lake. The roadway is utilized for jogging and biking but it is not an ideal width.



Mile 8.10: Lakeside Dr. in Harveys Lake.

- 8.90 – 9.25:

The ROW crosses Lakeside Drive and turns north through the abandoned Hanson's Amusement park. At mile 8.95, the ROW slopes up what is now a gravel lot about 20' wide and it is bordered by tall grass, weeds, and large mature oak trees. Adjacent to the western side of the ROW is a large, unused, paved parking lot with a few structures that are abandoned and dilapidated. At mile 9.05, the ROW moves into flat parkland that features various overgrown vegetation ranging from unmowed grass to dense shrubs and young trees. At mile 9.10, the ROW is again bermed a few feet high and it is covered with dense vegetation and slopes gently down to a mobile home park.



Mile 9.05: Hanson's Amusement Park.

- 9.25 - 9.35:

At mile 9.25, the ROW passes through a short, dense wooded buffer before continuing through a mobile home park.

- 9.35 - 9.85:

From mile 9.35 - 9.60, the ROW is clearly defined and intact as it enters native woodlands comprised of mostly Hemlock with Silver Maple and Witch Hazel. It is approx. 15' wide and has a gravel base from mile 9.35 - 9.40, where it then becomes dirt. Steep slopes on either side of the ROW, dropping down approx. 20', are seen at mile 9.55. It crosses a small stone viaduct at mile 9.60 then becomes eroded and overgrown. From mile 9.60 - 9.85, the ROW is no longer intact and is now lowland with swampy conditions.



Mile 9.60: A small railroad viaduct.

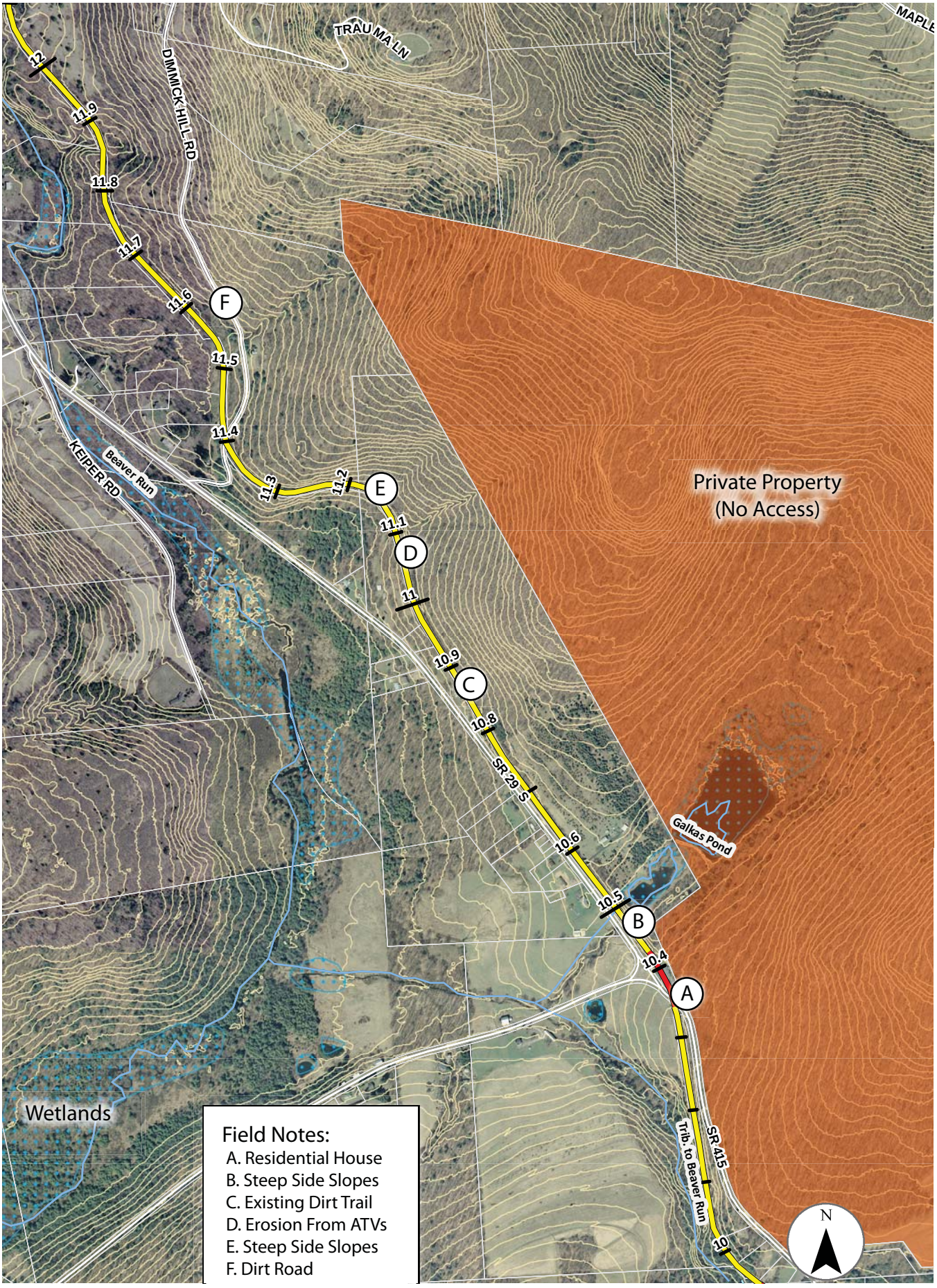
- 9.85 - 9.95:

The ROW crosses PA 415 onto private property.

- 9.95 - 10.00:

From mile 9.95 - 10.00, thte ROW moves into woodland approx. 60' from the roadway and is generally flat.

Mile 10.00 – 12.00 Map



Mile 10.00 - 12.00:

This section of the ROW is still intact and in generally good condition as it continues under woodland canopy. Only a short section near the beginning is considered unfeasible as it is on private property.

Feasibility:

- 10.00 - 10.35:

The ROW follows alongside PA 415 and is approximately 20' wide and bordered by a 4' berm on either side. It is overgrown with brush and trees and slopes gently down towards the intersection of PA 29 and PA 415. It crosses PA 415 about 50' before the intersection with PA 29.



Mile 11.00: Steep slope next to ROW.

- 10.35 - 10.41:

The ROW continues onto private property and is now a mowed slope with a building situated on it.

- 10.41 - 11.00:

The ROW is clearly defined in this section of woodland as a gravel trail approx. 13'-15' wide and raised with a steep slope on either side. It continues along the right sidde of PA State Route 29. At mile 10.55, it slopes down to an existing driveway and back up again as the ROW passes in front of a few residential parcels.



Mile 11.40: Approaching Dimmick Hill Road.

- 11.00 - 11.40:

From mile 11.00 - 11.15, there are a steep slopes on either side of the raised ROW and there are several ATV paths throughout. There is erosion in this area as water drains from the raised ROW. Around mile 11.20, the ROW becomes less bermed and more level with the surrounding ground level. At mile 11.40, the ROW crosses Dimmick Hill Road, which is a lightly used dirt road.

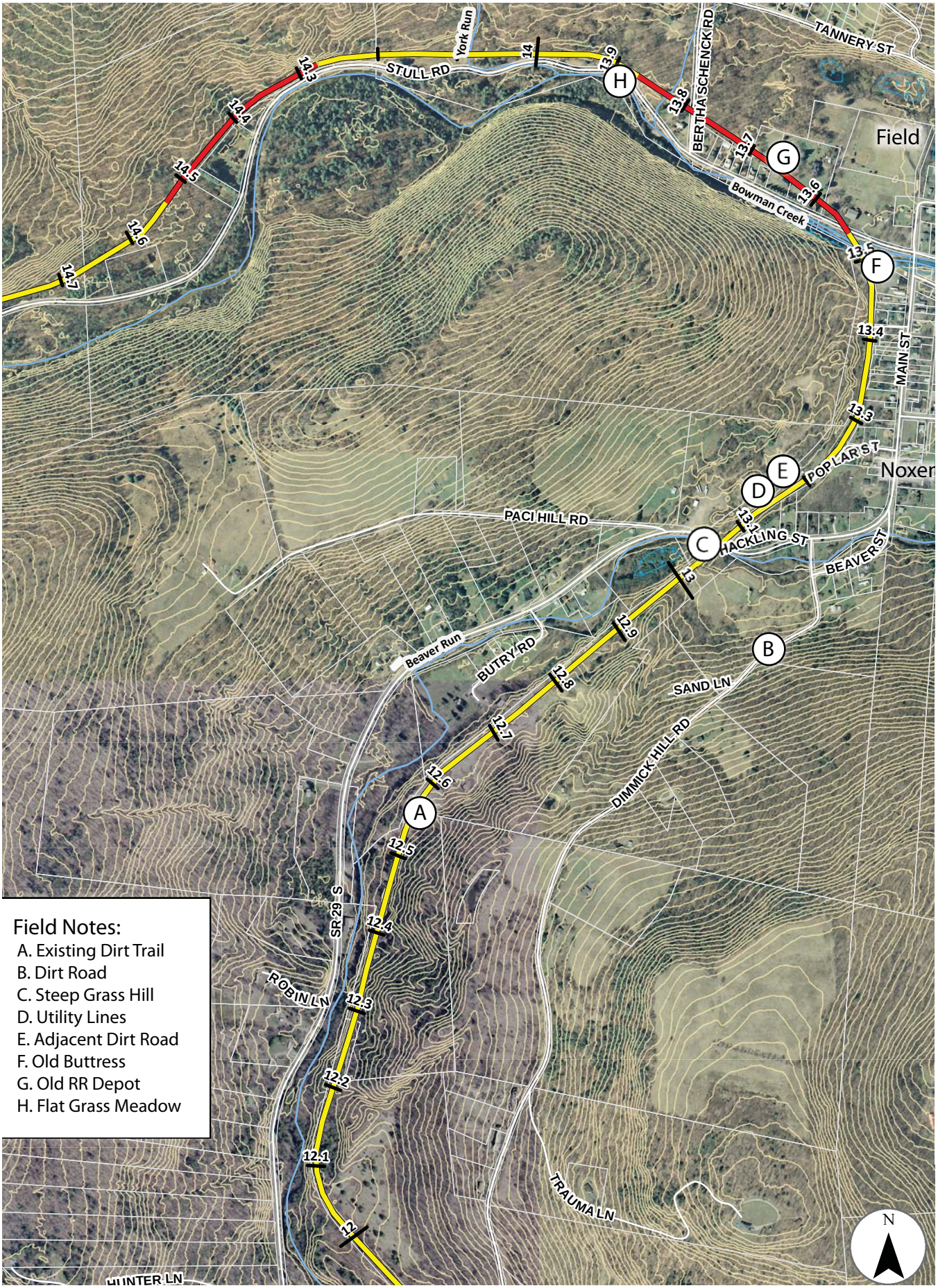
- 11.40 - 12.00:

The ROW continues through the wooded hillside as a dirt path that is chained off and labeled as private property and was only able to be viewed from the public right of way. From what could be viewed from Dimmick Hill Road, the ROW appears intact and it is already functioning as a trail.



Mile 12.00: View of ROW from Dimmick Hill Rd.

Mile 12.00 – 14.00 Map



Field Notes:

A. Existing Dirt Trail
B. Dirt Road
C. Steep Grass Hill
D. Utility Lines
E. Adjacent Dirt Road
F. Old Buttress
G. Old RR Depot
H. Flat Grass Meadow

Mile 12.00 - 14.00:

The ROW continues through the wooded hillside to the east of PA 29 and then crosses PA 29 at mile 13.05. From there, it continues in the town of Noxen behind residential properties and crosses Bowman Creek at mile 13.50. From here, it follows the creek for most of the way towards Mt. Springs Lake.

- 12.00 - 13.00:

The ROW continues through the wooded hillside alongside private properties and appears to be generally intact and used as a trail. From mile 12.80 - 13.00, the ROW slopes down slightly to where a buttress was located to cross Beaver Run.



Mile 13.05: Location of old buttress adjacent to PA 29.

- 13.00 - 13.55:

At mile 13.00, the ROW emerges from the woodland and continues across a field and is recognizable by a slightly raised berm. At mile 13.05, a large berm, approx. 15' tall, exists where there was a stone buttress for a bridge to cross Beaver Run. Once the ROW crosses Beaver Run and what is now PA 29, the rest of the large berm is visible and is covered with shrubs and trees with a small dirt road directly to its west side. Currently, utility lines run across the ROW that lead to residences around mile 13.10. It continues behind residential properties as a grassy and slightly overgrown path until it reaches Bowman Creek at mile 13.50. Here, remnants of the stone and concrete buttress can be seen. Approximately 30' down the creek is a small footbridge made of large rocks.



Mile 13.50: Location of old buttress to cross Bowman Creek.

- 13.55 - 13.85:

After crossing the creek, the ROW crosses Stull Rd. and the Noxen Volunteer Fire Dept. parking area. The ROW is no longer distinguishable until mile 13.60, where it can be seen as a path in a mowed area leading to the historic Noxen Train Depot that is being restored by the North Branch Land Trust. Past the Depot, it continues to the edge of a wooded area and reverts back into a gravel path behind residential parcels before crossing Bertha Schenck Road and a small creek.

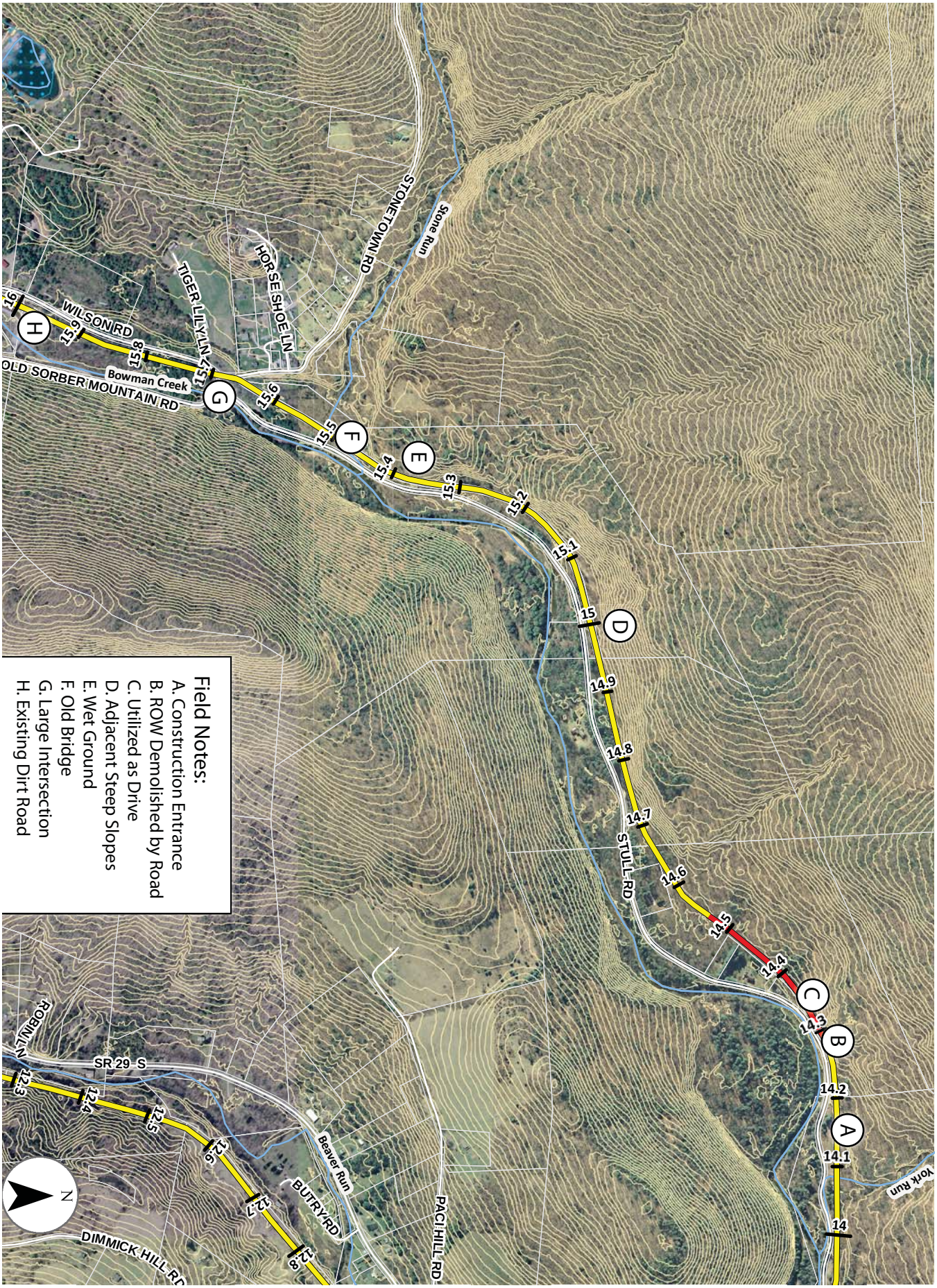


Mile 13.55: Noxen Train Depot.

- 13.85 - 14.00:

The ROW continues onto a flat meadow about 50' to the right of Stull Road. At mile 13.90, the ROW enters woodland and becomes covered in vegetation. It is still definable due to its slightly bermed appearance until mile 13.95 where dirt from road construction nearby is being deposited onto the ROW.

Mile 14.00 – 16.00 Map



Mile 14.00 - 16.00:

This section continues through natural woodland alongside Stull Rd. and Bowman Creek through lightly developed properties. Only a short portion is considered unfeasible as it crosses private properties.

● 14.00 - 14.30:

The ROW continues through woodland. The ROW is partially covered with dirt that has been deposited onto it from road construction activities taking place upslopeand to the north of the path at mile 14.05. At mile 14.10, it is bermed slightly, about 3', and is 13'-15' wide. The only section not intact is at mile 14.15 where it has been eroded by a small creek called York Run. From there, it curves behind a small dirt pull off area before being pinched between a steep slope to its north and Stull Rd. to its south.



Mile 14.35: ROW being used as a driveway.

● 14.30 - 14.55:

At mile 14.30, the ROW disappears as a steep bank bordering Stull Road. Just past this short section, around mile 14.35, the ROW becomes a gravel drive for a private residence before transitioning into a grass berm as it continues to pass through the back yards of private properties.

● 14.55 - 15.60:

The ROW re-enters woodland and is defined by a berm that is generally flat and is in good condition. It is approximately 3' high and 13-15' wide and has some small vegetation growing on it. From mile 15.10 - 15.30, it is eroded due to flooding of a small tributary of Bowman Creek. There are also wetlands in this section just to the north of the ROW. After this section, it starts to hug Stull Road again and an old bridge is still visible adjacent to the road at mile 15.5. The ROW continues back into the woods where it becomes overgrown with trees and a dense understory.



Mile 15.50: Old bridge visible.

● 15.60 - 15.70:

The old rail line become indiscernible as it becomes more covered in vegetation and more impacted by water-induced erosion. Just before mile 15.7 the ROW crosses the four-way intersections of Wilson Road, Stonetown Road, Stull Road, and Old Sorber Mountain Road.

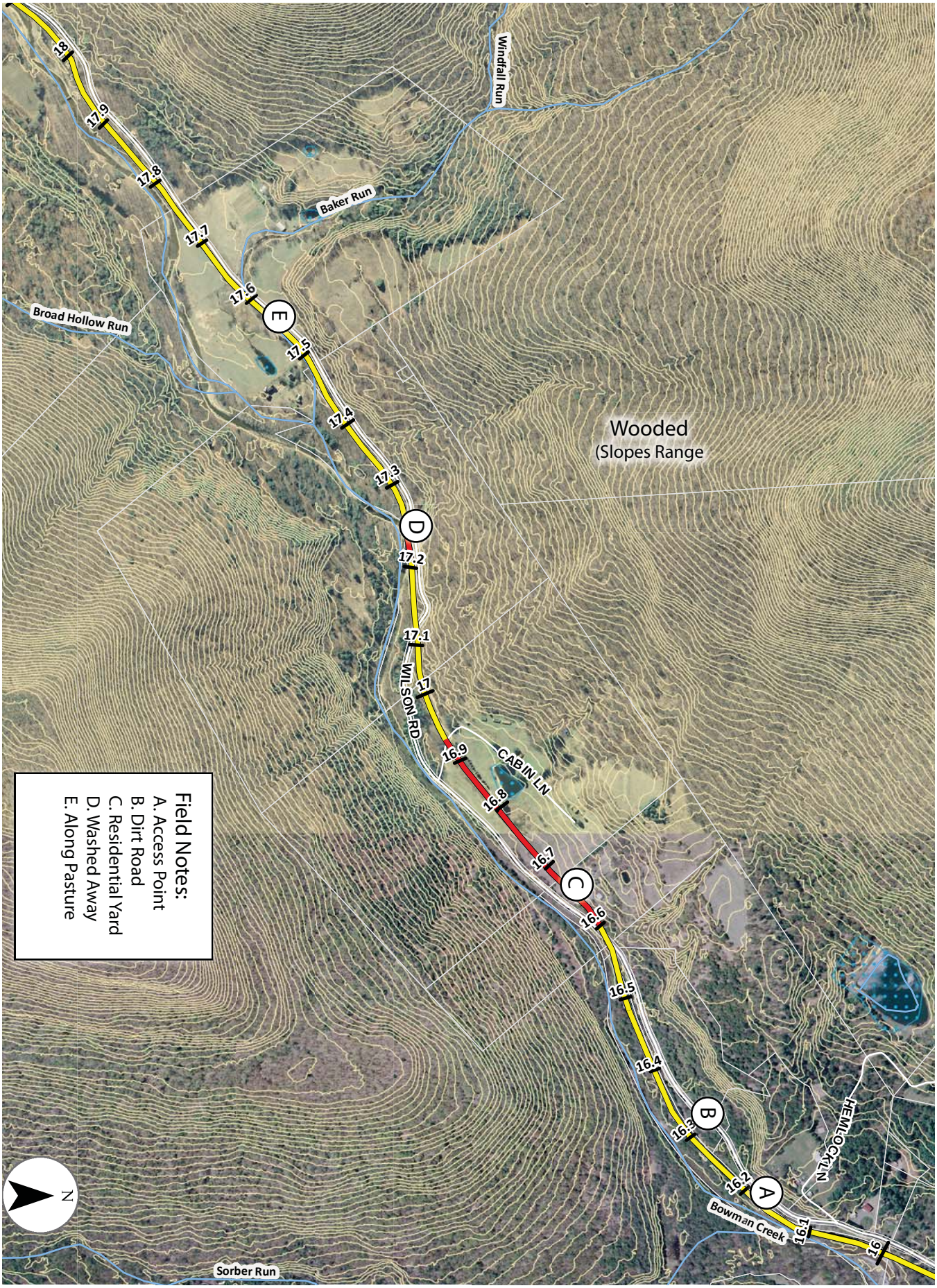
● 15.70 - 16.00:

After crossing the road, the ROW is well defined by a gravel base, about 10' wide, and bordered by a Hemlock-dominated woodland. The line follows along Wilson Road with tracks and some erosion indicating the main use of the trail to be ATVs.



Mile 15.70: Intersection with Wilson Rd. showing ATV tracks.

Mile 16.00 – 18.00 Map



Mile 16.00 - 18.00:

The majority of the ROW is feasible through this section. Two short sections are unfeasible. The first unfeasible section passes onto the front property of a private residence and is defined by a tree row before it continues into woodland. The second unfeasible section is due to flooding from Bowman Creek. The ROW has been washed away in this section. The remainder of this section is feasible.



Mile 16.30: ROW adjacent to Wilson Road.

- 16.00 - 16.60:

Close to mile 16.00, the ROW is well defined with a gravel bed bordered by trees, but as it continues through the woods it starts to become more overgrown. It is generally flat and about 10' wide. Around mile 16.20, a small gravel area that appears to be used for parking is present along with a footpath that allows access to Bowman Creek. Evidence of flooding is seen close to the creek.

- 16.60 - 16.90:

The ROW crosses Wilson Rd. (now a dirt road) at mile 16.60, and continues through the front yard of a private property. For the entirety of this short section, it is slightly bermed and covered in vegetation. This ROW is then situated on mowed lawn and has a row of evergreen trees on it, just down hill from a residence. It slopes up gently, and features more pronounced sides as it moves into woodland at mile 16.90.



Mile 16.70: ROW covered in vegetation in front of private residence.

- 16.90 - 17.20:

As the ROW re-enters woodland, it remains visible, bermed slightly, and is covered in vegetation. It crosses Wilson Road, at mile 17.10, and continues into woodland. It is elevated about 4' and is covered in vegetation next to a small cabin alongside the creek at approx. mile 17.20.

- 17.20 - 17.25:

The ROW is no longer present as it has been washed away by flooding. Large boulders have been placed here to prevent further erosion. Historically, it had bordered the south side of what is now Wilson Road.

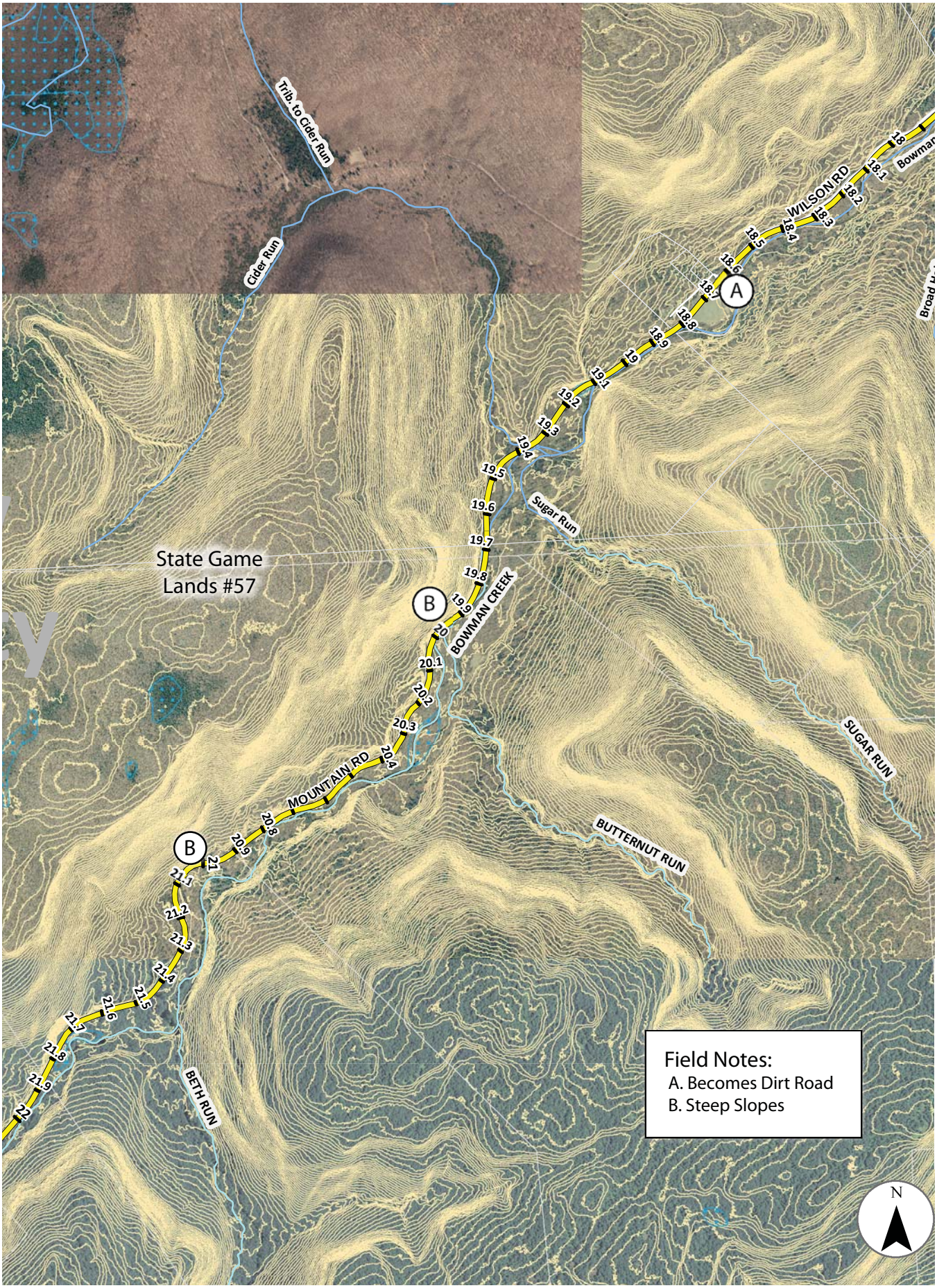


Mile 17.20: ROW washed away due of past flooding of Bowman Creek.

- 17.25 - 18.00:

Following the eroded portion, the ROW continues alongside Wilson Rd. through woodland. It is in generally good condition and features a dirt base. It passes close to a residential property near mile 17.50 before continuing onto another residential property. From here, the ROW is no longer visible as it becomes level with the surrounding horse pasture. The ROW then re-enters the woodland at approx. mile 17.75. It is slightly elevated, approximately 13-15' wide and continues as such through the end of this section.

Mile 18.00 – 22.00 Map



Mile 18.00 – 22.00:

This section of the ROW is detailed in a length of four miles due to the similarity of the ROW's characteristics.

- 18.00 – 18.60:

From mile 18.00 – 18.60, the ROW continues through woodland and it ranges between 13-15' wide with a gravel base. It is covered in low growing vegetation and bordered by a small berm on either side. This section features many Hemlock trees and exhibits evidence of ATV usage.



Mile 18.40: Usage by ATVs.

- 18.60 – 18.85:

At mile 18.60, the ROW continues on as a 20' wide dirt road called Mountain Road. The road appears to be well maintained, with a swale on either side to handle stormwater and it does not exhibit much erosion. At mile 18.85, the ROW enters State Game Lands #57.



Mile 18.60: ROW becomes a dirt road.

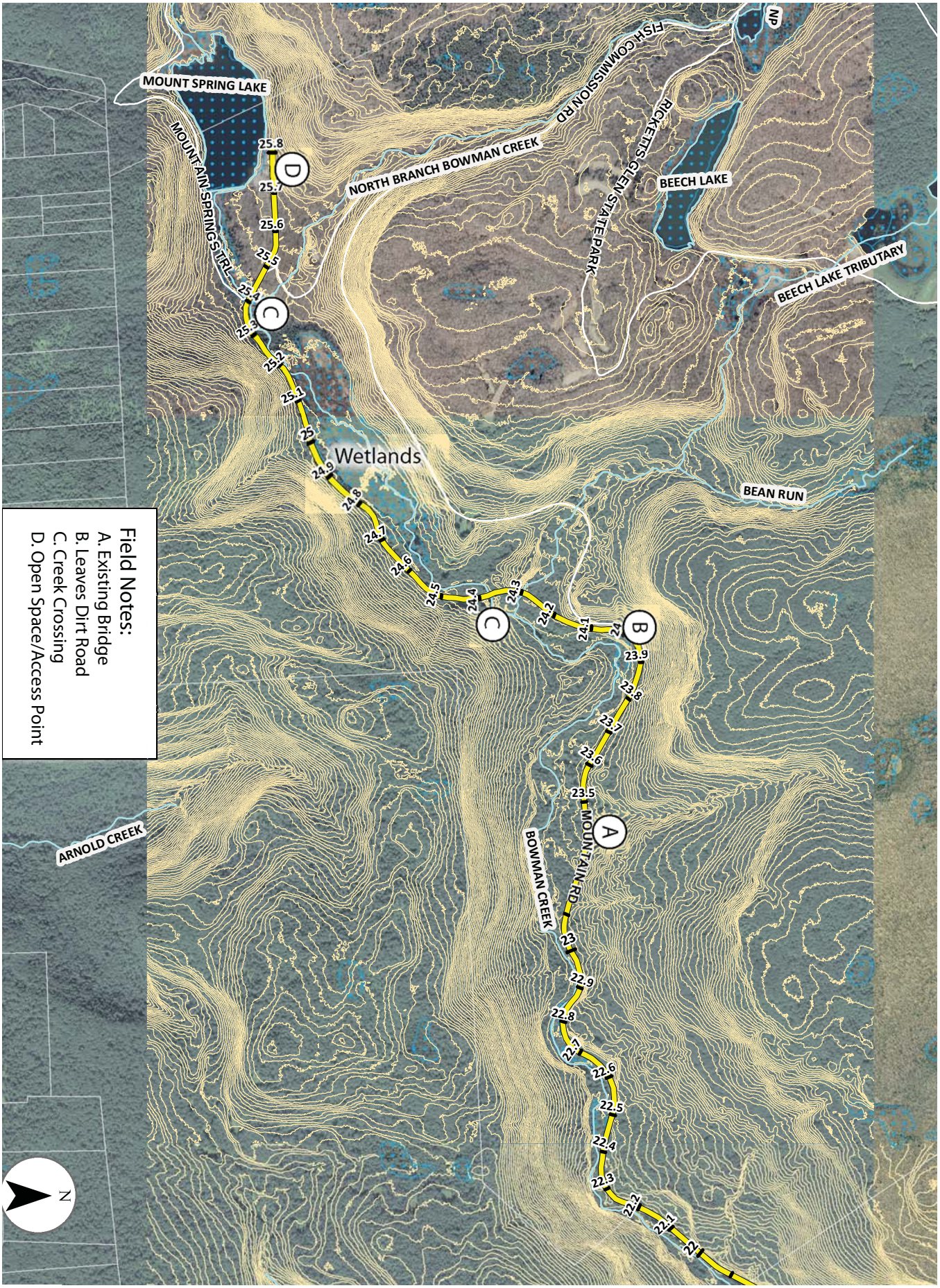
- 18.85 – 22.00:

For the rest of this section, the ROW continues as Mountain Rd. through State Game Lands #57. Evidence of the railroad, in the form of old railroad ties, can be seen periodically, both off to the side, and embedded in the road surface. There are several bridge crossings that appear to have been placed recently, likely from flooding repairs. One bridge crosses a small creek at mile 19.40. Throughout this section, the ROW is generally flat with a few parts with steeper slopes off to the sides from mile 19.80 - 20.10 and mile 20.80 - 21.20 on the north side of the road. Bowman Creek continues to run just to the south of the road and comes close at about mile 20.50 - 20.70, providing the opportunity for access to the water. Additionally, right around mile 20.10, there is a dirt parking area to the north of the road, likely used by hunters.



Mile 20.90: Railroad ties embedded in the road's surface along Mountain Road.

Mile 22.00 – 25.80 Map



Mile 22.00 - 25.80:

This is the final section of the Lehigh Valley Railroad Right of Way. The first segment continues through State Games Lands #57 as a dirt road called Mountain Road. The last segment leaves the roadway where it becomes a defined ROW similar in physical characteristics to previous sections.

- 22.00 - 23.90:

The ROW continues as Mountain Rd., approximately 20' wide, with a gravel base and periodic evidence of the railroad, such as, railroad ties and metal pieces alongside the road and embedded into the road surface. The road features a swale on either side to handle stormwater and displays little erosion. At mile 23.30, there is an existing bridge for a creek crossing on the road. The south side of the ROW stays generally flat and winds alongside Bowman Creek, whereas, the north side is bordered by hills with the steepest section between mile 23.70 and 23.90.



Mile 23.90: Old concrete block buttress.

- 23.90 - 25.80:

At approx. mile 23.90, the ROW veers away from the road via a large concrete block buttress. This was used to cross Bean Run but it has either has been dismantled or washed away. Low growing vegetation and groundcover now grows on this buttress. An adjacent new wooden bridge, for the road, helps visitors get across. From here, the ROW splits into two different routes. The LVRR ROW continues to the southern side of wetlands to Mountain Springs Lake. The trail within this section has been reduced due to the encroaching woods and it ranges from 8-12' wide, with coverage by leaf litter, groundcover, shrubs and trees. The northern route continues along Mountain Rd. into Ricketts Glen State Park and eventually exits onto PA 487. On the northern route, at approx. mile 26.00 of this route, there is a gravel road that leads down to Mountain Springs Lake. This road is very rocky, features large potholes, and is moderately sloped. This road terminates about 1,000' before the Lake and is restricted by a bridge that has been washed away.



Mile 25.40: Creek crossing right before Mountain Spring Lake.



Mile 25.80: Mountain Spring Lake.

The LVRR ROW continues through woodland and crosses Bean Run, a small tributary to Bowman Creek, at mile 24.30 and then Bowman Creek at mile 24.40. It continues to the southern side of existing wetlands from mile 24.70 - 25.00. From mile 25.00 - 25.50, it begins to turn northward and crosses Bowman Creek one last time at mile 25.40. At mile 25.60, there is a large railroad turn that is now overgrown with shrubs, grass, and trees on top of the gravel base. Large concrete blocks can be seen here, as well. The Lehigh Valley Railroad ROW finally terminates at mile 25.80 adjacent to Mountain Springs Lake. This lake was drained by DCNR due to structural stability issues in the dam. Here, the lake bottom is visible with old tree stumps and muddy clay soils. The dam itself is aging, deteriorating concrete with a small footpath through some mud and small boulders connecting one side to the other. Existing trails from Ricketts Glen State Park connect to the ROW here, allowing visitors another entrance to the park.

Conclusion

Implementing a trail on the entire length of the ROW is considered non-feasible due to private property issues and physical constraints. Additionally, with many sections having undergone major changes, and portions of it are completely removed or destroyed with new development and structures. However, the long sections that are deemed feasible have plenty of potential for a trail and can be converted for use as recreation and transportation by many residents and visitors. Sections of the ROW along Stull Road, Wilson Road, and Mountain Road are already being utilized. The majority of the sections that are considered feasible and are currently unused would require clearing and grubbing, stormwater management and resurfacing, however, the already compacted base, level surface, and surrounding swales make this a less costly endeavor compared to new construction. Due to the potential of these feasible sections, the main goal of the master plan will be to connect these sections and utilize as much of the original ROW as possible. Using streetscapes, building brand new trails or using the shoulder for a "share the road" section is less ideal and less appealing due to safety concerns and higher costs to construct; however, it is a reality in order to attain the development of a contiguous trail.



ROW completely removed.



ROW still intact.



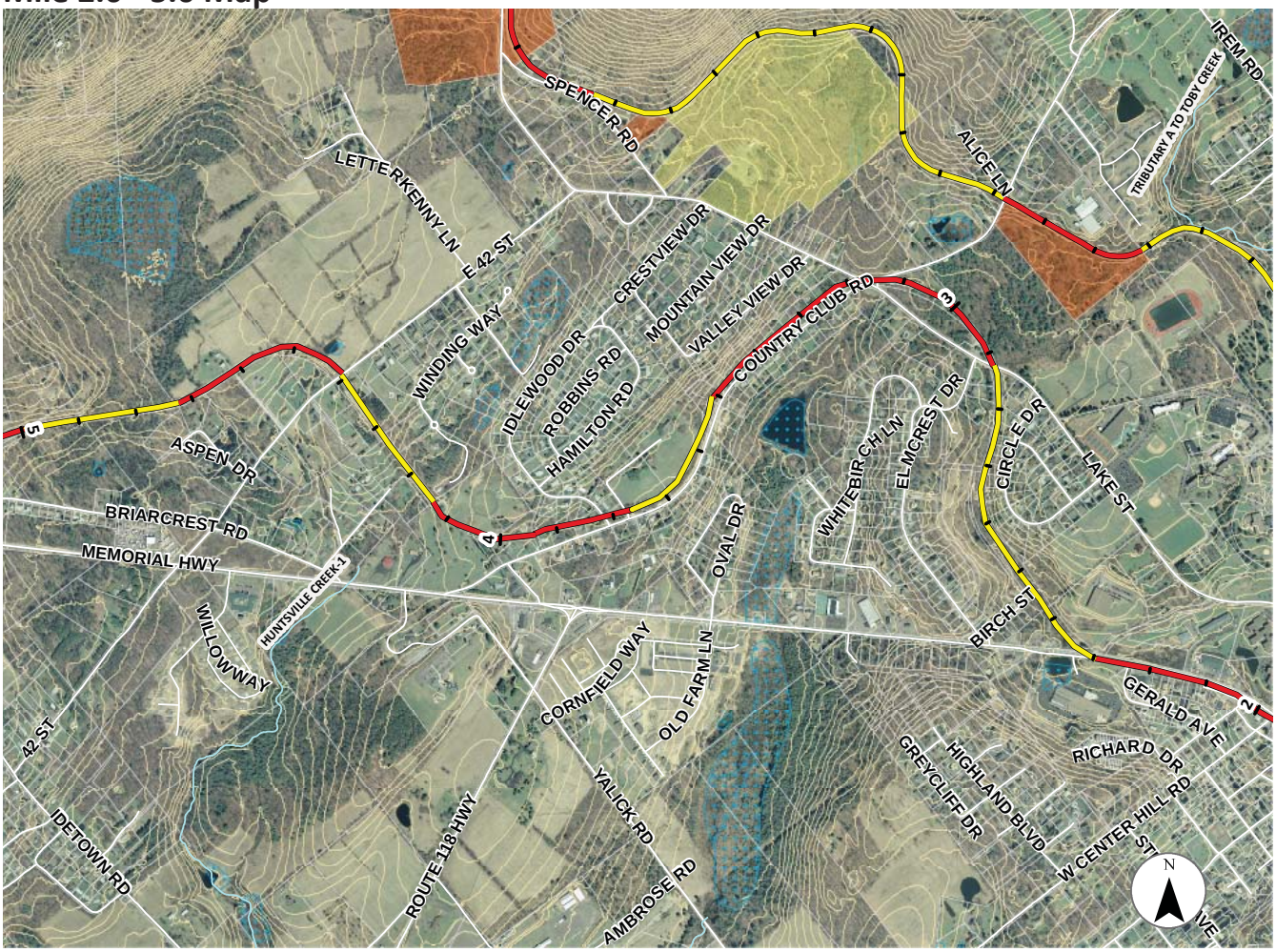
ROW converted into a local/municipal road.

Harveys Lake Trolley ROW

The non-feasibility of sections of the LVRR ROW, due to private property issues and physical constraints, highlighted the need for the exploration of alternative routes. The biggest constraint area was connecting Dallas Borough to Harveys Lake. Much of the original ROW is now under the ownership of private individuals, who are not interested in the trail, which is clearly their right. During exploration of alternative routes near Harveys Lake, one possibility was to forego an alignment to the north and pursue an alignment around the south side of the Lake. Of specific interest was using the Wilkes-Barre, Dallas, and Harveys Lake Railroad trolley line. Thus, inventory and analysis was conducted on this ROW as well. This ROW generally runs alongside the LVRR ROW from the terminus of the existing Back Mountain Trail at Lower Demunds Road to approximately mile 2.00, before the LVRR ROW crosses East Center Hill Rd. This is where the inventory and analysis for the WBD&HL ROW began.

The ROW was split up into two sections starting at mile 2.00 (to match the point where it leaves the LVRR ROW) until mile 5.00, and from mile 5.00 until its terminus at Harveys Lake. The maps are depicted in the same manner as the LVRR ROW with yellow representing sections of the ROW that are considered feasible and red representing those that are non-feasible.

Mile 2.0 - 5.0 Map



● 2.00 - 2.30:

From mile 2.00 – 2.30, the WBD&HL ROW moves westward, away from the LVRR ROW, where it is now replaced by PA 415, Memorial Highway. To the right of the ROW is the Meadows Nursing Home and AGWAY and to the left are a series of businesses and the Twin Stacks Center. Wetlands are at mile 2.0.

● 2.30 - 2.85:

At mile 2.30, it turns northward near the entrance to the Payne Printing Company. The ROW is now a dirt road, about 20' wide, that follows alongside Toby Creek. The road is buffered by trees on either side and passes St. John's Cemetery and a residential neighborhood. To the west is floodplain of Toby Creek. At mile 2.85, the ROW crosses Lake Street.

● 2.85 - 3.15:

After crossing Lake Street, the ROW continues onto what is now a flat, mowed private property. At mile 2.90, an above ground pool is situated within the ROW. Following this parcel, the ROW enters woodland and curves back toward Lake Street. Just past mile 3.00, the ROW enters onto another residential property and crosses directly across what is now the intersection of Lake Street and Country Club Road. Along with the physical constraints, the owner of this portion of the ROW expressed that they were not interested in a trail.

● 3.50 - 3.75:

From mile 3.50 – 3.75, the ROW hugs tightly to Country Club Road and is defined by a row of deciduous trees alongside the road. Bordering it to the north is a large open space being used for a stable and also part of a private property.

● 3.75 - 4.15:

At mile 3.75, the ROW crosses a small gravel driveway and enters more residential properties, where it is no longer definable. At approx. mile 4.00, the ROW enters what is now Chapel Lawn Cemetery. A building and several plots are now situated within the ROW. At mile 4.15, it re-enters woodland.

● 4.15 - 4.40:

Past the cemetery, the ROW becomes visible again. It is slightly depressed into the ground and covered in vegetation. It is buffered by mature trees, mostly deciduous, and beyond this buffer are private residential properties.

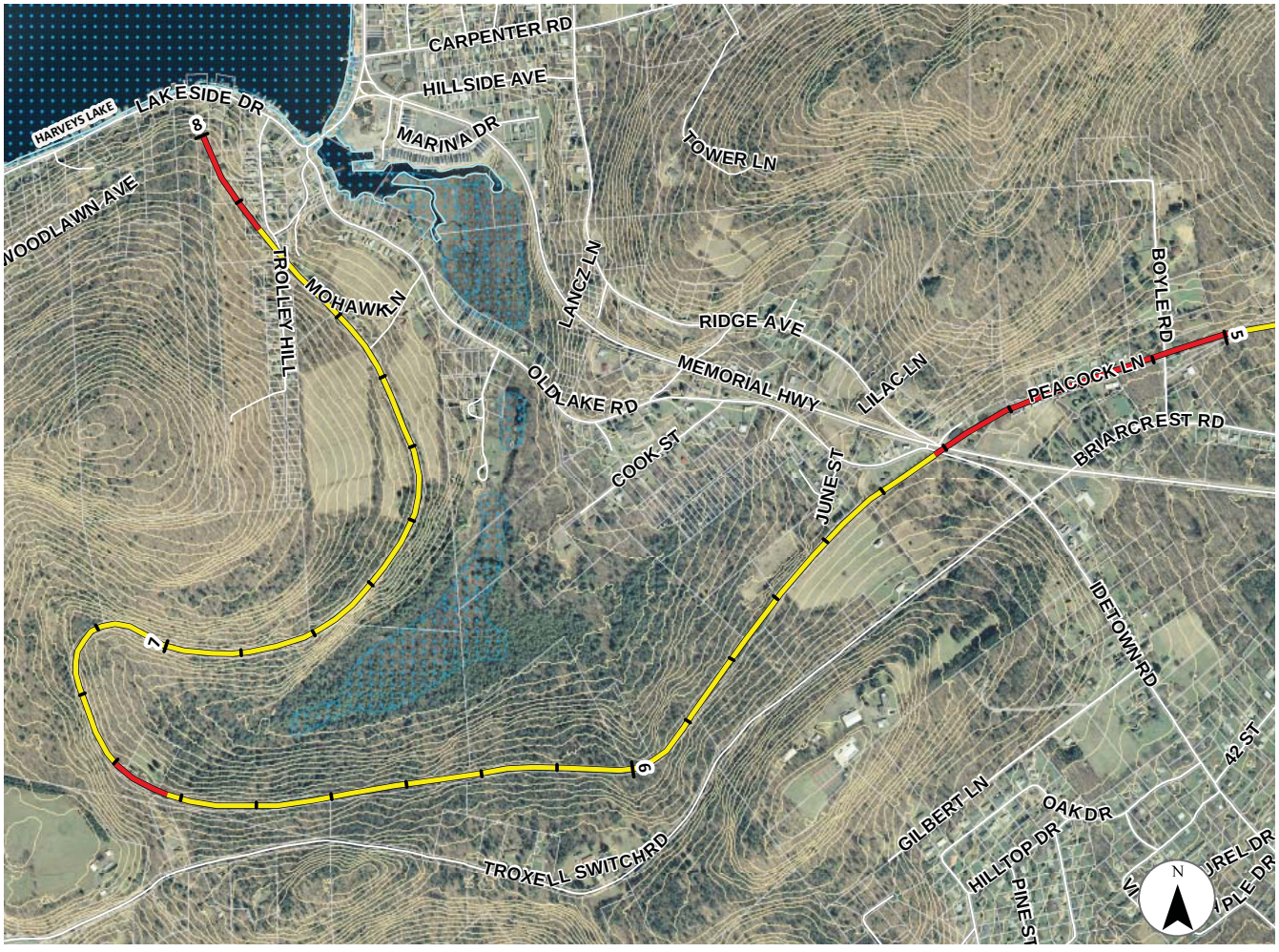
● 4.40 - 4.70:

At mile 4.40, the ROW crosses East 42 Street and a gravel driveway is now situated atop the old railline. It continues on this driveway, buffered by trees, and turns westward through private properties. At mile 4.70, the ROW re-enters woodlands.

● 4.70 - 5.00:

As the ROW enters native woodland, it becomes defined as a raised berm a few feet off the ground. It is approx. 12-15' wide with shrubs and trees growing on the surface. It proceeds into dense woodland.

Mile 5.0 - 8.0 Map



- 5.00 - 5.40:

This section of the ROW begins in native woodland. A portion of it is covered in gravel and it is being utilized as a private drive. It is generally flat and bordered by evergreen trees before crossing Boyle Road near mile 5.10. It continues as a gravel drive and crosses several residential yards. It begins to slope slightly uphill to Memorial Highway and at mile 5.40, an old body shop is situated within the ROW.

- 5.40 – 5.70:

At mile 5.40, the ROW crosses Memorial Highway and Idetown Road. From here, it continues as a dirt path with woodland bordering it on the left until mile 5.53, where it become an open field. On the right is Idetown Road. and some residential properties. The ROW is approx. 10-12' wide and buffered by trees. At approx. mile 5.60, a cleared space being used as a dump site can be seen on the right.

- 5.70 – 6.60:

From mile 5.70 – 6.60, the ROW enters woodland. It is situated on a moderate side slope that slopes down from the ROW's southern side to its northern side. Bordering it to the south is Troxell Switch Road.

- 6.60 - 6.70:

At mile 6.60, the ROW crosses onto a private property.

- 6.70 - 7.90:

From mile 6.70 – 7.45, the ROW continues around the hillside as it begins to enter Harveys Lake as a small dirt path. A small rivulet can be seen at mile 6.90 as it channels drainage into the wetlands below. It continues through woodland with a steep side slope encountered from approx. mile 7.10 – 7.40. At mile 7.45, it emerges from the dense woodland into open meadowland. It is defined as a tree row from here until mile 7.55 where it is now Parks Row, a small road. Here, it is bordered by trees on the east and meadowland to its west. Near mile 7.90, it crosses what is now Trolley Hill, a small road.

- 7.90 - 8.00:

The last part of the Wilkes-Barre, Dallas, and Harveys Lake ROW continues downhill as a dirt road where it crosses onto a residential parcel at mile 7.95. The ROW terminates in the woods up a steep, undefined dirt road near what is now 304 Lakeside Drive.

Conclusion

The Wilkes-Barre, Dallas, and Harveys Lake Railroad Trolley ROW would connect the center of Harveys Lake with the center of Dallas; however, the majority of this ROW has been lost to private ownership and residential development. Overall, using the entire ROW is not-feasible because it passes through too many privately-owned properties. Regardless a trail alternative around the southern tip of Harveys Lake is proposed because this provides potential for a loop trail around the lake - a great selling point for the Trail and a potential asset for the community. The fragmented ROW would cause the proposed trail to incorporate several sections of "share the road" along multiple dirt roads and utilize a newly constructed trail corridor (after easment / acquisition) through hilly, woodland terrain overlooking the Lake.

Legal Feasibility of ROW

To determine the ownership status of the LVRR ROW, GIS data from Luzerne and Wyoming Counties was obtained and analyzed with ArcMAP. Based on the GIS data and verbal accounts by the committee, large portions of the old railroad line are in private ownership. Several years ago sections of the ROW were divided and sold to individuals, most often adjacent parcel owners. Private ownership has lead to varying fates for the ROW ranging from completely intact to entirely demolished and undefinable. Many sections closest to Dallas are being utilized for commercial uses, however, the majority of the ROW is linked with residential ownership. Between Dallas and Misericordia University the majority of the LVRR ROW would be considered commercial use land, with most of it developed to the point of being unrecognizable. As the rail line moves toward Noxen, the majority of it is owned by residential property owners, with houses near or on the ROW. Lastly, the majority of the ROW leading into Ricketts Glenn is currently owned by the Commonwealth.

After assessing and exploring GIS information, a letter was sent to the owners of the ROW within the study are to explain the current project and future field work for the physical inventory and analysis. After these letters were sent several owners contacted the consultants with either questions about the project or to express whether they were, or were not, interested in the trail. For owners who were not interested in the trail or analysis of the ROW were indicated in red on our maps, therefore during field visits their property would not be entered.

Due to the condition of the ROW, ASTA will have to work with private property in order to complete the trail. Although alternative routes where explored, eventually, segments will come across privately owned property. When this is the case, landowners and ASTA have several options to making the trail possible and meet the needs of everyone involved. These options can range from an informal agreement, to a formal easement, to purchase, and others. Despite the majority of the trail being privately owned many property owners on the ROW have expressed interest in working with ASTA and making the Back Mountain Trail Extension a reality.

Trail License
A trail license is a revocable written agreement between the landowner and a trail organization that permits trail access. It is not permanent or binding on future landowners. A license is superior to a verbal or written agreement in that it can dictate conditions of use and management agreements.

Trail Easement
A trail easement is a legal agreement that allows others to use someone's land according to the easement. An easement can be a broad agreement to the easement holder and the public or it can restrict what types of access and usage. It can grant access to an entire property or only for a specified portion. An easement can be for hiking only, access to a feature, biking, etc.

Leasing
Land is rented from the landowner for a set amount of time.

Fee Simple/Purchase
Land can be purchased outright from the landowner.

Option to Buy
An option is a legal document giving an entity the right to buy. The document outlines the required price and applicable period, with a fee. If the property is bought, the fee is deducted from the purchase price; if the purchase does not proceed, the fee is nonrefundable.

Purchase and Lease Back
An entity purchases property and leases it to the previous owner for a specified period of time. This arrangement may include use restrictions and may be useful if the landowner wants to sell the land, but wishes to continue using it.

Bargain Sale
Sale of a property at less than the fair market value. The difference between a bargain sale price and fair market value often qualifies as a tax-deductible charitable contribution.

Donation
You can donate land to the trail organization or land trust for conservation purposes. Tax credits may be available for land donated for this option (10).

Common Issues
Even when private property owners are open to the idea of a trail there is often concern about liability and maintenance of the trail.

Liability
Pennsylvania is one of 49 states with some form of legislation protecting landowners who hold their lands and waters open for free public recreational use. The purpose of the Recreation Use of Land and Water Act (also known as "RULWA") is "to encourage owners of land to make land and water areas available to the public for recreational purposes by limiting their liability."

The Act protects public and private landowners from liability for simple negligence for injuries arising out of the free recreational use of lands and waters. Landowners can still be liable for "willful or malicious failure to guard or warn against a dangerous condition." Landowners may be liable when they have actual knowledge of a dangerous condition and the danger is not obvious to those entering the land (11).

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11. RULWA, http://conservationtools.org/guides/show/81-Recreational-Use-of-Land-and-Water-Act
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VII. Trail Concept Plan



The terminus of the proposed Back Mountain Trail is Mountain Spring Lake, which connects to Ricketts Glenn State Park. The park is a beautiful natural area that is nationally recognized for its natural features and hiking trails.

Vision for the Trail

Identifying a vision for the trail is a key first step in determining the trail concept. Often trail layout is dependent upon the vision, as well as, physical constraints and opportunities. For this trail in particular, the vision is to create a trail that will utilize as much of the abandoned rail line as possible while making important community connections through several municipalities. The trail will harken back to the history of the area through use of the old rail line while creating opportunities for education, health, and exercise along with a variety of other uses. Additionally, it will become a lasting feature of the area through the use of sustainable practices by effectively handling stormwater and focusing on minimizing the environmental impact of the trail; making it an integral part of the communities it connects to.

The primary trail layout is depicted in the following chapter using several 11" by 17" pullout maps accompanied with written descriptions. The trail is shown as a solid blue line on the maps while alternative routes are a dashed blue line on maps C1-C4 (Concept 1 through Concept 4).

Methodology and Design Considerations

In order to stay true to the trail vision, the first focus of the design was to utilize as many of the feasible section of the LVRR ROW as possible. To assure a contguous trail, alternate routes were identified to help connect feasible sections of the ROW. When considering the location of these alternative routes, many options were considered including privately owned land, institutions, public land, utility lines, dirt roads and the public right-of-ways along streets. Keeping the trail off roadways and within natural settings was a priority, however, there were multiple constraints, mainly privately owned land and their disinterest in the trail. Electrical, water, and gas utility lines were also studied for possible routes, but often these lines cut directly up hillsides, creating steep slopes (fall line trails) that would be unmanageable for a trail and would only create more maintenance problems. Wetland areas were also considered for trail locations but the difficulty/cost to develop on these areas seemed to out weigh the benefits. Several dirt roads were identified and considered a better solution due to low traffic and the often naturalistic setting they provide.

Use of Public Road ROW

The most legally feasible and cost efficient method for alternative routes in several areas became using the public right-of-way along streets. This alternative route option still posed issues with moderately to heavily traveled roadways or already narrow street. However, several right-of-ways were identified that could be used for alternative routes:

Luzerne County

State Routes:
State Route 309: 33' - 50' ROW
Lake Street: 50' ROW
Country Club Road: 50' ROW
Kunkle Road: 50' ROW
State Route 415: 50' ROW
Lakeside Drive: 50' ROW

County Roads:
Lower Demunds Road: 50' ROW

Dallas Township:
Dorchester Drive: 50' ROW
Southside Avenue: 33' ROW
Spencer Road: 33' ROW

Dallas Borough:
Foster Street: 33' ROW

Wyoming County

State Routes:
State Route 415: 50' ROW
State Route 29: 50' ROW
Stull Road #3002: 50' ROW

Traffic Analysis of Study Area

The Pennsylvania Department of Transportation (PennDOT) has compiled traffic volume counts for most of the roads in the state. This data is valuable in determining the safety of potential trail users along roadways. The data provided here is the Annual Average Daily Traffic counts for 2012. From this data, the most used traffic routes can be derived from amount of vehicles using the roadways per day. The data is collected by pneumatic tubes that are stretched across the roadway and count the number of cars that pass over it in data collection boxes off to the side of the road. Manual counts, where a person physically counts the number of cars, is used only on roadways where automated data collection is inaccessible. The traffic volume counts represent traffic in both directions.

PennDOT data shows that the average peak usage of roadways occurs during the hours between 8AM and 4PM with a slight dip around 11AM. The data also shows that many roads within Dallas and Harveys Lake are lightly used to moderately used when compared with State Highways 29, 309, and 415. Lake Street, Kunkle Road and Lakeside Drive are all moderately used as main thoroughfares for their respective areas. Secondary roads in these areas are much less traveled and present a safer but longer route for a proposed trail. Overall, roads that boarder the LVRR ROW are more frequently used and extra precautions will be needed for pedestrian and trail user safety, however, proper planning can make each of these roads a viable option for the proposed trail route (1).

Street	***Location***	***AADT Count***
Lower Demunds Rd.	Between Exisiting Trail and PA 309	2000
PA 309	Between Main St. and PA 415	26000
PA 309	Between PA 415 and Center Hill Rd.	11000
PA 415	Between PA 309 and Church St.	13000
PA 415	Between Church St. and Country Club Rd.	12000
Church St.	Between PA 415 and Center Hill Rd.	2500
Church St.	Between Center Hill Rd. and PA 309	2100
Lake St.	Between PA 415 and Center Hill Rd.	4000
Lake St.	Between Center Hill Rd. and Country Club Rd.	3500
Lake St.	Between E 42nd St. and Kunkle Rd.	700
Country Club Rd.	Between Lake St. and PA 415	1200
Kunkle Rd.	Between Lake St. and Lakeside Dr.	1700
Lakeside Dr.	Between Kunkle Rd. and PA 415	1800
PA 415	Between Lakeside Dr. and PA 29	750
PA 29	Between PA 415 and Noxen	2100
Dimmick Hill Rd.	Between PA 29 and Noxen	100
Stull Rd.	Between Noxen and Wilson Rd.	250
Wilson Rd.	Between Stull Rd. and Mountain Rd.	N/A
Mountain Rd.	Between Wilson Rd. and Ricketts Glen State Park	N/A

Table: Traffic counts of streets along ROW. Numbers represent Annual Average Daily Traffic volume in both directions.

Community Connections

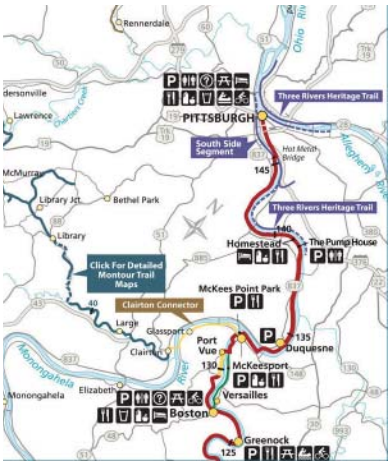
When developing the best route for the trail, community connections became a priority. The largest focus was on community parks, and educational facilities such as Dallas School District and Misericordia University. Other areas of focus were commercial areas and public spaces, especially in the more urban setting of Dallas. A detailed map of trail community connections can be found at the end of this document.

Trail Precedents

In order to determine the best possible route, examples of other successful trails were researched to understand how some of their techniques can be applied to the Back Mountain Trail.

Great Allegheny Passage

The Great Allegheny Passage connects Pittsburgh 150 miles south to Cumberland, Maryland where it meets up with the C & O Canal Towpath, which runs to Washington D.C. Similar to the Back Mountain Trail, this was also a rails to trails initiative that started in 1978 when an old rail line was purchased by the Western Pennsylvania Conservancy on behalf of the Commonwealth of Pennsylvania. Starting in the heart of Pittsburgh, the trail crosses a variety of landscapes from densely populated urban areas to pastoral rural countryside. The trail's extensive length, varied landscape from urban areas to mountains and lakes, and various bridges and campgrounds, attracts up to half a million annual visitors. Because of the large number of enthusiasts using the trail, adjoining villages have realized an obvious increase in economic revenue, especially in outdoor related stores, restaurants, and hotels. This trail serves as a good precedent by providing ideas for trail branding and how to connect users with an area's cultural, historical, and natural heritage as well as developing connections to other trail networks. It also provides precedent on how to fund, build, and maintain a trail that passes through many municipalities (2).



Map of the Great Allegheny Passage near Pittsburgh, PA.

West Side Trail

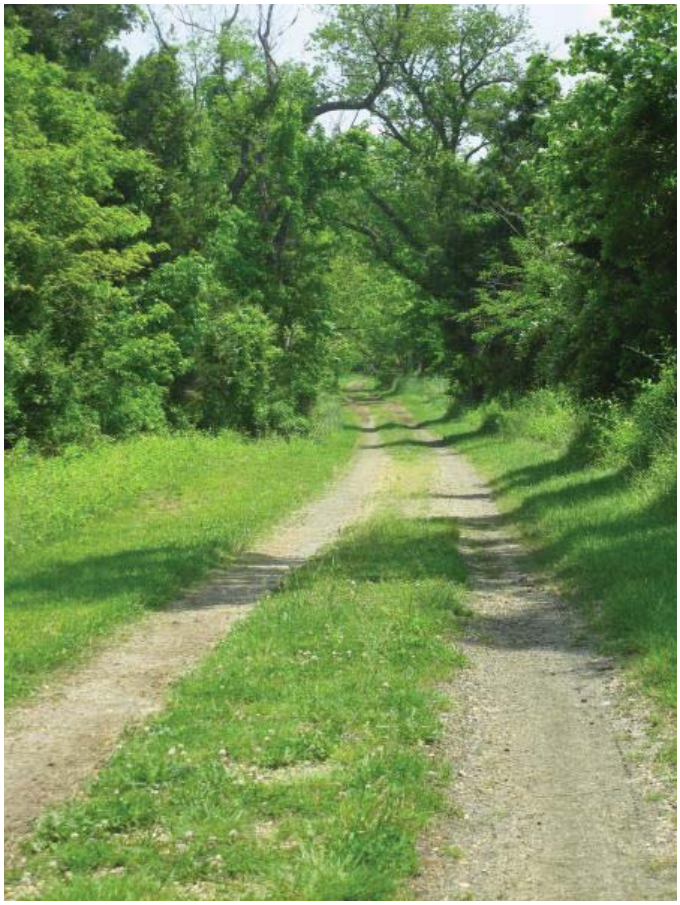
The West Side Trail is a unique urban trail designed to connect the historic parts of Wyoming, West Wyoming, Forty Fort, and West Pittston Boroughs along the west bank of the Susquehanna River, while creating a loop trail for the Luzerne County Rail-with-Trail. This trail connects many amenities within the area including the Wyoming Free Library and Battle of Wyoming monument, while utilizing sections of existing sidewalk. Portions of the trail that take advantage of the sidewalk are shown through the use of signage and pavement material. This trail serves as a good precedent of how to incorporate a trail in urban areas that connects with many municipal features and amenities (4).



Bike St. Louis Trail, Urban Trail, St. Louis, MS (3).

Steeplechase Trail

The Steeplechase Trail is a dirt road that traverses Holmdel Park in Monmouth County,



Steeplechase Trail, Holmdel Park, Dirt Road Trail, NJ (6).

New Jersey. The park was a former farmstead and features an arboretum, fishing ponds, the historic farmstead, and picnic areas. The trails are not blazed, utilize existing dirt roads and are simply marked by signposts. This trail passes through small woodlands, open meadows, ruins of old farm structures, ponds, and small tree farms. This trail serves as a good precedent with conditions similar to parts of the LVRR ROW and provides useful ideas of how to incorporate a trail on existing dirt roads (5).

Trail Description

The proposed trail utilizes as much of the Lehigh Valley Railroad ROW as possible. The proposed trail starts just above Lower Demunds Road in Dallas, at the end of the existing Back Mountain Trail, and terminates at Mountain Spring Lake in Ross Township, near Ricketts Glen State Park. It connects Dallas, Misericordia University, Harveys Lake, Noxen, and many other points of interest along the way. To best describe the concept, the proposed trail alignment is broken into four main sections: from Dallas to Misericordia University; Misericordia University to Harveys Lake; Harveys Lake to Noxen; and Noxen to Mountain Spring Lake. Before each main section, is a map and key to show the trail layout and general conditions of the surrounding area. Points of interest are marked, as well as, the location of conflict areas and potential amenities to give further detail. Also, the maps include other requirements needed to build the trail.

Trail Heads and Parking Areas

Trail heads and vehicular parking areas are sited along the propsoed trail alignment. The location of these facilities was determined by analyzing the available space and the distance along the route to the next trail head location. It was important to have these facilities spaced somewhat equidistant so there is not a section of the trail that features an over-abundance or a lack of these facilities. Additionally, the trail heads are located in areas that already lend themselves to the use of parking and gathering, making the space easily accessible to users and emergency response vehicles.

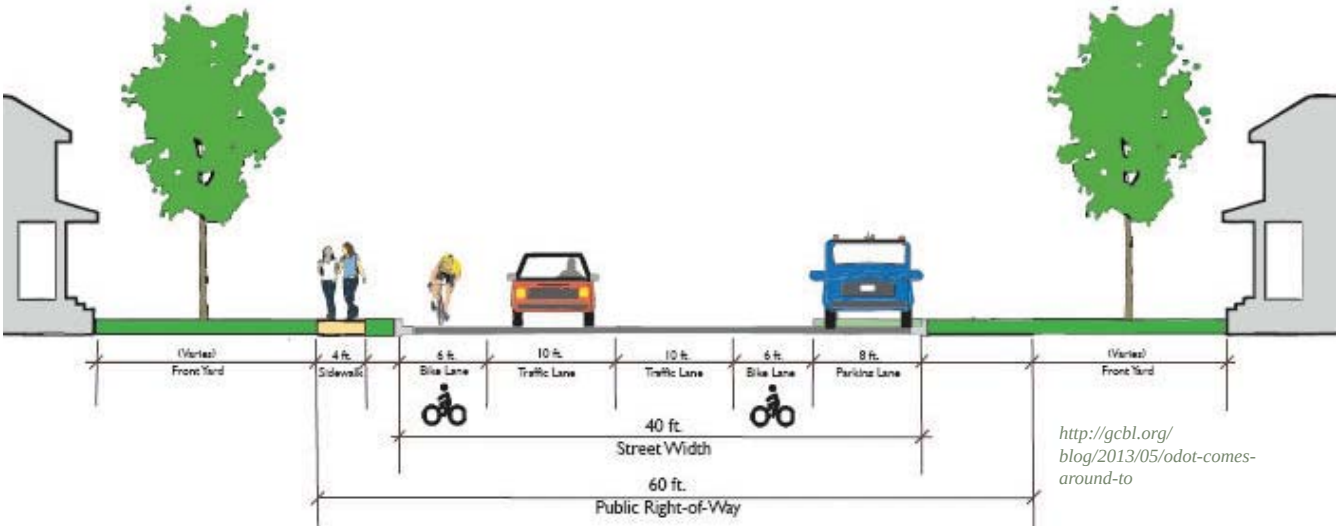
Proposed trail heads would feature amenities such as picnic areas, restrooms, informational kiosks, directional signage, sitting areas, and access for emergency vehicles. Not every trail head would have enough space to accommodate all of these features, but many should be incorporated. Examples of these proposed trail heads are shown on subsequent pages.

Pedestrian, Bicycle and Vehicular Traffic

The largest conflict areas are related to the interaction between vehicular traffic and pedestrians. Even though there are some conflicts in rural areas the majority of these conflicts are found in Dallas and Harveys Lake where there is a denser population and higher vehicular traffic rates. For most of these conflict areas, the primary needs are signage and painted crosswalks, but other options, such as

painted walkways and vegetated strips are possible to separate and distinguish the walkways from the street. Many of the techniques used are described in further detail in subsequent sections.

Another conflict that can occur on trail systems is between different trail users, like pedestrians and bicyclists. The best solution for avoiding these conflicts is to create a two-way path to provide plenty of room for everyone. The majority of the trail that is on the LVRR ROW is wide enough to accommodate double pathways (two-way pathways), however, parts that are situated on sidewalks or adjacent to roadways would likely be a single pathway. In some of these situations it is beneficial to utilize both sides of the road and to provide a bike path when room is available. The sections of the trail that follow along dirt roads are wide enough to allow for double pathways.



Section depicting general guidelines for bike lanes along public rights-of-way.

Bridges, Grading, Drainage and Buffers

Dealing with stormwater is an important aspect to any trail design. Making sure stormwater is properly managed will ensure the sustainability of the trail and reduce the amount of maintenance needed. Strategies include keeping the trail generally flat, avoiding steep side slopes to avoid erosion and taking the proper precautions when steeper slopes are unavoidable. Due to the way railroads were built, generally flat and following contours, there are not many areas that pose a significant issue to the trail when the ROW is utilized.

In some sections there may be small conflicts with privacy between trail users and adjacent land owners. When laying out the trail it was important to give space to residential areas and not encroach on private property, however, if an adjacent property owner has a problem with loss of privacy, screening or a buffer may need to be installed. This can include fencing, a hedgerow, shrubs, trees, or grasses that will block the view as well as provide security.

Conflicts between Trail Users

In sections of the trail closer to Noxen, ATV and snowmobile use is documented. In order to provide the safest and most optimal trail for this area it is crucial to either create a trail that fully accommodates this type of use or else prohibit the use entirely (will be determined by ASTA and the municipality). Allowing motorized vehicles would require a different set of standards than those governing the rest of the trail. Signage to indicate speed limit, highly visible crossings or building a much wider trail with an additional path to separate pedestrians from ATV riders can be considered to

make a safer multi-use trail

In areas that prohibit ATV's, signs and structures can be used to prevent use. If a portion of the trail enters privately owned land and the owner stipulates foot travel or bikes only, this should be included on signs at the entrance to the property, and alternative access points should be blocked. There are penalties for operating motorized vehicles on private land, and landowners and trail groups can work together by informing local police of violations.

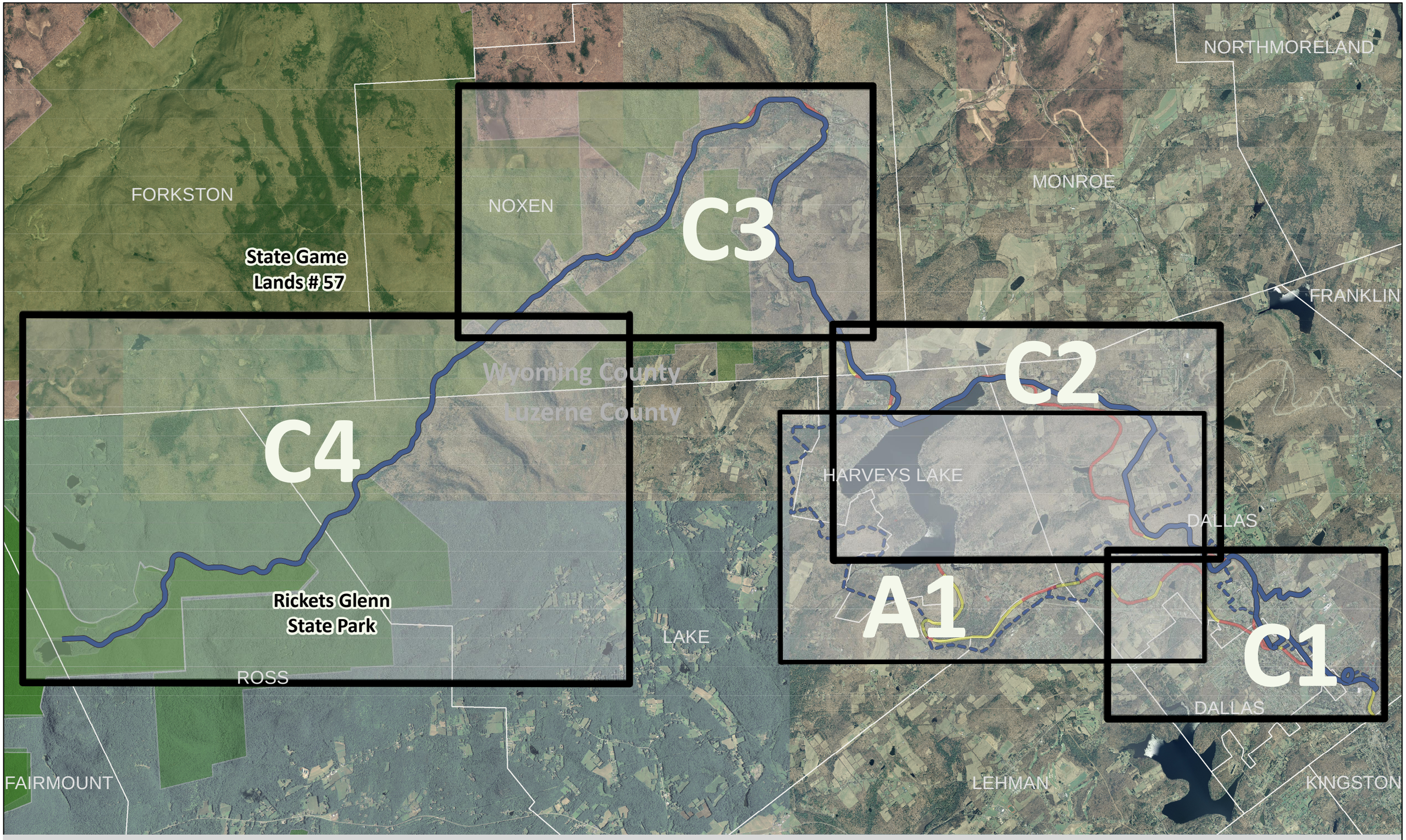
Auxiliary Trail Facilities

As described previously, trail heads would feature picnic areas, restrooms, informational kiosks, etc., as well as, vehicular parking areas. Through each of these trail heads, there will be access for auxiliary vehicles and a place to park in case of an emergency situation.

ADA Accessibility

Due to the often flat characteristics of the railroad bed (LVRR ROW) it is possible to make most of these trail sections ADA accessible with access points from nearby trail heads. However, many portions of the proposed alignment can not follow the existing LVRR ROW due to private property issues; thus alternate routes to bypass these constraint point were required and many of these areas are not ADA accessible due to slopes and terrain. For example, the section adjacent to State Route 29, would be difficult to make completely ADA accessible due to the steep slopes needed at the entrances to the trail. Having an easy to read map that clearly highlights ADA accessible sections of the trail is an important and essential feature.

On the following pages, detailed maps of the proposed trail are provided and described in greater detail. Conceptual images of highlighted areas are also provided to illustrate potential features or amenities. The concept is broken down into four sections with priorities for implementation provided.



CONCEPT MAP KEY

Proposed Trail Route

Alternative Trail Route

Feasible ROW

Non-Feasible ROW

Scale: 1” = 5,000’

0 2,500 5,000 10,000 20,000

N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

C1 - DALLAS TO MISERICORDIA UNIVERSITY

Points of Interest:

A. Street Crossing: Lower Demunds Road
B. Creek Crossing/Upgrades: Trout Brook
C. Creek Crossing: Toby Creek
D. Land Acquisition Required
E. Wetland Crossing
F. Water Crossing
G. Partnership: Slovak Cemetery
H. Gateway
I. Major Grading/Steep Slope
J. Drainage Channel Crossing
K. PennDOT Permit/ROW
L. Street Crossing: SR 309
M. Creek Crossing: Toby Creek Tributary
N. Trail Head: Dallas Twp. Park
O. Street Crossing: Foster Street
P. Future Round About/PennDOT
Q. Streetscape Improvements: Lake Street
R. Partnership: Mercy Center
S. Connect to Fields
T. Street Crossing: SR 309
U. Partnership: Misericordia University
V. Partnership or Acquisition: Fern Knoll Burial Park
W. Trail Improvements: Railing

Proposed Trail Route
Alternative Trail Route
Feasible ROW
Non-Feasible ROW
Wetland
Streams/Rivers

Scale: 1" = 1,000'
0 500 1,000 2,000 4,000
N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

C1 - Dallas to Misericordia University

Lower Demunds Road to Grandview Avenue

The first segment of the proposed Back Mountain Trail extension ties into the current terminus of the trail, continues down Terrace St. and crosses Lower Demunds Road. This crossing would need signage and a crosswalk to alert vehicular traffic of the pedestrian crossing. The ROW adjacent to Lower Demunds Storage facility would receive improvements including fencing, shrubs, and a linear raingarden to infiltrate stormwater runoff. Additionally, the stream/wetland complex past the storage units gives opportunity for educational singage. After the trail crosses the creek, it will continue on the ROW until the Sunoco Gas Station near Dorchester Drive. The trail would then cross Dorchester Drive, requiring signage and a crosswalk, and enter the base of the Sacred Heart Slovak Cemetery. The trail would utilize this flat portion of the cemetery just below the cemetary access road near the boundary with the Dallas Shpping Center. Improvements would include an ornamental fence along with shrubs, trees, and arborvitae to create an attractive, tasteful boundary between the trail and the cemetery. Once the new fence is installed, the existing chain link fence and weeds separating the cemetery from the Dallas Shopping Center would be removed, and the slope would be re-vegetated with native plants to make the trail more inviting to visitors.



Improvements adjacent to Lower Demunds Rd. Storage.

Half way through the cemetery, the trail would turn south and pass between two buildings in the Dallas Shopping Center. A prime opportunity exists here to provide a highly visible gateway along the trail. This gateway would feature a brick patio area with benches and a kiosk and would not only provide trail users a place to rest but also provide business employees and customers a place to eat lunch or relax. The buildings would be enhanced with a green wall of ivy plants and a hedgerow of evergreen shrubs. This gateway would be a focal point along the trail and would connect users to the Shopping Center helping to increase business for the local shops and restaurants.



Rendering depicting trail in Slovak Sacred Heart Cemetery.

Continuing from the Gateway, the trail would then utilize the fire lane, next to the sidewalk, directly in front of the shopping center. For the trail to safely cross through the shopping center, the parking lot may need to be re-striped with different vehicular circulation patterns and parking stall layout. The trail will most likely be delineated via line striping, a fully painted lane and/or a colored & textured asphalt strip. The area can still be used as a fire lane, in fact a trail will better restrict unauthorized parking along the store frontage. At the end of the parking lot, the trail would exit the shopping center onto PA 309 and utilize the street ROW along the road until reaching Grandview Avenue. This section would allow for

beautification projects that could include sidewalks, street trees, bioswales, and trail branding signs to significantly increase pedestrian safety. This section would also feature a separate bike lane for cyclists while pedestrians would utilize the sidewalks. A beautification project like this would be a prime attractant to local residents and encourage them to use the trail to walk to shops and the downtown area instead of using their automobiles. Traffic congestion would be reduced, as well as, exhaust emissions from vehicles, which would enhance the beauty of the area, entice people to use the trail, and instill a stronger sense of pride in both the trail and Dallas.

Alternative Route 1

If the proposed trail route that utilizes the ROW from Lower Demunds Road to Dorchester Drive is unattainable, then an alternative route could head north on or adjacent to Lower Demunds Road where it can utilize a paper trail on the left that divides several residential parcels. This section is overgrown and would need clearing & grubbing. Signage and crosswalks would also be needed to safely direct trail users to this paper road. The trail would then continue, crossing existing wetlands, into a small woodland consisting of maples, birch, cherry, and other tree species. It would connect with an existing loop trail around a small pond that outlets on Lt. Michael Cleary Drive. From here, the trail would continue down this road to Dorchester Drive and enter the Sacred Heart Slovak Cemetery. This alternative route requires a boardwalk to cross wetlands and a PA DEP Chapter 105 permit for wetland encroachment.

Alternative Route 2

Instead of entering the shopping center, Alternative Route 2 would continue the trail along the base of the cemetery into the adjacent woodland to the northeast of the cemetery. At this point, there is a large slope that would require either a switch back trail or stairs to make the trail accessible. This alternative route would continue through the woods along the Skyview Drive extension, cross a drainage channel, and continue to Skyview Drive, through New Goss manor and then reaching Grandview Avenue.

Grandview Avenue to Misericordia University

The trail would then cross 309 at Grandview Ave and utilize the ROW along Southside Avenue, a small residential dead end road. The street is paved, slopes gently toward the end and has a small ditch on the side for drainage. The only traffic using the street appears to be a few residential homeowners or park users. The road terminates at a small gravel area and woods that turns into a play area with swings, merry-go-round, slide, and other play equipment. The space is generally flat to accommodate the play area. The trail would cut around to the south of the play equipment before crossing a small creek, leaving the woods and runs adjacent to a gravel parking area next to two baseball fields. This gravel area can be expanded and used as a trail head for the Back Mountain Trail extension. The trail would then wrap around the north side of the park before running into a gravel road, North Lakeside Drive. It would continue up North Lakeside Drive for about 150 feet before turning left onto an easement and down a short, vegetated slope that connects to Woodlawn Drive. The trail would turn onto Foster Street and connect to the intersection of Lake Street and the Memorial Highway. Utilizing the sidewalks, the trail would wrap around the north side of the proposed round-about and head up the east side of Lake Street. After Crossing E Center Hill Road the trail would turn onto McAuley Drive, connect back to the LVRR ROW and wrap around Misericordia University and Fern Knoll Cemetery.

Alternative Route 3

Once the trail crosses State Route 309 at Grandview Avenue, instead of turning right onto Southside Avenue it would continue straight onto Woodland Drive and turn left onto Mills Street. Approximately 250 feet down the street the trail would connect with the LVRR ROW Right before crossing Toby Creek,

and would continue to follow it next to the post office before connecting into the walkways of the proposed round about. This alternative would require two creek crossings and a partnership with the Post Office.

Alternative Route 4

After turning up Mercy Drive, next to the Misericordia University campus, instead of continuing north to wrap around the campus the trail would cut directly through it. Approximately 20' off of Lake Street the trail would turn west, and move directly behind the existing stone wall that is being used as the universities entrance. From this relatively flat grassing area the trail would turn north and hug the main entrance drive while moving up a hill and toward the main buildings. After approx. 500 feet up the access road, the trail would cross the drive and cut through a grass area next to two existing baseball fields before cutting through a large open grass space that leads to student dorm buildings on the north end of the campus. It would then hug the building farthest north before turning onto the track and football fields access road and connecting to a student walkway around the field. From there the trail would then cut into a small wooded buffer and connect back with the path, just before Country Club Road.

Dallas High School Connection

At Fern Knoll Cemetery, a possible extension to Dallas High School exists that continues down Midland Drive, the existing drive into the cemetery. It would continue up the steep slope and turn left onto East Belmont Avenue before cutting through a shrub hedge into an existing park. The trail would move through the park, cross Church Street and cut behind the Dallas Fire and Ambulance building. The trail would continue up East Center Hill Road to the intersection with Route 309. After crossing the state route, the trail would continue up Hildebrandt Road to the High School Entrance.

(H) Shopping Center

Due to the location of the proposed trail in an urban setting like downtown Dallas, the trail has potential to be utilized for everyday errands and commuters. Therefore making these connections to commercial areas, such as the Dallas Shopping Center, plays an important role in the use of the trail. At the point where the proposed trail cuts from the Slovak Cemetery, through two existing buildings, and into the Dallas Shopping Center,there is potential to create a gateway to give the trail prominence. This can draw attention to the trail and promote the use of it in a commercial setting. Additionally, this space has potential to be used as a seating area, with trail map, and bike racks to encourage those using the trail to break and use some of the surrounding businesses.



Highly visible gateway; Proposed trail cutting through the Dallas Shopping Center.

(I) Major Grading/Steep Slope

For Alternative Route #2, the proposed trail follows the base of the cemetery before cutting northeast, up an existing wooded slope. This area has limited space for meandering the trail between the cemetery and a residential parcel, which will produce a steep longitudinal grade that is not ADA accessible. Portions of this upward rising trail may even need steps. Immediately past the residential parcel the path is able to curve northwest and pick up elevation producing a gentler climb and creating a more level trail. However, a large portion of this trail can be considered a fall line trail (perpendicular to contours) and without steps, is not a sustainable trail due to increased velocity of stormwater runoff.

(K) PennDOT Permit/ROW: SR 309

Due to long non-feasible sections of the LVRR ROW and minimal open space available, the proposed trail will utilize the ROW of State Route 309 for a short length. Despite heavy traffic in this section, there is room in the street ROW for the trail. However, the steep sideslopes may require substantial cut and a retaining wall. Regardless there are options available in this area to create a trail that is both comfortable and safe, including use of signs, line striping, curbing and vegetation. The biggest hurdle will be getting theproject approved through Penn DOT.



Before and after images for street improvements along 309: new curb & sidewalk; requires cut into bank.

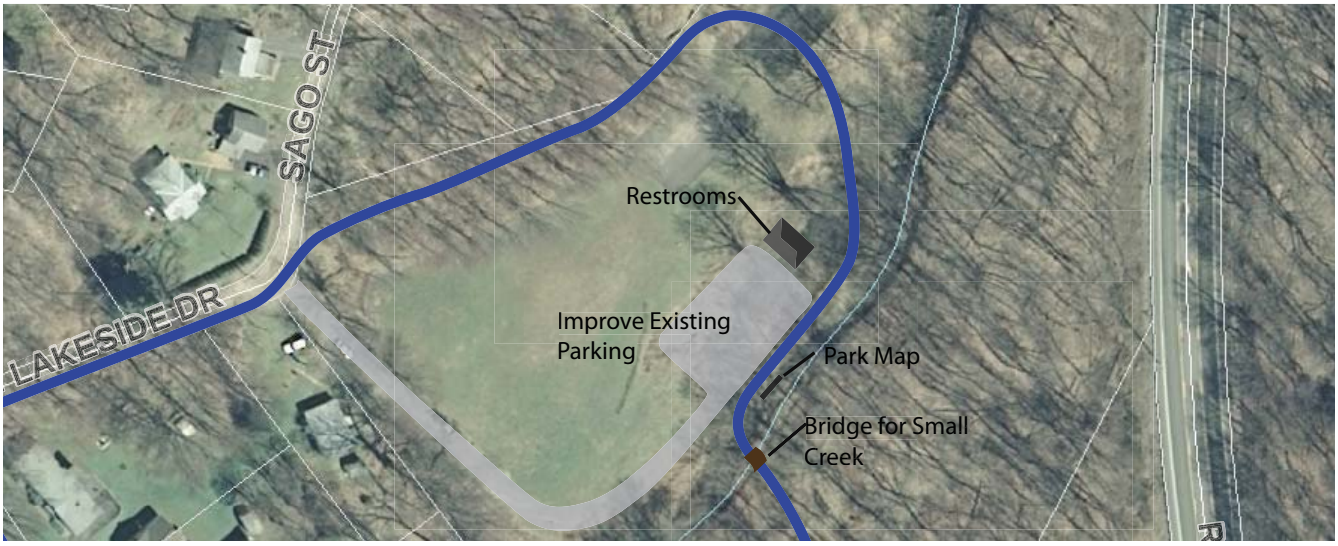


Before and after images for street improvements along 309: room for new sidewalk, landscaping and bioretention areas.

(N) Dallas Township Park

The Dallas Township Park is an ideal location for a trail head because of its proximity to downtown

Dallas and the already existing parking area. The existing baseball field, basketball court and playground make it a good destination. Improvements can be made to the existing drive to increase the amount of parking available along with a restroom and trail map.



Dallas Township Park trail head.

(O) Foster Street

Foster Street connects Dallas Township Park to the proposed round-about at the intersection of Lake Street and the Memorial Highway. This street is congested due to the proximity of CVS and the Post Office. Parking on both sides of the street also forces the proposed trail to utilize the existing walk on the north side of the street. In order to create the safest pedestrian zone, signage for both vehicles and pedestrians will be needed along with cross walks at each intersection. The use of bumpouts, tree lawns, street trees, and signage can be beneficial for both everday and rereational usage.



Foster Street would need striping and signage to make the area safe for trail users.

(P) Round About: Intersection of the Memorial Highway and Lake Street

The intersection of the Memorial Highway and Lake Street at Dallas Corners is a major conflict between pedestrians and vehicular traffic. This intersection has become a problem to the point that PennDOT is already proposing converting and reconfiguring the intersection into a round about. It will become an oval shaped roadway with sidewalks surrounding it, and cross walks at each intersection. Even though the trail only curves around a small portion on the north side of the round about it is much safer than the current situation and extra signs and lines can be used to indicate the small area of the round-about the trail utilizes.



Existing Conditions



Proposed Round-About (7)

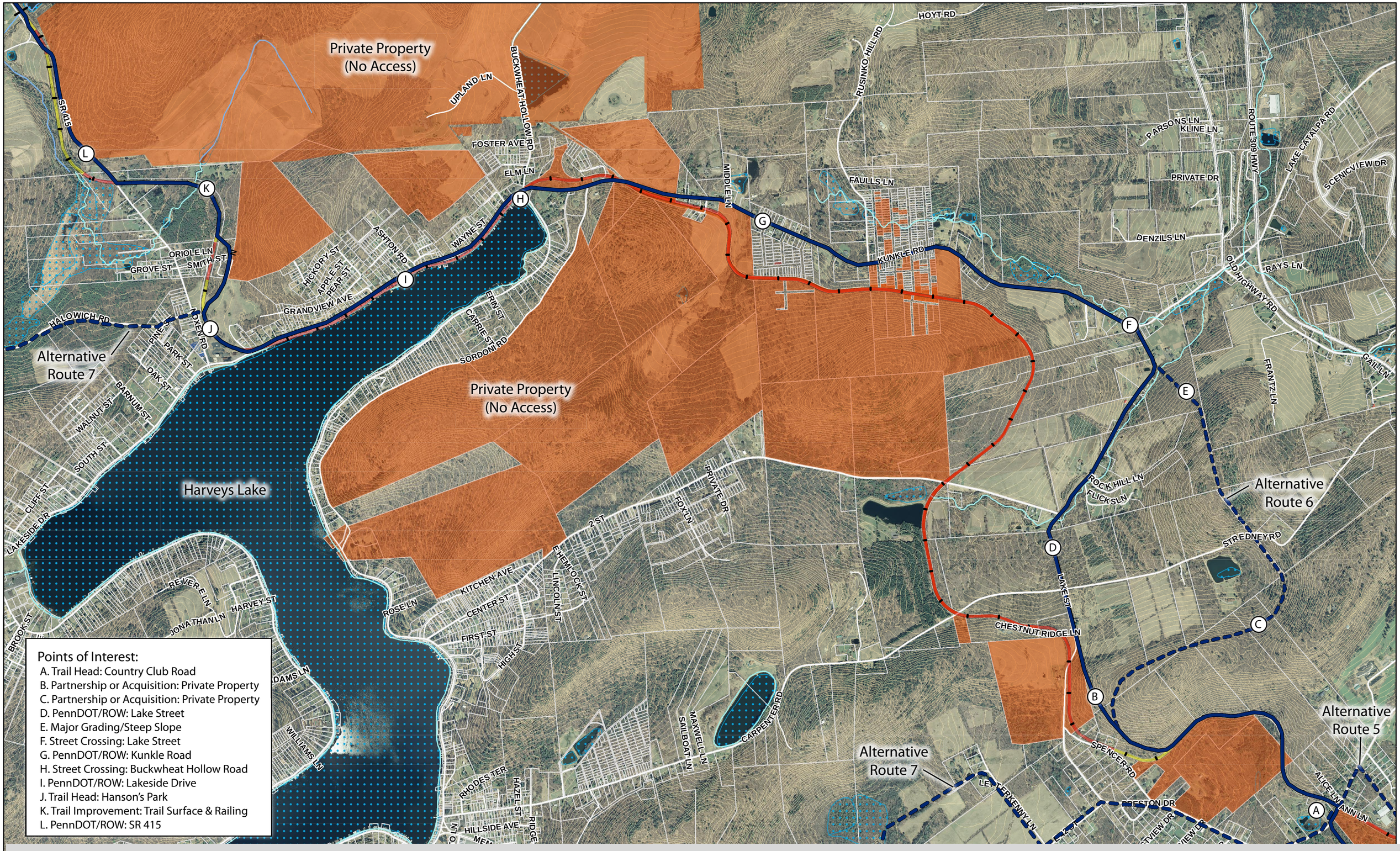
(Q) Streetscape Improvements: Lake Street

The connection between Misericordia University and downtown Dallas is made through the use of Lake Street and proposed streetscape improvements. This portion of trail is important because it encourages students to utilize the trail as a connection into an urban area. Street signs and unique crosswalk painting can be used to individualize this section as a portion of trail and make it safe and comfortable for users.





Lake Street showing unique branded striping and signage to increase pedestrian safety.



Points of Interest:

A. Trail Head: Country Club Road
B. Partnership or Acquisition: Private Property
C. Partnership or Acquisition: Private Property
D. PennDOT/ROW: Lake Street
E. Major Grading/Steep Slope
F. Street Crossing: Lake Street
G. PennDOT/ROW: Kunkle Road
H. Street Crossing: Buckwheat Hollow Road
I. PennDOT/ROW: Lakeside Drive
J. Trail Head: Hanson's Park
K. Trail Improvement: Trail Surface & Railing
L. PennDOT/ROW: SR 415

C2 - MISERICORDIA UNIVERSITY TO HARVEYS LAKE

Proposed Trail Route

Alternative Trail Route

Feasible ROW

Non-Feasible ROW

Wetland

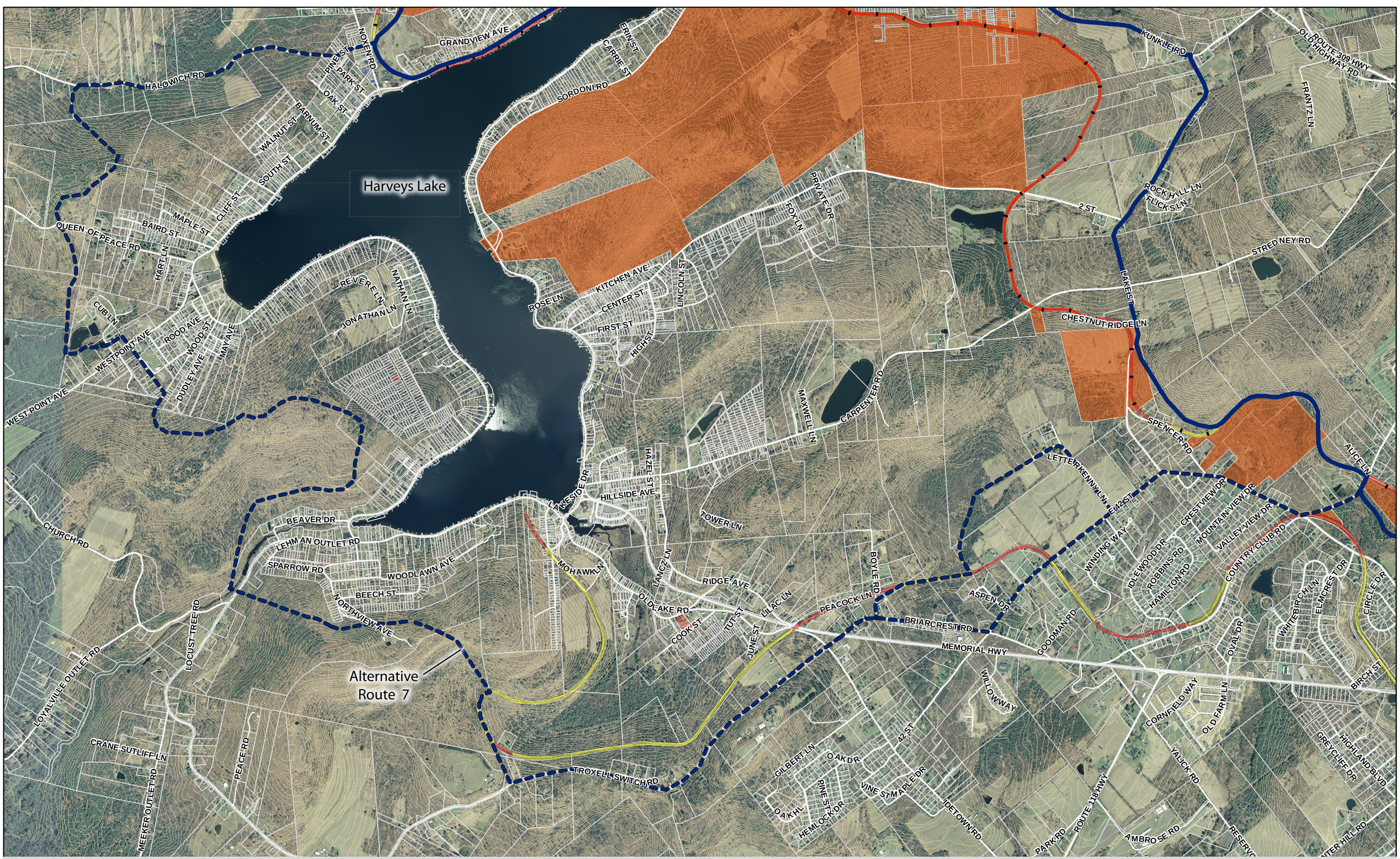
Streams/Rivers

Scale: 1" = 1,400'

0 700 1,400 2,800 5,600

N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS



A1 - ALTERNATIVE ROUTE 7

Proposed Trail Route

Alternative Trail Route

Feasible ROW

Non-Feasible ROW

Wetland

Streams/Rivers

Scale: 1" = 1,600'

0 800 1,600 3,200 6,400

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

C2 - Misericordia University to Harveys Lake

At the top of Misericordia University, just above the existing track and football field, the proposed trail will leave the old rail line and wrap to the south west, just above St Mary's Cemetery and connect up to Country Club Road. After using 300 ft of the road shoulder, the trail would connect back with the LVRR ROW at an existing dirt path. The Entrance to this area can be improved for use as a small trail head with park map and 2-3 parking stalls. To prevent the trail from being too close to residential back yards about 500 ft before Spencer Road the proposed trail will start to diverge from the ROW and enter the adjacent wooded area. Following contours, it wraps around the hill and heads back to Lake Street just before a tree farm off of Stredney Road. The trail would utilize the ROW on the east side of Lake Street to connect with Kunkle Road. This section would have steeper slopes and more hills due to the topography of the roadway. It would then cross the street and continue up the south side of Kunkle Road. This roadway would be utilized for approximately 3.25 miles before running into the intersection of Lakeside Drive and Lake Hill Road at the north corner of Harvey's Lake. Utilizing the road adjacent to the LVRR ROW the trail would continue on the north side of Lakeside Drive with improved pedestrian walking and bike lane. Just before Noxen Road the trail would turn north and connect with the ROW as it cuts through the old Hanson's Amusement park. This area can be converted into a public park and interpretive signage will highlight it's history as an amusement park. Part way through the old amusement park the trail would cut to the east, above an existing trailer park before connecting back to the LVRR ROW. Once the old rail line crosses Noxen Road (SR 415) the trail would utilize the east side of the streets' right-of-way.

Alternative Route 5:
At the beginning of this section, instead of bringing the trail above St Mary's Cemetery, it can turn north and utilize an existing drive to connect to Country Club Road and back to the old rail line.

Alternative Route 6:
After Country Club Road the trail continues on the old rail line until it is about 1000 feet from Spencer Road where it curves north and away from the existing residences. It continues toward the east, following existing topography until meeting up with an existing utility line just off of Stredney Road. Staying generally flat the trail would follow the line to the road, cross it, and head back up the hill on the opposite side. As it continues to follow the utility line the trail would need switch backs and major grading to handle the steep slope and stormwater. Once at the top, the trail heads back down the hill on the opposite side. Even though this route pose greater issues with topography and private property it would keep the trail in a more wooded area and off of Lake Street for a longer section.

Alternative Route 7:
Due to the large amount of non-feasible sections of the LVRR ROW near Harveys Lake and the historical opposition of streetscape improvements by homeowners along Lakeside Drive, alternative routes were researched around the south side of Harvey's Lake. Additionally, a sotuehrn route was suggested by members of the Harveys Lake Borough Council who felt the south side of the lake would be a better option than the primary route proposed along the north side of the lake. The least expensive route for ASTA would be the primary route, however, should opposition to this route be too great, then the Alternative Route 7 route serves as a prime alignment. Alternate Route 7 also has the ability to connect the Back Mountain Trail with the Harveys Lake "Hub" to downtown Dallas creating a "Hub to Hub" connection trail. Additionally, if both the primary alignment and Alternate Route 7 are constructed, there is potential for create an impressive loop trail around the lake.

This alternative route begins where the proposed trail intersects with Country Club Road. It would run alongside the road until turning onto Lake Street and continuing north. From Lake Street, the trail would turn onto East 42nd Street, a lightly used residential road that has pastoral farmland and woodlands dominated by hemlock and pine. The street has a steep incline at the beginning before flattening out and transitioning downhill at the end. It would then continue adjacent to Briarcrest Road, a flat lightly used road before crossing the Memorial Highway (PA 415). This section the highway isn't as heavily used as other sections closer to Dallas. Once across the highway, the trail would continue onto Troxell Switch Road, which features an uphill paved section at the beginning before reaching a plateau and becoming a dirt road. The Harveys Lake Trolley ROW is to the north side of this road. The dirt road is narrow and has a few switchbacks, making signage an important factor for safety.

The trail would exit Troxell Switch Road via a wooded parcel (approx. 2/3 down) where it would connect with the original Trolley ROW. From here, the trail splits: one route heads to the lake near where the Oneonta Hotel once stood; and the other exits the Trolley ROW and continue uphill along the wooded hillside behind Beech Street and Woodlawn Avenue in Harveys Lake. This route would cross Outlet Road and continue behind Beaver Drive following along the contours of the hillside. It would then connect with Noxen Elementary and the Harveys Lake Little League baseball field and cross Westpoint Avenue. From here, it would turn west briefly following along wetlands before turning north towards Queen of Peace Road.

Once across Queen of Peace Road the trail continues through woodland before exiting onto Halowich Road, a relatively flat, wide, seldom used dirt road. At the end of the dirt road, the trail would exit onto Pine Street briefly before terminating at PA 415 at the Hanson's property. This route has the advantages of providing users with a quieter and more challenging route, as well as, increasing user safety as there are not as many cars in which to share the road.

(A) Country Club Road

Just past Misericordia University, after crossing Country Club Road is the old railroad line that is currently being used as a trail. Next to the road the trail is wide with a gravel base, about 70 feet long by 20 ft wide. With some widening and small improvements this space can easily be transformed into a parking area with trail map. It's location is ideal, and offers the opportunity to either head back toward Dallas, into a more urban area or head north toward the more naturalistic and rural areas.



Country Club Road trail head.

(I) Street Improvements: Lakeside Drive

The street bordering Harveys Lake would need a few improvements in order to create a trail along the roadway. An ideal improvemnt is extending the asphalt 3 to 4 feet into the shoulder of the road and provide line striping to indicate the bicycle and pedestrian lane. Making this lane a bright color will draw more attention to it and create a safer environment for those using the trail.



Street Improvements along Lakeside Drive.

(J) Hanson's Park

The old Hanson's Park, on the north side of Harvey's Lake can be used as a trail head. There is room directly off of Lakeside Drive for parking, along with area for a restroom and trail map. Additionally, the area surrounding it has potential to become a community pocket park with interpretive signage and features celebrating the sites history. For example, as the trail enters the space it can pass under an archway that symbolizes the roller coaster that once occupied the site.



Hanson's Park trail head.

Small changes can be made to the existing path that will have real and positive impacts. Examples include, defining the path with a stone base and mowed edge, as well as, providing areas for those using the trail to sit, relax and eat.



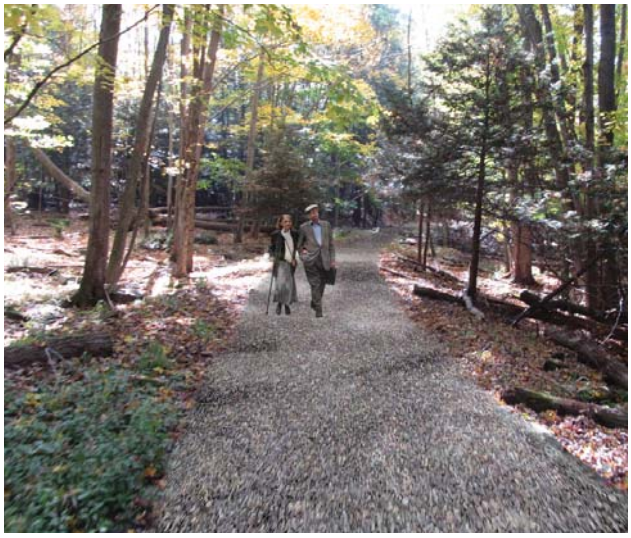
Existing conditions of Hanson's Park drive.



Hanson's Park with improvements.

(K) Trail Improvements: Railing

This point along the ROW is ideal for a trail because it is generally intact and would require minimal earth moving during construction to make the trail. The improvements that would be needed include removal of some fallen trees, slight regrading of eroded areas and new trail tread surfacing. Additionally, due to the steep slopes abutting the trail, a railing would be needed for safety purposes.





Improvements showing new trail tread and split rail fencing.

Points of Interest:

A. Major Grading: Steep Slope
B. Partnership or Acquisition: Private Property
C. Street Crossing: Dimmick Hill Road
D. Partnership or Acquisition: Private Property
E. Creek Crossing: Beaver Run
F. Street Crossing: SR 29
G. Partnership or Acquisition: Private Property
H. Creek Crossing: Bowman Creek
I. PennDOT/ROW: Stull Road
J. Creek Crossing: York Run
K. PennDOT/ROW: Stull Road
L. Creek Crossing: Stone Run
M. Street Crossing: Stonetown Road
N. Trail Head: Wilson Road
O. PennDOT/ROW: Wilson Road
P. Use Trail Where Feasible
Q. Shared Trail With ATVs
R. Trail Becomes Dirt Road

Private Property
(No Access)

C3 - HARVEYS LAKE TO NOXEN

Proposed Trail Route
Alternative Trail Route
Feasible ROW
Non-Feasible ROW
Wetland
Streams/Rivers

Scale: 1" = 1,500'
0 750 1,500 3,000 6,000

N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

C3 - Harveys Lake to Noxen

The trail would follow Noxen Road (SR 415) for just under a mile before cutting up a large wooded slope to connect back with the old rail line. The trail would continue on the LVRR ROW, crossing Dimmick Hill Road, until it reaches a small creek next to State Route 29 in Noxen. After crossing State Route 29, the trail would utilize a small dirt road next to the LVRR ROW and curve west into a more wooded section to avoid getting too close to residential parcels. The trail continues through the woods to Bowman Creek, crosses the creek, and then follows the north side of Stull Road for 0.4 miles. At this point the trail moves a few feet off the road to take advantage of the feasible section of the old rail line until it cuts back onto the road for another 0.4 miles. With the exception of a small section (0.5 mile) that utilizes Wilson Road, the ROW is then utilized from point until the LVRR ROW becomes a dirt road.

(C) Street Crossing: Dimmick Hill Road

When crossing Dimmick Hill Road, signage will be needed to alert both the trail users and vehicles of the trail crossing, however, due to the low usage of the road not much else should be needed. The biggest addition to this crossing will be bollards to ensure ATVs do not continue down the trail into the more populated Harveys Lake section of the trail.



Bollards can be used to block ATVs from entering sections of the trail.

(G) Partnership: Private Property

Even though the trail could be considered feasible it cuts through the back yards of several residential parcels and would leave no buffer between the trail and the buildings. Directly to the west of the ROW is a dirt road and wooded area that is the alternative location for the proposed trail.

(H) Creek Crossing: Bowman Creek

Being located next to the Noxen Volunteer Fire Department the addition of a small bridge to cross Bowman Creek can draw attention to the trail. Making the bridge wider and adding a small arch to it can make the bridge a type of gateway for the trail. Any structure must be above the 100-year floodplain and attain required Chapter 105 state permits.



Rendering showing a wooden footbridge over Bowman Creek.

(M) Intersection of Wilson Road and Stull Road

Past Noxen about a mile and a half is the intersection of Wilson Road, Butler Street and Stull Road. Even though these are not the busiest roads, the angle that the streets come in at and the speed of some vehicles through the intersection may cause safety issues. In order to make the intersection more safe, signs along the roadways can be used to indicate a pedestrian crossing and painted crosswalks to indicate where pedestrians should walk.



Four-way intersection west of Noxen.

(N) Wilson Road

Just before Hemlock Road Bowman Creek curves away from Wilson Road and creates an ideal location for access to the river. Directly off the road is a dirt open area that already appears to be used for parking purposes, with a small foot trail connecting the open area to the water. The LVRR ROW cuts right in between the parking area and river, making the location a good spot for trail access and as a gathering space.



Wilson Road trail head

(Q) Demonstration Project: Mixed-use ATV and Pedestrian Trail

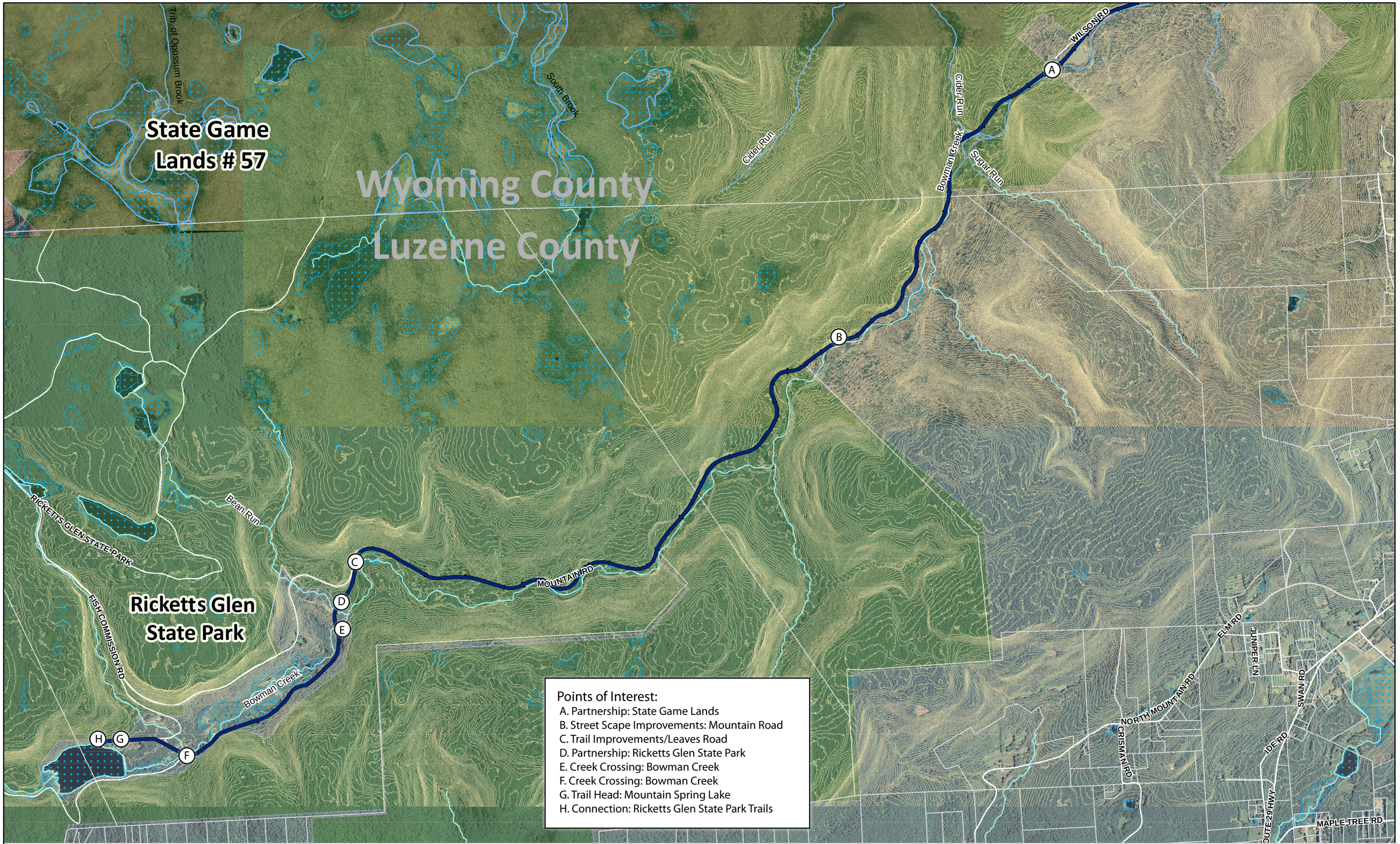
Due to the existing and historic use of the ROW by ATV's it is suggested that this section of trail be considered for both ATV and pedestrian usage. It can be used as a demonstration or test area to determine if ATV's and other uses can coexist in this location. Often the ATV itself is not the problem, it is how the machine is utilized and driven by the driver. In order to make the path safe for everyone the trail needs to be widened to provide a separate lane for both uses, along with additional signs to indicate a shared trail and speed limits. Additionally, either the Township or ASTA should require ATV's to be registered (annually for a fee to pay for trail improvements) and the users must attend a safety course on how to safely use the trail and how to correctly drive on the trail surface to reduce erosion and trail tread displacement.

ATV use, especially mixed use, can be a contentious issue, thus, it is highly recommended that a town hall meeting be conducted to identify pros and cons of this approach. More than likely, ATV usage on the trail will not be allowed due to safety concerns and financial concerns related to ongoing trail repair. However, not even listening to the concerns of ATV users is not effective because it can breed resentment and may increase potential vandalism on the trail.





Sections of the trail that are wide enough can be made to accommodate both ATVs and pedestrians.



C4 - NOXEN TO MOUNTAIN SPRING LAKE

Proposed Trail Route

Alternative Trail Route

Feasible ROW

Non-Feasible ROW

Wetland

Streams/Rivers

Scale: 1” = 2,200

0 1,100 2,200 4,400 8,800

N

Notes:

GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

C4 - Noxen to Mountain Spring Lake

From the point where the LVRR ROW becomes a dirt road to Ricketts Glenn State Park, the old rail line ROW is proposed for use as teh primary trail alignment. In the first section, share the road signs will be needed when utilizing the dirt road, however, there is limited traffic and minimal issues with safety. A few minor creek crossings will be needed when the trail is closer to Mountain Spring Lake, and small trail improvements are required once off of the dirt road. Adjacent to Mountain Spring Lake is a proposed trail head that could be used for parking and a map kiosk can be installed to inform hikers from Ricketts Glen State Park about the Back Mountain Trail.

(B) Streetscape Improvements: Mountain Road

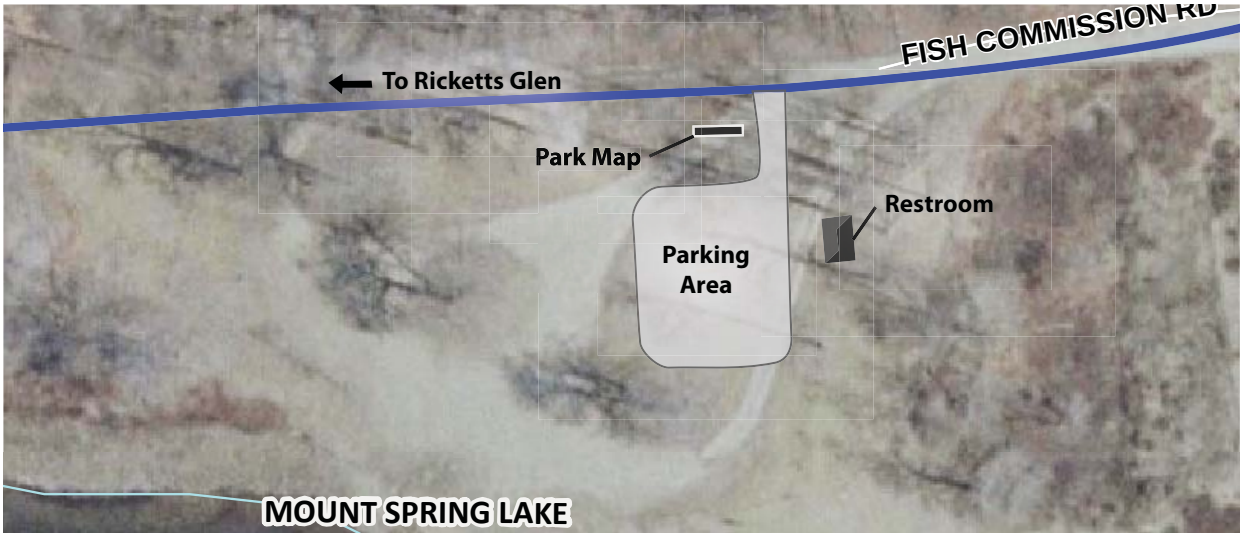
After running along Wilson Road for a period of time the old rail road line cuts to the north and becomes the existing dirt road, which is called Mountain Road once it passes back into Luzerne County. For this section the low traffic dirt road will become a shared path with the proposed trail. The already compacted subgrade will make a suitable trail surface, thus the largest focus will be on signage.



Mountain Road with signage and small trail improvements.

(G) Mountain Spring Lake

The final trail head will be at the end of the trail near Mountain Spring Lake. Parking at this location provides several hiking options: a trip up to Noxen; easy access to Mountain Spring Lake; and access to Ricketts Glen State Park. This location would also help signify to hikers in Ricketts Glen that they are entering another trail network.



Mountain Spring Lake trail head.

Customizing the Trail

With every trail project, it is possible to individualize your trails appearance, using signage and amenities. For the Back Mountain Trail, the biggest branding has been the diamond shaped trail sign. Due to it's unique shape, the sign is easily recognizable to those in the area and should be carried through to the new sections of trail. This shape and symbol can be taken a step farther. The sign design can be used as painted lines in a cross walk or for bike lane striping.



Tree ID tags with smart phone QR codes.

Signage

The signs along a trail have potential to individualize the trail as well as make it more of a destination and not just a means of transportation. Of course, the main trail marker, with the iconic diamond Back Mountain Trail sign, should be used throughout the trail but the addition of other signs and markers can help advance the trail. A general theme can be used throughout the trail with a focus on destinations, education, health and exercise or a variety of other options. Providing directional signs with a trail map and mile markers can give those using the trail a goal to reach one of the many destinations along the trail. Some of the more ambitious hikers may even consider a hike from Ricketts Glen to Downtown Dallas. Proper signage and mile markers will help indicate to these users if they are making good time.

Using educational signage through out the trail can turn the trail into a type of linear classroom, with information on the history of the LVRR or the many plant species in the surrounding woodland. Having signs that indicate types of animal tracks that can be found along the trail, such as turkey or deer, can get kids involved with nature and get them excited to explore and find their own tracks. Results from the user survey indicated that the main use of similar trails is for health and exercise purposes, making it likely that this trail will have similar uses. Having signage to coincide with this use may be beneficial in keeping people interested in using the trail. Mile markers or rises and falls in elevation can help those using the trail for running or biking set goals or miles to reach in a certain amount of time. Having areas for stretching or educational signage about the benefits of health may make the trail an ideal route for exercise enthusiasts.



Trail maps will help users of the trail see all the destination points along it.

Gateways

The use of gateways along the trail has the potential to define the trail and indicate to users when they are entering another section. As the trail moves from a road side to a wooded area a gateway can be used to indicate the trail location. These gateways also have potential to unite the trail while still creating individual portions of trail. For example, the trail head proposed at the old Hanson's Amusement Park can utilize a gateway that relates to the old roller coaster the trail use to pass under, or as the trail enters the Dallas Shopping Center a gateway can be used to indicate the commercial

area the trail is entering.

Green Infrastructure

Green infrastructure can be used to individualize a trail, as well as, make it sustainable for future use. This technique pertains mostly to the proposed trail in downtown Dallas. This section is not located on the original LVRR ROW and it will need the most construction and stormwater management. Using green infrastructure along the trail in the form of rain gardens and vegetated swales can help buffer the trail from roadways and hard surfaces while surrounding it with more vegetation, making a softer, greener trail within an urban setting.



A vegetated swale along a walkway.

Crosswalks

One of the most common conflict areas for the trail is the interaction between pedestrians and vehicles. This is due to the location of the trail in an urban setting, as well as, the close proximity of the trail to roadways at different points along it. In these areas crosswalks will be needed to show pedestrian crossings. These crossings can be used to individualize the trail as well as draw more attention to the pedestrian. Patterns and colors that are not considered normal crosswalk designs can be used to catch the driver's attention. The Back Mountain Trail symbol can even be used to show that the crosswalk is no ordinary crossing but a connection between sections of the trail.



Hopscotch crosswalk.

Bridges/Stream Crossings

There are many areas of the trail that require stream crossings. Even though many of them are on the smaller side, having a crossing that is unique can make that space a small destination along the trail. A wider, longer bridge can encourage users to stop for a moment and enjoy the sound of moving water, while a more narrow crossing over a short stream will cause a walker or biker to shift into the center of the trail and change their pattern slightly. Additionally, the material used can help the crossing either blend in with its surroundings with the use of naturalist material or pay tribute to its past in a more railroad like appearance.



Narrow wooden bridge.

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VIII. Trail Operation, Maintenance, and Security



A well operated and maintained trail is a valuable feature for communities that can increase attractiveness and strengthen the local economy. A clean, safe, secure trail will encourage visitors and can become a key identifying feature for the community. A mix of strong urban and rural trails would be a unique and unifying feature to the Back Mountain Trail.

Trail Operation and Maintenance

The Anthracite Scenic Trails Association will be responsible for the overall operation, maintenance and security of the Back Mountain Trail. However, partnerships with municipalities, institutions and other non-profit organizations is still crucial for the overall success of the trail.

Partnerships

The long length of the proposed trail (over 20 miles) through both urban and rural areas, through commercial districts and "Hubs," and through multiple municipalities and counties, provides multiple opportunities for partnerships with municipalities, institutions, businesses and private property owners.

Due to the complexity of building this trail, ASTA must be open to all types and levels of partnership. Many of these partnerships are obvious, however, many more may bcome uncovered as the trail starts to be built. An obvious and initial partnership should be with PA Department of Conservation and Natural Resources (PA DCNR). A large portion of the ROW runs through the PA State Game Lands. They also have previously expressed their willingness to work with ASTA on this trail initiative. An institution, such as Misericordia, is an important potential partner because they will receive direct benefits from the Back Mountain Trail. Geisinger and other health-based companies can partner to promote the wellness and health benefits of the trail. Other property owners, such as Fern Knoll Cemetery, have shown interest in working with ASTA to find an agreement or purchase price that works for both parties. School Districts can help with cleanups especially if they benefit from using the trail for educational outings or recreation like cross-country.

ASTA should have round table discussions to determine if and how the municipalities, which the trail transects, are willing to partner with ASTA and share tasks related to operation, maintenance and security. The municipality may be willing to use their DPW to empty trash receptacles or to plow the trail heads. The local municipal Emergency Management Services should be briefed on the trail access points and have copies of any keys for trail gates. Local police may be willing to patrol the trails, as well. Along the Lackawanna River Heritage Trail, municipalities pay an annual fee for trail maintenance based on the length of trail within their municipal boundaries. If municipalities are able and willing to provide an annual monetary donation to ASTA, then ASTA can hire out a professional contractor to take care of maintenance needs like mowing, tree trimming, and/or trail resurfacing. The municipalities are also good partners for grant submissions.

Partnerships will need to extend beyond the municipal level, especially because much of the potential trail alignment, described in the previous chapter, is not owned by ASTA, rather by private individuals. This means, outside of direct purchase, other agreements like easements will need to be executed between the property owner and ASTA and these agreements must address the topics of maintenance, operation and security. Often, whoever accepts an easement or license for a trail, in this case ASTA, is responsible for the care of the trail, in cooperation with the landowner. The trail organization should lay out, cut, blaze, and maintain the trail to specified standards. The landowner should always be consulted concerning major modifications, such as cutting large trees, opening stone walls, or building bridges. Routine maintenance is the responsibility of the trail group, however, it is a courtesy to notify the landowner prior to embarking on any trail work.

<u>Memoranda of Understanding</u>

A Memoranda of Understanding (MOU) is a bilateral or multilateral agreement between two or more parties that expresses a convergence of will between the parties, indicating a common line of action.

These are often used between public and private partnerships for trail management and maintenance. Examples of partnerships includes MOU's between several municipalities, as well as, between a municipality and a non-profit, volunteer organization like ASTA. Often a non-profit, "friends of the trail" group starts a trail by convincing a municipality to purchase the corridor, after which the non-profit accepts management of the trail and coordinates the maintenance of the trail via municipal equipment and volunteers (1). Alternatively, in cases where the non-profit is structured to purchase property, they can acquire the land themselves and perhaps enter into an MOU with a municipality for maintenance and safety.

Trail Maintenance: Existing & Proposed

A poorly and improperly maintained trail decreases user safety and security and more importantly, it can lead to hazardous conditions for users. A neglected trail is a subliminal billboard that implies "no one cares about this area and no one is watching." Once trash or graffiti are allowed to persist it will breed more trash and graffiti and then the aesthetic qualities and sense of trail user safety starts to erode and usership drops. When dealing with vandalism, which will occur in some form on all trails, it is best to take immediate action and repair the problem.

In order to ensure any new trail section will receive the best maintenance the existing maintenance plan for the Back Mountain Trail should be reviewed to indicate any issues and to determine whether the existing practices are beneficial and working for the trail. Obviously, maintenance needs can fluctuate along a trail due to location, physical conditions and the type and level of trail usage. Currently the maintenance of the trail consists of occasional volunteer events to aid with cleaning and general maintenance, as well as, trail walks to document any safety issues, garbage or vandalism. Grant money and donations are also utilized to resurface the trail and to correct stormwater problems.

Similar to security and safety, the best maintenance approach is to first create maintenance guidelines before the trail is built and define clearly who is responsible for sections of the trail. Monitoring and maintenance of the Back Mountain Trail will be an ongoing process. Long-term maintenance of the trail will be the responsibility of ASTA personnel, hired contractors or volunteers. Site visits should be more frequent immediately after construction when the trail network is hardening and becoming established, however, trail monitoring and maintenance will always be required to some degree. Site monitoring will include checking and documenting the following:

- Areas of erosion, washouts, pooling water, soft conditions, rill formation and /or sedimentation (the end product of erosion),
- The degree of compaction, muddiness, displacement and erosion,
- Location of downed trees and branches or roots within the trail ceiling or tread,
- Signs of vandalism by ATV's on the trail tread or damage to amenities,
- Health of newly planted vegetation and the growth of restored trail segments,
- Any litter and/or illegal dumping,

Maintenance should include restoration of the out slope or tread crowns to keep sheet flow. Maintenance will also include removing fallen woody debris, clearing the trail tread, re-establishing grade breaks, adding rock and/or modified stone and trash removal. During the first two years, post-construction, site monitoring should be conducted every four months (after each season). At least two site visits should be conducted during rain events to observe existing drainage patterns, sheet flow, and runoff. Additionally, visits should be made after any large rain event (1-inch storms) to check for erosion. After the initial two years, bi-annual monitoring (after spring, before winter) will be sufficient for all years thereafter. In generall, maintenance should be conducted as needed.

If possible the township or volunteers should keep an ongoing and updated monitoring and maintenance report to document the stainability of the the Back Mountain Trail. The report will provide photographic documentation of the trail from several permanent locations to help track trail conditions over time. Notes should be taken for all problem areas that have been identified and potential corrective measures to address them. Any corrective measures and maintenance solutions that are completed should be recorded in a logbook and their judged success should be determined and documented. The ongoing compilation of notes can help identify any changes and trends occurring within the trail network and it will act as a resource for future trail development.

Multi-Municipal Maintenance

The trail organization would be responsible for trail maintenance in multiple municipalities. The group can partner with each respective municipality for routine and organized maintenance. The trail organization should put together a Maintenance and Management program for not only a set schedule of maintenance operations but also for risk management of the trail operator. Should there be multiple operating agencies of the trail, each agency would be responsible for the maintenance of their segment of the trail. Should multiple operating agencies be the case, it is recommended that these groups share maintenance and management programs and schedules with each other for ease of overall operation.

Maintenance Tasks and Operations

Important maintenance tasks that the management organization must consider are as follows:

Mowing - (As needed) 3 foot minimum width, 3-4” tall on each side of the trail where applicable. Use of a mower that produces the least debris is advisable.

Pruning - (Annually) Prune woody vegetation 4 feet back from the sides of the trail. Removal of invasive species and vines is recommended.

Removal of Trees/Limbs - (Annually) Evaluation / removal of unhealthy or dead trees and limbs. Fallen tree limbs may remain as access control.

Signage - (As needed) Maintain directional and informational signs. Any vandalism of signs should be removed as quickly as possible.

Access Control - (As needed) Replace damaged access control devices such as bollards. Estimated frequency: 10% annually due to vandalism.

Trail Surface on local roads - (As needed) Resurface based on municipal schedule.

Trail Surface on gravel road - (As needed) Repair surface damage from vehicles, erosion, etc. Based on municipal schedule.

Trail Surface, boardwalk - (As needed) Replace damaged areas. Check for rot and displacement.

Drainage Structures - (Annually) Clean inlets and keep swales clear of debris. Complete rehabilitation during construction would dramatically reduce the necessity for this type of maintenance after storms.

Litter Pick Up - (Weekly or as required) Trailside-litter pickup. Access points litter pickup. Place signage to encourage a “carry-in, carry-out” policy.

Trash Collection - (Weekly) Removal of trash from receptacles at access points.

Bridge Inspections - (Every 2 years) Maintenance of bridges to ensure structural integrity. Bridges associated with public roads are already on a regular inspection schedule, done annually by PennDOT, Municipal or County Engineer (2).

Example of Maintenance Schedule and Budgets

Struble Trail, Chester County.

The Struble Trail is a 2.6 mile long trail in Chester County that is used by walkers, joggers and bicyclists for recreational purposes, as well as, commuter purposes. Even though the trail is much shorter than the proposed trail, Struble Trail also sits on a old railroad bed and is generally flat because of this. Today the trail attracts more than 125,000 visitors each year.

The following is a detailed maintenance schedule for the trail. The schedule shows that for this trail in particular the most consistent maintenance task is trash (removal of trash along the trail and emptying trash receptacles). The most maintenance takes place during the summer months with the increased need for trimming and mowing along the paths to make sure they are safe for users.

Activity	January					February					March					Total
	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	Hours
Mowing														5		5
Trimming														5		5
Trash	2	2	2	2		2	2	2	2		2	2	2	2	2	26
Weeding															2	2
Invasive spraying																0
Bush hog																0
Signage																0
Fence repair												10				10
Pruning																0
Invasive pruning												20				20
Designated projects																0
Culverts																0
Gates																0
Bridge inspection									0.5							0.5
Grade ditches																0
Crosswalks																0
Trail surface																0
Flower bed planting																0
Storm damage																0
Vandalism																0

Activity	July					August					September					Total
	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	Hours
Mowing	5		5		5	5		5	5			5	5		5	45
Trimming	5		5		5	5		5	5			5	5		5	45
Trash	2	2	2	2	2	2	2	2	2		2	2	2	2	2	28
Weeding				2					2					2		6
Invasive spraying	10					10					10					30
Bush hog											16					16
Signage								20								20
Fence repair							10									10
Pruning												40				40
Invasive pruning																0
Designated projects								120								120
Culverts																0
Gates																0
Bridge inspection																0
Grade ditches																0
Crosswalks																0
Trail surface																0
Flower bed planting																0
Storm damage																0
Vandalism																0

Activity	April					May					June					Total
	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	Hours
Mowing	5		5	5		5	5	5	5	5	5	5	5	5		60
Trimming	5		5	5		5	5	5	5	5		5	5	5	5	60
Trash	2	2	2	2		2	2	2	2	2	2	2	2	2		26
Weeding				2					2						2	6
Invasive spraying						10					10					20
Bush hog				16												16
Signage									20							20
Fence repair												10				10
Pruning			40													40
Invasive pruning																0
Designated projects											120					120
Culverts																0
Gates	6					6										12
Bridge inspection																0
Grade ditches																0
Crosswalks	6															6
Trail surface										16						16
Flower bed planting		10														10
Storm damage																0
Vandalism																0

Activity	October					November					December					Total
	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	W1	W2	W3	W4	W5	Hours
Mowing		5		5												10
Trimming		5		5												10
Trash	2	2	2	2		2	2	2	2	2	2	2	2	2		26
Weeding																0
Invasive spraying			10													10
Bush hog																0
Signage																0
Fence repair				10												10
Pruning																0
Invasive pruning							20									20
Designated projects																0
Culverts							8									8
Gates																0
Bridge inspection																0
Grade ditches						16										16
Crosswalks																0
Flower bed planting																0
Trail surface																0
Storm damage																0
Vandalism																0

Example of Maintenance Schedule for Struble Trail.

The Capital Area Greenbelt, Harrisburg PA

The Capital Area Greenbelt is a 20 mile loop trail that encircles Pennsylvania's capital city. Even through the trail is surrounding a city a long section borders the Susquehanna River and many other sections twist through naturalistic areas. This, along with it's length, make it comparable to the proposed trail concept. The trail budget below indicates that most money is spent on regular maintenance such as mowing, trimming and trash removal. This is similar to the above example and most trails.

Maintenance Activity	Labor cost	Donated services	Equipment & material cost materials	Donated equipment & cost for activity	Approximate total annual
Resurface non-asphalt trail		$2,000	$2,000	$3,500	$7,500
Grade non-asphalt trail					$0
Pothole repair and other patches on non-asphalt trail		$1,000	$500	$1,500	$3,000
Snow removal from non-asphalt trail					$0
Surface cleaning of non-asphalt trail					$0
Keep trailside land clear of trash and debris		$1,000	$1,000		$2,000
Mowing		$2,000	$1,000	$2,000	$5,000
Leaf removal					$0
Tree pruning					$0
Tree removal	$500	$800	$200	$1,000	$2,500
Invasive species removal		$1,000	$500	$800	$2,300
Planting new vegetation		$3,000	$2,000	$3,000	$8,000
Application of herbicides or pesticides		$1,000	$300	$1,000	$2,300
Clearing of drainage channels and culverts		$500	$200	$500	$1,200
Surface maintenance of parking areas	$2,000	$1,000	$300	$1,000	$4,300
General maintenance of trailheads (litter clean-up, etc.)		$200	$100	$500	$800
Landscaping / gardening at trailheads		$3,000	$2,000	$3,000	$8,000
Empty trash cans at trailheads	$1,500		$2,000	$2,000	$5,500
Maintenance of stationary toilets at trailheads (clean, empty, etc.)					$0
Maintenance of portable toilets at trailheads (clean, empty, etc.)					$0
Empty trash cans along trail					$0
Maintenance of stationary toilets along trail (clean, empty, etc.)					$0
Maintenance of portable toilets along trail (clean, empty, etc.)					$0
Maintenance of informational kiosks (repairs, etc.)					$0
Maintenance of picnic tables, benches, etc.					$0
Updating information in informational kiosks		$300	$100	$200	$600
Installation of signs		$200	$300	$500	$1,000
Repair/maintenance of signs		$200	$300	$500	$1,000
Installation of pavement markings					$0
Maintenance of pavement markings					$0
Patrols by police agency	$30,000				$30,000
Patrols by non-police agency (e.g. trail watch)					$0
Recovery from illegal acts such as dumping and vandalism					$0
Installation of lighting	$100		$100		$200
Maintenance of lighting	$200		$500		$700
Installation of emergency call boxes					$0
Maintenance of emergency call boxes					$0
Installation of gates, bollards and fencing	$1,000	$200	$100	$20,000	$21,300
Maintenance of gates, bollards and fencing	$300	$10,000	$200	$15,000	$25,500
Bridge, tunnel, underpass and crossing inspection	$50	$50	$50	$50	$200
Bridge redecking					$0
Paint/stain/treat bridge deck or structure	$300	$600	$300	$1,000	$2,200
General bridge maintenance	$100	$500	$1,000	$1,000	$2,600
Tunnel lighting maintenance					$0
Tunnel open/closed status					$0
Paint tunnel/underpass walls and ceiling					$0
General tunnel/underpass maintenance					$0
Railroad grade crossing maintenance					$0
Road grade crossing maintenance					$0
Totals	**$36,550**	**$28,550**	**$16,050**	**$58,050**	**$139,200**

Example of Maintenance Schedule for The Capital Area Greenbelt.

Security

In order to provide the safest trail, precautions should be explored during planning and implemented at the beginning of development. Clear signage should be used to state the rules of the trail, time of operation and provide information for local emergency response agencies. In rural areas, enforcing dawn to dusk as the hours of operation for the trail is most ideal, while the denser urbanized areas makes it possible for lighting to create a safer area. If needed, improvements such as emergency call boxes can be utilized to increase safety along the trail. One of the most important safety measures is keeping local enforcement agencies and EMS aware of the trail from the beginning, specifically, the location of higher use areas, major attractions and access points. Keeping enforcement staff in tune with the trail will make it possible for them to easily respond to calls when needed and pay attention to the use of the trail. Additionally encouraging the community to utilize the trail will keep additional eyes on the corridor and act as a type of surveillance. Having more people utilizing the trail and keeping it generally populated will make it safe for others to use. Other general maintenance can help ensure safety, such as keeping trouble areas clear and visible from public right of ways.

Facilities required to restrict use of path.

The length of the overall trail makes it close to impossible to completely control the use of the path but measures can be taken that prevent certain uses. For sections past Noxen the trail organization

could work with people in the area to make a trail that accommodates both pedestrians and ATVs, however, to prevent ATVs from going on extensions of the path that extend toward Harveys Lake trail blocks such as bollards can be used that still allow bicycles and pedestrians access. Additionally, these are able to prevent vehicles from utilizing sections of the trail. Another means to restrict path use is to have clear signs explaining when the trail is considered open. At each entry point there should be a visible sign indicating that the trial is not to be used after dusk.

References

1. Memorandum of Understanding, http://en.wikipedia.org/wiki/Memorandum_of_understanding#References
2. Trail Maintenance, http://www.railstotrails.org/resources/documents/resource_docs/maintenance_operations_report.pdf

IX. Phased Plan/Financial Feasibility



The trail is capable of being utilized by all ages and has year round activities. The majority of the uses focus on active recreation, such as hiking and cross country skiing, but the trail can also have educational and historical components, with plant i.d tags and signage, to create even more experiences.

Phasing Priorities

The Back Mountain Trail has the opportunity to link communities together and provide a strong, marketable asset for these communities. However, future development of the Back Mountain Trail will not be easy, particularly within Dallas Township / Borough and Harveys Lake. Many obstacles exist, most notably working on and obtaining agreements with private property owners. Project phasing will be a long process and when opportunities to develop the trail present themselves, they should be acquired, as soon as, possible. This project will feature numerous priorities to see this project come to fruition. These priorities will be ranked from lower to high, with a lower priority deemed as not entirely crucial in a time sensitive manner. A high priority should be worked on continuously and acquired, as soon as, the opportunity presents itself.

The first step is to start communication with PennDOT about some major intersections and road ways, as well as, installing signs at major locations, such as trail heads, to demonstrate where the proposed trail will be and how to gain public interest/participation. The next steps should be focused closer to the existing trail in order to extend its length and because of the already existing public interest in this section. Additionally, starting in downtown Dallas, the most populated area, can create more interest in the trail and demonstrate how a trail can be used in a variety of locations not just the traditional woodland setting. The success of this portion of the trail may make other portions easier to build due to increased public interest.

Phase 1: Existing Back Mountain Trail to Misericordia

The first phase focuses on connecting the existing Back Mountain Trail with downtown Dallas up to Misericordia University. This is the most congested section and poses the most issues when dealing with heavy traffic and trail safety, however, it also has potential to be the most used section. The proposed trail cuts across several parcels ranging from publicly to privately owned. The parcels of importance are the storage container facility off of Lower Demunds Road, the Geisinger Building, Slovak Cemetery, Dallas Shopping Center, Dallas Township Park, and Fern Knoll Cemetery.

High Priorities:

Lower Demunds Road to Geisinger: The section of trail just past the existing Back Mountain trail, right off of Lower Demunds Road, next to the storage units and connecting up to the loop trail around the existing pond is considered the highest priority to starting the new extension. The connection to the existing trail, the exisitng support in the section and the ability to bring the trail closer to downtown Dallas all make this section important.

PennDOT/State Route 309: The next major priority is working with PennDOT on some of the major sections of trail in Dallas, including the section of trail connecting the Dallas Shopping Center to Grandview Avenue, within the SR 309 right-of-way. This connection is high priority because of the amount of time it will take to construct this portion of the trail and the amount of improvements that are needed. Additionally, coordinating the crossing of Route 309 at Grandview Avenue is an important priority to connect to other sections of the trail.

Lake Street and Proposed Roundabout: The street improvements along Lake Street are a high priority due to the strong connection it will make between Misericordia University and downtown Dallas. Additionally, the roundabout is already on track toward construction which makes working with PennDOT sooner, rather than later an important step.

Moderate Priorities:

Dorchester Drive through the Dallas Shopping Center: This section of trail should be the next focus because it will extend the trail farther into Dallas and make an important connection to commercial buildings. Additionally, if there are problems with trail location there are several close alternative that can be used to continue the trail.

Dallas Township Park through Foster Street: The section of trail immediately after Dallas Township Park is considered moderate because it can already be used and accessed by pedestrians, however, having a clearly marked and enhanced trail would benefit current trail users and encourage new users.

Lake Street Through Fern Knoll Burial Park: This section of trail that leaves Lake Street, utilizes Mercy Center Drive and wraps around Misericordia University is considered moderate because the section would not be difficult to build and some of the parcel owners have already shown interest. However, there are other options through the university that can be utilized if this section runs into problems.

Lower Priorities:

Dorchester Drive: The section of trail at the bottom of the existing Geisinger building, off of Dorchester Drive is considered low priority because the owner has already expressed they would be willing to have a trail installed. ASTA has some flexibility because conditions are stable at this location.

Southside Avenue through Dallas Township Park: The section of trail after crossing Route 309, next to Southside Avenue and through Dallas Township Park, is not a high priority because the park is already in public hands and can wait until the trail approaches from either side.

Misericordia University to Country Club Road: This portion of trail directly after Misericordia has several connection options making it lower on the priority list.

Phase 2: Noxen to Ricketts Glen

One can argue this phase may be the easiest section to construct due to the rural area it crosses and the cooperation with the State Game Lands; however, the importance of this section to make an important connection with Ricketts Glen State Park can not be understated. In fact, this is listed as a higher phase because when implemented in the earlier stages, it can help demonstrate the overall goal of connecting the two ends, can spark interest in those who use Ricketts Glen and it may develop increased public interest in filling in the trails gaps.

High Priorities:

Mountain Spring Lake Trail Head: Creating a Trail head with map indicating the goals and intentions of the Back Mountain trail is an important aspect to give people an indicator that the trail is starting and the connections it will make.

Creek Crossings: The creek crossings directly after the trail head location and the crossings next to the existing dirt road are important when making the connection between the existing dirt road and Ricketts Glen State Park, as well as, establishing the trail in this area.

Moderate Priorities:

Mountain Road to Mountain Spring Lake: The section of trail that is not currently being used as a dirt road that connects to Mountain Spring Lake is Moderate Priority because the owners have already agreed to having a trail here and there are no major obstacles.

Lower Priorities:
Dirt Road: The long section of the trail that is shared with Mountain Road is considered a lower priority because it is already being used as a connection to Ricketts Glen State Park and little construction would be needed to establish this section of trail.

Phase 3: Harveys Lake to Noxen

The largest issue when approaching this phase is private property and the potential need for acquisition and/or easements to create a viable trail corridor.

High Priorities:
State Route 29 to Dimmick Hill Road: Utilizing the section of LVRR ROW along the eastern side of State Route 29 is the highest priority for this phase due to the limited trail options in this area, private property ownership and the busy adjacent street that would not be the best location for a trail.

Dimmick Hill Road to Noxen: Similar to above, utilizing the section of LVRR ROW along the eastern side of State Route 29, just south of Noxen is a high priority because of the limited alternative options and private property ownership.

Moderate Priorities:
Existing ROW: Creating a formal trail on all sections of the LVRR ROW that were considered feasible and proposed for use as the trail is a moderate priority. This would directly lead to attainment of ASTA's goal to use as much of the old rail line as possible. It is not the most crucial step because most sections already have an informal trail being used within the ROW, however, once it becomes an official link along the Back Mountain Trail, ownership, agreements, safety and trail uses must be determined. A higher priority should be a focus on design and permitting for needed stream crossings, such as, York Run and Stone Run.

State Route 29 to Stull Road: The section of trail cutting through the town of Noxen is a moderate priority because it is an important connection, however, it would be possible for the trail to utilize Main Street, which is just to the east of the proposed trail until this section is improved.

Lower Priorities:
Stull Road: The two sections of trail that are proposed to utilize Stull Road, due the west of Noxen, are of lower priority because this road can still be a viable "share the road" option and maintain overall trail connectivity even if formal trail/street improvements are not made immediately.

Wilson Road: Road/trail improvements that are needed for the proposed, short sections of trail along Wilson Road are a lower priority because the road has such a small volume of traffic, it is already being used by pedestrians to connect to Ricketts Glen and only minor improvements are needed on the roadway.

Phase 4: Misericordia to Harveys Lake

The fourth phase focuses on connecting the portion of the trail near Misericordia University to Harveys Lake. Currently most of the LVRR ROW in this area is considered non-feasible due to private ownership, thus the proposed trail was forced to utilize public ROW's along roadways. The proposed

trail is ultimately a very costly endeavor, compared to the LVRR ROW, due to the amount of meeting/ design time, the amount of infrastructure that must be built along the road and potential permitting and safety measures. The two main roads that will be of primary focus are Lake Street and Kunkle Road.

Honestly, this overall section of trail was placed in the final phase to allow ASTA to focus on more viable, cost effective and fruitful sections along the Back Mountain Trail Extension. Getting trails built in Dallas Township as well as, near Rickets Glenn and Noxen proivides an opportunity for the Back Mountain Trail Extension to gain prominence and public interest, so perhaps, in time, portions of the LVRR ROW that were once considered non-feasible due to private property issues may have the opportunity to become available in the future if the property owners have a change of heart.

High Priorities:

Lake Street Connection: The proposed section of trail, east of Spencer Road that connects the established trail off Country Club Road and Lake Street is the highest priority for this phase of the plan. Without having a way to connect back to Lake Street, the nice portion of ROW, just off Country Club Road will be considered unusable because it will have no outlet. Additionally, this short area is important because it cuts across private property and it is important to start reaching out to key propoerty owners and strive to find an agreement that works for everyone.

Lakeside Drive and Hanson's Park: Developing a demarcated trail along the northside of Harveys Lake that extends into the old amusement park property is an important link to create a contiguous trail. The trail can create interest and recreational connections in the local community, however, historically proposed road and shoulder improvements have been opposed by local home owners. This is also a reason for a high priority classification - it may take a very long time to gain suport for road and shoulder improvements, especially if will be used for the trail, so ASTA should start early.

Moderate Priorities:

Lake Street and Kunkle Road: The proposed construction of the trail in the ROW along Lake Street and Kunkle Road are considered a moderate priority. Honestly, waiting to see if any changes in potential use of privately-owned portions of the LVRR ROW is a better option, rather than jumping into costly construction in the public road ROW. However, ASTA should be cognizant of any proposed paving projects along thes roads to see if ROW improvements are possible at that time.

Past Hanson's Park: The section of proposed trail just past Hanson's Park, east of State Route 415, which cuts over the railroad viaduct, is an important portion of trail to establish. The section keeps the trail off the road and has an easily defined path within the old rail line. This section would require working with the property owners to find a solution that works for everyone involved.

Lower Priorities:

Alternative Route 6: The alternative route between Country Club Road and Lake Street is considered a low priority due to the availability of other trail alignment options, the amount of grading that would be required to build the trail and the private property ownership. If the majority of the trail is already built before this section, private property owners may become more interested in making an agreement for developing a trail.

Funding Sources

There are many options to secure funding for trail implementation including federal, state, and local agencies. There are also private groups and entities available for assistance, as well. Below are several available options for the funding of trail development, implementation, and maintenance.

Federal

Transportation Alternative
Basically, the bicycle and pedestrian transportation funding that was available through SAFETEA-LU was transformed into this broader program. The activities eligible include the conversion of abandoned railroad corridors into trails for non-motorized transportation uses and the construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation. Even though Transportation Alternatives is federally funded the funds are administered by the state's Department of Transportation and many times the sponsor is responsible for 20% of the project's cost (2).

Recreational Trails Program
Recreational Trails Program is a competitive grant program that is managed by trail administrators in each state. In order to be eligible for the grant, the project must involve maintenance and restoration of existing trails; development or rehabilitation of trail side and trailhead facilities and linkages; acquisition of necessary easements; associated administrative costs; and/or new trails and educational programs (3).

Congestion Mitigation and Air Quality Program
This program provides more than $2 billion a year to state agencies for projects that improve air quality. This includes improvements to pedestrian and non-recreational bicycle transportation infrastructure that contribute to a reduction in travel by single-occupant vehicles (4).

Timber Bridge Initiative
This program is provided through the U.S. Forest Service and provides funding for the construction of timber bridges. A 50/50 local, non-federal match is required, which can be in-kind services (up to $10,000 for a pedestrian bridge) (5).

Americorps
This organization has been around for over 50 years and was started by President John F. Kennedy as a domestic version of the Peace Corps. There are several programs such as the Vista program which provides a skilled volunteer in a specific area for a set period of time (usually one year). These are volunteers whom upon completion of the program receive a stipend. They can aide in many things from trail maintenance to grant writing (6).

U.S. Fish and Wildlife Service
Funding offered by the U.S. Fish and Wildlife Service provides opportunities for the community to use and enjoy fish and wildlife through non-consumptive activities. Potential assistance is available for expanding public recreational opportunities pertaining to wildlife enjoyment, including trails and waterways.

State

Community Conservation Partnership Program Grants
Funded through the Department of Conservation and Natural Resources, Community Grants are awarded to municipalities for recreation, park and conservation projects. These include the rehabilitation and development of parks and recreation facilities; acquisition of land for park and conservation purposes; and technical assistance for feasibility studies, trails studies, and site development planning (7).

Growing Greener
Administered by four state agencies, Pennsylvania invested $43 million in trails through Growing Greener from 1995 to 2006. In recent years, funding for the program has decreased, but the program remains the largest single investment of state funds in Pennsylvania's history to address Pennsylvania's critical environmental concerns (8).

Adopt-a-Stream
This program is provided by the PA Fish and Boat Commission and involves group-sponsored clean-ups of a fish habitat project. The commission provides funding, assistance, and materials. There is a similar program called Adopt-an-Access from the PA FBC as well (9). Perhaps along Toby or Bowman Creek.

PA DEP Environmental Education Grants Program
Developed by the Pennsylvania Department of Environmental Protection, the Environmental Education Grants Program seeks to support and strengthen environmental education in the region. Municipalities and municipal authorities are eligible to apply. Grants typically average around $4,500. The program may be particularly relevant should ASTA team with a municipality to pursue environmental education programming events and activities along the Back Mountain Trail.

Local

The most common source of funding is by allocations through specific departments such as public works or parks. Another direction is to become a line item in a community's annual budget or part of their improvement programming. In some communities revenues for recreation and trail development have been attained through property tax, sales tax or bond measures. Incorporating trails alongside county roads can make projects more attractive for funding. Additionally, trails alongside roadways may be eligible for transportation and improvements funding.

Private and Non-Profits

There are numerous foundations, groups, and corporate programs that would fund trail development. Some companies and corporations will allocate funds to private trail groups to develop and maintain trails in close proximity to where these corporation's operations are located because this would increase their property values and provide employee wellness.

American Greenways DuPont Awards Program
This program is sponsored by the Conservation Fund and DuPont and encourages action-oriented greenway projects. This includes mapping, ecological assessments, design activities, hiring consultants, building footbridges, and more (10).

Donor Fund-raising Auctions

One of the features of the proposed Back Mountain Trail is picnic areas in specified access points along the trail. These areas would features brick patios for benches and picnic tables as well as informational kiosks for users before entering the trail. At these locations, the trail group can auction off bricks or other amenities as a fund-raising initiative. These donor's names would be inscribed at these locations.

Multi-Municipal Funding

Trails have increasingly become more implemented in many municipality's planning decisions. Since trails are low-impact features that benefit the community and can extend across several municipalities, funding to develop these trails is important. The Chester County, PA Planning Commission along with the PA DCNR has put together a document to aide municipalities in their planning for trails and their funding and implementation. Since trails may be funded through National, State, County, or Municipal funds and grants as well as private donations, they would go through the normal means to secure funding like any other form of public infrastructure. However, multi-municipality projects are more likely to receive funding from most grant sources. Forming a non-profit 501c(3) group composed of individuals from the municipalities the trail goes through along with County Commissioners is a prime way to develop consensus between the municipalities. Forming a trail oriented 501c(3) may allow for the county to apply for state grants without the need for heavy overhead for the group. For more information on multi-municipal funding, Rails-to-trails.org features documents and information on this subject (11).

Opinion of Probable Cost

When considering the different phases, being aware of probable costs can help the trail committee fully understand what will be needed to build each phase. The costs for a trail can be broken down into planning design and engineering, acquisition costs, construction costs, and operations and maintenance. Due to a large portion of the proposed trail being located on privately owned land the costs associated with acquisition can very greatly depending on the willingness of owners to work with ASTA, if they are looking to sell or if there will be easements. A formal appraisal will be need for each property to completely understand the costs of building the trail. Due to this varying amount the cost associated with the trail may change as sections of the trail are built.

For the design and construction portion, each section of trail was broken down to analyze the surface material and additional trail structures that would be needed such as bridges and guide rails. Majority of the trail would be made of stone dust, however, portions in down town Dallas, that are adjacent to roadways, would have a paved base. Any additional grading or stormwater management that would be needed was also considered. With each section there would be amenities such as the trail heads and signage, as well as, individual site factors, such as major grading, that will affect the final cost to build the trail.

For operations and maintenance a report by the Northeast Regional Office of the Rails-To-Trails Conservancy called "RAIL-TRAIL MAINTENANCE AND OPERATIONS, Ensuring the Future of Your Trail – A Survey of 100 Rail-Trails" was referenced. In the report information was gathered from about 100 rail to trails in fifteen states. Overall the findings were that it costs about $1,478 per mile for operations and maintenance of a trail. This information was taken an applied to the trail to help determine the cost for operations and maintenance for several sections of the trail (1).

The opinion of probable cost begins with an overview of the cost for each phase of the project, along with the smaller sections within each phase that were looked at in detail. With the total to build the trail coming to $7,633,844.68 the average price for each mile of trail is approximately $ 305,350.00, however, the more detailed estimates following the overview show that certain sections of the trail would be more expensive to build. For example, the portion of trail that utilizes the dirt road in between Noxen and Mountain Spring Lake is much less expensive to build then section of the trail that propose street side improvements.

References

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4. CMAQ, http://www.railstotrails.org/ourwork/trailbuilding/toolbox/informationsummaries/funding_financing.html
5. Timber Bridge Initiative, https://www.fhwa.dot.gov/publications/publicroads/97winter/p97wi32.cfm
6. Americorps, http://www.nationalservice.gov/programs/americorps/americorps-vista
7. Community Conservations Grants, http://www.prps.org/resources/resources-grants-funding.html
8. Growing Greener, http://www.railstotrails.org/ourWork/trailBuilding/toolbox/informationSummaries/funding_financing.html#statelocal
9. Adopt-a-Stream, http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse&Rbutton=detail&bmp=20
10. American Greenways, http://www.conservationfund.org/
11. Mulit-Municipal Funding, http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_002306.pdf; http://www.railstotrails.org/resources/documents/wherewework/northeast/ feasibilitystudy/2013_feasibilitystudy_append_refstools.pdf

BACK MOUNTAIN TRAIL EXTENSION - PROPOSED ALIGNMENT COSTS

(Phase 1 + Phase 2 + Phase 3 + Phase 4) **$ 7,633,844.68**

PROPOSED ALIGNMENT

Phase 1: Existing Back Mountain Trail to Misericordia University		***$ 2,553,047.86***
Lower Demunds Road to Dorchester Road	*$ 544,805.00*	
Dorchester Road to Grandview Avenue	*$ 546,665.00*	
Grandview Avenue to Lake Street	*$ 276,040.00*	
Lake Street past Misericordia University to Country Club Road	*$ 596,760.00*	
Professional Services	*$ 356,682.60*	
Contingency (10%)	*$ 232,095.26*	
Phase 2: Noxen to Mountain Spring Lake (Ricketts Glen)		***$ 2,168,842.06***
Main St. Bridge to Rt. 3002 near Baker Run	*$ 912,135.00*	
Rt. 3002 (Wilson-Ayers Road) near Baker Run to Mountain Spring Lak	*$ 811,485.00*	
Professional Services	*$ 248,054.60*	
Contingency (10%)	*$ 197,167.46*	
Phase 3: Harveys Lake to Noxen		***$ 1,004,091.66***
Route 29 to Bowman Creek, Main Street Bridge	*$ 786,020.00*	
Professional Services	*$ 126,790.60*	
Contingency (10%)	*$ 91,281.06*	
Phase 4: Dallas to Harveys Lake		***$ 1,907,863.10***
Country Club Road to Lake Street	*$ 335,330.00*	
Lake Street to Kunkle Road to Lakeside Drive	*$ 631,120.00*	
Lakeside Drive to Route 29	*$ 474,250.00*	
Professional Services	*$ 293,721.00*	
Contingency (10%)	*$ 173,442.10*	

ALTERNATE ROUTES

Alternative 1: "Paper" Road off Lower Demunds Road	*$ 319,544.23*
Alternative 2: Skyview Dr. & Grandview Ave. to Route 309	*$ 260,769.85*
Alternative 3: Woodlawn Ave. & Mill St. to Lake Street	*$ 475,048.48*
Alternative 4: Through Misericordia University	*$ 175,992.85*
Alternative 5: Bypass from Football Field to Country Club Road	*$ 34,601.33*
Alternative 6: Stredney Road Bypass	*$ 317,343.95*
Alternative 7: Southside of Harveys Lake	*$ 2,033,215.80*
Alternative 8: E 42nd St - Briarcrest	*$ 325,673.70*
Alternative 9: Trolley Line - Lakeside Dr	*$ 1,216,071.45*

Phase 1: Existing Back Mountain Trail to Misericordia University — $ 2,553,047.86

Lower Demunds Road to Dorchester Road — $ 544,805.00

Cost Item	Quantity	Unit	Unit Price	Total
Acquisition/Easements:				***$ 245,000.00***
Acquisition (approx. 2 miles length, 50' wide); Storage Facility to Sunoco at Route 309	15	AC	$ 16,000.00	$ 240,000.00
Acquisition/Easement along Hildebrant/Sunoco	1	LS	$ 5,000.00	$ 5,000.00
Demo/Corridor Preparation:				***$ 56,750.00***
Regrading existing ROW	1950	LF	$ 25.00	$ 48,750.00
Large Tree/Brush removal	1	LS	$ 1,200.00	$ 1,200.00
Shrub/Brush Removal	1	LS	$ 800.00	$ 800.00
Stormwater Management	1	LS	$ 5,000.00	$ 5,000.00
Erosion & Sediment Control Measures	1	LS	$ 1,000.00	$ 1,000.00
Trail Surface:				***$ 175,875.00***
Share the Road/Line Striping (Terrace/Demunds)	600	LF	$ 5.00	$ 3,000.00
Street Crossing (Lower Demunds Road); striping, ramp, curb	1	LS	$ 7,500.00	$ 7,500.00
Street Crossing (Dorchester Road); striping, ramp, curb	1	LS	$ 12,000.00	$ 12,000.00
10' Wide Stone Dust Trail	2350	LF	$ 20.00	$ 47,000.00
Stream Crossing, Arch Pipe	2	EA	$ 18,000.00	$ 36,000.00
Trail Loop (6' wide) around Pond/Wetland	1950	LF	$ 20.00	$ 39,000.00
Boardwalk above stormwater basin near Sunoco	275	LF	$ 125.00	$ 34,375.00
Amenities:				***$ 67,180.00***
Fence, 6' ht., along Storage Unit Facility	550	LF	$ 90.00	$ 49,500.00
Landscaping, along Storage Unit Fence	1	LS	$ 5,000.00	$ 5,000.00
Trail Signs, (directional, location, safety, interpretive, educational)	6	EA	$ 125.00	$ 750.00
Landscaping, near Sunoco	1	LS	$ 3,000.00	$ 3,000.00
Kiosk/Trail Maps	2	EA	$ 1,500.00	$ 3,000.00
Benches	6	EA	$ 850.00	$ 5,100.00
Trash Receptacles	1	EA	$ 500.00	$ 500.00
Bollards	6	EA	$ 55.00	$ 330.00

Dorchester Road to Grandview Avenue — $ 546,665.00

Cost Item	Quantity	Unit	Unit Price	Total
Acquisition/Easements:				***$ 26,250.00***
Acquisition (Slovak Cemetery) (1100 ft, 20' wide)	0.75	AC	$ 35,000.00	$ 26,250.00
Demo/Corridor Preparation:				***$ 46,000.00***
Prepare New Trail base	1100	LF	$ 25.00	$ 27,500.00
Large Tree/Brush removal (near shopping center)	1	LS	$ 6,000.00	$ 6,000.00
Shrub/Brush Removal (near shopping center)	1	LS	$ 1,500.00	$ 1,500.00
Stormwater Management	1	LS	$ 10,000.00	$ 10,000.00
Erosion & Sediment Control Measures	1	LS	$ 1,000.00	$ 1,000.00

Trail Surface:					***$***	***296,000.00***
6' Wide Stone Dust Trail	1100	LF	$	20.00	$	22,000.00
Concrete Sidewalk with Curbs, Rt. 309 ROW	1700	LF	$	80.00	$	136,000.00
Line Striping	700	LF	$	5.00	$	3,500.00
Colored Asphalt Trail (through Shopping Center)	700	LF	$	35.00	$	24,500.00
Street Crossing (Route 309); striping, ramp, curb, signage, light	1	LS	$	110,000.00	$	110,000.00
Amenities:					***$***	***178,415.00***
Trail Signs, (directional, location, safety, interpretive, educational)	8	EA	$	125.00	$	1,000.00
Ornamental Fence along Slovak Cemetery	1100	LF	$	110.00	$	121,000.00
Landscaping along Slovak Cemetery	1	LS	$	8,000.00	$	8,000.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Shopping Center Gateway: Pavers/Concrete Curb	1	LS	$	8,000.00	$	8,000.00
Shopping Center Gateway: Landscaping/Trellis	1	LS	$	4,000.00	$	4,000.00
Shopping Center Gateway: Archway/Steps	1	LS	$	14,000.00	$	14,000.00
Benches	5	EA	$	850.00	$	4,250.00
Landscaping/Bioretention along Rt. 309	1	LS	$	15,000.00	$	15,000.00
Trash Receptacles	3	EA	$	500.00	$	1,500.00
Bollards	3	EA	$	55.00	$	165.00

Grandview Avenue to Lake Street					$	276,040.00
Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Acquisition/Easements:					***$***	***15,000.00***
Acquisition/Easement (Woodlawn Ave.)	1	LS	$	15,000.00	$	15,000.00
Demo/Corridor Preparation:					***$***	***75,800.00***
Regrading/Enhancement to Dallas Township Park	800	LF	$	25.00	$	20,000.00
Shrub/Brush Removal, Clear/Grub along Southside	560	LF	$	40.00	$	22,400.00
New Trail Base (Southside Ave.)	560	LF	$	40.00	$	22,400.00
Stormwater Management	1	LS	$	10,000.00	$	10,000.00
Erosion & Sediment Control Measures	1	LS	$	1,000.00	$	1,000.00
Trail Surface:					***$***	***100,200.00***
6' Wide Stone Dust Trail (Twp. Park, Southside Ave.)	1360	LF	$	20.00	$	27,200.00
Concrete Sidewalk, 6" Curb (Woodlawn, Foster)	600	LF	$	60.00	$	36,000.00
Street Crossing (Foster Street); striping, ramp, curb	1	LS	$	12,000.00	$	12,000.00
Creek Crossing Bridge (Dallas Twp. Park)	1	EA	$	25,000.00	$	25,000.00
Amenities:					***$***	***85,040.00***
Trail Head Enhancement	1	LS	$	3,500.00	$	3,500.00
Trail Signs, (directional, location, safety, interpretive, educational)	8	EA	$	125.00	$	1,000.00
Share the Road Signage (N. Lakeside)	2	EA	$	125.00	$	250.00
Landscaping, along Foster St. (street trees)	1	LS	$	8,000.00	$	8,000.00
Kiosk/Trail Maps	3	EA	$	1,500.00	$	4,500.00
Benches	6	EA	$	850.00	$	5,100.00
Trash Receptacles	4	EA	$	500.00	$	2,000.00
Picnic Tables	2	EA	$	180.00	$	360.00
Restroom at Dallas Twp. Park	1	LS	$	60,000.00	$	60,000.00
Bollards	6	EA	$	55.00	$	330.00

Lake Street past Misericordia University to Country Club Road						$	596,760.00
Cost Item	*Quantity*	*Unit*		*Unit Price*			*Total*
Acquisition/Easements:						***$***	***42,000.00***
Acquisition (Fern Knoll) (2540 ft, 20' wide)	1.2	AC	$	35,000.00	$		42,000.00
Easements (Mercy Center, Misericordia)	1	LS	$	-	$		-
Demo/Corridor Preparation:						***$***	***236,250.00***
Regrading ROW, in Fern Knoll and Misericordia	4050	LF	$	25.00	$		101,250.00
Clear & Grub, Grade new Trail Corridor	2350	LF	$	40.00	$		94,000.00
Large Tree/Brush removal	1	LS	$	8,000.00	$		8,000.00
Shrub/Brush Removal (ROW in cemetery)	1	LS	$	7,500.00	$		7,500.00
Stormwater Management	1	LS	$	20,000.00	$		20,000.00
Erosion & Sediment Control Measures	1	LS	$	5,500.00	$		5,500.00
Trail Surface:						***$***	***240,250.00***
6' Wide Stone Dust Trail (ROW, new corridor)	7320	LF	$	20.00	$		146,400.00
Concrete Sidewalk (Lake St.)	1000	LF	$	60.00	$		60,000.00
Line Striping (Lake St. & Mercy Drive)	1970	LF	$	5.00	$		9,850.00
Street Crossing (Center Hill Road); striping, ramp, curb	1	LS	$	12,000.00	$		12,000.00
Street Crossing (Country Club Road); striping, ramp, curb	1	LS	$	12,000.00	$		12,000.00
Amenities:						***$***	***78,260.00***
Trail Signs, (directional, location, safety, interpretive, educational)	16	EA	$	125.00	$		2,000.00
Streetscape Improvements; Landscaping	1	LS	$	30,000.00	$		30,000.00
Kiosk/Trail Maps	3	EA	$	1,500.00	$		4,500.00
Benches	6	EA	$	850.00	$		5,100.00
Trash Receptacles	2	EA	$	500.00	$		1,000.00
Bollards	12	EA	$	55.00	$		660.00
Railing (along ROW behind Football Stadium)	1000	LF	$	35.00	$		35,000.00

Professional Services						$	356,682.60
Cost Item	*Quantity*	*Unit*		*Unit Price*			*Total*
Legal Fees for acquisition/easements	1	LS	$	8,000.00	$		8,000.00
NPDES Permit - General	1	EA	$	20,000.00	$		20,000.00
PA DOT HOP Permits, along Rt. 309	1	LS	$	100,000.00	$		100,000.00
PA DEP Encroachment Permits - General	2	EA	$	8,000.00	$		16,000.00
Total const. costs in Phase 1 (trail, demo, prep & amenities)			$	1,636,020.00			
Design/Engineering (8%)					$		130,881.60
Construction Inspection (2%)					$		32,720.40
Project Management (3%)					$		49,080.60
					$		**2,320,952.60**
				Contingency (10%)	$		232,095.26
					$		**2,553,047.86**

Alternative 1: "Paper" Road off Lower Demunds Road — $ 319,544.23

Cost Item	*Quantity*	*Unit*	*Unit Price*	*Total*
Acquisition/Easements:				***$ 42,000.00***
Acquisition/Easement (land abutting paper road)	3	EA	$ 14,000.00	$ 42,000.00
Demo/Corridor Preparation:				***$ 66,500.00***
Clear & Grub, Grade new Trail Corridor	1000	LF	$ 40.00	$ 40,000.00
Large Tree/Brush removal	1	LS	$ 15,000.00	$ 15,000.00
Shrub/Brush Removal	1	LS	$ 6,000.00	$ 6,000.00
Stormwater Management	1	LS	$ 4,500.00	$ 4,500.00
Erosion & Sediment Control Measures	1	LS	$ 1,000.00	$ 1,000.00
Trail Surface:				***$ 118,700.00***
6' Wide Stone Dust Trail / Paper Road	1100	LF	$ 20.00	$ 22,000.00
Concrete Sidewalk (along Lower Demunds)	270	LF	$ 60.00	$ 16,200.00
Stream Crossing, Arch Pipe	1	EA	$ 18,000.00	$ 18,000.00
Boardwalk through wetland areas	500	LF	$ 125.00	$ 62,500.00
Amenities:				***$ 5,665.00***
Landscaping, along existing Storage Unit Fencing	1	LS	$ 3,000.00	$ 3,000.00
Trail Signs, (directional, location, safety, interpretive, educational)	4	EA	$ 125.00	$ 500.00
Kiosk/Trail Maps	1	EA	$ 1,500.00	$ 1,500.00
Trash Receptacles	1	EA	$ 500.00	$ 500.00
Bollards	3	EA	$ 55.00	$ 165.00
Professional Services:				***$ 57,629.75***
Legal Fees for acquisition/easements	1	LS	$ 12,000.00	$ 12,000.00
PA DEP Encroachment Permits - Joint	1	EA	$ 12,000.00	$ 12,000.00
PA DEP Encroachment Permits - General	1	EA	$ 5,000.00	$ 5,000.00
Total const. costs in Alt 1 (trail, demo, prep & amenities) =			$ 190,865.00	
Design/Engineering (8%)				$ 15,269.20
Construction Inspection (3%)				$ 5,725.95
Project Management (4%)				$ 7,634.60
				$ 290,494.75
			Contingency (10%)	$ 29,049.48
				$ 319,544.23

Alternative 2: Skyview Dr. & Grandview Ave. to Route 309 — $ 260,769.85

Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Acquisition/Easements:					***$***	***7,000.00***
Easement (Skyview Drive)	1	LS	$	-	$	-
Acquisition (Slovak Cemetery) (1100 ft, 20' wide)	0.2	AC	$	35,000.00	$	7,000.00
Demo/Corridor Preparation:					***$***	***70,500.00***
Regrading; new corridor, up steep slope	300	LF	$	40.00	$	12,000.00
Regrading; new corridor (cemetery, Skyview)	1000	LF	$	25.00	$	25,000.00
Large Tree/Brush removal	1	LS	$	4,000.00	$	4,000.00
Shrub/Brush Removal	1	LS	$	1,500.00	$	1,500.00
Stormwater Management	1	LS	$	25,000.00	$	25,000.00
Erosion & Sediment Control Measures	1	LS	$	3,000.00	$	3,000.00
Trail Surface:					***$***	***112,500.00***
6' Wide Stone Dust Trail	1200	LF	$	20.00	$	24,000.00
Asphalt Trail (up steep slope near cemetery)	300	LF	$	35.00	$	10,500.00
Line Striping	1500	LF	$	5.00	$	7,500.00
Colored Asphalt Trail (through New Goss Streets)	1500	LF	$	35.00	$	52,500.00
Drainage Swale Crossing, Arch Pipe	1	EA	$	18,000.00	$	18,000.00
Amenities:					***$***	***7,490.00***
Landscaping, along cemetery	1	LS	$	3,000.00	$	3,000.00
Trail Signs, (directional, location, safety, interpretive, educational)	5	EA	$	125.00	$	625.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Benches	2	EA	$	850.00	$	1,700.00
Trash Receptacles	1	EA	$	500.00	$	500.00
Bollards	3	EA	$	55.00	$	165.00
Professional Services:					***$***	***39,573.50***
Legal Fees for acquisition/easements	1	LS	$	6,000.00	$	6,000.00
PA DEP Encroachment Permits - General	1	EA	$	5,000.00	$	5,000.00
Total const. costs in Alt 2 (trail, demo, prep & amenities) =			$	190,490.00		
Design/Engineering (8%)					$	15,239.20
Construction Inspection (3%)					$	5,714.70
Project Management (4%)					$	7,619.60
					$	**237,063.50**
				Contingency (10%)	$	23,706.35
					$	**260,769.85**

Alternative 3: Woodlawn Ave. & Mill St. to Lake Street $ 475,048.48

Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Acquisition/Easements:					***$***	***30,000.00***
Acquire Pocket Park Parcel	1	LS	$	30,000.00	$	30,000.00
Demo/Corridor Preparation:					***$***	***5,500.00***
Stormwater Management	1	LS	$	4,500.00	$	4,500.00
Erosion & Sediment Control Measures	1	LS	$	1,000.00	$	1,000.00
Trail Surface:					***$***	***238,000.00***
6' Wide Stone Dust Trail in Pocket Park	200	LF	$	20.00	$	4,000.00
Concrete Sidewalk (along Woodlawn/Mill)	1400	LF	$	60.00	$	84,000.00
Stream Crossing, Small Bridge	2	EA	$	75,000.00	$	150,000.00
Amenities:					***$***	***86,815.00***
New Pocket Park, near Post Office	1	LS	$	60,000.00	$	60,000.00
Trail Signs, (directional, location, safety, interpretive, educational)	6	EA	$	125.00	$	750.00
Streetscaping along Woodlawn Ave./Mill St.	1	LS	$	20,000.00	$	20,000.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Benches	4	EA	$	850.00	$	3,400.00
Trash Receptacles	2	EA	$	500.00	$	1,000.00
Bollards	3	EA	$	55.00	$	165.00
Professional Services:					***$***	***71,547.25***
Legal Fees for acquisition/easements	1	LS	$	12,000.00	$	12,000.00
PA DEP Encroachment Permits - General	2	EA	$	5,000.00	$	10,000.00
Total const. costs in Alt 3 (trail, demo, prep & amenities) =			$	330,315.00		
Design/Engineering (8%)					$	26,425.20
Construction Inspection (3%)					$	9,909.45
Project Management (4%)					$	13,212.60
					$	**431,862.25**
				Contingency (10%)	$	43,186.23
					$	**475,048.48**

Alternative 4: Through Misericordia University $ 175,992.85

Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Demo/Corridor Preparation:					***$***	***15,000.00***
Stormwater Management	1	LS	$	12,000.00	$	12,000.00
Erosion & Sediment Control Measures	1	LS	$	3,000.00	$	3,000.00
Trail Surface:					***$***	***87,750.00***
6' Wide Stone Dust Trail	4100	LF	$	20.00	$	82,000.00
Line Striping, Share the Road, (parking lot)	1150	LF	$	5.00	$	5,750.00
Amenities:					***$***	***25,940.00***
Trail Signs, (directional, location, safety, interpretive, educational)	6	EA	$	125.00	$	750.00
Landscaping, Trees along trail	1	LS	$	8,000.00	$	8,000.00
Kiosk/Trail Maps	2	EA	$	1,500.00	$	3,000.00
Benches	12	EA	$	850.00	$	10,200.00
Trash Receptacles	6	EA	$	500.00	$	3,000.00
Bollards	18	EA	$	55.00	$	990.00
Professional Services:					***$***	***31,303.50***
NPDES Permit - General	1	EA	$	12,000.00	$	12,000.00
Total const. costs in Alt 4 (trail, demo, prep & amenities) =			$	128,690.00		
Design/Engineering (8%)					$	10,295.20
Construction Inspection (3%)					$	3,860.70
Project Management (4%)					$	5,147.60
					$	**159,993.50**
				Contingency (10%)	$	15,999.35
					$	**175,992.85**

Alternative 5: Bypass from Football Field to Country Club Road $ 34,601.33

Cost Item	*Quantity*	*Unit*	*Unit Price*	*Total*
Demo/Corridor Preparation:				***$ 1,400.00***
Stormwater Management	1	LS	$ 1,000.00	$ 1,000.00
Erosion & Sediment Control Measures	1	LS	$ 400.00	$ 400.00
Trail Surface:				***$ 17,400.00***
6' Wide Stone Dust Trail	420	LF	$ 20.00	$ 8,400.00
Line Striping, Share the Road, (parking lot)	1800	LF	$ 5.00	$ 9,000.00
Amenities:				***$ 4,205.00***
Trail Signs, (directional, location, safety, interpretive, educational)	3	EA	$ 125.00	$ 375.00
Landscaping, Trees along trail	1	LS	$ 2,000.00	$ 2,000.00
Kiosk/Trail Maps	1	EA	$ 1,500.00	$ 1,500.00
Bollards	6	EA	$ 55.00	$ 330.00
Professional Services:				***$ 8,450.75***
NPDES Permit - General	1	EA	$ 5,000.00	$ 5,000.00
Total const. costs in Alt 5 (trail, demo, prep & amenities) =			$ 23,005.00	
Design/Engineering (8%)				$ 1,840.40
Construction Inspection (3%)				$ 690.15
Project Management (4%)				$ 920.20
				$ 31,455.75
			Contingency (10%)	$ 3,145.58
				$ 34,601.33

Phase 2: Noxen to Mountain Spring Lake (Ricketts Glen) $ 2,168,842.06

Main St. Bridge to Rt. 3002 (Stull Road, Wilson-Ayers Road) near Baker Run $ 912,135.00

Cost Item	*Amount*	*Unit*		*Cost*		*Total*
Acquisition/Easements:					***$***	***88,000.00***
Acquisition (11,850 length, 20' wide)	5.5	AC	$	16,000.00	$	88,000.00
Demo/Corridor Preparation:					***$***	***249,000.00***
Regrading of existing ROW	11850	LF	$	20.00	$	237,000.00
Large Tree/Brush removal	1	LS	$	1,200.00	$	1,200.00
Shrub/Brush Removal	1	LS	$	800.00	$	800.00
Stormwater Management	1	LS	$	10,000.00	$	10,000.00
Trail Surface:					***$***	***545,000.00***
6' Wide Stone Dust Trail	11850	LF	$	20.00	$	237,000.00
Dirt Road Improvements	9200	LF	$	5.00	$	46,000.00
Asphalt Trail (Along Road, 3' pave in shoulder)	9200	LF	$	25.00	$	230,000.00
Creek Crossings, Small Bridge	2	EA	$	16,000.00	$	32,000.00
Amenities:					***$***	***30,135.00***
Trail Head Construction	1	LS	$	16,000.00	$	16,000.00
Trail Signs, (directional, location, safety, interpretive, educational)	6	EA	$	125.00	$	750.00
Road Crossing; signage	1	LS	$	350.00	$	350.00
Kiosk/Trail Maps	2	EA	$	1,500.00	$	3,000.00
Benches	8	EA	$	850.00	$	6,800.00
Trash Receptacles	2	EA	$	500.00	$	1,000.00
Picnic Tables	6	EA	$	180.00	$	1,080.00
Bollards	21	EA	$	55.00	$	1,155.00

Rt. 3002 (Wilson-Ayers Road) near Baker Run to Mountain Spring Lake $ 811,485.00

Cost Item	*Amount*	*Unit*		*Cost*		*Total*
Acquisition/Easements:					***$***	***35,200.00***
Acquisition (4650' length, 20' wide)	2.2	AC	$	16,000.00	$	35,200.00
Demo/Corridor Preparation:					***$***	***600,800.00***
Regrading of existing ROW	14720	LF	$	40.00	$	588,800.00
Large Tree/Brush removal	1	LS	$	1,200.00	$	1,200.00
Shrub/Brush Removal	1	LS	$	800.00	$	800.00
Stormwater Management	1	LS	$	10,000.00	$	10,000.00
Trail Surface:					***$***	***170,500.00***
Dirt Road Improvements	27700	LF	$	5.00	$	138,500.00
Creek Crossings, Small Bridge	2	EA	$	16,000.00	$	32,000.00
Amenities:					***$***	***4,985.00***
Trail Signs, (directional, location, safety, interpretive, educational)	5	EA		$125.00	$	625.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Benches	2	EA	$	850.00	$	1,700.00
Trash Receptacles	1	EA	$	500.00	$	500.00
Picnic Tables	2	EA	$	180.00	$	360.00
Portable Restrooms	1	EA	$	300.00	$	300.00

Professional Services					$	248,054.60
Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Legal Fees for acquisition/easements	1	LS	$	9,000.00	$	9,000.00
NPDES Permit - General	1	EA	$	15,000.00	$	15,000.00
PA DEP Encroachment Permits - General	2	EA	$	8,000.00	$	16,000.00
Total const. costs in Phase 2 (trail, demo, prep & amenities)			$	1,600,420.00		
Design/Engineering (8%)					$	128,033.60
Construction Inspection (2%)					$	32,008.40
Project Management (3%)					$	48,012.60
					$	**1,971,674.60**
				Contingency (10%)	$	197,167.46
					$	**2,168,842.06**

Phase 3: Harveys Lake to Noxen — $ 1,004,091.66

Route 29 to Bowman Creek, Main Street Bridge						$ 786,020.00
Cost Item	*Amount*	*Unit*		*Cost*		*Total*
Acquisition/Easements:					***$***	***118,400.00***
Acquisition (16,100' length, 20' wide)	7.4	AC	$	16,000.00	$	118,400.00
Demo/Corridor Preparation:					***$***	***308,000.00***
Regrading of existing ROW	11600	LF	$	25.00	$	290,000.00
Stormwater Management	1	LS	$	18,000.00	$	18,000.00
Trail Surface:					***$***	***353,625.00***
Street Crossing (Route 29); striping, ramp, curb	1	LS	$	12,000.00	$	12,000.00
6' Wide Stone Dust Trail	16100	LF	$	20.00	$	322,000.00
Line Striping	650	LF	$	5.00	$	3,250.00
Road Crossing Signage (Dimmick Hill Road)	1	EA	$	125.00	$	125.00
Asphalt Trail (Along Road, 3' pave in shoulder)	650	LF	$	25.00	$	16,250.00
Amenities:					***$***	***5,995.00***
Trail Signs, (directional, location, safety, interpretive, educational)	9	EA	$	125.00	$	1,125.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Benches	2	EA	$	850.00	$	1,700.00
Trash Receptacles	1	EA	$	500.00	$	500.00
Picnic Tables	3	EA	$	180.00	$	540.00
Bollards	6	EA	$	55.00	$	330.00
Portable Restrooms	1	EA	$	300.00	$	300.00

Professional Services						$ 126,790.60
Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Legal Fees for acquisition/easements	1	LS	$	14,000.00	$	14,000.00
NPDES Permit - General	1	EA	$	18,000.00	$	18,000.00
PA DEP Encroachment Permits - General	1	EA	$	8,000.00	$	8,000.00
Total const. costs in Phase 3 (trail, demo, prep & amenities)			$	667,620.00		
Design/Engineering (8%)					$	53,409.60
Construction Inspection (2%)					$	13,352.40
Project Management (3%)					$	20,028.60
					$	**912,810.60**
				Contingency (10%)	$	91,281.06
					$	**1,004,091.66**

Phase 4: Dallas to Harveys Lake — $ 1,907,863.10

Country Club Road to Lake Street — $ 335,330.00

Cost Item	Amount	Unit		Cost		Total
Acquisition/Easements:					***$***	***15,000.00***
Acquisition (RR ROW in parcel abutting Lake St.)	0.5	AC	$	30,000.00	$	15,000.00
Demo/Corridor Preparation:					***$***	***174,250.00***
Regrading of Existing ROW	6550	LF	$	25.00	$	163,750.00
Large Tree/Brush removal	1	LS	$	4,500.00	$	4,500.00
Stormwater Management	1	LS	$	6,000.00	$	6,000.00
Trail Surface:					***$***	***141,500.00***
6' Wide Stone Dust Trail	6550	LF	$	20.00	$	131,000.00
Share the Road/Line Striping (Country Club Road)	350	LF	$	5.00	$	1,750.00
Asphalt Trail (Along Country Club Road)	350	LF	$	25.00	$	8,750.00
Amenities:					***$***	***4,580.00***
Trail Signs, (directional, location, safety, interpretive, educational)	6	EA	$	125.00	$	750.00
Mini Trail Head (2 Stalls)	1	LS	$	2,000.00	$	2,000.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Bollards	6	EA	$	55.00	$	330.00

Lake Street to Kunkle Road to Lakeside Drive — $ 631,120.00

Cost Item	Amount	Unit		Cost		Total
Acquisition/Easements:					***$***	***35,000.00***
Acquisition (parcel at Lakeside/Kunkle intersection	1	LS	$	35,000.00	$	35,000.00
Demo/Corridor Preparation:					***$***	***65,650.00***
Prepare Shoulder for Trail Base	17100	LF	$	1.50	$	25,650.00
Stormwater Management	1	LS	$	40,000.00	$	40,000.00
Trail Surface:					***$***	***513,000.00***
Line Striping	17100	LF	$	5.00	$	85,500.00
Asphalt Trail (within shoulder of Lake and Kunkle)	17100	LF	$	25.00	$	427,500.00
Amenities:					***$***	***17,470.00***
Trail Signs, (directional, location, safety, interpretive, educational, share the road)	10	EA	$	125.00	$	1,250.00
Small Trail head	1	EA	$	12,000.00	$	12,000.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Trash Receptacles	4	EA	$	500.00	$	2,000.00
Picnic Tables	4	EA	$	180.00	$	720.00
Bollards	6	EA	$	55.00	$	330.00

Lakeside Drive to Route 29 — $ 474,250.00

Cost Item	Amount	Unit		Cost		Total
Acquisition/Easements:					***$***	***39,000.00***
Acquisition (Trail ROW through Hanson's)	1.3	AC	$	30,000.00	$	39,000.00
Demo/Corridor Preparation:					***$***	***82,000.00***
Regrading (ROW near Hanson's to Rt. 415)	2500	LF	$	25.00	$	62,500.00
Shrub/Brush Removal	1	LS	$	1,500.00	$	1,500.00
Stormwater Management	1	LS	$	18,000.00	$	18,000.00

Trail Surface:					***$***	***343,000.00***
6' Wide Stone Dust Trail (existing ROW)	5150	LF	$	20.00	$	103,000.00
Line Striping (Share the Road)	8000	LF	$	5.00	$	40,000.00
Asphalt Trail (Along Lakeside Drive)	5450	LF	$	25.00	$	136,250.00
Asphalt Trail (Along Rt. 415)	2550	LF	$	25.00	$	63,750.00
Amenities:					***$***	***10,250.00***
Trail Signs, (directional, location, safety, interpretive, educational, share the road)	8	EA	$	125.00	$	1,000.00
Kiosk/Trail Maps	1	EA	$	1,500.00	$	1,500.00
Benches	4	EA	$	850.00	$	3,400.00
Trash Receptacles	1	EA	$	500.00	$	500.00
Picnic Tables	4	EA	$	180.00	$	720.00
Trailhead Gateway (Steel Coaster)	1	EA	$	2,500.00	$	2,500.00
Bollards	6	EA	$	55.00	$	330.00
Portable Restrooms	1	EA	$	300.00	$	300.00
Professional Services					$	293,721.00
Cost Item	*Quantity*	*Unit*		*Unit Price*		*Total*
Legal Fees for acquisition/easements	1	LS	$	25,000.00	$	25,000.00
NPDES Permit - General	1	EA	$	18,000.00	$	18,000.00
PA DOT HOP Permits, along Rt. 309	1	LS	$	75,000.00	$	75,000.00
Total const. costs in Phase 4 (trail, demo, prep & amenities)			$	1,351,700.00		
Design/Engineering (8%)					$	108,136.00
Construction Inspection (2%)					$	27,034.00
Project Management (3%)					$	40,551.00
					$	**1,734,421.00**
					$	173,442.10
					$	**1,907,863.10**

Alternative 6: Stredney Road Bypass — $ 317,343.95

Cost Item	*Quantity*	*Unit*	*Unit Price*	*Total*
Acquisition/Easements:				***$ 1,500.00***
Acquisition (private parcels, 4000' length, 20' wide)	1.9	AC	$ 30,000.00	$ 57,000.00
Easement (UGI Corporation)	1	LS	$ 1,500.00	$ 1,500.00
Demo/Corridor Preparation:				***$ 64,000.00***
Stormwater Management	1	LS	$ 5,000.00	$ 5,000.00
Clear & Grub, Grade new Trail Corridor	1100	LF	$ 40.00	$ 44,000.00
Large Tree/Brush removal	1	LS	$ 8,000.00	$ 8,000.00
Shrub/Brush Removal	1	LS	$ 6,000.00	$ 6,000.00
Erosion & Sediment Control Measures	1	LS	$ 1,000.00	$ 1,000.00
Trail Surface:				***$ 172,000.00***
6' Wide Stone Dust Trail	8600	LF	$ 20.00	$ 172,000.00
Amenities:				***$ 4,430.00***
Trail Signs, (directional, location, safety, interpretive, educational)	4	EA	$ 125.00	$ 500.00
Road Crossing Signage (Stredney Road)	2	EA	$ 125.00	$ 250.00
Kiosk/Trail Maps	1	EA	$ 1,500.00	$ 1,500.00
Benches	1	EA	$ 850.00	$ 850.00
Trash Receptacles	2	EA	$ 500.00	$ 1,000.00
Bollards	6	EA	$ 55.00	$ 330.00
Professional Services:				***$ 48,064.50***
NPDES Permit - General	1	EA	$ 12,000.00	$ 12,000.00
Total const. costs in Alt 6 (trail, demo, prep & amenities) =			$ 240,430.00	
Design/Engineering (8%)				$ 19,234.40
Construction Inspection (3%)				$ 7,212.90
Project Management (4%)				$ 9,617.20
				$ 288,494.50
			Contingency (10%)	$ 28,849.45
				$ 317,343.95

Alternative 7: Southside of Harveys Lake $ 2,033,215.80

Cost Item	*Quantity*	*Unit*	*Unit Price*	*Total*
Acquisition/Easements:				***$ 297,500.00***
Acquisition/Easement	11.9	EA	$ 25,000.00	$ 297,500.00
Demo/Corridor Preparation:				***$ 409,000.00***
Clear & Grub, Grade new Trail Corridor	25900	LF	$ 15.00	$ 388,500.00
Shrub/Brush Removal	1	LS	$ 2,500.00	$ 2,500.00
Stormwater Management	1	LS	$ 15,000.00	$ 15,000.00
Erosion & Sediment Control Measures	1	LS	$ 3,000.00	$ 3,000.00
Trail Surface:				***$ 877,750.00***
6' Wide Stone Dust Trail	25900	LF	$ 20.00	$ 518,000.00
Asphalt Trail (Along Road, 3' pave in shoulder)	7500	LF	$ 25.00	$ 187,500.00
Dirt Road Improvements	12450	LF	$ 5.00	$ 62,250.00
Street Crossing (Route 415); striping, ramp, curb	1	LS	$ 12,000.00	$ 12,000.00
Street Improvements, Line Striping	13600	LF	$ 5.00	$ 68,000.00
Stream Crossing, Small Bridge	1	EA	$ 30,000.00	$ 30,000.00
Amenities:				***$ 20,970.00***
Trail Signs, (directional, location, safety, interpretive, educational)	30	EA	$ 125.00	$ 3,750.00
Road Crossing Signage	10	EA	$ 125.00	$ 1,250.00
Share the Road Signage	10	EA	$ 125.00	$ 1,250.00
Kiosk/Trail Maps	5	EA	$ 1,500.00	$ 7,500.00
Trash Receptacles	5	EA	$ 500.00	$ 2,500.00
Benches	4	EA	$ 850.00	$ 3,400.00
Bollards	24	EA	$ 55.00	$ 1,320.00
Professional Services:				***$ 243,158.00***
Legal Fees for acquisition/easements	1	LS	$ 12,000.00	$ 12,000.00
NPDES Permit - General	1	EA	$ 18,000.00	$ 18,000.00
PA DEP Encroachment Permits - Joint	1	EA	$ 12,000.00	$ 12,000.00
PA DEP Encroachment Permits - General	1	EA	$ 5,000.00	$ 5,000.00
Total const. costs in Alt 7 (trail, demo, prep & amenities) =			$ 1,307,720.00	
Design/Engineering (8%)				$ 104,617.60
Construction Inspection (3%)				$ 39,231.60
Project Management (4%)				$ 52,308.80
				$ 1,848,378.00
			Contingency (10%)	$ 184,837.80
				$ 2,033,215.80

Alternative 8: E 42nd St - Briarcrest $ 325,673.70

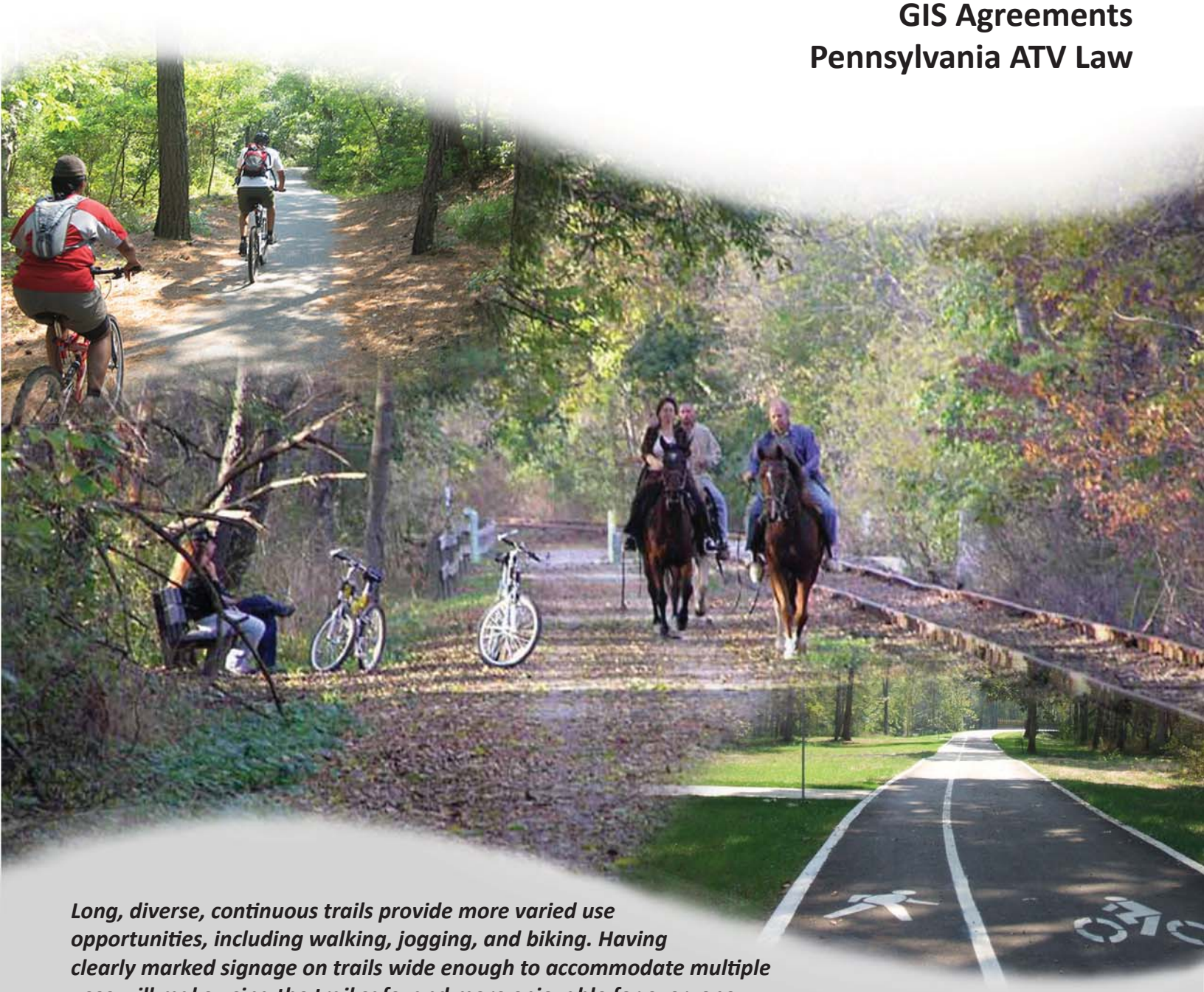
Cost Item	*Quantity*	*Unit*	*Unit Price*	*Total*
Acquisition/Easements:				***$ 57,500.00***
Acquisition/Easement	2.3	EA	$ 25,000.00	$ 57,500.00
Demo/Corridor Preparation:				***$ 51,500.00***
Clear & Grub, Grade new Trail Corridor	2700	LF	$ 15.00	$ 40,500.00
Shrub/Brush Removal	1	LS	$ 5,000.00	$ 5,000.00
Stormwater Management	1	LS	$ 5,000.00	$ 5,000.00
Erosion & Sediment Control Measures	1	LS	$ 1,000.00	$ 1,000.00
Trail Surface:				***$ 109,750.00***
6' Wide Stone Dust Trail / Paper Road	4850	LF	$ 20.00	$ 97,000.00
Along Road (Striping)	2550	LF	$ 5.00	$ 12,750.00
Amenities:				***$ 5,330.00***
Trail Signs, (directional, location, safety, interpretive, educational)	8	EA	$ 125.00	$ 1,000.00
Kiosk/Trail Maps	2	EA	$ 1,500.00	$ 3,000.00
Trash Receptacles	2	EA	$ 500.00	$ 1,000.00
Bollards	6	EA	$ 55.00	$ 330.00
Professional Services:				***$ 71,987.00***
Legal Fees for acquisition/easements	1	LS	$ 12,000.00	$ 12,000.00
NPDES Permit - General	1	EA	$ 18,000.00	$ 18,000.00
PA DEP Encroachment Permits - Joint	1	EA	$ 12,000.00	$ 12,000.00
PA DEP Encroachment Permits - General	1	EA	$ 5,000.00	$ 5,000.00
Total const. costs in Alt 8 (trail, demo, prep & amenities) =			$ 166,580.00	
Design/Engineering (8%)				$ 13,326.40
Construction Inspection (3%)				$ 4,997.40
Project Management (4%)				$ 6,663.20
				$ 296,067.00
			Contingency (10%)	$ 29,606.70
				$ 325,673.70

Alternative 9: Trolley Line - Lakeside Dr $ 1,216,071.45

Cost Item	Quantity	Unit	Unit Price	Total
Acquisition/Easements:				***$ 93,750.00***
Acquisition/Easement	3.75	EA	$ 25,000.00	$ 93,750.00
Demo/Corridor Preparation:				***$ 532,500.00***
Clear & Grub, Grade new Trail Corridor	300	LF	$ 15.00	$ 4,500.00
Shrub/Brush Removal	12900	LF	$ 40.00	$ 516,000.00
Stormwater Management	1	LS	$ 10,000.00	$ 10,000.00
Erosion & Sediment Control Measures	1	LS	$ 2,000.00	$ 2,000.00
Trail Surface:				***$ 298,750.00***
6' Wide Stone Dust Trail / ROW Improvements	12900	LF	$ 20.00	$ 258,000.00
Along Road (Striping)	8150	LF	$ 5.00	$ 40,750.00
Amenities:				***$ 7,680.00***
Trail Signs, (directional, location, safety, interpretive, educational)	8	EA	$ 125.00	$ 1,000.00
Kiosk/Trail Maps	3	EA	$ 1,500.00	$ 4,500.00
Trash Receptacles	2	EA	$ 500.00	$ 1,000.00
Bollards	6	EA	$ 55.00	$ 330.00
Benches	1	EA	$ 850.00	$ 850.00
Professional Services:				***$ 172,839.50***
Legal Fees for acquisition/easements	1	LS	$ 12,000.00	$ 12,000.00
NPDES Permit - General	1	EA	$ 18,000.00	$ 18,000.00
PA DEP Encroachment Permits - Joint	1	EA	$ 12,000.00	$ 12,000.00
PA DEP Encroachment Permits - General	1	EA	$ 5,000.00	$ 5,000.00
Total const. costs in Alt 9 (trail, demo, prep & amenities) =			$ 838,930.00	
Design/Engineering (8%)				$ 67,114.40
Construction Inspection (3%)				$ 25,167.90
Project Management (4%)				$ 33,557.20
				$ 1,105,519.50
			Contingency (10%)	$ 110,551.95
				$ 1,216,071.45

Appendix

User Survey
Meeting Minutes
Public/Municipal Meetings
Letters to Property Owners
Landowner Options/Liability
GIS Agreements
Pennsylvania ATV Law



Long, diverse, continuous trails provide more varied use opportunities, including walking, jogging, and biking. Having clearly marked signage on trails wide enough to accommodate multiple uses will make using the trail safe, and more enjoyable for everyone.

USER SURVEY

Anthracite Scenic Trails Association

P.O. Box 212 - Dallas, PA 18612

Back Mountain Trail Feasibility Survey

PROJECT SCOPE: ASTA is currently completing a plan to determine the feasibility of building a new section of the Back Mountain Trail from Dallas to Mountain Springs Lake, near Ricketts Glen State Park along the former Lehigh Valley Railroad corridor. In order to better understand how the community uses existing trails and gauge the importance of this proposed trail, we request your cooperation through completion of this survey. Your participation is greatly appreciated and beneficial to this planning process. WE NEED YOUR INPUT!

SECTION A: GENERAL INFORMATION

1) What is your zip code? _____

2) What is your gender? Male Female

3) Please identify your age group.
18 and under 18-25 26-35 36-44 45-64 65 and older

4) Do you commonly use trails in Northeastern Pennsylvania?
Yes – List your favorite? _____
No

SECTION B: BACK MOUNTAIN TRAIL USAGE - EXISTING SECTIONS

5) How often, on average, do you use the Back Mountain trail? (circle one response)
Daily 3-5 times a week 1-2 times a week Once a week
A couple times a month Once a month A few times a year Never

6) Generally, when do you use the trail? (circle one response)
Weekdays Weekends Both Never

7) How much time do you usually spend on the trail each visit? (circle one response)
Less than 30 minutes 30 minutes to 1 hour 1 to 2 hours
More than 2 hours None

8) What recreation activities do you engage in while using the trail?
Pet Walking XC Skiing/Snowshoeing Jogging
Walking/Hiking Biking Bird Watching
Fishing Access Other_____

9) What is your primary reason for using the trail?
Recreation Socializing Commuting
Health and Exercise Fitness Training Other_____

10.) What is your secondary use of the trail?
Recreation Socializing Commuting
Health and Exercise Fitness Training Other_____

11) Do any children under the age of 15 in your household use the trail?
Yes No
If yes, what do they use the trail for?
Recreation Travel to school
Travel to Friends/Store Health and Exercise
Other_____

SECTION C: BACK MOUNTAIN TRAIL - PROPOSED TRAIL

12.) Are you in favor of extending the Back Mountain Trail from Dallas to Mountain Springs Lake, near Ricketts Glen?
Yes No

13.) How often, on average, would you use the proposed trail? (circle one response)

Daily	3-5 times a week	1-2 times a week	Once a week
A couple times a month	Once a month	A few times a year	Never

14.) Generally, when would you use the trail? (circle one response)

Weekdays Weekends Both Never

15.) How much time would you generally spend on the trail each visit? (circle one response)

Less than 30 minutes	30 minutes to 1 hour	1 to 2 hours
More than 2 hours	None	

16.) What are main activities you would participate in along the trail?

Pet Walking	XC Skiing/Snowshoeing	Jogging
Walking/Hiking	Biking	Bird Watching
Fishing Access	Other_____	

17.) What do you consider your primary use of the trail to be?

Recreation	Socializing	Commuting
Health and Exercise	Fitness Training	Other_____

18.) Do any children under the age of 15 in your household use the trail?

Yes No

If yes, what do they use the trail for?

Recreation	Travel to school
Travel to Friends/Store	Health and Exercise
Other_____	

19.) Please rank in importance:

___ Adding pedestrian access to business districts and the Downtown Dallas District
___ Providing a walking route for students to school
___ Pedestrian access to parks, athletic fields, and other recreation trails
___ Connecting the Back Mountain Trail with other regional networks
___ Adding educational/interpretive signage along the trail
___ Providing designated parking lots for the trail

20.) Should facilities be available along the way? Rank in importance.

___ Food	___ Drink	___ Restrooms
___ Lodging	___ Shops	___ Parking
___ Other		

21.) Are there any other issues that should be considered?

SECTION D: SUBMIT THE SURVEY AND SIGN UP FOR MORE INFORMATION

THANK YOU for taking the time to complete this survey. Your input is very important to us!

Mail survey to Consultants:

Thomas J. McLane & Associates, Inc.
Landscape Architects/Environmentalists
601 Stafford Avenue, Scranton, PA 18505
Phone: 570-347-3668
Fax: 570-341-5413

FILL IN THE INFORMATION BELOW to receive updates on the Back Mountain Trail! Please print clearly.

Name: _____
Email:_____
Address:_____
City, State, Zip:_____
Phone:_____

Anthracite Scenic Trail Association
Back Mountain Trail Feasibility Survey Results

Section A: General Info

1) What is your zip-code?
   Answers: 53% 18612 30% 18708 4% 18657 and 18704
   2% for 18634, 18618, 18621 and 19512

2) What is your gender?
   Answers: 47% male and 53% female

3) What is your age group?
   Answer: 0% <18 2% 18-25 6% 26-35
   6% 36-44 62% 45-64 23% 65<

4) Do you commonly use trails in Northeastern Pennsylvania?
   Answers: 77% yes and 23% no

Section B: Back Mountain Trail Usage

5) How often, on average, do you use the Back Mountain trail?
   Answers: 2%, Daily 9%, 3-5 times/wk 13%, 1-2 times/wk
   0%, once a week 15%, a couple times a month 6%, once a month
   40%, a few times a year 15%, never

6) When do you use the trail?
   Answers: 11%, weekdays 26%, weekends
   49%, both 15%, never

7) How much time spent on the trail?
   Answers: 2%, <30min 38%, 30min-1hr
   40%, 1-2hrs 6%, more than 2hrs 9%, none

8) What recreation activities do you engage in while using the trail?
   Answer: 44%, Walking/Hiking 21%, Biking 18%, Pet walking
   7%, Jogging 6%, Bird watching
   3%, XC Skiing/Snowshoeing 1%, other 0%, Fishing

9) What is your primary reason for using the trail?
   Answers: 70%, Health and Exercise 20%, Recreation
   8%, Fitness Training 2%, Commuting

10) What is your secondary use of the trail?
Answers: 45%, Recreation 33%, Health and Exercise
17%, Socializing 3%, Fitness Training 2%, Commuting

11) Do any children under age 15 in your household use the trial
Answers: 16% yes and 84% no

If yes, what do they use the trail for?
Answers: 57%, Recreation 43%, Health and Exercise

Section C: Back Mountain Trail - Proposed Trail

12) Are you in favor of extending the BMT?
Answers: 93% yes and 7% no

13) How often, on average, would you use the purposed trail?
Answers: 2%, Daily 4%, 3-5 times/wk
11%, 1-2times/wk 2%, once a week
22%, a couple of times a month 4%, once a month
46%, a few times a year 9%, never

14) When would you use the trail?
Answers: 7%, weekdays 41%, weekends
43%, both 9%, never

15) How much time would you spend on the trail each visit?
Answers: 0%, <30min 23%, 30min-1hr
55%, 1-2hrs 16%, more than 2hrs 9%, none

16) What recreation activities would you engage in while using trail?
Answers: 41%, Walking/Hiking 18%, Biking
15%, Pet walking 9%, Jogging
7%, Bird watching 6%, XC Skiing/Snowshoeing
2%, Fishing 1%, Wildflowers

17) What is your primary reason for using the trail?
Answers: 66%, Health and Exercise 26%, Recreation
5%, Fitness Training 2%, Socializing

18) Any children under 15 use the trail?
Answers: 18%, yes 82%, no

If yes, what for? Answers: 50%, Recreation 50%, Health and Exercise

19) Rank in importance: (1 being most important and 6 least important)
Answers: (Average of 42 responses)

- 3.2, Adding pedestrian access to business districts and Downtown Dallas District.
- 4.0, Providing a walking route for students to school.
- 3.0, Pedestrian access to park, athletic fields, and other recreation trails.
- 2.1, Connecting the BMT with other regional networks.
- 3.9, Adding educational/interpretive signage along the trail.
- 2.8, Providing designated parking lots for the trail.

20) Importance of facilities: (1 being most important and 6 least important)
Answers: (Average of 42 responses)

- 1.5, Restrooms
- 2.1, Parking
- 2.9, Drink
- 3.7, Food
- 4.0, Shops
- 4.2, Lodging

21) Other issues…

- Design drainage to minimize trail maintenance
- Try to maintain shady areas next to streams and creeks
- Keep as natural as possible and a distance from traffic/noise
- Walking access for certain areas ex. Pioneer Ave.
- Don’t want the trail to run by property ex. Alice Lane Dallas, PA
- Mile markers/Color coded
- Need Safe cross walk at Carverton Road
- Keep this simple and don’t get ahead of the funding and planning
- Get volunteers from church or school groups to help maintain the trail
- Trash and recycling receptacles
- Sponsor walks
- Add trails to Lackawanna State Forest

MEETING MINUTES

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

TRAIL STUDY COMMITTEE
KICK-OFF MEETING

FEBRUARY 19, 2013

AGENDA

1. Welcome & Introductions

2. Project Goals
   - Determine the best route for the Back Mountain Trail between Upper Demunds Road in Dallas Township and Ricketts Glen State Park.

   - The most feasible route will be determined several ways:
     - Economic feasibility (acquisition, terrain)
     - Availability of land (ownership, acquisition potential
     - Site inventory and analysis (natural features, slopes, wetlands, etc.)
     - Potential for linkages and connections (regional connectivity)
     - Committee and public participation

3. Group Activity and Open Discussion
   - Discussion on known trail ROW constraints and opportunities
   - Please write on map!!
   - How to approach land owners?
   - Key persons to interview?
   - Vision of trail (trail tread, width, signage, etc.)

4. Proposed Project Schedule (get out the calendars)
   - Study committee meetings (dates)
   - Public meetings (month, location)

5. Next Steps
   - Site inventory and analysis
   - Walk the proposed alignment
   - Prepare a trail concept plan
   - Meetings with committee members, key persons, etc.

6. Adjourn

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

ASTA BOARD & TRAIL STUDY COMMITTEE (MTG. #2)

JUNE 19, 2013, 5:00PM @ LUZERNE FOUNDATION

AGENDA

1. Introduction & Progress Report

2. Contacting Property Owners
   - Post Card vs. Letter
   - How to approach land owners?
     - Contact all Property Owners, or
     - Let Owners Contact Consultant

3. Feasibility Plan Survey
   - Review Draft of Survey
   - Final Draft available for Public Meeting
   - Accessible via Website? Newspaper Story?

4. Group Activity and Open Discussion
   - Discussion on known trail ROW constraints and opportunities
   - Please write on maps!!
   - Vision of trail (trail tread, width, signage, etc.)

5. Proposed Project Schedule (get out the calendars)
   - Key persons to interview?
   - Study committee meetings (dates)
   - Public meetings (month, location) → July 9, 2013 at Misericordia?

6. Next Steps
   - Site inventory and analysis
   - Walk the proposed alignment
   - Prepare a trail concept plan
   - Meetings with committee members, key persons, etc.

7. Adjourn

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Agenda
August 13, Tuesday
4:30 p.m.

- **Meeting Call to Order** – Chairman, Bill Leandri
- **Approval of April Minutes** - Secretary, David Rimple
- **Approval of new Board of Director** – Richard Cochrane
- **Financial Report** – Treasurer ….Judy Rimple .. See accounting sheet
- **Trail Progress:**

Grants: ``1.BACK MOUNTAIN TRAIL FEASIBILITY MASTER PLAN – Paul Bechtel report $40,000 Grant

2. BMT: DRAWINGS AND CONSTRUCTION: MILES 1 & 2 FROM LUZERNE TO CARVERTON RD $300,000
We provide Engineering Drawings….Borton Lawson holds them.

Back Mountain Trail: there are spaces that must be filled in….

MAP provided

1. Cliff Parker RR property
2. RR property behind Mark Albrecht along Lehigh street to Center Street.
3. Main Street, Shaver Town, parking spaces at Pharmacy; safe passage along street
4. Strip of RR property from Main Street to E. Franklin Street (where trail begins again)
5. Mile 2 – 40 feet near the BMT Stairs @ Carverton
6. Cemetery Property
7. Connect to Dallas School District

Current and Future Strategies: .
Work with Kingston Township to obtain grant money from Casino
Obtain New Acquisitions…Link Luzerne to Susquehanna River.

8. Back Mountain Trail Council Report (Mark Albrecht)

BLACK DIAMOND TRAIL
Scott Everett Report
Bank Account
Publicity and Fund Raiser
Future: Connect Mountain Top to Wyoming Valley and the Susquehanna River

BOARD WELLNESS….

Marketing and Fundraising Committee

- We are an all volunteer Organization. We have hired Angela Vikoski through Penn. Environmental Council 718-6507 to serve as a Project Manager. She will work with ASTA in many capacities.
- We need to talk more about the trail …..Hold communities WALK asking the entire valley to join.
- We must complete a new Trail Map and Guide
- ASTA Annual Appeal will be sent out End of July or First of August
- Our 2013 Fund Raiser completely organized by the Back Mountain Bloomers is very successful. Our Board member, Jean Kolojejchick is fully responsible for leading the way…
- Julie McMonagle is no longer with ASTA but she was a big help for overseeing trail maintenance and helping with the Garden Tour.

Trustee Committee request

- Expand Board of Director Committee to include non-board members …need an accountant or Book Keeper

Development Committee actions

- Begin serious communications with D&L and PEC to build a strong cooperative agreement extending trails in Luzerne County.
- President commitment:. We will start a campaign (softly) seeking a new President who will earn their own salary. It is time to look for that person and I encourage the Board to help me. Judy
-

- **Motion to Adjourn,** Chairman, Bill Leandri

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

ASTA BOARD & TRAIL STUDY COMMITTEE (MTG. #3)

AUGUST 13, 2013, 4:30PM @ LUZERNE FOUNDATION

AGENDA

1. Progress Report
   - Letters to Property Owners
   - User Surveys
     - Accessible via Website? Newspaper Story?
   - Review of Field Visits and Potential Trail Routes

2. Group Activity and Open Discussion
   - Discussion on known trail ROW constraints and opportunities
   - Please write on maps!!

3. Proposed Project Schedule (get out the calendars)
   - Study committee meetings (dates)
   - Public meetings (month, location) → September 13, or September 20, 2013 at Misericordia University?

4. Next Steps
   - Continue Site inventory and analysis
   - Key person interviews (Parker, Cemetery)

5. Adjourn

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Minutes
August 13, Tuesday
4:30 p.m.

In Attendance: Judy Rimple, David Rimple, Jean Kolojejchick, Craig Yarrish, William Leandri, Scott Everett, Richard Cochrane, Janet Sweeney, Janet Flack, Sean Robbins and John Handley

Guests: Paul Bechtel and Thomas McLane

Meeting called to order by William Leandri at 4:30pm.

Approval for April 2013 meeting minutes moved (William Leandri) and second for approval (David Rimple). All in favor.

Approval for New Board of Member Richard N. Cochrane, P.E. of McTish, Kunkel & Associates moved (Jean Kolojejchick) and second for approval (Janet Flack). All in favor.

Financial Report – Judy stated she is currently working on getting the financial information in order with the help of an accountant. No financial report presented at this time.

Trail Progress – Grant: Back Mountain Trail Feasibility Study (ASTA has a $20,000 grant from PA DCNR and a $20,000 grant from Luzerne County to complete this feasibility study) – McLane Associates was hired to do the Feasibility Study and Paul Bechtel of McLane Associates gave the following report on the status of the Feasibility Study: PEC helped with the distribution of the Public Surveys – several hundred surveys were emailed and mailed to residents in the Back Mountain including all property owners along the proposed trail alignment. McLane Associates has received several responses to the public survey, including many from the property owners along the proposed trail alignment. Mapping from McLane Associates was presented to the board indicating responses from land owners delineating property owners who have responded with a definitive "no" – they are not interested in the trail development on their property; property owners who have responded with "maybe" – they wish to have meeting with the consultant and ASTA to discuss; and other property owners who responded "positively" – they wish to have meetings to discuss the trail aligning with their properties. Discussions ensued regarding areas where the trail alignment was not agreeable to land owners and the multiple possibilities of other trail alignment options. Paul Bechtel asked if the board felt that there was enough data gathered at this time to move ahead with having a Public Meeting in September. The Board discussed this and decided that it was best to have more time to gather additional data, set-up some property owner meetings, in addition to some Key-Person Interviews and have one more meeting of the Board in September. A Public Meeting is proposed to take place in October instead.
Trail Progress – Grant: Back Mountain Trail Drawings and Construction of Mile 1,2 & 7 (ASTA has a $300,000 grant from PA DCNR and a $300,000 grant through Kingston Township from PennDot) – Judy spoke with Chris Borton of Borton Lawson today regarding the Engineering Plans for Mile 1,2 & 7. Further discussions will take place to discuss the hiring and retaining of Borton Lawson throughout the life of the grant.

Back Mountain Trail Update – Judy gave an update on the BMT. Discussed future plans of the Back Mountain Trail to include sections that will go as far as the Levee trail in Kingston, based on old inactive railbeds that ASTA had hoped to obtain from the Luzerne County Rail Authority. Craig Yarrish asked if ASTA received the title to these properties. Julie McMonagle, Craig Yarrish and William Leandri had met earlier this year with Andy Reilly, Luzerne County Rail Authority and at that time he had agreed to give the property to ASTA. It was Craig's understanding that Julie would be preparing documents to do a "quick turn-a-round" on the property. To Judy's knowledge this was not done as of yet. She will contact Andy Reilly and set-up a meeting to discuss.

Black Diamond Trail Update – Scott Everett met with Hondo Noble - ASTA Board Member and Black Diamond Trail Council Member about the need for the BDT council members to set some goals for the council, create a budget and list of necessary tasks, fundraising options and to have someone commit to attending the ATSA Board meetings. Richard Cochrane suggests having someone from the Back Mountain Trail Council offer assistance to the Black Diamond Trail Council. The BDT is in need of funding, approximately $6,000 to do upgrades to the trail, including signage for public usage, gates and bollards/boulders to help restrict the trail to walking, biking and hiking, and to deter ATV's access. Discussions ensued regarding the importance of having a representative of BDT attend the ASTA Board Meetings. Scott has a meeting with them next week and will ask someone from BDT to attend the September ASTA Board Meeting. Motion was made (Craig Yarrish) to table the funding request to the September meeting when a representative of the BDT can be present and make a formal request to the board for funding. Second (Janet Flack) All in favor.

Marketing & Fundraising – Jean Kolojejchick gave report on Garden Tour 2013 - $10,350 in Sponsorships and $8,080 in Ticket Sales; Judy will work on a new Trail Map & Guide; Judy is working on Newsletter & Annual Appeal – will go out in September.

Motion to Adjourn – William Leandri - moved (Janet Flack) and second for approval (Jean Kolojejchick) All in favor.

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Agenda
September 17, Tuesday
4:30 p.m.

- **Meeting Call to Order** – Chairman, Bill Leandri
- **Approval of Minutes** - Secretary, David Rimple
- **Financial Report** – Treasurer ….Judy Rimple – Marilyn
- **Trail Progress:**

Grants: ``1.BACK MOUNTAIN TRAIL FEASIBILITY MASTER PLAN – Paul Bechtel report $40,000 Grant

2. BMT: UPDATE…DRAWINGS on MILES 1 & 2 FROM LUZERNE TO CARVERTON RD $300,000
Scott Everett & Dick Cochrane

New purchase of Land (property) – off of Lower Demunds Road. -

Old news Back Mountain Trail ….

MAP provided: Between Harris Hill & East Franklin Streets

1. Cliff Parker RR property ******* new purchase completed
2. RR property behind Mark Albrecht along Lehigh street to Center Street.
3. Main Street, Shaver Town, parking spaces at Pharmacy; safe passage along street
4. Strip of RR property from Main Street to E. Franklin Street (where trail begins again)
5. Mile 2 – 40 feet near the BMT Stairs @ Carverton Road
   Cemetery Property
   Connect to Dallas School District

Current and Future Strategies: .
Work with Kingston Township to obtain grant money from Casino
Obtain New Acquisitions…Link Luzerne to Susquehanna River.

8. Back Mountain Trail Council Report (Mark Albrecht)

BLACK DIAMOND TRAIL
Scott Everett Report
Discussion on future owner of BDT
Bank Account
BIKE RIDE ….Publicity and Fund Raiser
Future: Connect Mountain Top to Wyoming Valley and the Susquehanna River

BOARD WELLNESS….

Marketing and Fundraising Committee

- Fund Raiser Request to be sent out in September
- Create a new Trail Map and Guide
- Corporate Sponsors to be approached….a list to be complied

Trustee Committee request

Development Committee actions

- **Motion to Adjourn,** Chairman, Bill Leandri

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

ASTA BOARD & TRAIL STUDY COMMITTEE (MTG. #4)

SEPTEMBER 17, 2013, 4:30PM @ LUZERNE FOUNDATION

AGENDA

1. Progress Report
   - Review of Field Visits and Potential Trail Routes
   - Need to Send Additional Letters to Property Owners
     → get Board/Committee Approval
   - Key Person Interviews
     → get Board/Committee Approval
   - User Surveys (a few more surveys collected)

2. Group Activity and Open Discussion
   - Further Discuss Trail Route Options
     - Consider moving trail further east to avoid private properties
     - Consider moving trail south of Harvey's Lake

3. Proposed Project Schedule (get out the calendars)
   - Set date for next study committee meeting

4. Next Steps
   - Continue compiling property information
   - Schedule approved key person interviews

5. Adjourn

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Minutes
September 17th, 2013
4:30 p.m.

In Attendance: Judy Rimple, David Rimple, Jean Kolojejchick, Craig Yarrish, William Leandri, Scott Everett, Richard Cochrane, Glenn Johnson and Marilyn Derolf.

Guests: Thomas McLane and Ellen Biegert

Meeting called to order by William Leandri at 4:30pm.

Approval for August 2013 meeting minutes: Minutes were not distributed prior to the board to the meeting so they will be forwarded to everyone prior to next meeting.

Financial Report – Judy stated she and Marilyn are currently working on getting the financial information in order. No official report is ready at this time. Marilyn should have one by the October meeting. Mr. Cochrane asked if ASTA was maintaining separate bank accounts for the grant funds, to segregate those funds from general ASTA funds. Ms. Rimple noted that, although there are two accounts, all funds are in one account. Ms. Derolf stated that it might be a good idea to segregate the funds into separate accounts. Mr. Cochrane suggested that this would be a good topic for the October meeting, giving board members time to think about it.

Trail Progress – Feasibility Study Update: Ellen Biegert of McLane Associates presented updated mapping of the proposed trail alignments and discussed the progress made since the last meeting. Ellen presented possible new routes based on the public/landowner responses to date. Ellen presented updated mapping that delineated property owner responses indicating those who responded with a definitive "no" – they are not interested in the trail development on their property; property owners who responded with "maybe" – they wish to have meeting with the consultant and ASTA to discuss; and other property owners who responded "positively" – they wish to have meetings to discuss the trail aligning with their properties. Discussions ensued regarding areas where the trail alignment was not agreeable to land owners and the multiple possibilities of other trail alignment options. The next step would be to conduct additional Key Person Interviews. Ellen stated that they have completed about a third to half of the interviews. The board requested that McLane supply a list of outstanding key person interviews so that members of the board can make arrangements to schedule them. McLane Associates will get the list to Judy.

Trail Progress – Grants: Back Mountain Trail Drawings and Construction of Mile 1, 2 & 7 (ASTA has a $300,000 grant from PA DCNR and a $300,000 grant through Kingston Township from PENNDOT) – Scott Everett and George Stark of Borton Lawson inspected the Back Mountain Trail from Trucksville through Dallas. They located a lot of drainage issues and undercutting on the pipe outlets. Scott suggested that it would be good to get the Conservation District out to look at them. Richard Cochrane suggested that we proceed with getting the design estimate from Borton Lawson and then have them deal with the Conservation District and PA DEP as this is typical of what they do. Judy will contact Borton Lawson and ask them to prepare a design estimate. Richard informed the board that 15% of the $300,000 from PA DCNR is allocated for design. The remainder is for construction. Richard also informed the board that he spoke with April Hannon (PENNDOT) and that the $300,000 PCTI grant funding received for construction of Mile 1, 2 & 7 must go through Kingston Township and that Kingston Township along with ASTA would have to coordinate to hire a contractor for the construction after the bid process is completed. Judy made a motion that both Richard Cochrane and Scott Everett work together to move the steps along and that Richard will contact George at Borton Lawson (second) Jean Kolojejchick. All in favor.

Black Diamond Trail Update: Scott Everett – No update at this time.

Marketing & Fundraising: Judy shared preliminary information on two planned upcoming bike ride fundraisers on the Black Diamond Trail. Both events will be held in October. Details are still being put together. Bike rentals will be available through Pocono Biking bike shop. Generally rentals would be $45/per person. They have agreed to do them for $10 with the remaining $35 going to ASTA. Judy will be working on a list to compile about 20 companies that she would like to target for donations to support the Back Mountain and Black Diamond Trails.

Other: Scott Everett showed examples of signs that they currently use for trail crossings and intersections. If ASTA would be interested, he will get the information to them for ordering.

Next Meeting: October 15th at the home of David and Judy Rimple.

Motion to Adjourn: Judy Rimple - moved (Jean Kolojejchick) and second for approval (Craig Yarrish) All in favor.

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Agenda
October 15, Tuesday
LOCATION: 52 RIMPLE LANE, DALLAS PENNSYLVANIA
4:30 p.m.

- **Call to Order** – Chairman, Bill Leandri
- **Approval of Minutes** - Secretary, David Rimple
- **Financial Report** – Treasurer …Marilyn Derolf
- **Trail Progress:**

BACK MOUNTAIN TRAIL:

Grants: ``1. BMT FEASIBILITY MASTER PLAN – Paul Bechtel report $40,000 Grant

2. BMT: UPDATE…DRAWINGS on MILES 1 & 2 FROM LUZERNE TO CARVERTON RD $600,000
Dick Cochrane

3. BMT: New purchase of Land (property) Judy Rimple-

BLACK DIAMOND TRAIL

Scott Everett Report and Mountain Top Trail
Council Report (member)
Bank Account – Millennium Circle Grant progress
BIKE RIDE …. October 13 Bike Ride …. Publicity and Fund Raiser

***Discussion: future owner of BDT.

MARKETING AND FUNDRAISING

- Annual Request for community financial support… sent out in September $_____ 10/14/2013 response
- Generate a new Trail Map and Guide…last one is 10 years old
- Corporate Sponsors to be approached….a list of 10 – 20 supporting Businesses @ $1,000.00 each.

OLD BUSINESS

NEW BUSINESS

- **Motion to Adjourn,** Chairman, Bill Leandri

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

ASTA BOARD & TRAIL STUDY COMMITTEE (MTG. #5)

OCTOBER 15, 2013, 4:30PM @ THE RIMPLE RESIDENCE

AGENDA

1. Progress Report
   - Review Work Schedule
   - PowerPoint Presentation
     - Review of ROW feasibility
     - Describe alternative trail routes

2. Board/Committee Authorization and Open Discussion
   - Letters to Property Owners
     - Does Board/Committee authorize sending additional letters to property owners in Wyoming County?
   - Key Person Interviews
     - Does Board/Committee approve the interview list? Any additions?
     - Board/Committee members can sign up to attend or complete an interview.
   - Legal Agreements for Trails (for key person interviews)
     - Does ASTA have a one-page handout on types of trail agreements (fee simple purchase, trail license, easements, donation…)?
     - If not, McLane will draft a copy; can ASTA lawyer review?

3. Proposed Project Schedule (get out the calendars)
   - Set date for first Public Meeting (Week of November 18?)
     - Time to put an article in the paper

4. Next Steps
   - Complete legal agreement information sheet in next week.
   - Complete approved key person interviews in next three weeks
   - Coordinate with Misericordia University for public meeting
   - Submit public meeting PowerPoint presentation to Board/Committee for review/comment by November 8, 2013.

5. Adjourn

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Minutes
October 15th, 2013
4:30 p.m.

In Attendance: Judy Rimple, David Rimple, Jean Kolojejchick, Craig Yarrish, William Leandri, Scott Everett, Richard Cochrane, Glenn Johnson and Sean Robbins.

Guests: Thomas McLane and Paul Bechtel

Meeting called to order by William Leandri at 4:30pm.

Approval for September 2013 meeting minutes: Minutes were approved with the following addendum from Richard Cochrane: "Mr. Cochrane asked if ASTA was maintaining separate bank accounts for the grant funds, to segregate those funds from general ASTA funds. Ms. Rimple noted that, although there are two accounts, all funds are in one account. Ms. Derolf stated that it might be a good idea to segregate the funds into separate accounts. Mr. Cochrane suggested that this would be a good topic for the October meeting, giving board members time to think about it." Moved Richard Cochrane. Second Craig Yarrish. All in Favor.

Financial Report –Marilyn Derolf unable to attend – no financial report given.

Trail Progress – Feasibility Study Update: Paul Bechtel of McLane Associates presented a power point delineating each section of the proposed trail alignments, the ROW feasibility and non feasible areas, in addition to describing alternative trail routes. A copy of a proposed letter to Property owners was presented to the board for review and comment and Paul discussed adding several more property owners from Wyoming County that were not in the original mailing. Paul also supplied the board with a list of contact information for Key Person Interviews and asked that the board review and contact him with any comments/corrections and additions. Paul also presented proposed dates for a public meeting. Angela will email all board members with the dates to check for availability and Paul will check with Misericordia for availability.

Trail Progress – Grants: Back Mountain Trail Drawings and Construction of Mile 1, 2 & 7 (ASTA has a $300,000 grant from PA DCNR and a $300,000 grant through Kingston Township from PENNDOT) – Richard Cochrane and Judy Rimple met with George Anthony of Borton Lawson to discuss preparing a design estimate. The next step is to let George know that he can proceed with preparation of the design estimates on miles 1, 2 & 7, but to do it with a split of miles 1&2 together and mile 7 separately.. Scott Everett will make arrangements with Judy to set up an appointment with Kingston Township Manager, Kathleen Sebastian to discuss the PennDot grant and to set up steps to proceed with that grant. Richard Cochrane made a motion that ASTA establish a separate bank account for the current PA DNCR funding. Second David Rimple. All in Favor.

Black Diamond Trail Update: Scott Everett submitted the following to the ASTA Board. In reference to Laurel Run to Wilkes-Barre: There are several opinions about the best way to make connection. The delineated D&L Trail will end in Laurel Run. The Ashley Planes was a critical part of the remaining connection. With that option more than likely off the table, an alternative route needs to be developed that takes into account costs, accessibility and condition. Scott would like to see Luzerne County Planning and the Commissioners take the lead on this. In reference to the D&L and the Back Mountain Trail Projects: Scott will continue to help ASTA with the Kingston Township project. He should also be available to help in other capacities as needed. Since his local knowledge is extremely limited, he could help in areas like grant writing, project management and maintenance. (copy attached) Scott also suggested putting a map together to present to the Luzerne County Council and possibly scheduling an organized walk of the trail that the council members could attend.

Marketing & Fundraising:. Judy stated that funding from the recent ASTA appeal is slow coming in. Judy stated that the current map & guide is close to ten years old and needs to be updated and that she is also working on the list to compile about 20 companies that she would like to target for donations to support the Back Mountain and Black Diamond Trails.

Other: A copy of the following handouts from McLane Associates is attached: Key Person Interview Letter; Property Owner Trail Options; RUWLA 20 Fact Sheet Final; and Key Person Interviews.

Next Meeting: Not scheduled

Motion to Adjourn: Jean Kolojejchick. Second Sean Robbins. All in favor.

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Agenda
Education Center – Hillside Farms
Huntsville Road and Church Road intersection

November 12, Tuesday - 4:30 p.m.- 6:00 p.m.

Call to Order – Chairman, Bill Leandri
Welcome: New agenda format
Secretary's report: Secretary, David Rimple
Financial Report – Treasurer
President Report: Judy Rimple: Guest Elissa Marsden Thorne….D&L NHC

BACK MOUNTAIN TRAIL : Members to sign up for one or two committees.

Administration Committee: Dick Cochrane
Approve new Treasurer…Discussion: Income & Expenses: Vote
Board members to begin process to replace President: Discussion: Vote

Volunteer and Board Development Committee…
Increase number of Board members to include members from Mountain Top
Increase number of Board members to include people from Wyoming Valley
Determine Chair: Discussion: Vote

Community Involvement Committee:
Look into publicity opportunities through Medias to increase awareness…
Maps web page, publicity Layout of year.
Determine Chair of Committee. Discussion: Vote

Marketing Committee:
Develop a plan using maps to enlist Valley Boroughs and Townships to adding Greenways throughout our communities. Kingston Township is our EXAMPLE.
Determine Chair of Committee. Discussion: Vote

Resource Development Committee
Developed a 3 year fundraising plan that will increase financial resources by 30% per year. Chair: Dick Cochrane. Discussion: Vote

Programs Committee
A communitywide collaboration of agencies addressing similar issues will be convened within one year. Discussion: Vote

Trail Development Committee:
Acquisition: Study Back Mountain Trail for 'gaps' Determine costs of segments. Create a plan to ask for easements. Chair: David Rimple; members: Glenn Johnson, Craig Yarrish.

New Business : Anthracite Trails can enlist people to help without being a Board Member.
Old Business: Increase meetings…April, May, June, July, August, September, October : Vote
Adjourn

ANTHRACITE SCENIC TRAILS ASSOCIATION
2013 Regular Meeting Minutes
Tuesday November 12, 2013 - 4:30 p.m.- 6:00 p.m.
Hillside Farms - Education Center

In Attendance: Judy Rimple, David Rimple, Jean Kolojejchick, William Leandri, Scott Everett, Sean Robbins and Glenn Johnson.

Guests: Mike Mack, Black Diamond Trail Council; Timothy Connolly Jr., P.E., Luzerne Borough Engineer; Elissa Garofalo, Executive Director, Delaware & Lehigh National Heritage Corridor.

Meeting called to order by William Leandri

Motion to approve October 2013 meeting minutes moved (David Rimple) and second for approval (William Leandri). All in favor.

Financial Report – Judy stated Dick Cochrane is currently out of town. They are still working on the issues of switching from Quicken to QuickBooks. There is $63,791.54 in the treasury. Expenses are $7,422.00 to McLane & Associates for their 2nd Invoice for the Feasibility Study. Total paid to them so far has been $14,000.00. Their total contract for the feasibility study is $40,000.00. Since Bob Hall left, there has been a charge of $280.00 from Marilyn Derholf, accountant at Bob Hall's office for services from this month. Judy suggested that we discuss this with Dick Cochrane when he returns before paying them for any more services. Judy stated that $3,423.13 will be transferred from the ASTA account at the Luzerne Bank to the ASTA account at the Citizen's Bank**.** Judy also stated that ASTA still owes Mountain Stream Construction $11,613.58 for the bridge. Motion to approve Financial Report moved (David Rimple) and second for approval (Glenn Johnson). All in Favor.

President's Report: Judy introduced Elissa Garofalo, Executive Director of the Delaware & Lehigh National Heritage Corridor to discuss a current marketing and fundraising program that they created that might also be beneficial for ASTA to incorporate into their marketing and fundraising efforts. Elissa discussed the partnership between The Delaware & Lehigh National Heritage Corridor (D&L) and St. Luke's University Health Network in eastern Pennsylvania to put together a program called "Get Your Tail on the Trail", which was held during the latter half of 2013, which encouraged St. Luke's employees, residents, and visitors alike, to get healthy by taking on the 165 Mile Challenge. The challenge was to log 165 miles (the current length of the D&L) with biking, walking or running. The challenge not only encouraged people to get out on the trail and exercise, but also to see sites, participate in activities and places along the way. Prizes were given by St Luke's for certain increments completed by participants. A website was also set-up with details on the program; locations to visit; facilities; parking.; trail information; etc., In addition a trail tracker tool was available to participants to keep track of their progress. Judy asked Elissa what ASTA would need to get something like this implemented on the trail – Elissa told her to start with approaching a health care network for partnering opportunities; create a "tag line" and "connection" to a brand and build from there. Judy introduced Mike Mack, Back Mountain Trail Council. Mike attended on behalf of the council to discuss their financial needs for gates, hardware, locks, cement, additional hand equipment, signage, modified stone, single axle trailer to move equipment to the trail when working on different sections, fuel. Mike explained that the items would costs approximately $7,300.00. Judy asked if the budget costs could come down some and a discussion ensued regarding soliciting sponsorships to the Black Diamond Trail, especially thru the Industrial Park. Scott Everett stated that he has a list of industrial park business contacts and that they hold a monthly meeting. He suggests that ASTA contact them and ask to be placed on the agenda to give a presentation. Mike explained that the budget is very lean already with most of the items being obtained at "costs" and volunteer time being utilized for labor. Motion was made to approve budget requested amount to be paid to the Black Diamond Trail (David Rimple) and second for approval (Sean Robbins) All in Favor. Judy has met with and had conversations with Timothy Connolly, P.E., Luzerne Borough Engineer regarding sections of the BMT in Luzerne and invited him to the meeting. Tim introduced himself and offered any assistance to the board with the Luzerne trail sections and expansions.

Prior to moving forward with discussions on the Back Mountain Trail Committees, Judy made a motion that the ASTA Board forms a Search Committee to obtain a new ASTA President. A discussion ensued and the motion was not seconded or approved at this time. Judy proceeded with the agenda items on the committees.

Administration Committee:

Approve new Treasurer: Motion to approve Dick Cochrane as Treasurer (David Rimple) and second for approval (Jean Kolojejchick). All in Favor.

Board members to begin process to replace President: William Leandri stated that the board will begin thinking of possible names for consideration and will appoint someone as chair of a search/nominating committee.

Volunteer and Board Development Committee…

Increase number of Board members to include members from Mountain Top. Motion made by David Rimple to add Mike Mack to the ASTA Board. Second for approval (Jean Kolojejchick) All in Favor.

Increase number of Board members to include people from Wyoming Valley: Motion made by William Leandri to add Timothy Connolly to the ASTA Board. Second for approval (both David Rimple and Sean Robbins) All in Favor.

A discussion ensued as to who else the board should approach. Sean stated that he will get back to everyone with some suggestions and Elissa suggested that the board make a chart of the current board and see what they are missing.

Community Involvement Committee:

Look into publicity opportunities through Medias to increase awareness.

Maps web page, publicity Layout of year.

Determine Chair of Committee: Judy stated that she will discuss this committee with Janet Flack.

Marketing Committee:

Develop a plan using maps to enlist Valley Boroughs and Townships to adding

Greenways throughout our communities. Kingston Township is our example..

Determine Chair of Committee. Judy suggested that Tim Connolly take the lead on this committee.

Resource Development Committee

Develop a 3 year fundraising plan that will increase financial resources by 30% per year.

Chair of Committee: Motion made by David Rimple that Jean Kolojejchick chair this committee. Second for approval (Glenn Johnson). All in Favor.

Programs Committee

A communitywide collaboration of agencies addressing similar issues will be convened within one year. Discussion: A discussion ensued regarding whether this committee was necessary or if just meeting of key organizations was necessary. Elissa stated that the D&L is working to bring in a facilitator to discuss the Wilkes-Barre and Luzerne Connections and Judy stated that Janet Sweeney of PEC is working on a program to get all of the trail groups together to discuss their issues and needs. No ASTA Committee was formed.

Trail Development Committee:

Acquisition: Study Back Mountain Trail for 'gaps' Determine costs of segments. Create a plan to ask for easements. Chair: David Rimple volunteered to chair this committee and Scott of the D&L volunteered to be on the committee.

New Business : None.

Motion to adjourn: William Leandri - moved (Jean Kolojejchick) and second for approval (Craig Yarrish) All in favor.

PUBLIC MEETINGS

ANTHRACITE SCENIC TRAILS ASSOCIATION
Developing the Back Mountain and Black Diamond Trails
P.O. Box 212, Dallas Pennsylvania 18612
Phones ASTA (570)675-9016 (570) PEC (570)718-6507
Fax (570) 675-4966
www.anthracitetrails.org Join us on Facebook

BOARD OF DIRECTORS
Bill Leandri, Chairman
Judy Rimple, President

Glenn Johnson
Bob Hall
David Rimple
Janet Flack
Lew Hackling
Jean Kolojejchick
Hondo Noble
Craig Yarrish
Sean Robbins
Richard N. Cochrane
Marilyn Deroff
Scott Everett, D&L NHC

BACK MOUNTAIN TRAIL COUNCIL
Info: 570 – 696-3409

Mark Albrecht, President
John Koch, Webmaster
Lynn Aldrich
Nettie Ginocchetti
John Handley
Sid Halsor
Richard Harrison
Jim Hawk
Marshall Rumbaugh
Gary Williams

MOUNTAIN TOP TRAIL COUNCIL
Info: 570 - 474-9685

Hondo Noble, President
Mike Mack
Dale Hildebrandt
Jim Macri

NEWS RELEASE: FOR IMMEDIATE PUBLICATION (November 11, 2013)

FOR EDITORIAL COMMENT, PLEASE CONTACT Judy Rimple at 570-814-5327.

DEAR EDITOR/PUBLISHER: THANK YOU.

****

The Anthracite Scenic Trails Association (ASTA) and the Back Mountain Trail Council are continuing their efforts of "Transforming Railroads into Greenways."

ASTA has retained a trail planning consultant to study the feasibility of various trail routing alternatives along portions of the former Lehigh Valley Railroad corridor in order to connect the Back Mountain Trail in Dallas to Mountain Springs Lake, near Ricketts Glen State Park.

ASTA is conducting a public meeting to garner input on the planning process. The meeting is taking place on Tuesday, November 19th at Misericordia University (Science Building, Room 206) at 6:00 PM.

The meeting will discuss the project goals and allow attendees the opportunity to study regional trail alignment opportunities and constraints and to voice their opinion on the potential trail alignments. Your attendance is encouraged because public input is vital to the success of this planning process and information gained will ultimately determine the proposed and most feasible trail route.

Thank you,

Judy Rimple

Judy Rimple, President
ASTA

MISSION STATEMENT: Anthracite Scenic Trails Association is a non profit volunteer group of trail enthusiasts who have joined together to promote and coordinate the acquisition and preservation of abandoned and out of service railroad rights of way along the Susquehanna river and into the Poconos and Endless Mountains. By transforming these rights of way into a network of linear parks, Anthracite seeks to preserve and protect natural resources, historic landmarks, and scenic beauty; to promote appropriate forms of transportation; and ultimately, to connect with the developing state and national trails network. Anthracite develops two trails in Luzerne County: The Back Mountain Trail - 5 miles and the Black Diamond Trail. The organization raises funds to match grants for Acquisition, Design, Construction, and Maintenance.

citizensvoice.com



Input sought on Back Mountain trail expansion plan

Published: November 14, 2013

Anthracite Scenic Trails Association and the Back Mountain Trail Council plan to expand the Back Mountain trail, and are seeking input.

ASTA has hired a consultant to study various trail routing alternatives along parts of the former Lehigh Valley Railroad corridor, to connect the Back Mountain Trail with Mountain Springs Lake. A public meeting will be held at 6 p.m. Tuesday in room 206 of Misericordia University's science building. The purpose of the meeting is to explain the project goals and show the regional trail alignment opportunities and constraints.

"Your attendance is encouraged because public input is vital to the success of this planning process, and information gained will ultimately determine the proposed and most feasible trail route," ASTA president Judy Rimple said.

We welcome user discussion on our site, under the following guidelines:

To comment you must first create a profile and sign-in with a verified DISQUS account or social network ID. Sign up here.

Comments in violation of the rules will be denied, and repeat violators will be banned. Please help police the community by flagging offensive comments for our moderators to review. By posting a comment, you agree to our full terms and conditions. Click here to read terms and conditions.

BACK MOUNTAIN TRAIL FEASIBILITY/MASTER PLAN

PUBLIC MEETING #1

November 19, 2013 @ 6:00 PM

AGENDA

6:00 PM Welcome & Introductions

6:10 PM PowerPoint Presentation (Room 206)

→ The goal of this session is to provide an overview of ASTA, the project goals, and the general benefits of trail systems.

→ As a catalyst for discussion in the next session, a brief review of the proposed (not-finalized) trail route will be presented (determined based on current information and data).

6:30 PM Break-out Groups (Room 214) *Please write on the maps!!*

→ The goal of this session is to provide the public an opportunity for active involvement in identifying the best route for the Back Mountain Trail from Dallas to Mtn. Springs Lake near Ricketts Glen State Park.

Potential Discussion Topics:

- *Any issues (positive or negative) that are important to you / private property concerns*
- *Important community connections for the trail*
- *Most important trail uses & users*
- *Need for and types of trail amenities*
- *Signage*
- *Safety & Maintenance*
- *Trailhead locations*
- *Use of roadways/sidewalks for trail sections*
- *Use of trail for transportation*

7:20 PM Concluding Remarks/Next Steps
- Hand in your postcards

7:30 PM Adjourn *Before you leave - did you voice your opinions!!*

Determining the "most feasible trail route" is often a complex process and it entails consideration of the following:

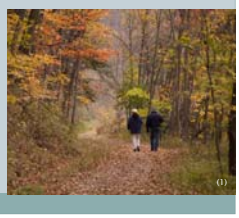
- Economic feasibility/ cost to construct (acquisition, terrain, permits)
- Availability of land (ownership, acquisition potential)
- Site assets and constraints (natural features, slopes, wetlands, etc.)
- Potential for linkages and connections (regional connectivity)
- Public input and support
- A realization that the route will always be a compromise

Back Mountain Trail Feasibility Study / Master Plan

PUBLIC MEETING
NOVEMBER 19, 2013
MISERICORDIA UNIVERSITY, DALLAS, PA
ANTHRACITE SCENIC TRAILS ASSOCIATION
MCLANE ASSOCIATES

Presentation Outline

- Introduction
  - Anthracite Scenic Trails Association
  - McLane Associates
  - Back Mt. Trail Feasibility Study / Master Plan
- Benefits of Trails
  - Types of Trails
  - Trail Uses
  - Benefits
- Current Project Status
  - Project Description
  - Project Schedule
  - History of the Back Mt. Trail
  - Inventory of Railroad ROW
  - Community Connection Opportunities
- Group Breakout Session



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Introduction

- Who We Are?
  - **Client** – Anthracite Scenic Trails Association (ASTA)
  - **Consultant** – McLane Associates
  - **Project** – Back Mountain Trail Feasibility Study / Master Plan
  - **Funding** – Luzerne County, Pennsylvania Department of Conservation and Natural Resources (DCNR)

Anthracite Scenic Trails Association

- Founded in 1994
- Non-profit volunteer organization whose mission is to promote and coordinate the acquisition and preservation of abandoned and out of service railroad rights of way (ROW)
- Seeks to transform these ROWs into a trail network linking communities and preserving natural resources, historic landmarks, and scenic beauty
- Two trails currently under their care
  - Back Mountain Trail
  - Black Diamond Trail

(4)

McLane Associates

- Founded in 1989
  - Thomas McLane, Principal
- Landscape Architecture, Environmental Science, Green Infrastructure, Recreational Planning, Specialty Parks, and Community Outreach
- Projects: Susquehanna Warrior Trail, Luzerne County National Trail, Lackawanna Riverwalk, Lackawanna County Courthouse Square, Hillside Farms, Brooklyn Pump Track


Hillside Farms


Quaker Run


Luzerne County Rail Trail

Back Mt. Trail Feasibility Study / Master Plan

- What We Are Doing?
  - **Feasibility Study** – Professionally prepared study to determine community support, market characteristics, physical/structural assessment and the legal and financial capability to acquire, develop or rehabilitate, manage and sustain a property. (2)
  - **Master Plan** – Site-specific studies that include an analysis of site information activities, facilities, maintenance, and operations. These studies lead to completion of a site development drawing in conformance with current design standards and cost estimates for the full development or redevelopment of a park or other recreational-use site. (3)
- Project Specifics
  - Determining a feasible route to connect Dallas, Harveys Lake and Noxen to Mountain Springs Lake, in Ricketts Glen State Park
  - Inventory and Analysis of the Lehigh Valley Railroad (LVRR) Right Of Way

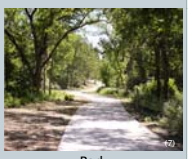


Types of Trails

- What are Trails?
  - An interconnected route that provides access to outdoor recreation and education opportunities, pedestrian friendly routes in urban areas, and community wellness.
- Trails can be located in urban, rural, and park areas


Urban


Rural


Park

Urban Trails


Sidewalks


Rails to Trails

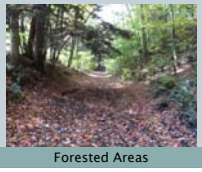

Designated Roadways

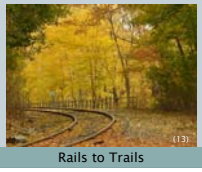

Industrial Sites

Rural Trails


Roadways


Farmland

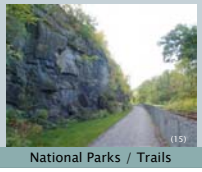

Forested Areas


Rails to Trails

Park Trails


City Parks


State Parks


National Parks / Trails


Playgrounds

Trail Users and Activities

Activities for all ages and abilities!

- Walking
- Biking
- Running
- Pet Walking
- Snow Shoeing
- Hiking
- Fishing
- Picnicking
- Roller Blading
- Transportation
- Wildlife/Vegetation Viewing
- Cross Country Skiing
- Wellness
- Access to Shops/Restaurants
- Community Connections


(17)


(18)


(19)

Year round activities and educational opportunities!

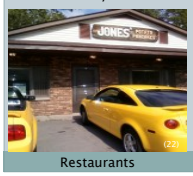
Community Connections


(20)
Community Centers



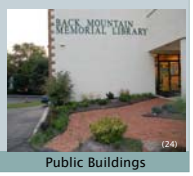
Parks


(21)
Schools



(22)
Restaurants


(23)
Shops



(24)
Public Buildings

Customizing Your Trail!

- Site Amenities can be used to individualize a trail and make it unique to the Back Mountain and neighboring communities.
  - Unique Signage/Branding
  - Historical Elements: Fern Brook Park, Hanson's Amusement Park, Oneonta Hotel, Noxen Train Depot
  - Natural Features: Bowman Creek, Harvey's Lake, Toby's Creek

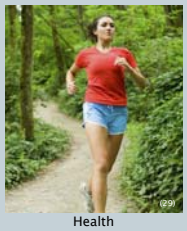

(25)
Branding


(26)
Historical Elements


(27)
Natural Features

Trail Benefits


(28)
Economic


(29)
Health


(30)
Environmental

Economic Benefits

- Provide opportunities for economic renewal & growth
- Increased property values
  - Open space and trails are highly valued and they are becoming more common in residential neighborhoods
  - A 2005 economic analysis conducted by Methow Valley Sport Trails Association in Washington state and the Methow Conservancy found that "People buying homes and real estate in the Methow Valley are on average willing to pay 11.5% more per acre for properties near trails (within ½ mile)."

(31)

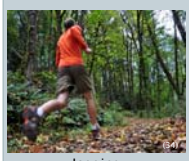
- Increased commerce and jobs
  - Trails can lead residents and visitors past enticing shops and restaurants
  - In 2009, 128,000 people visited the Lackawanna River Heritage Trail (LRHT)
  - In 2009, the direct economic impact of the LRHT was $28.3 million. This includes purchases of hard goods (bikes, footwear, clothing), soft goods (beverages, food), and overnight accommodations.

(32)

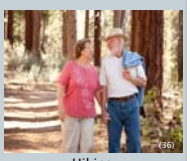
Health Benefits

- Many Americans do not exercise
  - In many communities people do not have access to trails or parks close to their homes
  - Implementing trails in communities provide a safe, inexpensive route for exercise in close proximity to urban, suburban, and rural residential areas

(33)

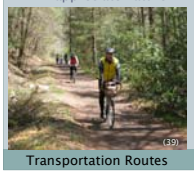

(34)
Jogging


(35)
Playing


(36)
Hiking

Environmental Benefits

- Provide corridors for people and wildlife
  - Alternative transportation routes enable people to commute safely while decreasing air pollution (37)
  - Trails can promote habitat corridors for wildlife and provide several types of critical cover for a variety of species (38)
  - Many trails follow rivers and streams and can aide in riparian restoration and environmental rehabilitation
  - Trails can provide education opportunities for classes and opportunities to appreciate nature



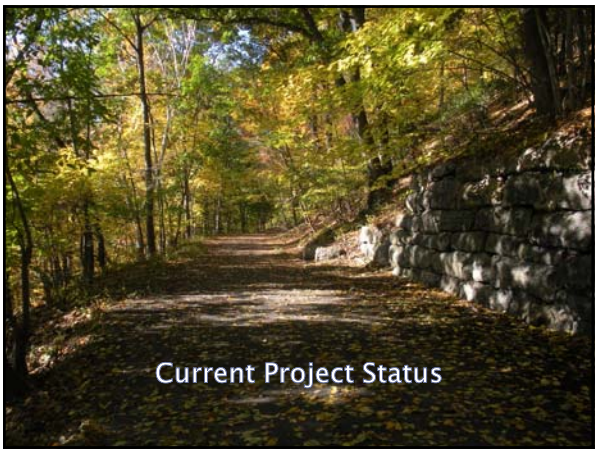
Transportation Routes



Wildlife Habitat



Riparian Buffer



Project Description

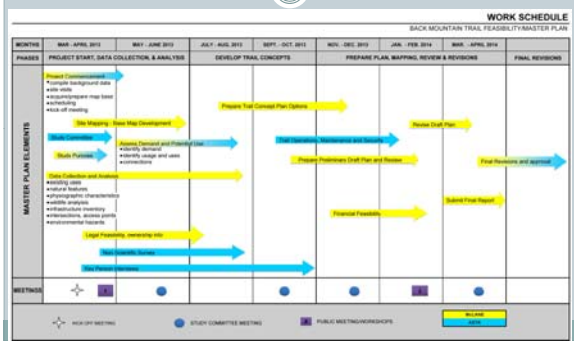
- Inventory and Analysis of ROW
  - Where possible, the LVRR ROW and the Harvey's Lake Line Trolley ROW have been examined to determine which sections are or are not feasible via ownership, or physical conditions
- Examining community connections
  - Connections between Commercial, Open Space and Civic land uses
- Exploration of alternative routes
  - Included adjacent public lands, wetlands, utility lines, and public rights of way







Project Schedule



History of Back Mt. Trail

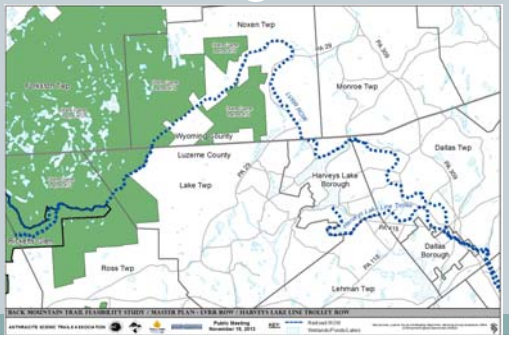
- 1885– Albert Lewis builds railroad to deliver ice from Mountain Springs Lake (Ricketts Glen) to markets
- 1887 – Lehigh Valley Railroad (LVRR) acquires line
- 1963– LVRR abandons line
- 1996– ASTA acquires 2.2 miles of initial easements along ROW creating trail from Parry Street in Luzerne to Carverton Road in Trucksville
- 2009– Two more miles constructed, expanding the trail to Lower Demunds Road in Dallas

(5)

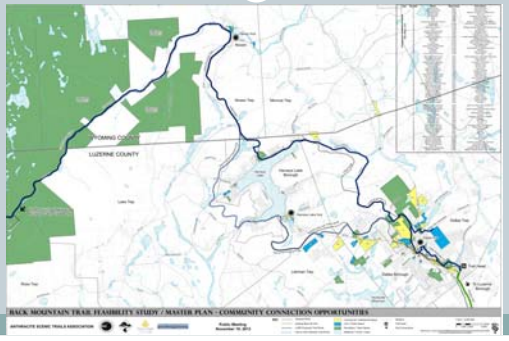


Currently constructed section of the Back Mountain Trail

Inventory of Railroad ROW



Community Connections Opportunities



Group Breakout Session

- Please join us for a more detailed discussion of opportunities and concerns about the trail route and to interact with maps of the trail area.
- If you cannot stay, please leave a note with your thoughts
- All input is appreciated

THANK YOU!

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40. http://www.vdoh.org/uploaded/photos/About_Us/At_a_Glance/certified_wildlife_habitat.jpg
41. http://upload.wikimedia.org/wikipedia/commons/7/71/Riparian_strip.jpg

ANTHRACITE SCENIC TRAILS ASSOCIATION
Developing the Back Mountain and Black Diamond Trails
P.O. Box 212, Dallas Pennsylvania 18612
Phone (570) 696-5082 Fax (570) 696-5082
www.anthracitetrails.org

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Scott Everett, D&L NHC

BACK MOUNTAIN TRAIL COUNCIL
Info: 570 – 696-3409

Mark Albrecht, President
John Koch, Webmaster
Lynn Aldrich
John Handley
Jim Hawk
Frank Donahoe
Marshall Rumbaugh

MOUNTAIN TOP TRAIL COUNCIL
Info: 570 - 474-9685

Hondo Noble, President
Jim Macri
Mike Mack
Dale Hildebrandt

Dear Municipal Official:

The Anthracite Scenic Trails Association (ASTA) and the Back Mountain Trail Council are continuing their initiative of "Transforming Railroads into Greenways."

Currently, ASTA is examining the feasibility of extending the Back Mountain Trail, along the former Lehigh Valley Railroad corridor, from Dallas to Mountain Springs Lake near Ricketts Glen State Park. ASTA and our consultant greatly appreciate the opportunity to discuss this project and the proposed alignment through your municipality at tonight's meeting. Additionally, a trail alignment map and a draft copy on CD of the Back Mountain Trail Extension Master Plan/Feasibility Study are being submitted for your review.

After this meeting, can you please provide a response to ASTA, on municipal letterhead, regarding the trail plan and alignment? As future partners, your response is important as ASTA moves forward on this initiative and it will be included in the final report. Your letter can be sent to:

Thomas J. McLane & Associates, Inc.
601 Stafford Avenue, Scranton, PA 18505
Phone: 570-347-3668 Fax: 570-341-5413
E-mail: pbechtel@mclaneassociates.com

Topics to discuss in your letter may include:

- Your thoughts on the importance of this trail for your community;
- How the trail meshes with other municipal initiatives;
- Any positive or negative impacts of this trail;
- Any constraints to building the trail in your municipality;
- Your thoughts about the proposed alignment;
- The willingness of your Municipality to work with ASTA;
- The potential commitment your municipality can provide related to operation, maintenance and security for the trail.

Please contact the consultant directly using the contact information above if you want to discuss the project further or to set up an additional meeting date.

Sincerely,

Judy Rimple, ASTA President

MISSION STATEMENT: Anthracite Scenic Trails Association is a non profit volunteer group of trail enthusiasts who have joined together to promote and coordinate the acquisition and preservation of abandoned and out of service railroad rights of way along the Susquehanna river and into the Poconos and Endless Mountains. By transforming these rights of way into a network of linear parks, Anthracite seeks to preserve and protect natural resources, historic landmarks, and scenic beauty; to promote appropriate forms of transportation; and ultimately, to connect with the developing state and national trails network. Anthracite develops two trails in Luzerne County: The Back Mountain Trail - 5 miles and the Black Diamond Trail. The organization raises funds to match grants for Acquisition, Design, Construction, and Maintenance.

ROSS TOWNSHIP BOARD OF SUPERVISORS

LUZERNE COUNTY
PO BOX 330
SWEET VALLEY, PA 18656-0330
Phone 570-256-3703
Fax 570-256-2989

April 1, 2014

Thomas J. McLane & Associates, Inc.
601 Stafford Avenue
Scranton, PA 18505

To whom it may concern:

The route of the proposed Back Mountain Trail Extension will not be of much significance to the residents of Ross Township as this route is already being utilized as a trail. The negative impact in extending and publicizing the trail through Ross Township would be the increase in emergency calls for Fire and EMS due to lost hikers. Also, due to the fact that this route passes through state game lands, there would also be a danger to hikers during hunting season. Other than those impacts, Ross Township has no objection to the project but will not provide any maintenance, security, or financial support for the trail.

Sincerely,

Ross Township Board of Supervisors

LETTERS TO PROPERTY OWNERS

ANTHRACITE SCENIC TRAILS ASSOCIATION
Developing the Back Mountain and Black Diamond Trails
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EXECUTIVE DRIECTOR
Julie A. McMonagle
570-696-5082
jjmcmon@frontiernet.net

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MOUNTAIN TOP TRAIL COUNCIL
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Hondo Noble, President
Jim Macri
Mike Mack
Dale Hildebrandt

Dear Property Owner:

The Anthracite Scenic Trails Association (ASTA) and the Back Mountain Trail Council are continuing their initiative of "Transforming Railroads into Greenways."

ASTA has recently retained Thomas McLane & Associates to determine the feasibility of building a new section of the Back Mountain Trail from Dallas to Mountain Springs Lake, near Ricketts Glen State Park, along the former Lehigh Valley Railroad corridor. We understand that portions of the railroad corridor are on privately-owned parcels, which prompted this letter.

McLane Associates is currently conducting field observations of the abandoned rail line to determine its current conditions. Time of field visits will occur between Monday and Friday during work hours (8 am to 5 pm) or on Saturday mornings. Whenever possible the consultant will be accompanied by a member of ASTA or the Back Mountain Trail Council.

Please contact the consultant directly using the contact information below, should you have concerns about them entering your property, and/or if you want to be present during the field visit. If we do not hear from you regarding this project, we will assume you are not opposed to the brief site visit by the consultant to your property. The consultant may attempt to contact key parcel owners to further explain the project and request an informal meeting.

The **proposed trail location is not yet determined** and the goal of this study is to identify the most feasible option for this important trail section. There will be several opportunities for public input during this process, including a user survey, key person interviews and public meetings. Your cooperation is completely voluntary; however, it would be greatly appreciated and beneficial to this planning process.

Sincerely,

Judy Rimple, ASTA President

Consultant Information
Thomas J. McLane & Associates, Inc.
Landscape Architects/Environmentalists
601 Stafford Avenue, Scranton, PA 18505
Phone: 570-347-3668 Fax: 570-341-5413
E-mail: tmclane@mclaneassociates.com
Web: www.mclaneassociates.com

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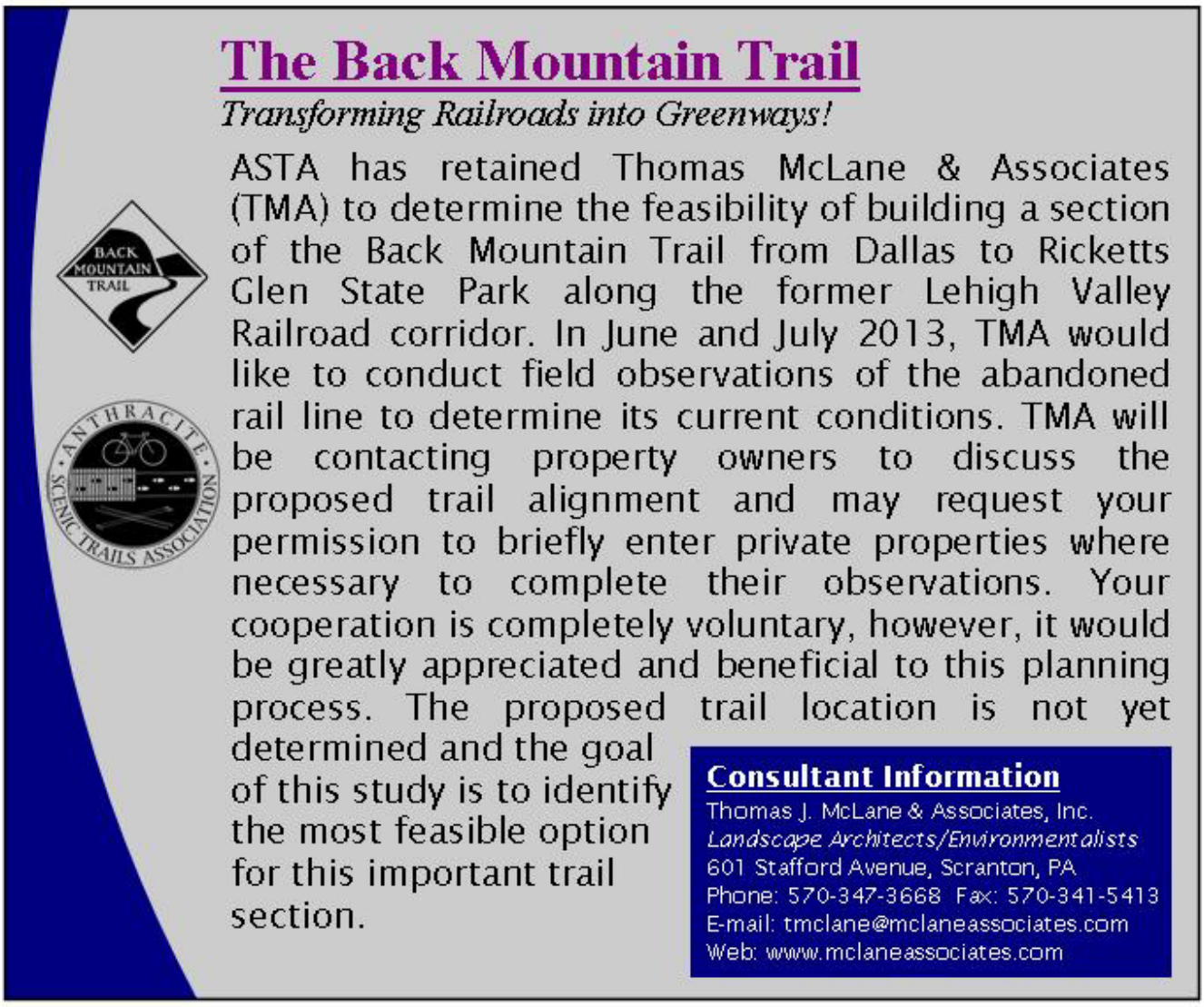

Postcard

(Placed on homeowners door if they were not home during our field visit)

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Hondo Noble, President
Jim Macri
Mike Mack
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Dear Property Owner:

The Anthracite Scenic Trails Association (ASTA) and the Back Mountain Trail Council are continuing their initiative of "Transforming Railroads into Greenways."

ASTA has recently retained Thomas McLane & Associates to determine the feasibility of extending the Back Mountain Trail, along the former Lehigh Valley Railroad corridor, from Dallas to Mountain Springs Lake near Ricketts Glen State Park. The **final trail alignment is not yet determined** and the goal of this study is to identify the most feasible option for this important trail section.

We understand that portions of the railroad corridor are on privately-owned parcels and based on our data it appears that you either own a portion of this historic corridor or a key adjacent parcel. Our consultant would greatly appreciate an opportunity to discuss this project in more detail with you and they respectfully request a key-person interview. Your cooperation is completely voluntary; however, it would be greatly appreciated and beneficial to this planning process.

Discussion Topics:
- Do you currently use the completed sections of the Back Mountain Trail?
- Do you consider the Trail an asset to the region?
- Are you interested in learning more about this trail project?
- Are you interested in learning the common ways that a landowner can grant permission for trail use on his/her land?
- Discuss your willingness to work with ASTA regarding your portion of the historic corridor.

Please contact the consultant directly using the contact information below to discuss your questions/concerns or to set up a meeting date.

Sincerely,

Judy Rimple, ASTA President

Consultant Information
Thomas J. McLane & Associates, Inc.
Landscape Architects/Environmentalists
601 Stafford Avenue, Scranton, PA 18505
Phone: 570-347-3668 Fax: 570-341-5413
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LANDOWNER OPTIONS/LIABILITY

Although most trails try to utilize public lands, eventually, trails segments will come across privately owned property. Landowners have several options to grant permission for trail use on his/her property. These options can range from an informal agreement, to a formal easement, to purchase, and others.

Trail License

A trail license is a revocable written agreement between the landowner and a trail organization that permits trail access. It is not permanent or binding on future landowners. A license is superior to a verbal or written agreement in that it can dictate conditions of use and management agreements.

Trail Easement

A trail easement is a legal agreement that allows others to use someone's land according to the easement. An easement can be a broad agreement to the easement holder and the public or it can restrict what types of access and usage. It can grant access to an entire property or only for a specified portion. An easement can be for hiking only, access to a feature, biking, etc.

Leasing

Land is rented from the landowner for a set amount of time.

FeeSimple/Purchase

Land can be purchased outright from the landowner.

Option to Buy

An option is a legal document giving an entity the right to buy. The document outlines the required price and applicable period, with a fee. If the property is bought, the fee is deducted from the purchase price; if the purchase does not proceed, the fee is nonrefundable.

Purchase and Lease Back

An entity purchases property and leases it to the previous owner for a specified period of time. This arrangement may include use restrictions and may be useful if the landowner wants to sell the land, but wishes to continue using it.

Bargain Sale

Sale of a property at less than the fair market value. The difference between a bargain sale price and fair market value often qualifies as a tax-deductible charitable contribution.

Donation

You can donate land to the trail organization or land trust for conservation purposes. Tax credits may be available for land donated for this option.

Common Questions

If a landowner allows access across their property, will they become exposed to liability for injuries suffered on their property?

Pennsylvania is one of 49 states with some form of legislation protecting landowners who hold their lands and waters open for free public recreational use. The purpose of the Recreation Use of Land and Water Act (also known as “RULWA”) is “to encourage owners of land to make land and water areas available to the public for recreational purposes by limiting their liability.”

The Act protects public and private landowners from liability for simple negligence for injuries arising out of the free recreational use of lands and waters. Landowners can still be liable for “willful or malicious failure to guard or warn against a dangerous condition.” Landowners may be liable when they have actual knowledge of a dangerous condition and the danger is not obvious to those entering the land.

Who is responsible for maintaining a trail on private land?

Whoever accepted the easement or license is responsible for the care of the trail, in cooperation with the landowner. The trail organization should lay out, cut, blaze, and maintain the trail to specified standards. The landowner should always be consulted concerning major modifications, such as cutting large trees, opening stone walls, or building bridges. Routine maintenance is the responsibility of the trail group. It is a courtesy to notify the landowner prior to embarking on any trail work.

If a landowner opens their land for foot travel or bikes only, how can they prevent unauthorized motorized use?

If the landowner stipulates foot travel or bikes only, this should be included on signs at the entrance to the property, and alternative access points should be blocked. There are penalties for operating motorized vehicles on private land, and landowners and trail groups can work together by informing local police of violations.

BACK MOUNTAIN TRAIL

Pennsylvania's Recreational Use of Land and Water Act



INTRODUCTION

Pennsylvania has a law that limits the legal liability of landowners who make their land available to the public for free recreation. The purpose of the law is to supplement the availability of publicly owned parks and forests by encouraging landowners to allow hikers, fishermen and other recreational users onto their properties. The Recreational Use of Land and Water Act ("RULWA"), found in Purdon's Pennsylvania Statutes, title 68, sections 477-1 et seq., creates that incentive by limiting the traditional duty of care that landowners owe to entrants upon their land. **So long as no entrance or use fee is charged, the Act provides that landowners owe no duty of care to keep their land safe for recreational users and have no duty to warn of dangerous conditions.** Excepted out of this liability limitation are instances where landowners willfully or maliciously fail to guard or warn of dangerous conditions. That is, the law immunizes landowners only from claims of negligence. Every other state in the nation has similar legislation.

PEOPLE COVERED BY THE ACT

The "owners" of land protected by the Act include public and private fee title holders as well as lessees (hunt clubs, e.g.) and other persons or organizations "in control of the premises." Holders of conservation easements and trail easements are protected under RULWA if they exercise sufficient control over the land to be subject to liability as a "possessor." (See Stanton v. Lackawanna Energy Ltd. (Pa. Supreme Ct. 2005)(RULWA immunizes power company from negligence claim where bike rider collided with gate that company had erected within the 70-foot wide easement over mostly undeveloped land it held for power transmission)).

LAND COVERED BY THE ACT

Although on its face RULWA applies to all recreational "land"— improved and unimproved, large and small, rural and urban — in the last 15 years or so, Pennsylvania courts have tended to read the Act narrowly, claiming that the legislature intended it to apply only to large land holdings for outdoor recreational use.

Courts weigh several factors to decide whether the land where the injury occurred has been so altered from its natural state that it is no longer "land" within the meaning of the Act. In order of importance:

(1) Extent of Improvements – The more developed the property the less likely it is to receive protection under RULWA, because recreational users may more reasonably expect it to be adequately monitored and maintained;

(2) Size of the Land – Larger properties are harder to maintain and so are more likely to receive recreational immunity;

(3) Location of the Land – The more rural the property the more likely it will receive protection under the Act, because it is more difficult and expensive for the owner to monitor and maintain;

(4) Openness – Open property is more likely to receive protection than enclosed property; and

(5) Use of the Land – Property is more likely to receive protection if the owner uses it exclusively for recreational, rather than business, purposes.

SITE IMPROVEMENTS

The following cases focus on the nature and extent of site improvements that might negate RULWA immunity:

- The state Supreme Court ruled that the Act was not intended to apply to swimming pools, whether indoor (Rivera v. Philadelphia Theological Seminary (Pa. Supreme Ct. 1986)) or outdoor (City of Philadelphia v. Duda (Pa. Supreme Ct. 1991)).

- RULWA immunity does not cover injuries sustained on basketball courts, which are "completely improved" recreational facilities (Walsh v. City of Philadelphia (Pa. Supreme Ct. 1991)).

- Playgrounds are too "developed" to qualify for immunity (DiMino v. Borough of Pottstown (Pa. Commonwealth Ct. 1991)).

- Playing fields generally are held not to be "land" within the protection of the Act (Brown v. Tunkhannock Twp. (Pa. Commonwealth Ct. 1995) (baseball field); Seifert v. Downingtown Area School District (Pa. Commonwealth Ct. 1992)(lacrosse field); Lewis v. Drexel University (Pa. Superior Ct. 2001, unreported)(football field); but see Wilkinson v. Conoy Twp. (Pa. Commonwealth Ct. 1996)(softball field is "land" under RULWA)).

- An unimproved grassy area at Penns Landing in Philadelphia was deemed outside the Act's scope, given that the site as a whole was highly developed (Mills v. Commonwealth (Pa. Supreme Ct. 1993); compare Lory v. City of Philadelphia (Pa. Supreme Ct. 1996) (swimming hole in "remote" wooded area of Philadelphia is covered by RULWA)).

RULWA immunity has been found in several cases where people were injured at outdoor sites containing limited improvements:

- An earthen hiking trail in a state park is not an improvement vitiating the Act's immunity (Pomeren v. Commonwealth (Pa. Commonwealth Ct. 1988)).

- The owner of property containing a footpath created by continuous usage, which led down to the Swatara Creek, has no duty to erect a warning sign or fence between his property and the adjacent municipal park (Rightnour v. Borough of Middletown (Lancaster Cty. Ct. of Common Pleas 2001)).

- A landscaped park containing a picnic shelter is still "unimproved" land for RULWA purposes (Brezinski v. County of Allegheny (Pa. Commonwealth Ct. 1996)).

- An artificial lake is just as subject to RULWA protection as a natural lake, although the dam structure itself is not covered (Stone v. York Haven Power Co. (Pa. Supreme Ct. 2000)).

- An abandoned rail line in a wooded area is covered by RULWA, even where the plaintiff fell from a braced railroad trestle (Yanno v. Consolidated Rail Corp. (Pa. Superior Ct. 1999)(but may no longer be good law after Stone)).

Uncertainty about what constitutes an improvement under the Act reportedly has had a dampening effect on efforts to improve public access to outdoor recreation sites. Public and private landowners are concerned that installation of fishing piers, boat docks, parking facilities, or paths and ramps for wheelchair use will strip much-needed RULWA immunity from otherwise protected land. A bill introduced in the state Senate in the late 1990s attempted to clarify that public access improvements would not affect immunity under the Act, but the legislation was not successful.

FAILURE TO WARN

As noted above, although negligence liability is negated by the Act, a landowner remains liable to recreational users for "willful or malicious failure to guard or warn" against a dangerous condition. To determine whether an owner's behavior was willful, courts will look at two things: whether the owner had actual knowledge of the threat (e.g., was there a prior accident in that same spot); and whether the danger would be obvious to an entrant upon the land. If the threat is obvious, recreational users are considered to be put on notice, which precludes liability on the part of the landowner. In a recent drowning case, for example, landowner Pennsylvania Power & Light Company claimed immunity under RULWA. The judge, however, sent to the jury the question of whether PP&L was willful in not posting warning signs. A previous tubing accident had occurred in the same location, and there was testimony that the dangerous rapid where the drowning occurred was not visible to people tubing upstream (Rivera v. Pennsylvania Power & Light Co. (Pa. Superior Ct. 2003)).

GOVERNMENTAL IMMUNITY

Interestingly, Pennsylvania's governmental immunity statutes, the Tort Claims and Sovereign Immunity Acts, shield municipalities and Commonwealth agencies from claims of willful misconduct. Liability only may be imposed upon these entities for their negligent acts. But, as noted above, where an injury occurs on "land" within the meaning of RULWA, the law shields landowners from negligence suits. In essence, public agencies are granted complete immunity for many recreational injuries. (See Lory v. City of Philadelphia (Pa. Supreme Ct. 1996)(city immune for both its negligent maintenance of recreational lands and its willful failure to guard or warn of hazards on that property)).

RECREATIONAL PURPOSE; PUBLIC ACCESS

Though not all recreational land is covered by the Act, the law's definition of "recreational purpose" is broad enough to include almost any reason for entering onto undeveloped land, from hiking to water sports to motorbiking. (See Commonwealth of Pa. v. Auresto (Pa. Supreme Ct. 1986)(RULWA covers snowmobile injury)). This is true even if the landowner has not expressly invited or permitted the public to enter the property. However, where the land is open only to selected people rather than to the public in general, this will weigh against RULWA immunity. (See Burke v. Brace (Monroe Cty. Ct. of Common Pleas 2000)(lake located in a subdivision and open only to homeowner association members and guests is not covered by RULWA)).

NO USER FEE

Finally, charging recreational users a fee (which is different than accepting payment for an easement) takes the property out from under the Act's protection.

Copies of this fact sheet may be obtained from:

PA Department of Conservation and Natural Resources
Bureau of Recreation and Conservation
Rachel Carson State Office Building
P.O. Box 8475
Harrisburg, PA 17105-8475
Telephone: (717) 787-7672
Fax: (717) 772-4363
www.dcnr.state.pa.us

Prepared by Debra Wolf Goldstein, Esq., of counsel to Penna. Land Trust Association, with financing in part from the Commonwealth of PA, Department of Conservation & Natural Resources, May 2006. This fact sheet is for purposes of general information only and is not intended as legal advice. The accuracy of the information could be affected by court rulings or statutory changes made after publication.

GIS AGREEMENTS

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STEPHEN J. URBAN
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LUZERNE COUNTY
GIS/MAPPING DEPARTMENT
200 NORTH RIVER STREET
WILKES-BARRE, PENNSYLVANIA 18711-1001

(570) 825-1550
FAX (570) 830-5132
TDD (570) 825-1860

DAVID T. SKORONSKI
Director, GIS/Mapping Dept.

ROBERT C. LAWTON
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Interim Chief, Budget & Finance

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THOMAS J. McLANE AND ASSOCIATES, INC.
Landscape Architecture
Environmental Science
Recreation Planning

601 Stafford Avenue
Scranton, PA. 18505
P: (570) 347-3668
F: (570) 341-5413
Email: tmclane@mclaneassociates.com
Web: www.mclaneassociates.com

January 22, 2013

The County of Luzerne
GIS/Mapping Department
200 North River Street
Wilkes-Barre PA 18711

Attn: Mr. Dave Skoronski, Director
Re: Back Mountain Trail Feasibility/Master Plan
Request for GIS Information

Dear Mr. Skoronski:

The Anthracite Scenic Trails Association has retained Thomas J. McLane and Associates, Inc. to complete a Feasibility/Master Plan for a section of the Back Mountain Trail extending from Upper Demunds Road in Dallas to Ricketts Glen State Park. Our firm is a small landscape architectural, environmental science and recreational planning firm located in Scranton, Pennsylvania.

We respectfully request that Luzerne County provides us with any county GIS information that would help us complete the required Feasibility Study Mapping. Specifically, we would benefit from GIS layers pertaining to soils, water resources, conserved land, slopes, aerial photos, topography, vegetation, and tax parcel information.

Should you have any questions or require additional information, please feel free to contact our office.

Sincerely,

Thomas J. McLane, R.L.A., A.S.L.A

TM/pb
cc: Julie McMonagle, ASTA Director

Wyoming County Pennsylvania
Disclaimer for distribution of County Records

Below are some terms and conditions which apply to all data acquisitions unless other agreements have been made directly with Wyoming County, PA.

- These documents, photos, and data are compiled and interpreted from aerial photography, field investigations and/or public records. Wyoming County, PA reserves the right to enhance, change and/or update records (including record formats) at its discretion.

- The data and products will be provided for the sole purpose of use of the acquiring person, group or organization and **shall not** be sold, distributed, or transmitted to any other person, group or organization without the consent of Wyoming County, PA.

- Wyoming County, PA does not make any warranties of any kind; either expressed or implied, on any information in this map, photo document or record. Any person, group or organization receiving this information assumes the accuracy or the completeness of the records/content, and the user agrees that this information cannot replace or represent a field survey or any engineering work.

- Any person, group or organization requesting and/or receiving this information assumes the responsibility of determining whether a professional registered surveyor, architect, or engineer is required to aid the user in decision making processes. Neither Wyoming County, PA nor its employees shall be liable for any loss, claims made by third parties, or any individuals or governmental units arising out of the use or reliance on the information provided by Wyoming County, PA or its agencies or offices.

Requesting Organization:_____

Contact Person:_____

Address:_____

Phone:_____ FAX:_____

E-mail:_____

I, _____, hereby acknowledge and understand the terms and conditions I have read in the above statements referring to the information I have requested to receive from Wyoming County, PA.

_____
Signature

_____
Date

THOMAS J. McLANE AND ASSOCIATES, INC.
Landscape Architecture
Environmental Science
Recreation Planning

601 Stafford Avenue
Scranton, PA. 18505
P: (570) 347-3668
F: (570) 341-5413
Email: tmclane@mclaneassociates.com
Web: www.mclaneassociates.com

June 19, 2013

Wyoming County Assessment Office
1 Courthouse Square
Tunkhannock PA 18657

Attn: Ms. Kelley A. Cosner, C.P.E.
Chief Deputy Assessor
Re: Back Mountain Trail Feasibility/Master Plan
Request for GIS Information

Dear Ms. Cosner:

The Anthracite Scenic Trails Association (ASTA) has retained Thomas J. McLane and Associates, Inc. to complete a Feasibility/Master Plan for a section of the Back Mountain Trail extending from Lower Demunds Road in Dallas to Ricketts Glen State Park. Our firm is a small landscape architectural, environmental science and recreational planning firm located in Scranton, Pennsylvania.

A portion of the potential trail corridor will extend from Luzerne County at Harveys Lake north into Noxin, Wyoming County. On behalf of ASTA, we respectfully request that Wyoming County provide us with any county GIS information that would help us complete the required Feasibility Study Mapping. We have attached the required GIS Data Order Form. Thank you for your assistance.

Should you have any questions or require additional information, please feel free to contact our office. The project manager is Paul Bechtel (570-347-3668).

Sincerely,

Thomas J. McLane, R.L.A., A.S.L.A

TM/pb
cc: Julie McMonagle, ASTA Director

PENNSYLVANIA ATV LAW

OPERATION OF ATVs BY YOUTH

No one under 8 years of age shall operate an ATV on any state-owned property.

No person from age 8 to their 16th birthday shall operate an ATV except on lands of his parent or guardian, unless he or she has completed a prescribed ATV safety training course and received an ATV safety training certificate. Age 8 and 9 year old operators are restricted to an engine size of 70cc or less.

ATV SAFETY TRAINING COURSE

Safety training classes are given by trained volunteer instructors. All youth ages 8-15 who complete the course will receive a safety course certificate. For information on a safety instructor near you contact DCNR's Bureau of Forestry at (717) 783-7941.

ACCIDENT REPORTS

The operator of an ATV involved in an accident must stop and give his or her name and address, the name and address of the owner of the ATV and its registration number to the other person(s) involved in the accident or to a police officer.

If the accident results in the injury or death of any person or property damages to the estimated amount of $100 or more, the operator must report the matter in writing within seven days to the DCNR, Bureau of Forestry, P.O. Box 8552, Harrisburg, PA 17105. It is a violation of the Snowmobile/ATV Law to not report the accident to the DCNR.

Accident forms are available upon request from the Bureau of Forestry and State Park offices and state police stations.

LIABILITY INSURANCE

Liability insurance coverage is required for all ATVs that are required to have general registration. Proof of this coverage should be carried by the operator. The law does not specify a minimum dollar amount for this coverage. If you have questions about insurance coverage for ATVs contact the PA Dept of Insurance consumer hotline at 1-877-881-6388.

SNOWMOBILE & ATV FUND

All registration fees are deposited in a special Snowmobile/ATV Fund. DCNR uses monies from this fund to carry out the Snowmobile/ATV registration, safety education and law enforcement requirements of the Snowmobile/ATV Law, to develop and maintain trails on public land and to encourage trail development on private land through grants.

ENFORCEMENT

All law enforcement officers in the state, including local and state police, are authorized to enforce the Snowmobile/ATV Law. Municipal and state police have enforcement authority on private land.

FINES

Failure to register your ATV or obtain liability insurance may result in a fine of $300.

A violation of other provisions of the Snowmobile/ATV Law is punishable by a fine of $50 to $200 plus the cost of prosecution for a first offense, and a fine of $100 to $300 plus the cost of prosecution for a second offense.

EQUIPMENT

All ATVs operating in Pennsylvania must be equipped with a brake system capable of producing deceleration of 14 feet per second at a speed of 20 miles per hour; and a muffler in good working order. The sound intensity produced by an ATV may not exceed 99dbA, or decibels, when measured at 20 inches from the tailpipe.

All ATVs operated during hours of darkness or when visibility is less than 500 feet must be equipped with an operating headlight and taillight. The headlight must produce a white light sufficient to reveal persons and vehicles at a distance of 100 feet. The taillight must produce a red light plainly visible during darkness from a distance of 500 feet.

HELMETS

It is illegal to operate an ATV without a securely fastened helmet on the head of the operator.

FOR REGISTRATION INFORMATION:

DCNR-Snowmobile/ATV Registration Section
P.O. Box 8553
Harrisburg, PA 17105-8553

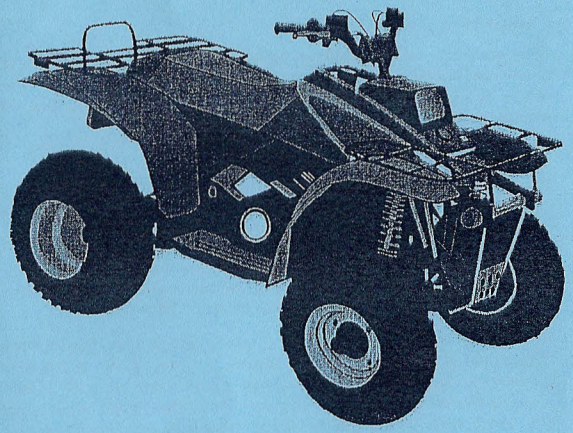
Location:
9 Dogwood Lane
Middletown, PA 17057

Telephone (717) 783-9227
Tollfree (866) 545-2476

8170-PA-DCNR1517 Rev. 1/2009

Summary of

PENNSYLVANIA'S ALL-TERRAIN VEHICLE LAW



COMMONWEALTH OF PENNSYLVANIA

DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

DCNR

SUMMARY OF PENNSYLVANIA'S ALL-TERRAIN VEHICLE LAW

INTRODUCTION

Pennsylvania has beautiful and challenging opportunities for all-terrain vehicle (ATV) riding. Many trails have been developed on public and private lands to accommodate this recreational pursuit.

This pamphlet summarizes the ATV requirements of state law and regulations. The state law is known as the Snowmobile and All-Terrain Vehicle Law and is contained in Chapter 77 of the PA Vehicle Code. The state regulations are in Title 17 Pa. Code Chapter 51. This pamphlet is not intended to be a substitute for the actual law and regulations.

In addition to state law and regulations, riding on municipal and private property may be further regulated by municipal ordinance.

REGISTRATION

Pennsylvania residents owning and intending to use their ATV in Pennsylvania (except those used exclusively as a farm or business vehicle) must be titled and registered with the Department of Conservation and Natural Resources (DCNR), Snowmobile/ATV Registration Section.

General Registration

This registration permits the machine to be operated off the owner or operator's private property. The registration fee is $20 for two years. The owner is provided with a registration plate, an expiration sticker and a Certificate of Registration wallet card.

Limited Registration

This registration is for machines used exclusively on the property of the owner. There is no fee and the registration does not expire. The owner is provided with a registration plate and a card, but no expiration sticker.

All-Terrain Vehicles are defined as follows:

1. Class 1 ATV – A motorized off-highway vehicle, which travels on three or more inflatable tires and has a maximum width of 50 inches and a maximum dry weight of 1000 pounds.

2. Class 2 ATV – A motorized off-highway vehicle, which travels on three or more inflatable tires and has a width which exceeds 50 inches or a dry weight which exceeds 1000 pounds.

Applications for registration of ATVs are available from the DCNR's Snowmobile/ATV Registration Section. The ATV registration application form must be completed and sent to the DCNR, Snowmobile/ATV Registration Section, P.O. Box 8553, Harrisburg, PA 17105-8553, along with the required fee and sales tax statement. Registration applications are also available from: ATV dealers, Forest Districts and State Park Offices or download and print from the web at www.dcnr.state.pa.us/snowmobile.

Exempt from the registration requirements are ATVs owned by non-residents covered by a valid registration in their state, province or country that honors a Pennsylvania registration.

Temporary registrations are available from registered ATV dealers.

NON-RESIDENT REGISTRATION

To legally operate an ATV in Pennsylvania that is registered in another state where Pennsylvania's registration is NOT honored, the ATV must also be registered in Pennsylvania. Proof of liability insurance is also required.

TITLES

All ATVs in Pennsylvania must have a title issued by DCNR. The cost of a title is $22.50. The only exceptions to this requirement are those ATVs registered with the Department prior to February 12, 1987. These ATVs do not require a title until they are sold by the owner.

SALE – THEFT – DESTRUCTION – CHANGE OF ADDRESS

The ATV owner shall notify the DCNR's Snowmobile/ATV Registration Section in writing of any change of address within 15 days.

Upon the transfer, destruction or theft of an ATV, the reverse side of the Certification of Registration must be properly filled out in the spaces provided, signed by the owner, and returned to the DCNR's Snowmobile/ATV Registration Section.

OPERATION

ATVs may be operated:

1. On state-owned property on clearly marked and previously designated ATV trails;

* 2. On highways and streets when necessary to cross a bridge or culvert;

* 3. On highways and streets during periods of emergency when so declared by a governmental agency having jurisdiction;

* 4. On highways and streets for special ATV events of limited duration that are conducted according to a prearranged schedule under permit from the governmental unit having jurisdiction

* ***MUST BE 16 YEARS OF AGE OR OLDER.***

An ATV may make a direct crossing of a street or two-lane highway provided:

- The crossing is made at an angle of approximately 90 degrees to the direction of the highway, and at a place where no obstruction prevents a quick and safe crossing;
- The ATV is brought to a complete stop before crossing the shoulder or highway;
- The driver yields the right-of-way to all oncoming traffic that constitutes an immediate hazard.
- In crossing a divided highway, the crossing is made only at an intersection of such highway with another public street or highway.
- Driver must be at least 16 years of age unless he has a safety certificate and is under the direct supervision of a person at least 18 years of age.

It is illegal to operate an ATV:

- On State Forest Roads open for use by licensed motor vehicles.
- At the rate of speed that is unreasonable or improper under existing conditions or in excess of the maximum limits posted for vehicular traffic;
- In a careless way so as to endanger the person or property of another;
- While under the influence of alcohol, narcotics or drugs.

Designated Roads

State and local highways and roads may be designated and posted for ATVs by the government authority with jurisdiction over the road.

Township roads designated for ATVs are posted with a green sign containing the side view silhouette of an ATV and rider in white.

Some roads may be designated and posted as **joint-use** roads open to both ATVs and licensed motor vehicles. Joint use roads are posted with signs stating that both types of vehicles may use the road. ATV operators on joint-use roads must be at least 16 years of age.

Municipal ordinances may further regulate the use of ATVs on roads within their jurisdiction.



Municipal Roads

Private Property

ATVs may not be operated on private property without the consent of the owner. Use of ATVs on private property may be further restricted by municipal ordinance.

ATV TRAILS

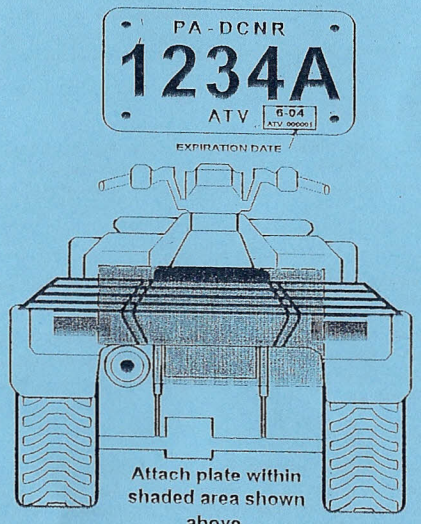
Certain trails on state forest land and the Allegheny National Forest have been designated for ATV use. ATV trail information is available from the Bureau of Forestry website at www.dcnr.state.pa.us/forestry and the Allegheny National Forest website at www.fs.fed.us/r9/forests/allegheny.

REGISTRATION NUMBERS

The five-digit registration number containing a combination of numbers and letters is embossed on an aluminum plate, which measures four inches in height and seven inches in width. This permanent registration plate is to be attached to the back of the machine near the center and as high as possible. **The plate must be vertical and clearly visible from behind the ATV.** This plate remains with the ATV if it is sold or transferred to a different owner.

General Registration requires a valid expiration sticker to be attached to the plate.

REGISTRATION PLATE



BACK MOUNTAIN TRAIL EXTENTION: CONCEPT MAP

Proposed Trail Route

Alternative Trail Route

Feasible ROW

Non-Feasible ROW

Wetlands

Streams/Rivers

Trail Head

Commercial Area

School

Scale: 1" = 2,300'

0 1,150 2,300 4,600 9,200

N

Notes:
GIS data provided by PA Spatial Data Access, Luzerne County GIS, and Wyoming County GIS

BACK MOUNTAIN TRAIL
DALLAS EXTENSION

BACK MOUNTAIN TRAIL

DALLAS TWP. PARK
CHURCH ST.
CVS
FOSTER ST.
WOODLAWN AVE.
SOUTHSIDE AVE.
RESIDENTIAL
GRANDVIEW AVE.
POST OFFICE
DOWNTOWN DALLAS
MILL ST.
TO MISERICORDIA
WENDYS
NEW GOSS MANOR (RESIDENTIAL)
CEMETERY
MEMORIAL HWY
309 TUNKHANNOCK HWY
HUNTSVILLE RD
WELLINGTON AVE.
DORCHESTER DR.
WEIS
BANK
SLOVAK CEMETERY
MEMORIAL HWY
MAIN ST.
FRANKLIN ST.
DALLAS SHOPPING CENTER
WALGREENS
309 MEMORIAL HWY
LOOP TRAIL
GEISINGER
STORAGE UNITS
TOBY CREEK
LOWER DEMUNDS ROAD
MAIN ST.
309 MEMORIAL HWY
OFFSET PAPERBACK
MAIN RD.
TROUT BROOK



A WALKWAY, ALONG WITH PAINT STRIPING, CAN BE ADDED TO CREATE A SAFE ROUTE FOR PEDESTRIANS AND BICYCLISTS.



THE GRASS STRIP CLOSEST TO THE DALLAS SHOPPING CENTER CAN BE SEPARATED FROM THE SLOVAK CEMETERY WITH FENCING AND VEGETATION TO CREATE A SECTION OF THE TRAIL.



A PATH CAN BE SEPARATED FROM THE STORAGE UNITS DRIVE TO CREATE A SAFE PATH FOR TRAIL USERS WHILE STILL PROVIDING ACCESS TO THE STORAGE UNITS.



THE GRASS STRIP ALONG 309 HAS ROOM FOR A WALK-WAY, ALONG WITH RAIN GARDENS THAT CAN BOTH HANDLE STORMWATER AND SEPARATE PEDESTRIANS FROM VEHICLES.



SPACE BETWEEN TWO BUILDINGS IN THE DALLAS SHOPPING CENTER CAN BE CONVERTED INTO A SEATING AREA THAT IS SAFE FOR PEDESTRIANS, WHILE STILL ACCOMMODATING VEHICULAR TRAFFIC.

KEY:

- KIOSK / TRAIL HEAD
- ROAD CROSSING
- FOOT BRIDGE
- BUILDING
- TRAIL
- ALTERNATE ROUTE

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SCALE: 1” = 180’

BACK MOUNTAIN TRAIL - BACK MOUNTAIN TRAIL COUNCIL
ANTHRACITE SCENIC TRAIL ASSOCIATION - ASTA

CONCEPTUAL DESIGN

MARCH 19, 2014

McLane Associates Landscape Architects