



South Whitehall Landscapes

**An Open Space, Historic, Agricultural, & Natural
Resources Preservation Plan**

2024

Cover photo submitted by D. Gibbs





“It is important to preserve both the
significant places and the
simple places that make up the
tapestry of our community.”

- Jeff Marshall

Acknowledgments

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save for adopting resolution



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Introduction

Landscapes

What is a Landscape?

Landscape is a term that will be used frequently throughout this plan, which begs the question what is a landscape? Some people hear landscape and think of their garden, or of a pretty picture, or of a spectacular view. Derived from the Dutch word *landschap*, landscape originally meant “the area of land that a person can see at one time”. The *landschap* includes all visible, physical features such as the buildings, the trees, the hills, the valleys, the streams, and everything in between. Landscapes encompass so much of our physical world, it’s easy to understand why this word eventually would develop a more artistic connotation. Rather than focusing on one subject, the landscape highlights the beauty in how all the features are connected as one.

South Whitehall Landscapes is a plan to emphasize the beauty and importance of our Township’s connected physical environment and identify strategies to preserve our important landscapes for future generations.

Why are landscapes so important?

Landscapes revolve around the idea of form and how places came to be. For example, landscapes can be formed through a physical process such as a river cutting through a valley or cultural influences, like a settlement of farmers around fertile pastures. It’s these delicate but impactful changes to a place that make it unique and give people a sense of place. One building or structure may be an iconic feature of the town, but it’s the context of that feature that helps to define the community. Protecting a singular, physical feature is important to see the resource, but protecting the surrounding landscape helps to preserve the feeling it evokes.

Landscapes include not only the primary feature, but all surrounding and supporting elements. Consider a great play; yes, the main character is often the focus, but it is the story, set design, stage direction, and supporting cast that make it great.

The landscape consists of both the feature AND the context.

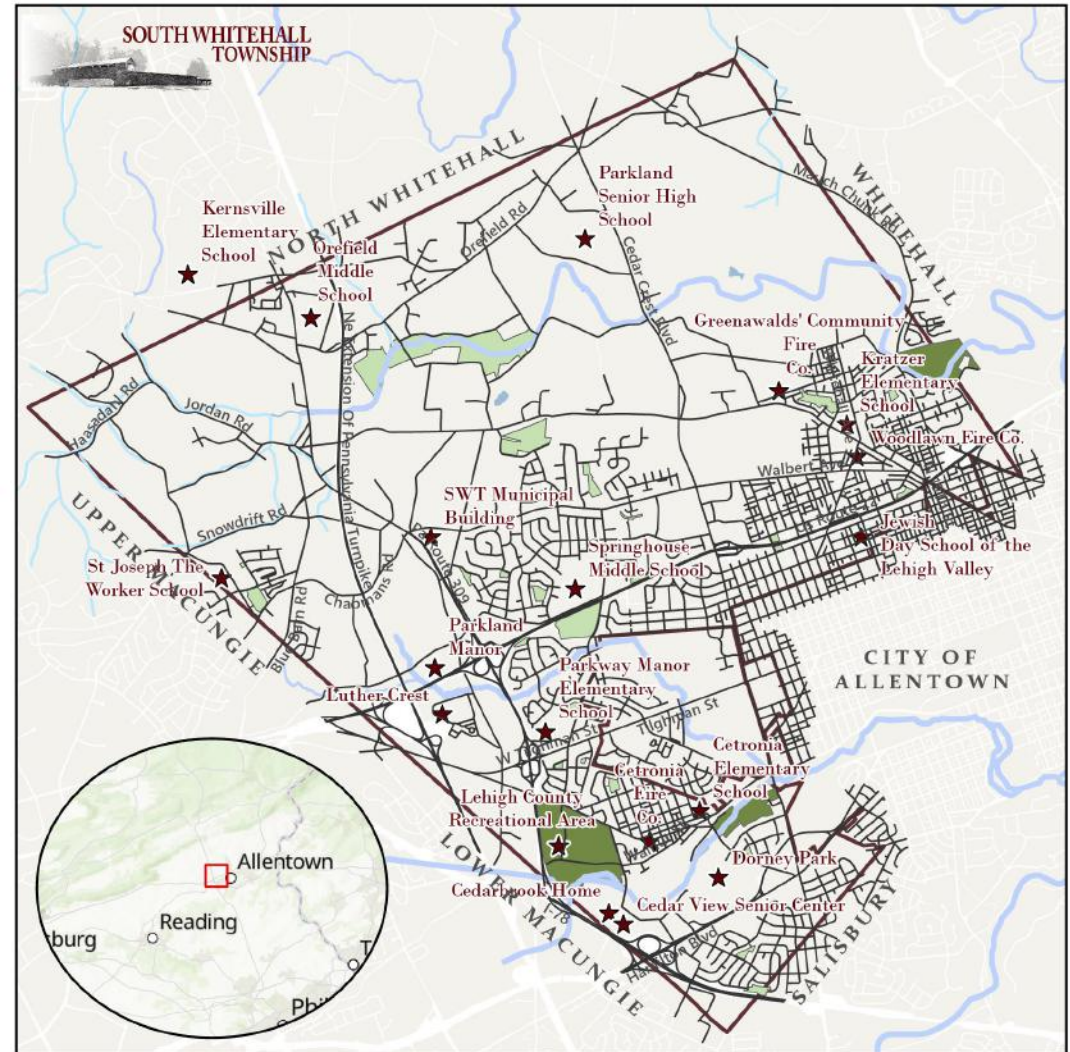
Background

South Whitehall Township

South Whitehall Township is a suburban community located in the center of Lehigh County. South Whitehall can be described as a transitional municipality that blends the urban fringe of Allentown with the rural charm of northwest Lehigh County, through a scattering of suburban residential and commercial developments. Home to over 21,000 residents, South Whitehall is a medium-sized municipality with pockets of compact neighborhoods built over the last 100 years. Commerce and industry have changed significantly in this Township over the past century and today South Whitehall is proud to be home to a mixture of commercial and industrial businesses including healthcare, entertainment, and both heavy and light industries.

South Whitehall's governmental structure has certainly shifted as well over the past 100+ years. In 1966, South Whitehall Township was incorporated as a First-Class Township governed by an elected, five-member Board of Commissioners. The Board of Commissioners conducts general governance of the Township including legislative, executive, and administrative powers. Day-to-day activities are led by an appointed Township Manager, including the management of Township staff.

Township Overview Map |
Source: South Whitehall Township



Comprehensive Plan

In March 2023, the South Whitehall Township Board of Commissioners adopted an update to the Comprehensive Plan. The Comprehensive Plan is a foundational document that guides the future development, preservation, and governance of municipality, by examining past and present municipal services, resources, and trends. This document sets the vision for the Township and should be used as a basis for all subsequent policy development and planning.

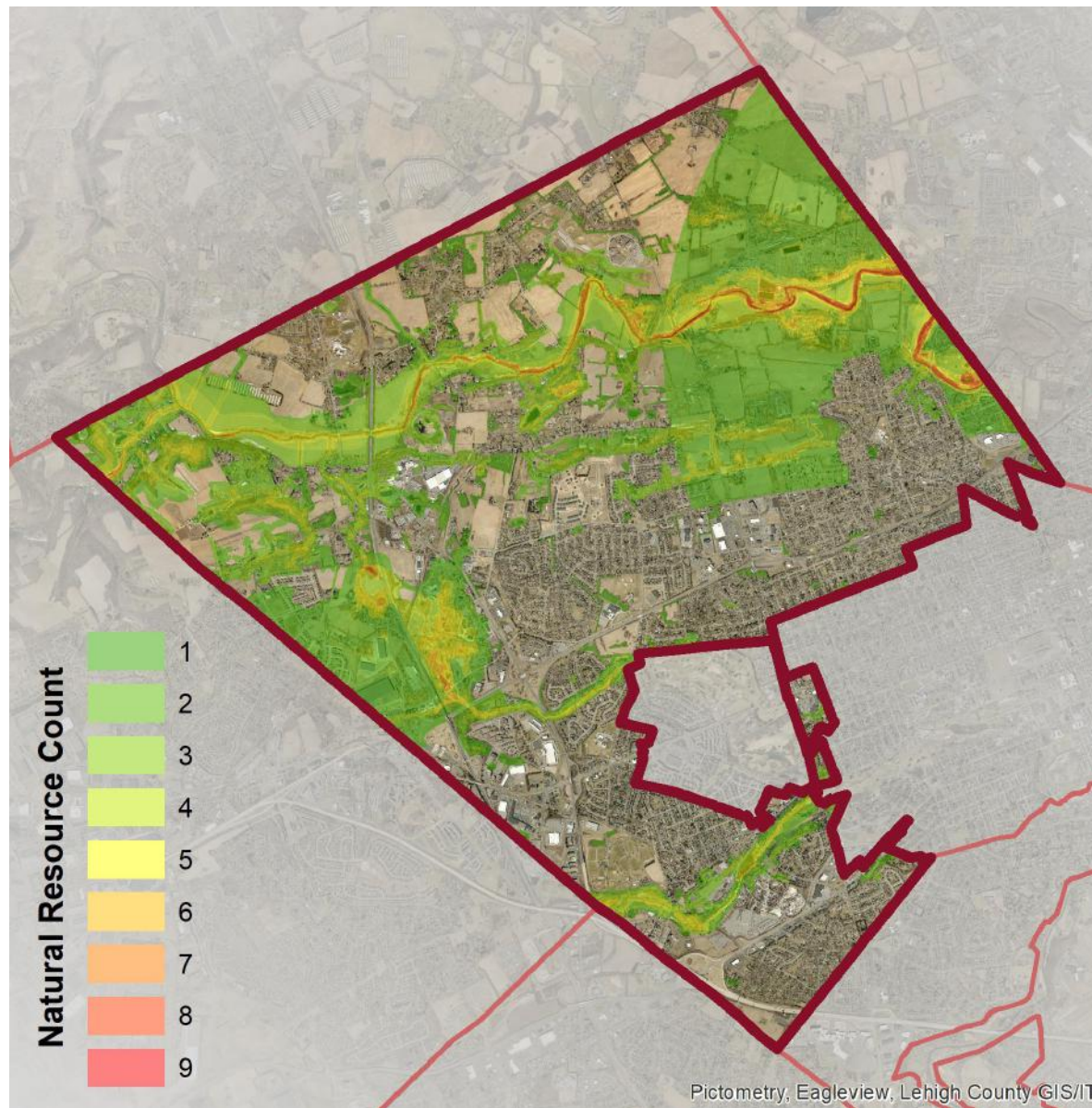
Development of the Comprehensive Plan involved an extensive public engagement process that occurred in phases over several years. Throughout this process, it became apparent how important resource preservation was to the community. Beyond the idea of managing growth, residents expressed overwhelming concern to manage growth and limit the threat to losing our finite resources, including agricultural lands, natural resources, historic structures, and open spaces. Resource protection was identified as a high priority in the Comprehensive Plan and served as a guiding principle in the development of other goals and strategies.



Resource Protection

Resource Protection is the first and one of the most important chapters of the Comprehensive Plan. The goals and strategies presented in the Comprehensive Plan highlight the need to protect both critical resources and those that are important to the Township’s character. At a high level, this chapter focuses on agricultural resources, natural resources, historic resources, and scenic resources. The idea of “landscape” protection was first introduced when identifying strategies to preserve scenic resources. The ideas of scenic overlays, visual buffers, and viewsheds are introduced as initial strategies in the Comprehensive Plan and topics worthy of further exploration.

South Whitehall Township Comprehensive Plan (2023) | *Source: South Whitehall Township*

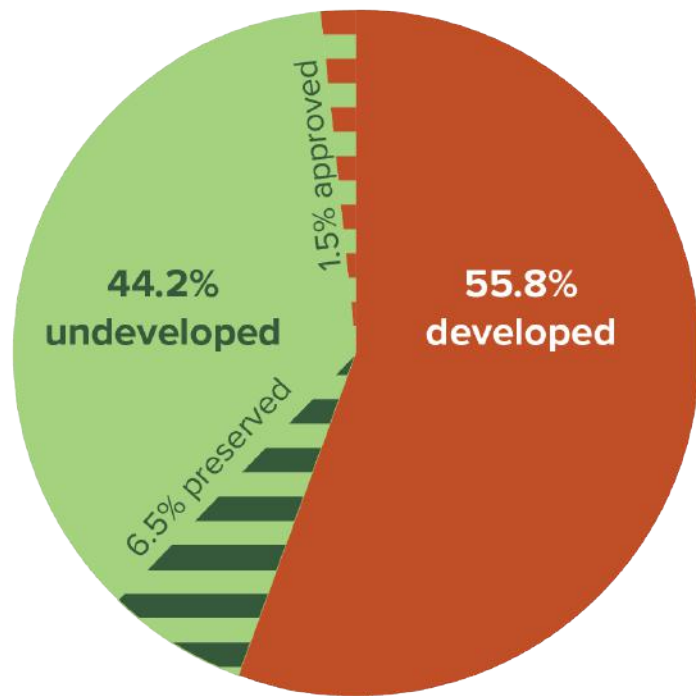


Where Are Our Resources?

As part of the Comprehensive Plan, general locations for agricultural, natural, and historic resources were identified. This map to the left shows where these resources overlap, specifically concentrated in the northern tier of the Township. The Huckleberry Ridge is a slight rise in terrain that runs east/west through the Township and creates a natural division separating the northern tier from the rest of the developed areas to the south. This area north of the Ridge, also referred to as the Jordan Valley, is flush with natural, agricultural, and historic resources and has a much different development pattern than the southern portion of the Township.

The darker red in the adjacent map indicates high concentrations of known resources such as waterways, wildlife corridors, sensitive habitats, valuable agricultural soils, and connected woodlands. Unsurprisingly, the challenging terrain and lack of utilities in the Jordan Valley has made it less suitable for development and therefore has a higher concentration of intact historic resources. The Jordan Valley also contains the largest amount of active farmland and municipal park land in the Township. At a cursory view, this area should be of the highest priority to preserve the many intact resources already present.

Resource Count Map | Source: South Whitehall Township Comprehensive Plan



Development Trends Pie Chart | *Source: South Whitehall Township*

Development Trends

South Whitehall has seen tremendous development pressure over the past century. As a first ring suburb of Allentown, South Whitehall quickly became a prominent location for new residential neighborhoods to develop outside of the city served by trolley lines and buses into downtown Allentown. Some of these early pre-war neighborhoods that still resemble the early developments are Greenawalds and Fernwood. South Whitehall continued this pace of suburban development following the post-war boom and well into the turn of the century with expansion of the interstate and local highway system.

Since 2001, the National Land Cover Dataset (NLCD) has tracked land cover using remote sensing satellites throughout the country. This data provides valuable insights into the results of the development pressure South Whitehall has seen over the last 20 years. South Whitehall Township covers an area of approximately 11,000 acres (17.2 square miles), bounded by urban and industrial development to the east and west and rural lands to the north. In 2001, approximately 5,590 acres of the Township were considered developed (51%), while 5,360 acres were considered “undeveloped” (49%) in the categories of natural lands, woodlands, and agriculture. Over the next 20 years, roughly 530 acres of those previously undeveloped lands are now developed, resulting in 6,120 acres total acres developed (55.8%) and 4,830 acres undeveloped (44.2%). It is clear that South Whitehall has reached the tipping point of more developed land than undeveloped. Understanding that this pressure for development is not going away, it is important to consider the future of the remaining undeveloped land. As shown in the pie chart, approximately 1.5% of this undeveloped land is already approved for development but has yet to be constructed. Alternatively, 6.5% of the undeveloped land is permanently preserved through various mechanisms and cannot be developed. Public feedback over the course of this plan and the

2023 Comprehensive Plan showed overwhelming support for preserving as much remaining land as possible. However, it is important to understand that it is unrealistic to protect all of the remaining undeveloped land when you consider private property rights and the inherent need to support growth to maintain economic stability.

Careful management of development and preservation requires a balance between private property rights, open space preservation goals, and budgetary constraints. It is with this balance in mind that this plan proposes different strategies and actions to realistically control the loss of important open space to development.

Plan Purpose

South Whitehall Landscapes is a plan to preserve the finite and special resources of South Whitehall Township. The 2023 Comprehensive Plan serves as the foundation for future growth and guides the high-level view of which direction the Township is headed. *South Whitehall Landscapes* is intended to dig deeper into the preservation priorities introduced in the Comp. Plan and hone in on what is most important to our community to preserve. This plan explores four key resources and what aspects of these resources are relevant to South Whitehall: Agricultural Resources, Natural Resources, Historic Resources, and Open Space. *South Whitehall Landscapes* lays the groundwork for actions and strategies to equally protect specific priority resources AND preserve the context that makes them so important to our community.



Covered Bridge Park | Source: Trocchio Photography

Vision

Traditional methods of resource protection have been reactive and fragmented, *South Whitehall Landscapes* is intended to inspire a collective, coordinated, and proactive approach to large-scale preservation across the Township.

***South Whitehall Landscapes* is a community-supported approach to preserve the special resources of South Whitehall and the character-defining elements of our Township.**



Community Engagement

Approach

As previously mentioned, resource preservation was one of the most vocalized concerns throughout the development of the Comprehensive Plan. The approach for *South Whitehall Landscapes* is to dig deeper into what preservation means to the community and identify what specific elements of the four resources should be preserved through various strategies. Public Engagement was handled through a series of workshop meetings and presentations held throughout the summer of 2023. Additional information was collected through online surveys, public events, and interviews with key stakeholders and experts in various fields.



Public Meeting Questions

The summer public workshop meetings were structured in a way to answer a progressive series of questions: Why? Where? What? Who? How? When?

Structuring the meetings in this way helped the participants and the project time digest information appropriately, starting first with the higher-level concepts at the beginning of the summer and then spending the rest of the summer/early fall digging into the specifics of each resource. The final public meeting wrapped up the general approach to the plan by identifying the learned challenges, opportunities, and potential strategies towards preservation.

Use of Experts

The Project Team for this plan consisted of staff in the Community Development Department and several consultants, including Jeffrey Marshall and Michael Baker International. Jeff Marshall is the former President of Heritage Conservancy and a renowned expert in historic preservation throughout eastern Pennsylvania. Jeff provided invaluable guidance throughout the plan on how to best develop a collective approach to resource preservation and balance conflicting goals. Jeff also provided significant technical expertise when it came to resource identification and strategy development. Additional local subject matter experts were brought in for specific meetings, interviews, and review of materials.

Jeff Marshall | Source: South Whitehall Township

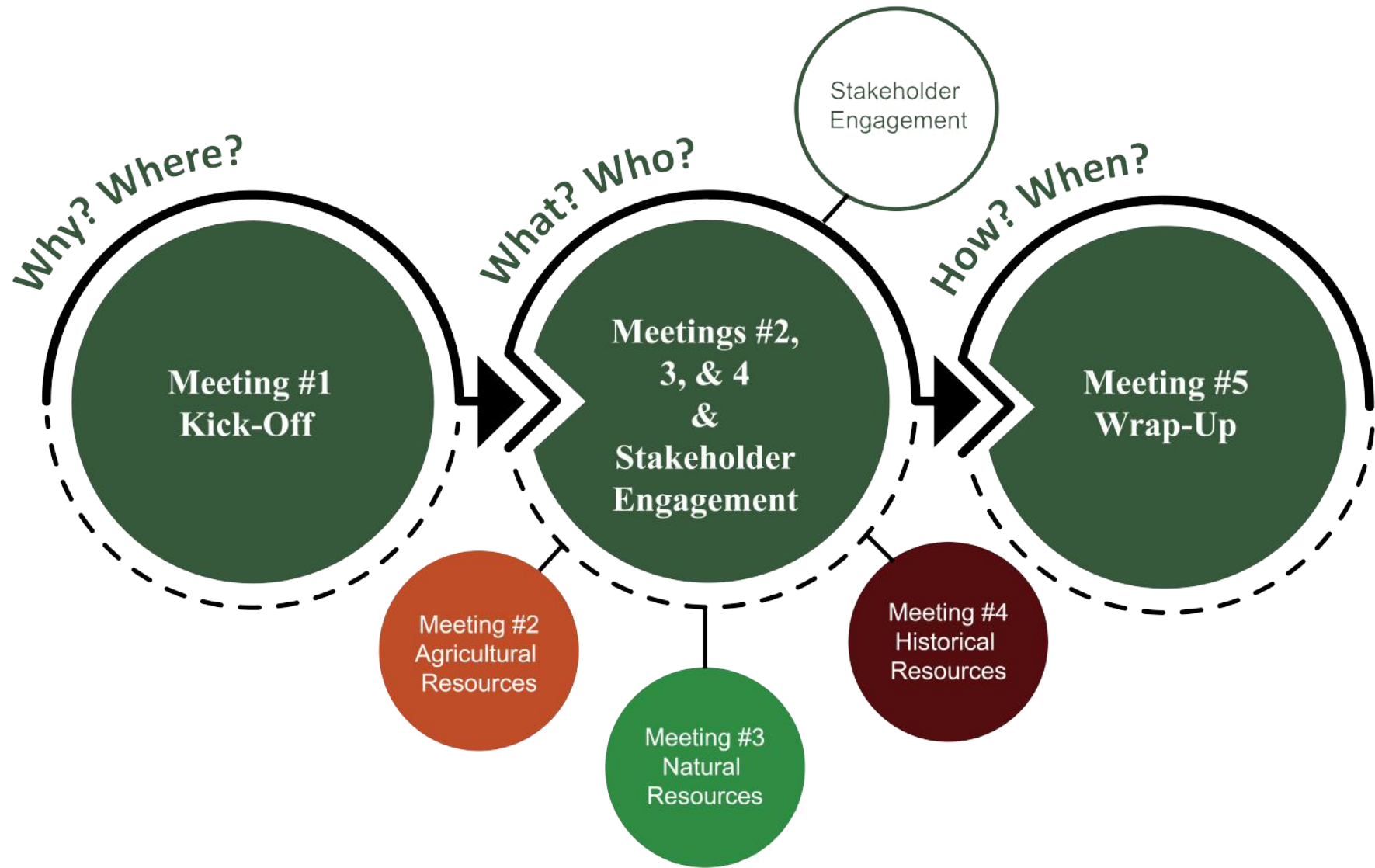
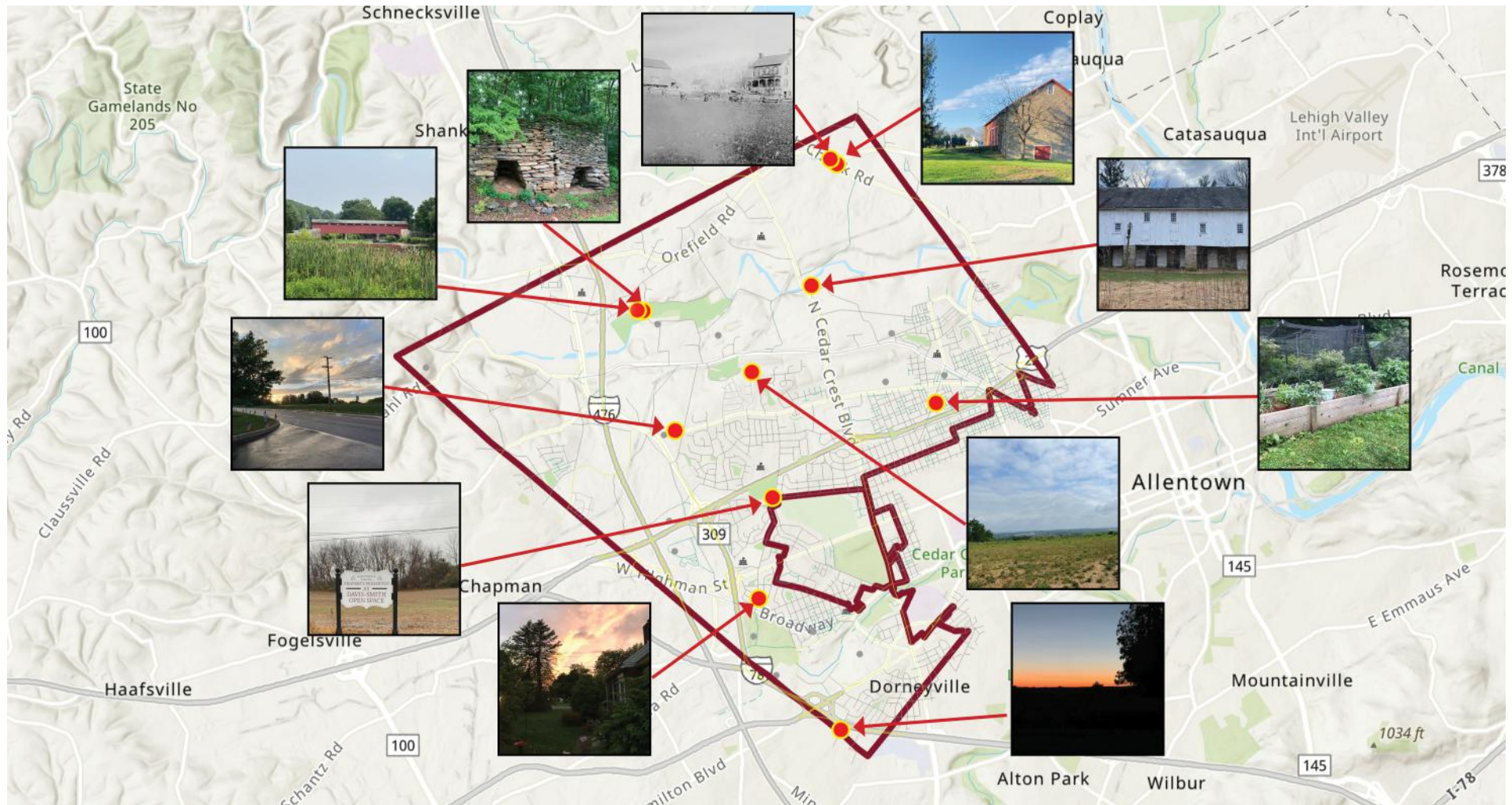


Photo Survey

Throughout the public engagement process, residents contributed personal photos as part of an online survey asking people to describe their favorite places and landscapes in the Township. The purpose of this survey was to find a creative way to engage the community in this plan and showcase places that are special to residents. The map below shows some of the photos submitted and the location of those places. On the next page are examples of some of the answers submitted to the questions in the survey. Several of the photos submitted in this survey are used throughout this plan.



What is your favorite place in South Whitehall?

The old stone farmhouse on the corner of Mauch Chunk and Mechanicsville Road

Haines Mill Park

The view from Huckleberry Ridge

Covered Bridge Park

Beautiful farmland on Walbert and Ridgeview

What would you share with your friend from out of town?

The diversity of South Whitehall and its access to major east coast cities

Farmhouses, barns, and surrounding farmland

Lime Kilns

Haines Mill

Wehr's Dam and Covered Bridge Park

What would you miss if it were gone?

Old stone farmhouses that are original to the area

Covered Bridges

Lime Kilns/Farms

Jordan Creek area

Parks, farm fields, and historic buildings

Public Meeting 1 | Kick-Off

The first public meeting for South Whitehall Landscapes was held at the South Whitehall Municipal Building on June 27th, 2023. As the official “kick-off” meeting, the agenda was centered around the background and purpose of the plan, introducing the idea of planning on a landscape level. The Project Team consisting of Community Development Department staff and Jeff Marshall was introduced along with some inspiring stories of preservation at a landscape scale including the PA Department of Conservation and Natural Resources (PA DCNR) collaborative program known as “Conservation Landscapes”. PA DCNR currently identifies eight special regions throughout the state that contain strong natural assets and local readiness for collaboration to protect and utilize these assets for community gain. The Lehigh Valley (Lehigh and Northampton Counties) is part of the first recognized conservation landscape, known as Lehigh Valley Greenways. This landscape is centered around the idea of using greenways and trails to connect natural and cultural resources across the Lehigh Valley. South Whitehall Township has been and continues to be involved in the Lehigh Valley Greenways partnership, forwarding the regional goals of conserving and restoring land, connecting trails and outdoor recreation, revitalizing the community, and promoting environmental education and outreach. The Project Team emphasized the importance of considering these goals for the regional landscape while developing a local landscape-level preservation plan for South Whitehall.

Why (landscape preservation)?

The Project Team aimed to answer the question of *Why Landscape Preservation* by explaining the importance of landscapes:

- Landscapes are a collection features that consider both land and structures as one
- Landscapes can be more about the “experience” of the area rather than the significance of the feature
- Individual preservation efforts can point in different directions, but landscape preservation emphasizes how these efforts can work together
- Individual preservation efforts can miss important connections; isolating preserved features (i.e. preservation measles)



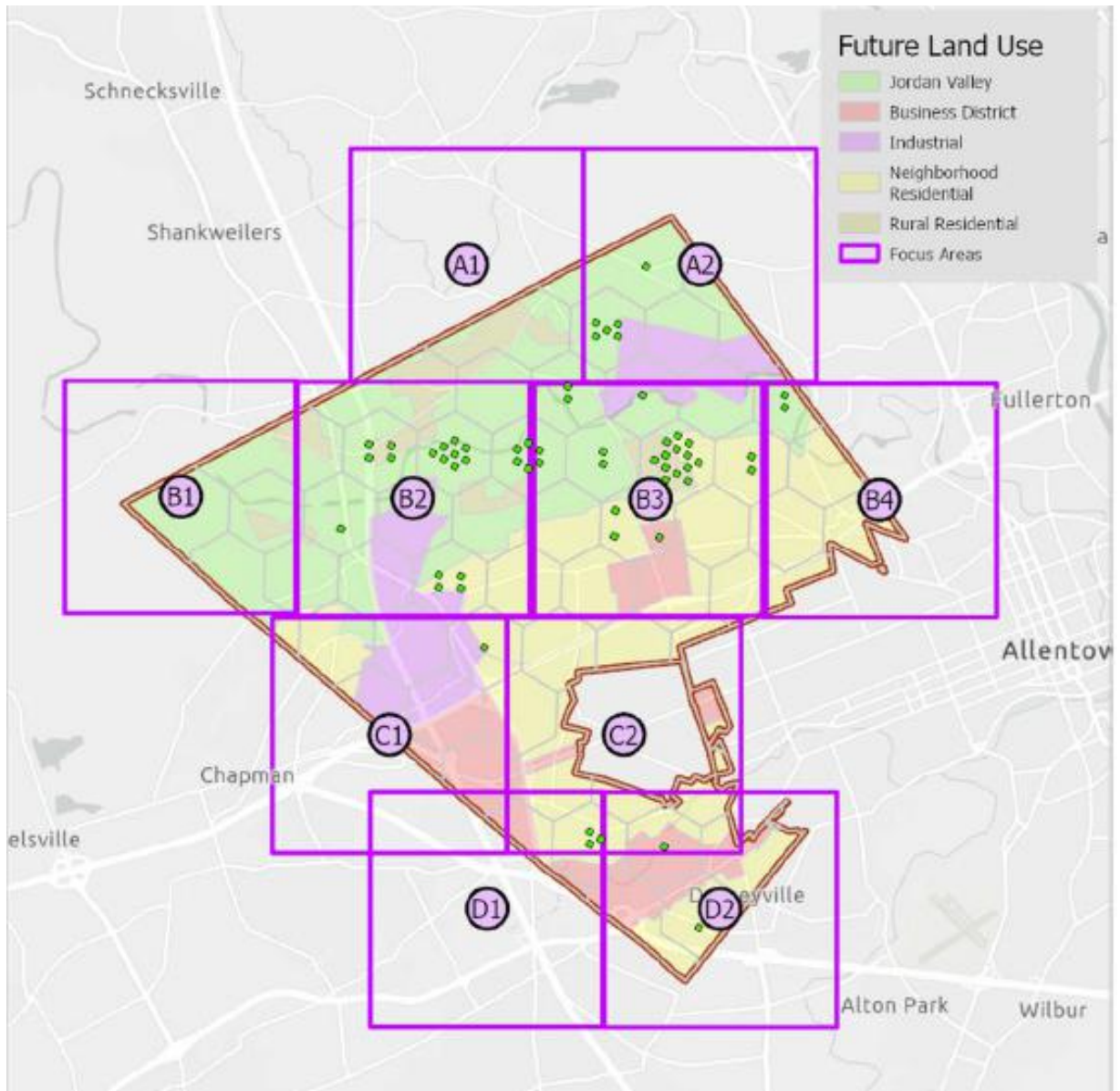
Pennsylvania Conservation Landscapes | Source: PA DCNR

Public Meeting 1 | Kick-Off

Where (should we preserve)?

To answer the question of *Where?* the Project Team talked about some of the engagement exercises conducted during the Comprehensive Plan, including the “Where Should We Grow” exercise, which asked participants to place stickers on a map in areas to indicate where protection should be focused, and growth should be encouraged. To no surprise, many residents encouraged protection in the Jordan Valley, where development is sparse and resources are rich.

At the first public meeting, participants were given a workbook to take notes and draw on maps of the 10 focus areas depicted in the adjacent map. These maps combined the results of the “Where Should We Grow” exercise and the future land use categories from the updated Township Comprehensive Plan. Participants broke out into small groups to draw on and discuss areas of interest for preservation. This exercise not only helped the planning team hone in on key locations to investigate, it also helped the team consider the scale and categories of resources to focus on.



Focus Areas Map | Source: Public Meeting #1

Agricultural Professionals Panel

The second half of the Agricultural Resources meeting included a Q&A with a local Agricultural Professionals Panel. Four members of the community were invited to represent different aspects of agriculture and how they work together. The panelist talked about their individual paths towards agriculture, their personal biggest challenges, shared challenges/opportunities, and what they see as the future of local agriculture in the region. Following the facilitated discussion, the panelist answered individual questions from the audience and Project Team.

Joel Newhard, Newhard Farms

Joel is a 4th generation local farmer who has been involved in the family agricultural business all his life. Newhard Farms is a staple of South Whitehall and the surrounding area, growing corn, wheat, soybeans, and their specialty sweet corn which is sold along with other local fruits and vegetables at “The Corn Shed” in Ruchsville.

Chad Butters, Eight Oaks

Chad is the Founder & CEO of Eight Oaks, a local farm and distillery that makes a wide range of spirits including bourbon, rye whiskey, vodka, and gin. Chad retired from the military and moved to the Lehigh Valley to start an agricultural business with his family. Chad has a deep love for the Lehigh Valley and a passion for supporting local businesses and the community.

Kegan Hilaire, Blackbird Farms

Kegan runs Blackbird Farms, a certified organic diversified vegetable production, currently operating at The Seed Farm in Vera Cruz, Pennsylvania. Kegan’s production is primarily for wholesale use or as part of his Community Supported Agriculture (CSA). Kegan is also part of the Rodale Institute’s Organic Consulting Team, specializing in Small Farms and Diversified Vegetables.

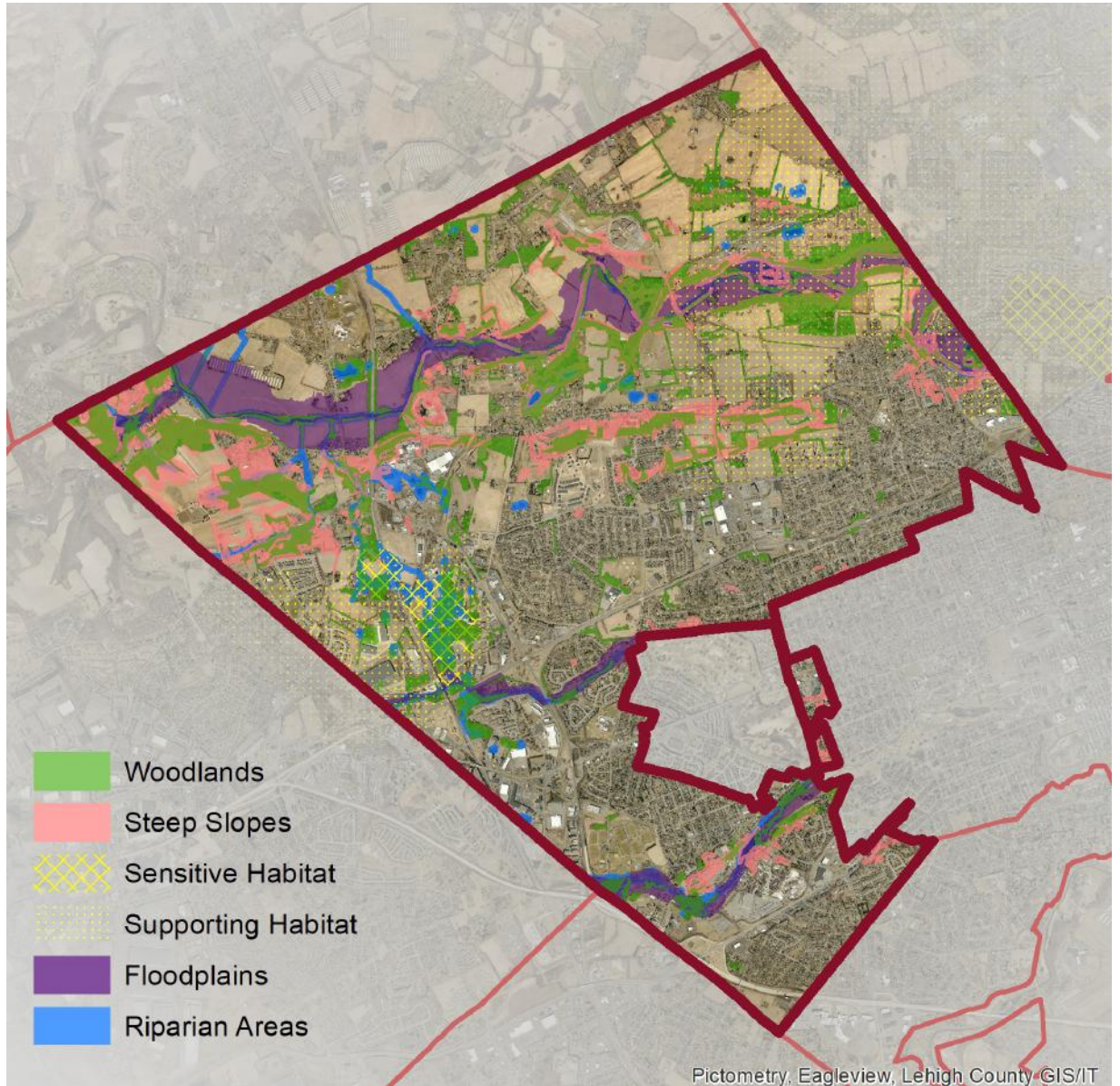
Madeline Squarcia, Buy Fresh Buy Local (not pictured)

Madeline is the Coordinator of Local Foods and Environmental Initiatives with Buy Fresh Buy Local, a program of the Nurture Nature Center out of Easton. Madeline is working to build the Greater Lehigh Valley local food economy through education and promotion of local food partners and improving access to fresh food.

Public Meeting 3 | Natural Resources

The third public meeting introduced the four natural resource types in South Whitehall that this plan would focus on. The Project Team provided details and examples of these resources to help show how they would be addressed in the plan and subsequent goals/actions. Christopher Kocher, President of Wildlands Conservancy participated as a subject matter expert, providing details about the importance of natural resources and examples of ways the Conservancy and other local partners protect natural resources in the region. Christopher and the Project Team identified a number of government and non-government organizations to consider partnering with to preserve and enhance natural resources in the Township.

The final portion of the meeting talked about the role citizens can play in preserving natural resources, including simple actions or choices they can make in their daily lives. Marie North, resident and member of the South Whitehall Environmental Advisory Council, gave a presentation on the natural resource management techniques she has introduced on her own property, including the installation of a rain garden and working with a local forester on a Forest Stewardship Plan.



Natural Resources Map | Source: *South Whitehall Township Comprehensive Plan*

Public Meeting 4 | Historic Resources

The fourth public meeting outlined the *What* and the *Who* of historic resources. Jeff Marshall participated in this meeting as the subject matter expert, helping to provide an overview of what resources are in the Township and how the definition of “historic resources” could be shaped to be specific to South Whitehall. Jeff and the Project Team talked about the importance of tangible and intangible resources, each contributing to the heritage of

the community. A brief history of national efforts to preserve history was shared, including the different roles each level of government plays in preservation (Federal, State, and Local).

The Project Team shared example categories of historic assets, based on federal guidelines for preservation. The Team also introduced the idea of classifying local historic resources and maintaining a local inventory. Finally, the Project Team talked about resources available from the Pennsylvania Historical and Museum Commission (PHMC) and State Historic Preservation Office (SHPO) that can aid in local preservation efforts. Other local partners were discussed, such as the Lehigh County Historical Society and what types of organizations can be effective on a more municipal level.



1800 Adam Good (Guth) Home | Source: South Whitehall Township

Community Event | Watershed Education

In August 2023, the Township partnered with the Lehigh Valley Greenways Conservation Landscape and Delaware & Lehigh National Heritage Corridor (DLNHC) to host a Watershed Education Event at Covered Bridge Park. This free event was part of the DLNHC's "Take Action" campaign, geared at educating and encouraging citizens to learn about their local waterways and get involved in their protection. Staff and volunteers from the DLNHC and South Whitehall Environmental Advisory Council lead stream walks in the Jordan Creek and talked about ways to get involved in citizen advocacy. Stroud Water Research Center brought their Watershed Education Mobile Lab to educate people about watershed protection and conduct live stream assessments. Members of the public were able to learn about some of the organisms found in the stream and what indicates a "healthy" stream habitat.

The public also had an opportunity to learn about the South Whitehall Landscapes Plan and how the Township manages its Municipal Separate Storm Sewer System (MS4). Staff and consultants also talked to community members about the Jordan Creek Greenway Strategic Management Plan, which highlights regional conservation and recreation efforts across multiple municipalities.



South Whitehall Landscapes
Natural Resource Preservation Events

South Whitehall Landscapes Meeting #3 - Natural Resources
Tuesday, August 22nd
6:00 PM - 8:00 PM
South Whitehall Township Building
4444 Walbert Avenue or join online!

Jordan Creek Greenway & Watershed Education Event
Wednesday, August 23rd
4:00 PM - 6:00 PM
Covered Bridge Park
2465 Wehr Mill Road

TAKE ACTION

Get to know your resources!

SOUTH WHITEHALL TOWNSHIP

www.southwhitehall.com/landscapes



Expert/Stakeholder Engagement

Throughout the summer, the Project Team interviewed subject matter experts and local stakeholders to learn more about resource management, modern challenges, and opportunities the Township could pursue as part of this plan. These interviews included field trips to local examples of best practices or successfully managed properties including farms, parks, and nature preserves. The Project Team was able to learn hands on some of the potential challenges with managing open space for different resources. The Project Team also interviewed local farmers, history enthusiasts, and staff from local governments and nonprofits that are involved with historic preservation or conservation. The information gathered from these interviews helped to provide more specific areas to focus on for resource preservation or potential pitfalls to avoid.



Rodale Institute

The Rodale Institute is a global leader in organic farming research, practice, and advocacy. Grown out of the organic farming movement of the 1970s, the Rodale family made a tremendous contribution to spreading the message behind the numerous benefits of organic farming. Through a variety of publications as part of Rodale Press Inc., the name Rodale became synonymous with organic farming across the globe. Today the Institute headquarters are located on a 380+ acre preserved farm in Kutztown, PA. Members of the Project Team visited the farm to learn hands on about modern trends and practices in agriculture and learn about some of the services Rodale offers to farmers worldwide.



The Seed Farm

The Seed Farm is a 43-acre preserved farm owned by Lehigh County and utilized to further agricultural practices and other goals of the County's agricultural preservation program. The Seed Farm program started in 2010 as a farm incubator and farmer training program, with the goal of educating and training the next generation of farmers to take over the 20,000+ acres of preserved farmland in the County. This program has shifted over time and is now under the management of Community Action Lehigh Valley/Second Harvest Food Bank. The Seed Farm currently has 7 farming "tenants" including diversified vegetables, culinary herbs and spices, and organic roses. The Project Team visited the farm to learn more about how the incubator program works and consider similar programs in South Whitehall.



Local Resident Spotlight

Stanley Breininger

There aren't many "true" farmers left in South Whitehall, but Stanley Breininger is the real deal. Originally born in Allentown, Stanley moved to South Whitehall when he was just 1 and lived in the same farmhouse for 87 years. Growing up, Stanley had a front porch view to the rural beauty of the Township, with vast farm fields, the Jordan Creek, and the historic Guth's Covered Bridge. Stanley is a farmer first and foremost and has been tending to his own special corner of the Township for decades, growing everything from corn and soybeans to apples and hay, not to mention raising hundreds of chickens. Stanley knew a thing or two about hard work, as he would carry five-gallon buckets of feed all day long up and down the chicken coops.

Later in life, Stanley would lease his land to another local farmer, but that didn't slow him and his son Jeff from handling what else needed to be done on the farm. They would regularly be seen trimming hedges, cutting the grass, and tending to the barn, all before enjoying a relaxing afternoon in the shade on the porch.

Unfortunately, Stanley Breininger passed away in July of 2024, but his stories and contributions to this plan will forever be memorialized in some of the preservation efforts proposed. Stanley's family and friends would describe him as a tough and even-tempered farmer with a kind heart. He loved his family, and he loved being on his farm.



Stanley Breininger |

Source: South Whitehall Township

Public Meeting 5 | Wrap Up

The final public meeting was held at the end of summer to highlight summarize the research and outreach conducted by the Project Team and outline next steps to prepare the Landscapes Plan. A large part of this meeting highlighted the need for open space preservation and what that could mean specifically for South Whitehall. The discussion emphasized the importance of preserving open space properties as a way to support the preservation of each resource discussed in the plan (Agricultural, Natural, and Historic). The idea of defining “open space” was introduced, including some recommendations for categories of open space that are common in South Whitehall.

The Project Team summarized the opportunities and challenges learned for each resource and discussed how these could be addressed through the plan and utilizing a Preservation Toolbox.

Preservation Toolbox

The Preservation Toolbox utilizes several strategies:

- Land Preservation
- Asset Preservation
- Outreach & Education

Land Preservation

The conversation on land preservation revolved around the legal parameters of property rights and how municipalities can protect resources by acquiring specific rights or utilizing the Township zoning ordinance to require the preservation of open space in certain areas. This conversation also emphasized the importance of appropriately financing an Open Space Preservation Program if the Township were to pursue a more proactive approach to land protection.



Asset Preservation

The Project Team discussed mechanisms to preserve specific assets through regulation, without the direct acquisition of land. Examples of this include creating a historic preservation ordinance that helps to encourage private preservation of historic resources. Natural resource protection ordinances were also discussed including the Township's Floodplain Ordinance and new ordinances around riparian area or steep slope protection. The Team pointed out that the Township Official Map is an effective way to publicly identify resources of priority to protect, that also establishes a process to initiate conversations with private property owners about identified resources.

Outreach & Education

The final component of the Preservation Toolbox centered around outreach and education to the community. The Team identified the Township Environmental Advisory Council (EAC) as an important partner in implementing the goals and actions laid out in this plan and as a voice to the community for preservation. The Team shared examples of how EAC's in other communities play an integral part in evaluating open space to be protected and working with citizen volunteers on projects.

Another key discussion during this meeting was around the need for a historical-related volunteer body and the difference between a "Historical Society" and a "Historical Commission". These are further explained in the Historic Resources chapter of this plan.



Historic farm kitchen | Source: South Whitehall Township



Agricultural Resources

Introduction

What is Agriculture?

Agriculture is the backbone of early civilization in South Whitehall and continued to play an important role in the Township's growth. The fertile land, relatively flat topography, and access to fresh water was initially taken advantage of through Native American farming practices and later became the primary draw for the colonial settlers that came to call this place home. The Township's earliest villages and residential settlements supported primarily German farmers and shaped how the Township developed over time. Even as industry has changed drastically in this area over the past few centuries, agriculture has remained a staple industry in the northern tier of the Township. However, as with any rural area in the United States, the status of traditional agriculture is threatened by development, the economy, and shifting markets. It is important for communities and farmers to adapt to a changing environment (both physically and socially) to support the continuation of agriculture as a cornerstone of this community.

Through public and stakeholder engagement, the planning team derived four key ideas of what agriculture means to people in South Whitehall Township:

Farmland

*Community
Importance*

Culture

Local Business

Types of Agriculture

It is important to understand not only what agriculture means to this community, but how different types and practices of agriculture contribute to food production and access to food.

Monoculture

Monoculture is the predominant type of agricultural practice in the area. It is characterized by large-scale farms cultivating a single crop during a growing season. These farms rely heavily on mechanized equipment for planting, harvesting, and other tasks. Monoculture often occurs on expansive, accessible tracts of land, allowing for efficient production. Common crops in monoculture systems include corn, soybeans, and other feed grains used as animal feed.



Farm Equipment on a Monoculture Farm | *Newhard Farms*

Polyculture

Polyculture involves planting multiple crops in the same area simultaneously. In polyculture, cover crops are planted to help minimize pests and weeds. While this agricultural practice promotes biodiversity and competition among plants, it can be more complex to harvest and require additional labor.



Polyculture in Rock Springs, PA (corn, sorghum, soybean, and sunflower) | *Penn State College of Agricultural Sciences*

Community Supported Agriculture (CSA)

CSA is an agricultural production and marketing model that connects consumers directly with local farmers. A farmer offers a certain number of shares to consumers (e.g., a box of vegetables on a weekly basis) during the growing and harvesting season. CSA can be beneficial for both farmers and consumers. For farmers, CSA ensures that they receive payment earlier in the season which helps with cash flow and are connected to their community. CSA marketing typically occurs before the height of the growing season. For consumers, they get access to fresh food and exposed to new types of produce.



Blackbird Farms Field/Greenhouse | *Blackbird Farms*



CSA Spotlight *Blackbird Farms*

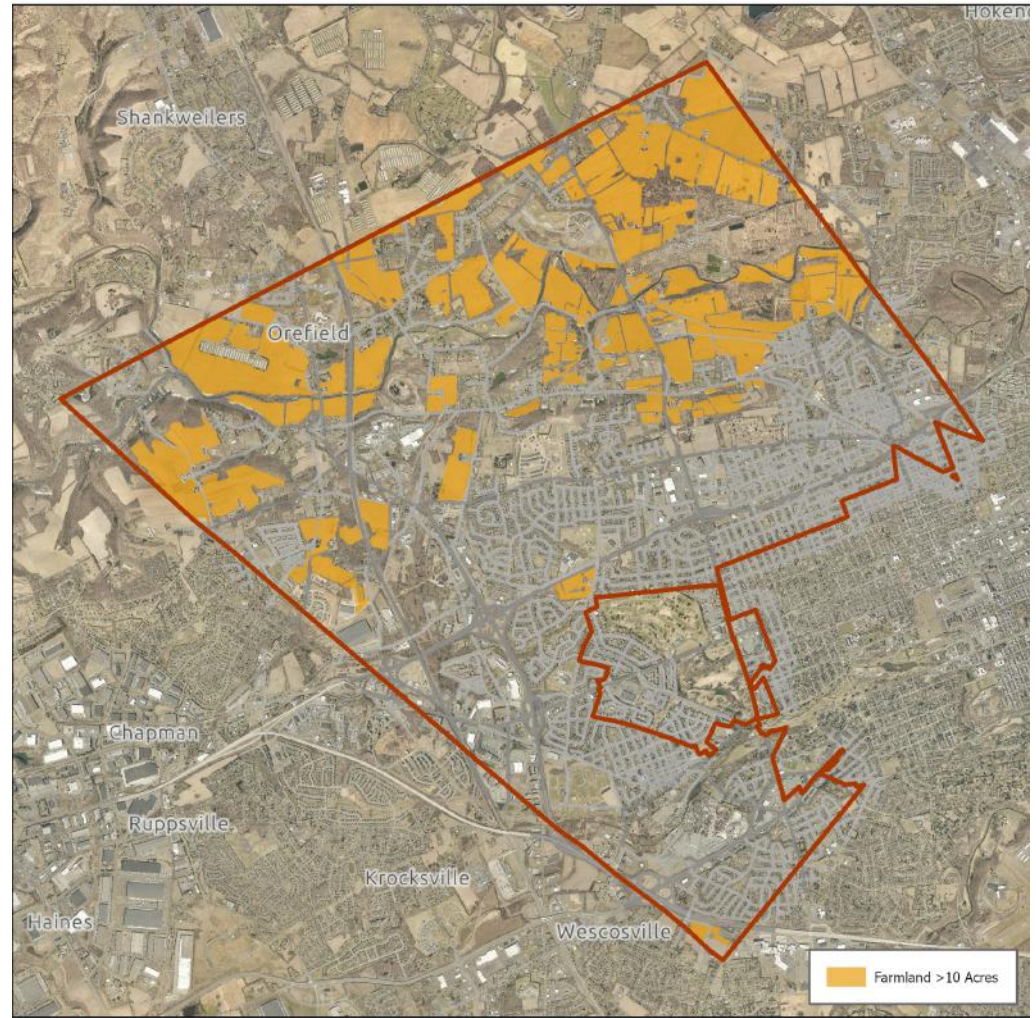
Blackbird Farms is a certified organic fruit and vegetable farm, owned and run by Kegan Hilaire. Kegan's love for farm shares started while living in Philadelphia and appreciating the quality and taste of fresh farm eggs from a local farm. From there Kegan explored the intricacies of our food systems and the benefits of "buying local". Blackbird Farms produces fresh fruits and vegetables year-round for farm shares and wholesale use. Kegan started Blackbird Farms out of The Seed Farm in Vera Cruz and is looking to expand the farm to larger acreage in the area.



Existing Conditions

Farmland

Agriculture currently comprises approximately 3,100 acres of land in South Whitehall Township, primarily in the northern tier where utilities are not prevalent. About 95% of the farmland in the Township is farmed by two farmers, one of which owns all of their farmland and the other who leases their fields in South Whitehall. Most of the farmland in the Township is unprotected and is threatened by development more and more each year. Large tracts of farmland are intact around the Jordan Creek, but as you look south, farmland becomes much more isolated. This plan will go on to discuss the critical role farmland plays to help preserve and encourage agriculture, along with the challenges of keeping that land intact. The map to the right identifies tracts of connected farmland over 10 acres. It is important to consider the mobilization and management cost of the smaller tracts and whether their use for agriculture can continue to be economically viable for the farmer.



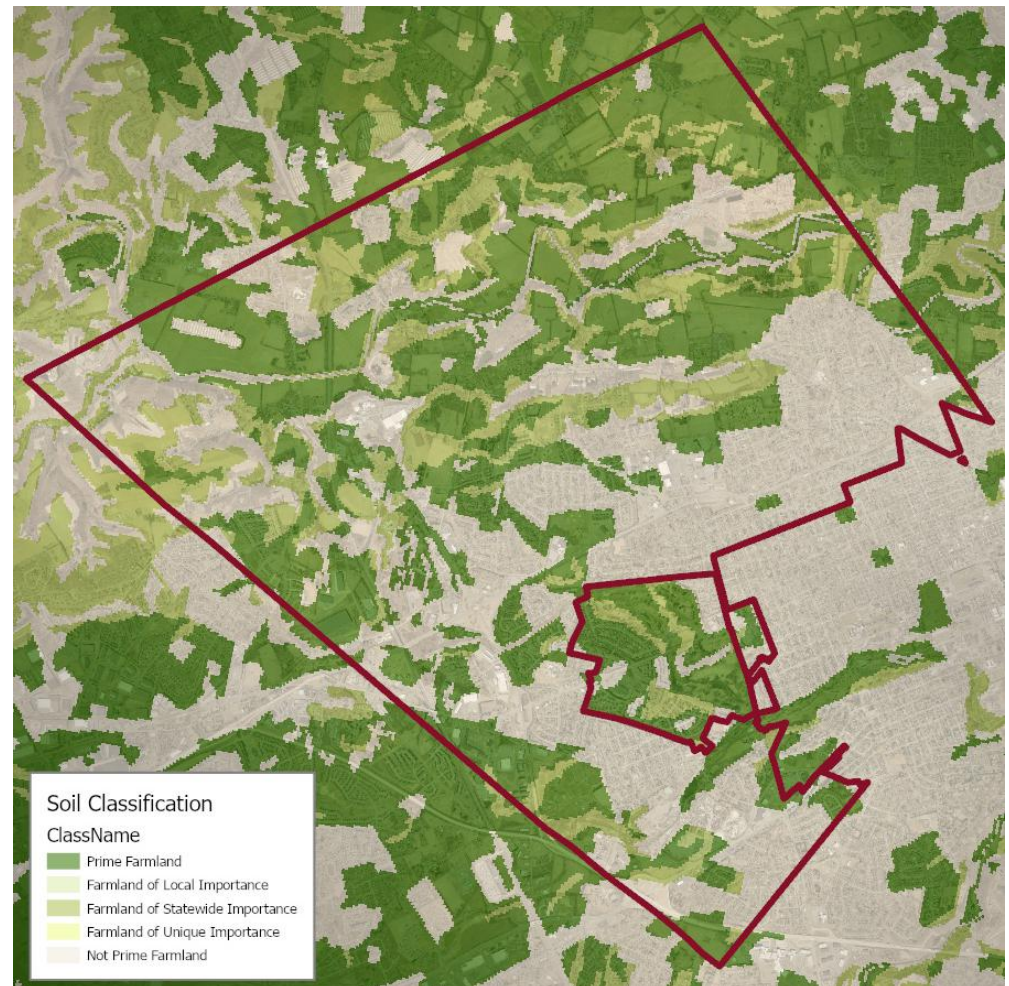
Farms over 10 acres | Source: South Whitehall Township

Soils

Soil composition is an essential part of agricultural production and viability. Soil is a mixture of minerals, organic matter, water, and air that comes in many different variations. The nutrients and bacteria in soil directly impact the production value of crops and how well they grow. Soil compaction dictates the way and amount of water that is filtered or stored in the ground. Soils management is one of the key aspects of farming that can make or break the farmer's profit margins. Farmers invest extensive amounts of time and money into improving soil health or maintaining the health of good soil on their land. Soils also have a direct impact on determining "Prime Farmland". Prime Farmland can be described as land that has the best combination of physical and chemical characteristics for crop production. The combination of soil properties, growing season, and moisture supply determine how high of a yield farmers can expect under normal conditions. Finding available land that is considered "Prime Farmland" is a great start to managing a successful agricultural business.



Students studying soil composition at the Lehigh County Envirothon | *Source: Lehigh County Conservation District*



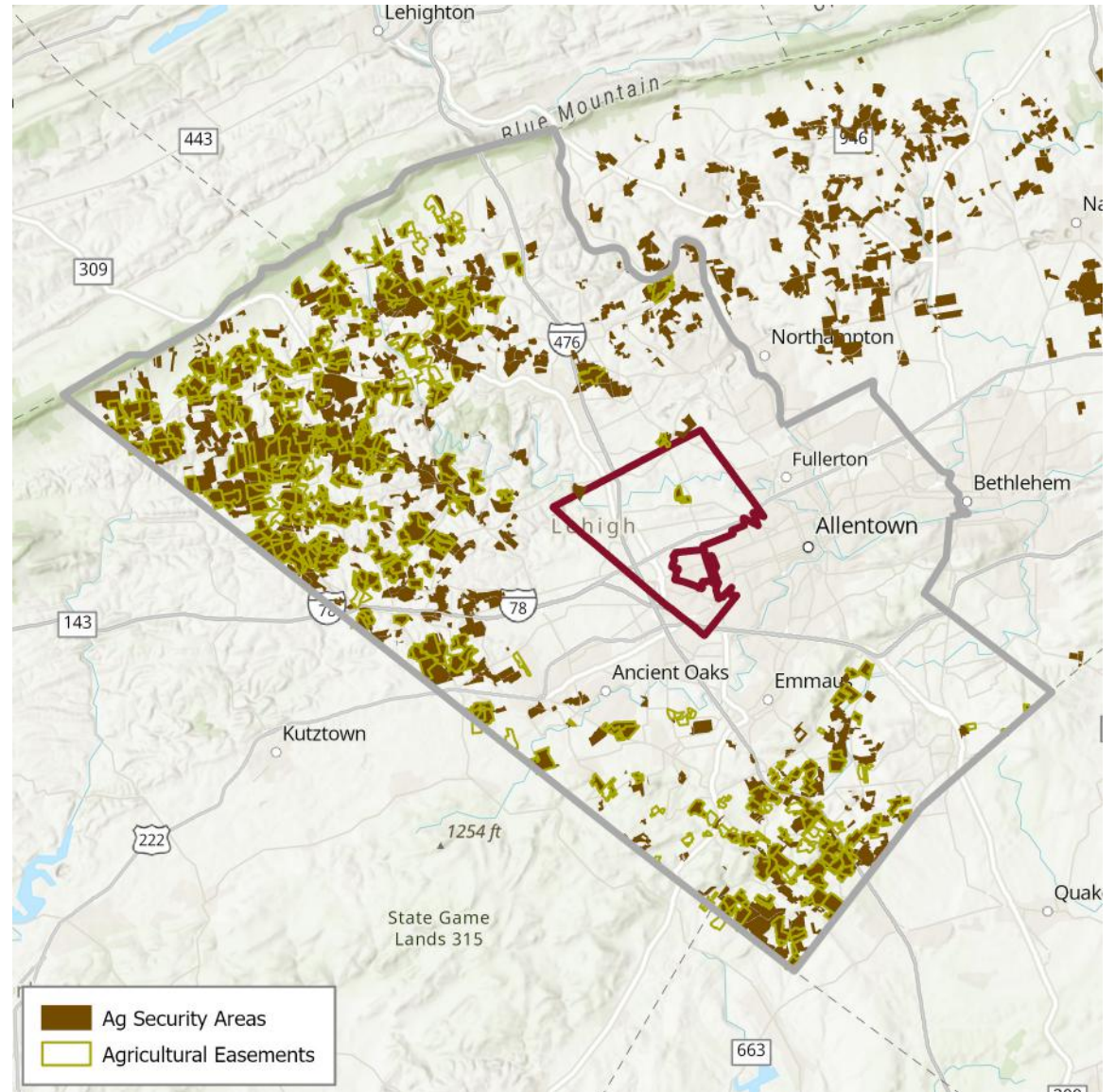
Prime Soils Location | *Source: South Whitehall Township*

Preservation

Preserving working farms is a tremendously worthwhile effort with numerous benefits. Not only do farms contribute directly to the local food supply, but they also characterize an area and aesthetic that is rapidly disappearing in the Lehigh Valley. Farms provide an important backdrop to our expanding urban landscape and contribute to our historic culture. Farms are typically also targeted as prime development potential due to their often large, flat land that can easily be built upon.

Agricultural Security Area (ASA)

An Agricultural Security Area is a tool for protecting the uses associated with farms and farmland. Once land is recognized as an ASA, there are certain protections applied to the land, including protections from local ordinances and nuisance laws that would affect agricultural operation and the ability of government to condemn farmland. The ASA encourages farming activities and helps to protect farming operations from surrounding incompatible land uses. ASAs are established through a petition submitted by the property owner (or a group of property owners) to the Township Board of Commissioners and are re-evaluated every seven years. The minimum required area for an ASA is 250 acres. Designation as an ASA is required prior to participation in the Lehigh County Farmland Preservation Program. South Whitehall Township has an ASA that is shared with Lower Macungie Township in order to meet the minimum area requirements.



Farmland Preservation in Lehigh County | Source: South Whitehall Township

Act 319 Preferential Tax Assessment

Act 319 of Pennsylvania, also called “Clean and Green” is a preferential tax assessment program that benefits property owners of larger tracts of agricultural or forest lands. If property is enrolled in this program, the county property assessment can be based on the value of the current land use rather than the fair-market-value of the property. This can significantly reduce the assessed value of a vacant parcel of land and save the property owner potentially hundreds of dollars in real estate taxes every year.

The current eligibility requirements for a property to be enrolled in Act 319 require the parcel (or grouping of parcels) to be at least 10 acres in size and be classified as either Agricultural Use, Agricultural Reserve, or Forest Reserve. This preferential assessment is a great incentive for working farms and forest lands to remain in that land use, however this program should not be considered as a permanent preservation strategy.

Lehigh County Farmland Preservation Program

The Lehigh County Farmland Preservation Program aims to protect agricultural land by working with landowners to establish conservation easements. Under this voluntary program, landowners receive financial compensation to perpetually preserve their properties for agricultural production. The program, has preserved over 28,000 acres across 403 Lehigh County farms.

Each year, applicants are ranked on specific criteria. The top ranked farms are selected for preservation. If a farm is not chosen, it is put on a wait list (there are currently 35 farms on the wait list). The number of farms selected is also based on funding availability.

Manito Horse Farm is the only preserved farm through the Lehigh County Farmland Preservation Program in South Whitehall Township.



Manito Farm | *Source: Manito Equestrian Center*

Challenges

Through the course of this plan, the Township reached out to farmers, industry professionals, researchers, and advocates to better understand the day-to-day and long-term challenges faced by farmers. Through this research the Project Team was able to identify four major themes that describe the challenges farmers face in our region.

Land

First and foremost, farmers need parcels to farm. If the land isn't available or is unsuitable for crop production, then agriculture isn't viable. Suitable land for farming depends on soil characteristics, topography, a reliable water supply, and access. The more prevalent challenge for farmers in the region is that even if land may be suitable for agriculture, it isn't affordable. Most of the remaining farms in the Lehigh Valley are quickly targeted for development because of their size, topographic conditions, and access to state roads.

Access

To expand further on the challenge of land, even if farmers have ownership or the right to farm a parcel of land, how easy is it for them to get to it? More frequently in the Lehigh Valley we will see small pockets or islands of agricultural lands separated by busy roads, development, or untraversable terrain. For farmers to work the land, they typically need to be able to access it with large equipment. If a parcel is too difficult to access, it's considered useless for farming.

Cost

Costs associated with farming present another challenge, including the cost of land and the cost of equipment. Many farmers cannot afford to buy the land outright, so they lease it. Leasing does not lend a long-term security or guarantee to the farmer. Additionally, leasing often precludes farmers from truly investing in the land over the long run. The cost of equipment is also a challenge. Inflation adds to this challenge by driving the prices of equipment up year after year, making it difficult for farmers to keep up with necessary equipment upgrades or replacements.

Regulations

If everything goes well and the farmer is able to secure a piece of land that is suitable for agriculture, what are they allowed to do? Most farmers are not experts in zoning or local land use regulations and may not even be aware of where to research them. Restrictions dealing with odors, noise ordinances, and other nuisance controls may be well-intended, but could cause a lot of headaches for farmers. As mentioned, access to the market is a critical consideration for a farmer. A farmer may base their entire business plan on a small farm stand onsite instead of hauling everything to the market, but what if that farm stand is in violation of local zoning codes? In many cases, local regulations could have been developed with the community benefit in mind but may be a huge deterrent for farmers to have a successful business.

Profitability

Even if a farmer can overcome these initial challenges, there is no guarantee the business will be profitable. New farmers especially face the difficulty of securing the upfront capital to start an agricultural business, tap into the appropriate market, and cover the rising costs of equipment, labor, and while off debt. As the cost of equipment, materials, and labor continues to rise, farmers are still expected to maintain steady prices. If the costs of locally sourced agriculture goes above that from large industrial farms, most consumers will purchase the cheaper option, leaving the farmer with a smaller market of customers.

Good business planning is also a necessity for new farmers or farmers expanding into new markets. In today's world, direct access to consumers has grown immensely through agri-tainment, farmers markets, and even social media. However, this also makes it extremely competitive and difficult to stand out or maintain a space at oversaturated farmers markets or public markets. Buy Fresh Buy Local of the Lehigh Valley identifies only 14 farmers markets in the area. While farmers markets are great locations for new producers to sell their products, they can be very difficult/expensive to get into or sustain a presence, including even the cost of staffing the market opposed to working the fields.



Easton Farmers Market | Source: Elizabeth Judge Wyant

Opportunities: Location

Even though there are significant challenges for farmers of all ages and experiences, South Whitehall Township offers tremendous opportunities to encourage, promote, and sustain agriculture at many different scales. The Township is fortunate to have the critical resources and suitable location to support productive agriculture.

Land

South Whitehall Township's land offers a variety of opportunities and benefits. There are still substantial amounts of available land for farming in configurations that meet the varying needs of different farmers. There are small- to medium-sized plots for aspiring farmers and large, connected tracts of uninterrupted agricultural acres for traditional farmers or larger operators. Additionally, the soil composition in South Whitehall is excellent, particularly in the northern portions, where significant undisturbed prime agricultural soils can be found.

Water

Water is an essential resource for agriculture and can sometimes be the most challenging to fix if it isn't available nearby. Luckily, South Whitehall has reliable water sources throughout the Township whether it be through freshwater rivers and ponds or supplied as Township drinking water. While there are some areas of the Township that don't currently have access to water lines, the groundwater supply tends to be dependable for a well. Having the Township own and manage all of its municipal water supply also makes it much easier for individuals to connect to an existing line, rather than if it were part of a much larger regional system.



Water pump used in farming operation | Source: South Whitehall Township

Market

South Whitehall Township and its surrounding areas’ large population and healthy economy provides a market opportunity for farmers. In short, farmers can access consumers and consumers can access farmers. There are a few different methods for accessing the market:

Local Business

There are many restaurants and local groceries that farmers can sell to. In this case, farmers coordinate directly with the restaurants and grocers. Alternatively, farms can have permanent stores on their properties.

CSA

Farmers can establish a CSA for their farms and sell shares to consumers. The consumers in turn receive a box of produce (and/or other goods) on a regular basis throughout the growing and harvesting season.

Farmers typically manage all of the logistics and marketing for CSAs.

Food Co-Op

Farmers can sell to a food cooperative (co-op). A co-op is a grocery store that is owned by community members. Rather than consumers buying a share of the farmers’ goods, as is the case in CSA, consumers purchase ownership in the co-op gaining access to a variety of products. Farmers sell their goods to the co-op; however, the co-op manages logistics and marketing.

Farm Stands

Farm stands are temporary structures located on the side of a road, often near the farm itself. Farm stands typically operate on a seasonal basis. They provide goods for sale direct to consumers. Farm stands are usually operated by the farm itself. Due to their location along roadways, there is little marketing involved beyond signage. Sometimes farm stands are staffed by the farmers, whereas other stands are self-serve.

Agri-tainment

Another market opportunity for farmers is through “agri-tainment.”

Agri-tainment is the provision of entertainment in an agricultural setting. There are different scales and varieties of agri-tainment (e.g., corn mazes, produce/ flower picking, farm tours, workshops, etc.).

Opportunities: Scale

South Whitehall has the opportunity to support different types of agriculture at various scales. When talking about size, South Whitehall has a significant amount of acreage of connected farmland to support large-scale production, while there is also plenty of space to consider smaller operations that are more market-focused or connected to residential uses. This sliding scale encourages established farmers to stay and farm this area, while also creating opportunities for new farmers to lease small plots of land or connect directly to consumers.

Large-Scale

There are 2,100 acres of connected farmland in the northern tier of South Whitehall Township. This large amount of acreage makes it viable for traditional farmers to invest their time and resources into farming the land. To preserve large scale farming opportunities, it is important to keep large tracts of farmland connected and accessible.



Large Farm in South Whitehall | *Source: South Whitehall Township*

Medium-Scale

Medium-scale farms can be very attractive parcels for residential development. These properties, typically between 5-15 acres, are often used for horse farms or small “farmettes” that are not part of large commercial operations. The combination of the Township having quality agricultural resources and being a desirable place to live can encourage medium-scale farms throughout the Township.



Farmette Example | *Source: South Whitehall Township*

Small-Scale

Small-scale farms are typically resident-oriented agriculture rather than commerce-oriented. They provide a centralized location for a resident or group of residents to grow produce for household consumption (not resale).



Small Backyard Garden
| Source: M.C. Hartman



Medium-Scale Farm Example

Kore Coffee and Flowers

Kore Coffee and Flowers is a small flower farm located in South Whitehall Township near Covered Bridge Park. Kore grows seasonal flowers for fresh cut bouquets, bulk buckets, and events. In addition to the floral business, Kore also operates a mobile coffee truck at local markets and events. Together the owners, Melissa and Hector, cultivate the approximately 3-acre flower farm that continues to grow each season. These two put their passion into this small business, with hopes and vision to grow into something much larger soon.



Goals

1 Protect: Existing Farmland

Land is one of the most important features the Township can offer for agriculture, in addition to water and market availability. This first goal focuses on preserving land that is appropriate for different scales of farming. It is critical that existing farmland is preserved for continued agricultural use into the future. Direct or indirect preservation approaches can be taken, including:

- **Easements and acquisitions:** These are direct preservation methods in which a property is acquired for farmland preservation, or an easement is applied to a property or portion of a property for farmland.
- **Zoning:** Zoning requirements can help indirectly preserve farmland, such as requirements that incentivize the preservation of large, connected tracts.
- **Incentives:** Financial or regulatory incentives can help indirectly preserve farmland by reducing the burden on the property owner. Financial incentives could include tax credit programs or waivers for permits or other fees. Regulatory incentives could include zoning flexibility.

2 Encourage: A Variety of Agricultural Opportunities

The Township can help support agriculture at a various scales through land use regulations, specifically through strategic zoning reform. The Township's zoning ordinance can be evaluated to identify areas where regulations can be adjusted to accommodate more agricultural-related businesses (either in use types or in expanding geographic permissions) and allow for residential-related agricultural practices that would support small-scale farms.

3 Connect: With the Agricultural Community

Farming in the Township can be supported through strengthening relationships between the agricultural community, Township staff and elected officials, and residents. Connections can be strengthened through:

- **Community Programming:** Providing opportunities for educational programming and information sharing between the agricultural community and other residents such as agricultural panels, information sessions, and workshops.
- **Proactive Outreach and Accessible Guidance:** Township staff are a resource and partner for the agricultural community. Efforts can be made to reach out to the agricultural community and share how the Township can support farmers in staying in the Township or getting established in the Township. Part of this is educating farmers on municipal regulations, operations, and opportunities. By increasing understanding, the barriers to entry (or to success) are lowered and the Township can work with the agricultural community to establish farms at appropriate scales and locations within the Township, benefiting farmers, the Township tax base, and consumers.



Natural Resources

Introduction

What are natural resources?

In a technical sense, natural resources are features found in or created by nature. This includes both the physical and biological components, and the relationships between them. This plan examines natural resources as the primary features that form naturally and influence our community. For the purpose of preservation priorities, this plan recognizes four general categories of natural resources:

- Woodlands
- Topography
- Hydrology
- Habitat

Why are they so important?

Natural resources contribute to our community's quality of life and uniqueness of the area. Try as we might, nature can never be fully controlled or recreated. The way nature forms and adapts is different from place to place and helps to establish what makes this area special.

In addition to creating our sense of place, natural resources also inherently provide important services such as filtering sediment to our waterways, cleaning the air, controlling flooding, all free of charge. These "natural system services" are valuable alternatives to the costly engineered solutions for water supply/water quality management, flood mitigation, and so forth. According to the 2014 Lehigh Valley Return on Environment Report, our natural systems contribute to saving on average over \$110M annually just in water resource management compared to engineered systems. It goes to show that preserving our natural resources benefits not just our environment and sense of community, but also our wallets.



Woodlands



Topography



Hydrology



Habitat

Woodlands

The woodlands in South Whitehall Township are approximately 10 and 80 years old. These woodlands are primarily second-growth forests meaning that the woodlands have been regenerated following human-caused disturbances (e.g., agricultural clearing, timber harvesting, etc.).

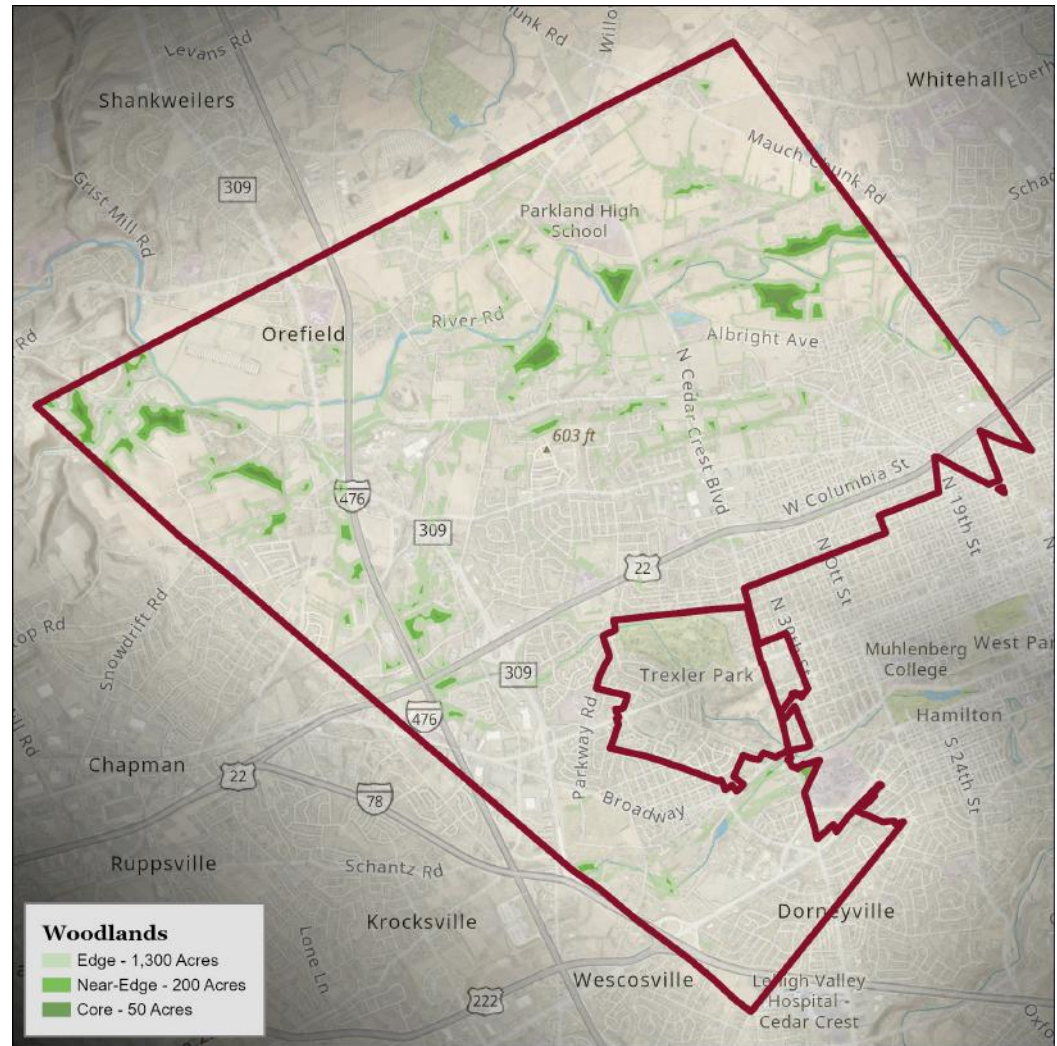
Typical Tree Species in South Whitehall

- Red Maple
- American Beech
- Black Walnut
- Chestnut Oak
- Tulip Poplar
- White Oak

Fragmentation

Forest fragmentation is a description of the loss of forest and smaller “stands” (i.e., contiguous groupings) of remaining forest. This reduces the amount and quality of habitat for many species. Forest fragmentation is a typical occurrence due to suburbanization across the country. In South Whitehall, much of the remaining woodlands display characteristics of forest fragmentation.

A better understanding of woodlands in the Township can be made through an analysis and inventory of remaining woodlands. Currently there are roughly eight (8) “stands” of mature forest totaling 1,500 acres. These stands of forest can further be categorized into “Edge”, “Near Edge” and “Core” forests. The largest remaining connected stand of woodlands in South Whitehall is approximately 80 acres, of which only 14 acres would be considered “Core” forest.



Woodlands Map | Source: South Whitehall Township

Woodlands: Types

Edge Forest



Edge forest is the most common forest in suburban environments. Edge forest is considered to be within 100 feet of the stands perimeter.

Near-Edge Forest

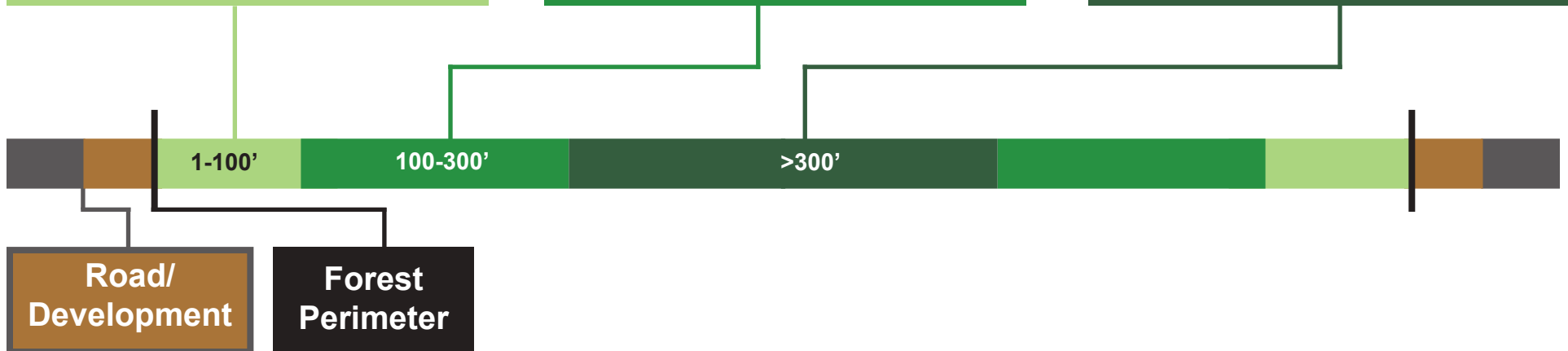


The near edge forest represents a deeper forest stand between 100 feet and 300 feet.

Core Forest



Core forest are the areas that remain after measuring the edge and near-edge forest. Thus greater than 300 feet from the forest perimeter.



Woodlands: Types

Urban Forest & Shade Trees

According to the United States Forest Service (USFS), over 141 million acres of America's forests are located right in our cities and towns. These "Urban Forests" come in many shapes and sizes and can be thought of as our street/shade trees, greenways, parks, and related green infrastructure. While they may seem small and insignificant, the trees and vegetation outside our front door are becoming more important than ever for people and wildlife. Shade trees contribute to air and water filtration, help trap heat (reducing the heat island effect), reduce noise, and serve as valuable habitat for animals in developed areas. In addition, shade trees and landscaping can add beauty, form, and structure to communities and improve our neighborhood identity. As our community continues to grow, it is important to maintain the urban forest in order to sustain a thriving ecosystem, be more resilient to the changing climate, and enhance our quality of life.

Landscape & Shade Tree Commission

The South Whitehall Township Landscape and Shade Tree Commission regulates, through Ordinance 330 Trees, all trees in the public right-of-way. Any property owner wishing to remove or conduct major pruning to a tree within the public right-of-way must first obtain a Shade Tree Permit. This is a free permit and is required to ensure the safety and well-being of the public and trees in the right-of-way.



Street/Shade Trees in South Whitehall | Source: South Whitehall Township



Woodlands: Forest Management

A forest management plan is key to sustaining healthy woodlands. Forest management plans need to consider the unique needs of the area. In the case of South Whitehall Township, forest management approaches need to account for:

- **Fragmentation:** South Whitehall's woodlands are fragmented due to historical development patterns. Woodlands were cleared for agricultural, industrial, residential, and transportation development and infrastructure. As the second-growth woodlands develop, they are developing in fragmented stands, leaving very little contiguous woodland in the Township. Forest management in the Township should consider how to create more contiguous stands to increase the core forest through reforestation.
- **Network of Shade Trees:** Shade trees provide a variety of ecological, social, and economic benefits to the Township. Managing the shade tree network should include maintaining the existing shade tree canopy and introducing new shade trees to expand the network, through sound land development policies and shade tree removal permit requirements, regular maintenance and evaluation, and appropriate tree species selection and planting.

Reforestation: The Miyawaki Method

The Miyawaki Method is an effective and efficient tree planting approach for reforesting land. It uses natural reforestation principles (i.e., using native trees and replicating natural forest regeneration processes) to rebuild mature forests in a short period of time. In this method, seedlings are planted in high densities to compete for light, as natural selection favors the fastest growing trees. What typically takes decades can be accomplished in 2-3 years if planted and managed appropriately. This method is particularly effective in urban and suburban environments since it can be applied in smaller areas.

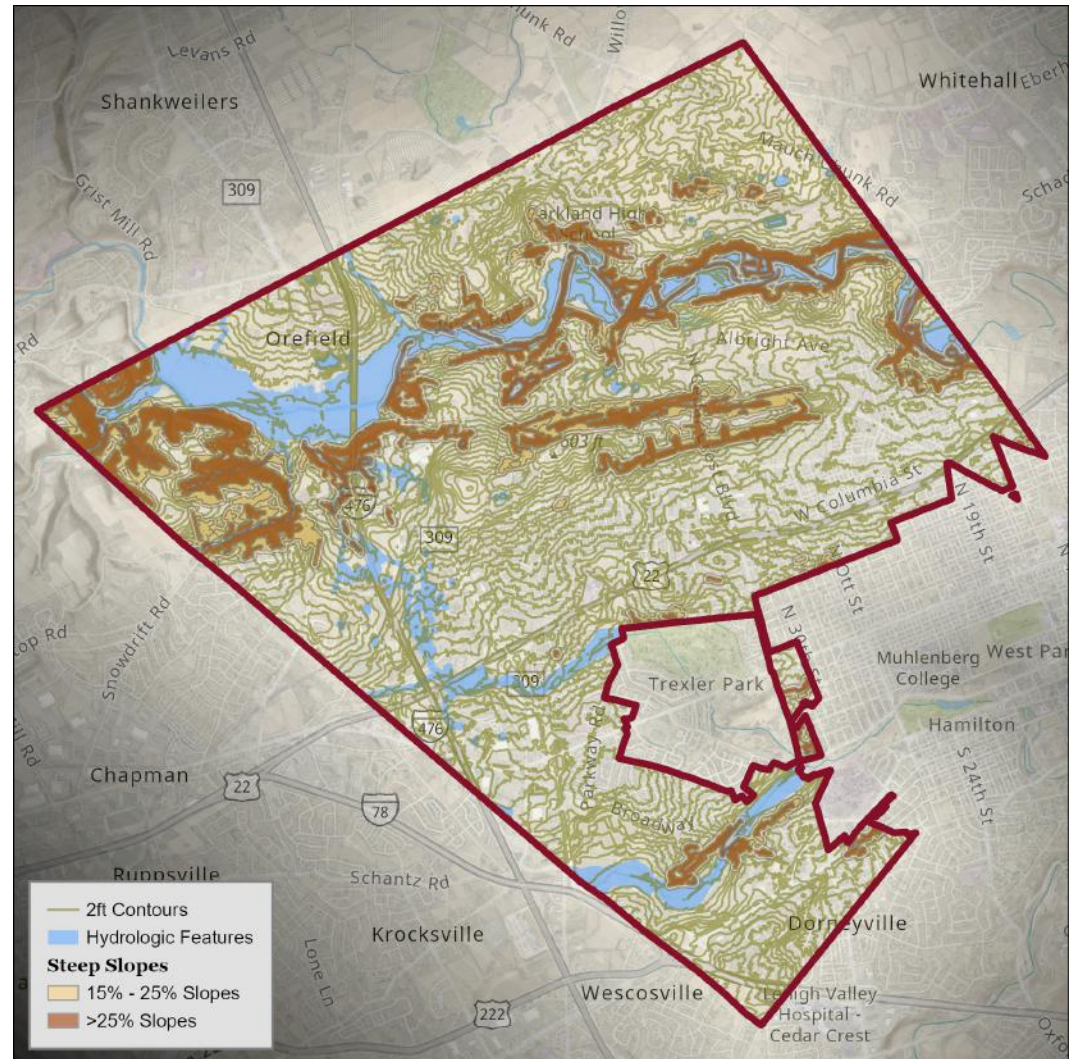



Forest Stewardship Program
Administered by the U.S. Forest Service

The Forest Stewardship Program (FSP) is a program of the U.S. Forest Service. FSP helps landowners develop a Forest Stewardship Plan to identify goals for the land and management activities needed to meet them. Some goals may include increasing economic value while protecting water and air quality, wildlife habitat, and natural beauty. Landowners work with state forestry agencies, cooperative extension contacts, and conservation districts on developing a plan that fits their needs.

Topography

Topography refers to the arrangement of physical features in the environment, specifically the distribution of hills, valleys, mountains, plains, and other landforms. These natural features play a crucial role in shaping ecosystems, influencing climate patterns, and providing resources for human activities. For instance, hills and valleys contribute to soil formation, water drainage, and agricultural productivity. The area's topography creates the landscape we see today and impacts other natural features, such as hydrology.



Topography Map | Source: South Whitehall Township

Topography

Steep Slopes

Steep slopes are slopes with a grade over 15%. Due to their steepness, they can pose challenges for development, stability, and erosion control. Steep slopes tend to have porous soils meaning that they have high permeability which allows water to pass through the soil easily. While this can be advantageous for drainage, it also makes the slopes susceptible to erosion. Increased water runoff can lead to soil displacement which can affect the slope's stability and the surrounding development.

With those challenges, steep slopes are unstable for development. Instead they should be identified and protected as sensitive landscapes to avoid further erosion or negative environmental impact.



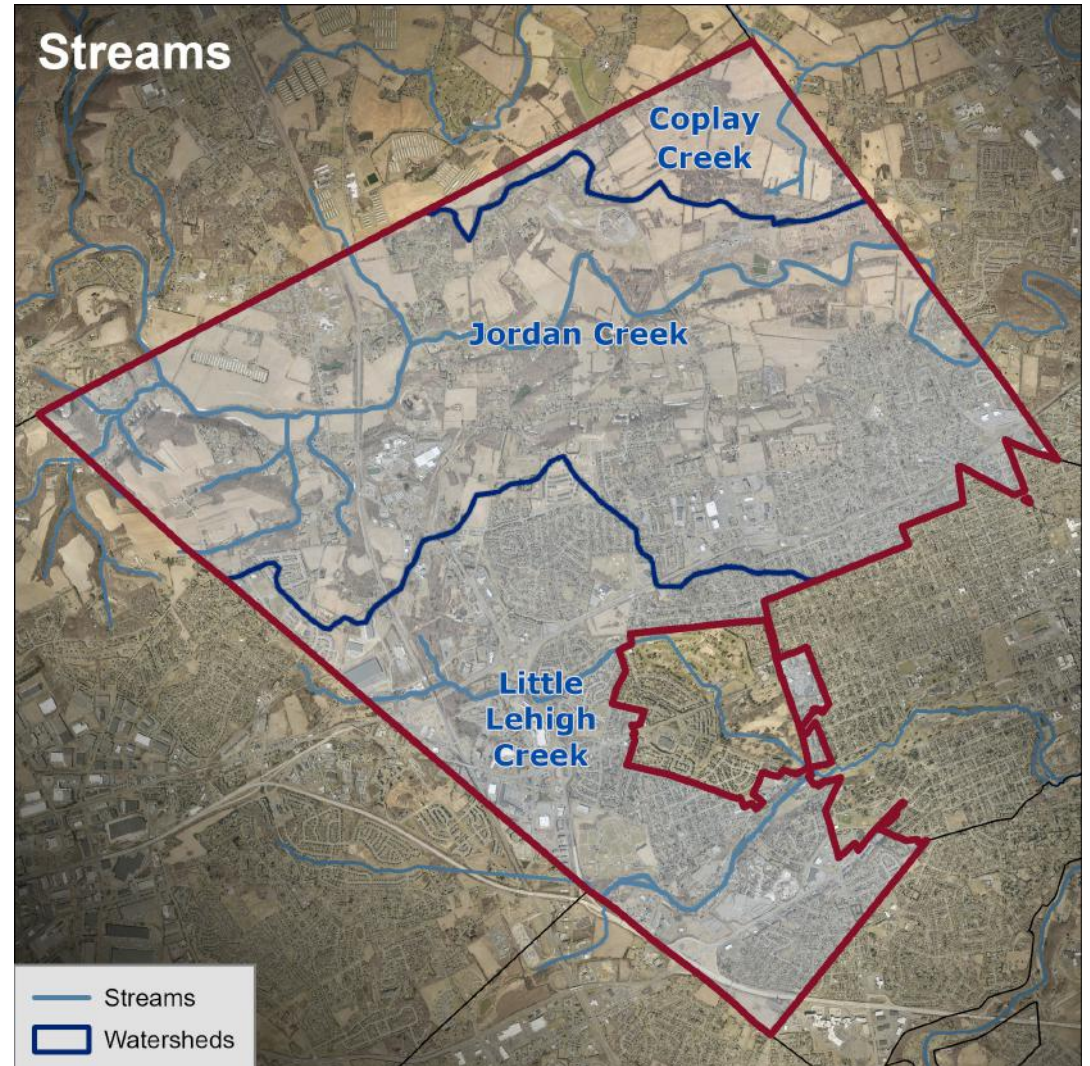
Steep slopes along roadway | Source: South Whitehall Township

Hydrology

Hydrology refers to a connected network of water features, including both surface and ground waters. This section will focus specifically on streams, riparian areas, floodplains, and wetlands.

In hydrology, watersheds are areas of land that contribute water to a specific stream or water system. South Whitehall Township contains portions of three watersheds: the Jordan Creek, the Little Lehigh Creek, and the Coplay Creek.

Two major waterways and one minor headwater flow through the Township: the Jordan Creek, Cedar Creek, and little Cedar Creek, respectively. The largest creek flowing through the Township is the Jordan Creek, a major tributary of the Little Lehigh Creek. Little Cedar Creek is the headwater of Cedar Creek. Like the Jordan Creek, Cedar Creek is a tributary of the Little Lehigh Creek. The Little Lehigh Creek is the largest tributary of the Lehigh River, which flows into the Delaware River in Easton.



Hydrology: Streams

Streams are flowing bodies of water that play a crucial role in ecosystems including:

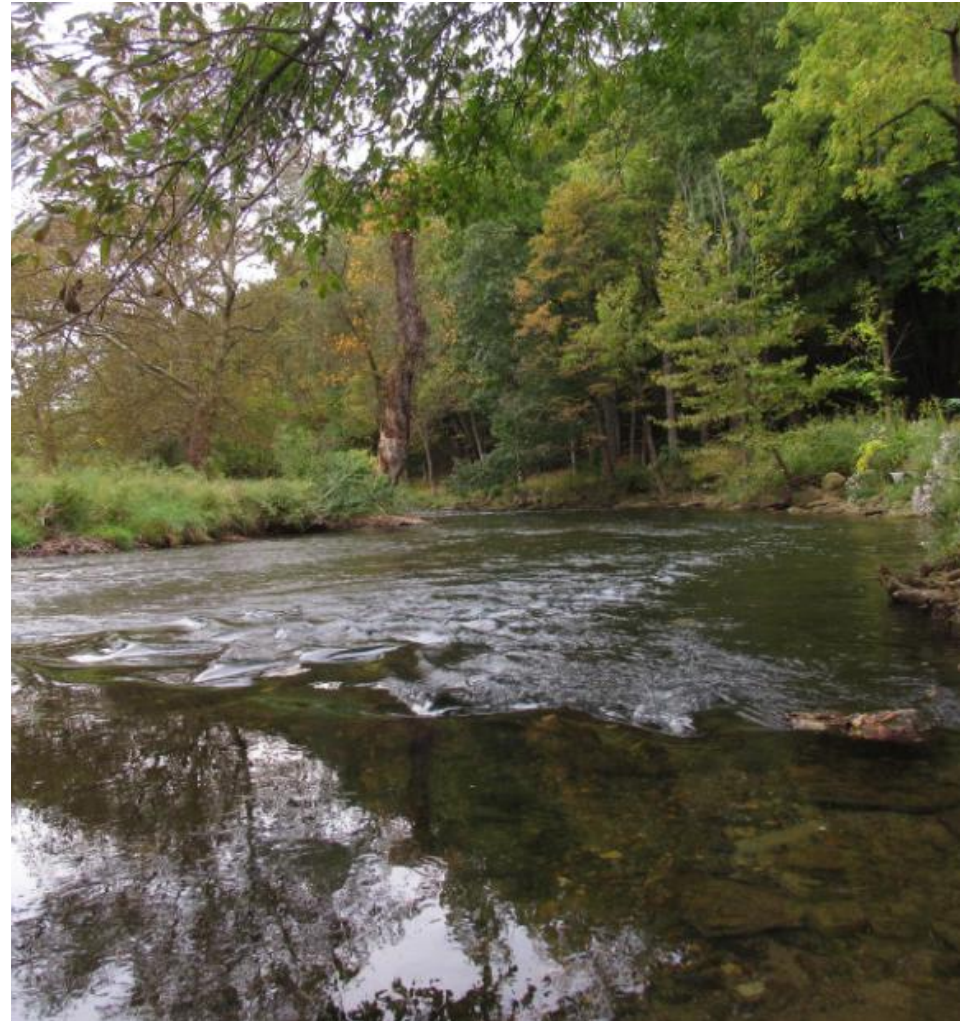
- Providing habitat for fish, insects, and other aquatic organisms.
- Cycling nutrients (such as nitrogen and phosphorus) downstream.
- Contributing to groundwater recharge and serving as sources of freshwater for communities.
- Offering recreational opportunities such as fishing, kayaking, and swimming.

Streams can have a water quality designation (High Quality Waters or Exceptional Value Waters) and aquatic life use designations. There are associated protections with each designation.

The three major streams in South Whitehall are:

- **Jordan Creek:** This stream has Trout Stocking (TSF) and Migratory Fishes designation.
- **Cedar Creek:** This stream has High Quality and Cold-Water Fishes (HQ-CWF) designations.
- **Little Lehigh Creek:** This stream also has High Quality and Cold-Water Fishes (HQ-CWF) designations, in addition to a Migratory Fishes (MF) designation.

Streams face impairments to their water quality from agricultural runoff, impervious runoff (from roads and developed areas), and physical barriers, such as dams that lead to sedimentation.



Little Lehigh Creek | Source: WDIY

Hydrology: Streams

Stream Classifications

Streams have very different physiographic qualities, even in South Whitehall. In order to appropriately understand the characteristics of our streams and apply appropriate protections, it may be necessary to classify streams by their differences. Streams can be classified using a variety of characteristics, including the physical make up of stream beds and channels or how they handle surface flow. Streams are typically classified in a hierarchical stream order, starting with the smallest low-flow channels and eventually growing into a river. For example, as a stream moves up in order the channel may grow, and flow will increase in size and strength. Streams are often classified in a order system starting with 1st order tributaries as the smallest and growing to 12th order streams.

For the purposes of broad classification, this plan considers three classifications of streams to consider:

- **Perennial:** A Perennial Stream is categorized by year-round stream flow in parts of its stream bed. This assessment assumes normal rainfall, as climate change impacts how these streams are classified. These streams are called a “permanent stream” because they are clear and continuous compared to a “temporary stream,” such as ephemeral and intermittent streams. Perennial streams usually occur downstream and lack extensive vegetation. The baseflow present downstream is large enough to sustain perennial streams and provides a consistent water flow that hinders the development of roots.
- **Intermittent:** Intermittent streams have streamflow for only a portion of the year. These streams have a well-defined channel and are often called a “seasonal stream.” Intermittent streams may not have streamflow during the dry months as they rely on present groundwater and precipitation runoff to provide their streamflow. The dry period is the main distinguishing characteristic used for intermittent and perennial stream classification.
- **Ephemeral:** Ephemeral Streams remain dry for a portion of the year and only have flowing water after precipitation. These shallow waters lack a defined stream channel and rest above the water table year-round. Ephemeral streams rely on stormflow for their current and will likely not present characteristics similar to a perennial stream until sufficient precipitation occurs

Hydrology: Stormwater Management

Managing stormwater runoff is crucial to protection the health of the connected water systems that make up the Township's hydrology. Unmanaged stormwater runoff can negatively impact water quality and cause erosion, in addition to potential flood risk.

Water quality is affected by stormwater runoff traversing land and picking up pollutants such as oil, chemicals, and sediment from roads, parking lots, and other surfaces into water bodies. Erosion occurs along hillsides and stream banks due to unmanaged stormwater runoff, thereby altering soil stability and habitats for plant, animal, and aquatic life.

To assist in managing stormwater, municipalities that operate Municipal Storm Sewer Systems (MS4) must participate in the MS4 program operated by the Pennsylvania Department of Environmental Protection (DEP). MS4s are networks of drainage systems, including pipes, ditches, and other conveyances, designed to carry stormwater runoff directly to nearby streams, rivers, and other water bodies. The program requires program participants to implement minimum control measures (MCMs) to manage stormwater including public education and involvement, illicit discharge detection and elimination, construction site runoff, post-construction stormwater management, and pollution prevention for municipal operations and maintenance.

Stormwater management techniques can be engineered or nature-based systems. Engineered solutions use man-made structures and technology, such as detention basins, sewer pipes, gutters, and other gray infrastructure, whereas nature-based solutions aim to mimic natural processes to manage stormwater, such as protected riparian buffers, swales, rain gardens, and other green infrastructure.



Green Infrastructure

Green infrastructure is a set of eco-friendly and nature-based tools that help manage stormwater. Green infrastructure can complement "gray infrastructure," working together to manage stormwater. Green infrastructure tools include, but are not limited to:

- Bioswales
- Permeable/pervious pavement
- Green roofs
- Rain gardens

Green infrastructure helps retain rainfall from small storms which reduces stormwater discharge and the burden on the grey infrastructure stormwater management system. Green infrastructure has many benefits beyond managing stormwater. Some tools and methods can be less costly than gray infrastructure and provided added benefit through creating habitats for plant and animal species, improving air quality, and enhancing water quality (through treating the stormwater).



Bioretention Basin | Source: Hillendale Elementary School

Hydrology: Riparian Areas

Pollution from land runoff such as fertilizer and pesticides is a major detriment to the health of streams and waterways. In South Whitehall Township and the Lehigh Valley as a whole, much of the natural vegetation that once buffered streams and waterways has been cleared to make room for farming uses and urbanization. Vegetative buffers planted in the “riparian” area, or the area situated on the banks of the stream, can help protect these areas from degradation and negative ecological impacts.

Buffer degradation is particularly apparent in the rural areas surrounding the Jordan Creek and suburban areas surrounding the Little Cedar Creek. Riparian buffers surrounding the Jordan are often less than 20 feet wide, which is nowhere near sufficient to combat the surrounding agricultural and industrial impacts. Buffers are practically nonexistent in areas of the Little Cedar Creek, causing eroding streambanks and zero filtration of overland flow.

Replanting riparian “buffers” is a natural and effective means of protecting our waterways from runoff-based pollutants. These buffers filter polluted stormwater runoff, stabilize stream banks, reduce erosion, store floodwater, and provide a transition zone between water and our use of the land. Buffers are also a complex ecosystem that provides habitat and improves the health of the waterways they protect.



Before

After

Riparian Area Restoration | *Source: Wildlands Conservancy*

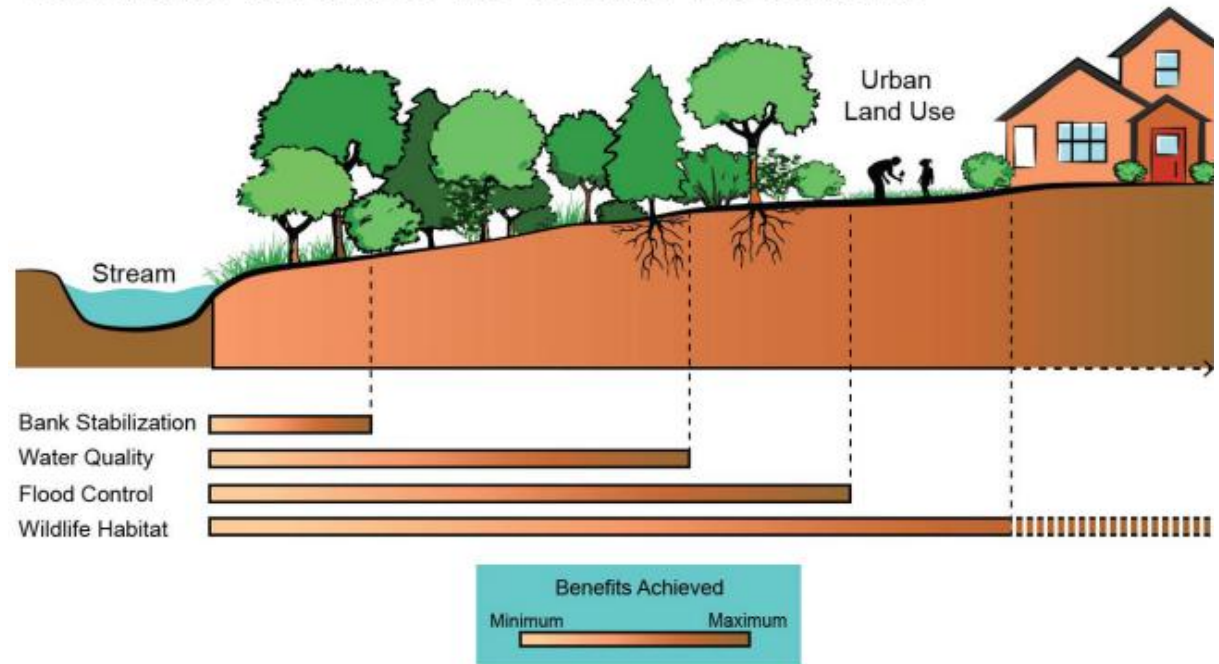
Hydrology: Riparian Areas

Buffer Benefits

Riparian buffers play a crucial role in maintaining healthy ecosystems along water bodies. They filter nutrients and sediment from runoff, stabilize streambanks, and provide shade, shelter, and food for fish and wildlife. Research has shown that the larger the buffer, the more benefits it can offer whether it be through stronger filtration services or creating a larger habitat for wildlife

- **Nutrient and Sediment Filtration:** Riparian buffers act as natural filters, capturing nutrients (such as nitrogen and phosphorus) and sediment from runoff before they reach the water. This helps improve water quality and reduces pollution.
- **Streambank Stabilization:** Riparian vegetation, including trees and shrubs, helps stabilize streambanks by preventing erosion. Their root systems hold soil in place, preventing sediment from entering the water and maintaining stable stream channels.
- **Habitat Support:** Riparian buffers provide essential habitat for fish and wildlife. The shade from trees keeps water temperatures cooler, benefiting cold-water species like trout. Additionally, the vegetation along riparian zones offers shelter and food resources for various organisms.

The Wider the Buffer the Greater the Benefits



Source: *Tennessee Urban Riparian Buffer Handbook*

Hydrology: Floodplains

Flooding is the most significant natural hazard in the Lehigh Valley. Over 1,000 acres of South Whitehall are within the floodplain of its waterways. A floodplain is an area adjacent to a stream or river subject to flooding or inundation during severe storm events. Floodplains are meant to flood, as flooding is part of the planet's hydrologic cycle. Under natural conditions, flooding causes little or no damage. However, when homes, businesses, and neighborhoods are built in flood hazard areas, flooding can result in loss of life, increased threats to public health and safety, damage to public and private property, damage to public infrastructure and utilities, and economic impacts to the residents of the community.

While floodplains are often seen as a hazard to development, they provide many benefits important to the hydrologic cycle. This includes floodwater storage, a natural form of flood protection that temporarily allows floodwaters to spread beyond the usual waterway boundaries. A floodplain can also improve water quality by filtering out pollutants and sediment. This can have great benefits for wildlife that is dependent on township waterways. Floodplains also add aesthetic benefit to the Township, enhancing community character.



Jordan Creek Flooding | *Source: South Whitehall Township*

The agency that is responsible for mapping floodplains across the United States is the Federal Emergency Management Agency (FEMA). FEMA defines a floodplain as any land area susceptible to being inundated by floodwaters from any source.

FEMA prepares Flood Insurance Rate Maps or FIRMs to show areas that are predicted to flood after intense major storms. The FIRMs estimate how high the water may rise during a storm or flooding event. FEMA uses important terms to categorize floods: floodway, or the land area covered by the water following a normal weather event. The 100-year floodplain is land beyond the base floodway subject to flooding by the 1% annual chance of flood event. The 500-year floodplain is land beyond the 100-year floodplain that is subject to flooding by the .02% annual chance of flood event.

Hydrology: Floodplains

Flooding is the most significant natural hazard in the Lehigh Valley. Over 1,000 acres of South Whitehall are within the floodplain of its waterways. FEMA designates “Flood Zones” to help determine insurance requirements and guide building restrictions at a state or local level.

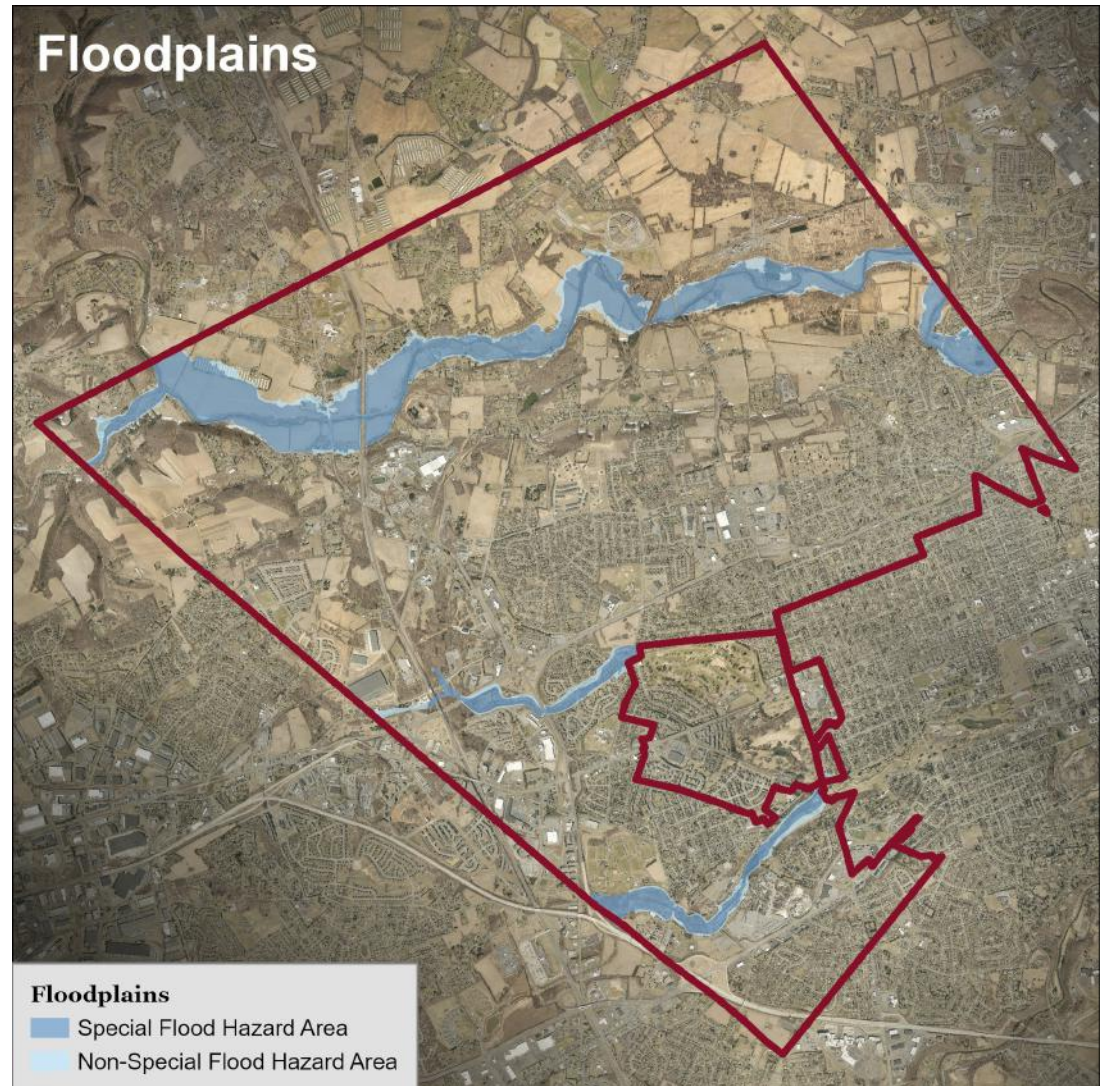
Special Flood Hazard Area

- Considered “High Risk” for flooding
- 1 in 4 chance of flooding during 30-yr period (standard life of mortgage)
- Flood insurance required (Federal Law)

Non-Special Flood Hazard Area

- Reduced risk of flooding
- Flood insurance recommended but not required

South Whitehall Township voluntarily participates in the National Flood Insurance Program (NFIP), which allows residents the availability of lower-cost flood insurance and other pre- or post-flooding benefits. The conditions of this program require the Township to adopt and enforce a FEMA-approved Floodplain Ordinance, which the Township has had in place since 1977. This ordinance has been periodically updated to adjust for modern conditions and designates the Township Manager as the “Floodplain Administrator”. As part of the ordinance, the Township reviews and issues permits related to any work conducted in the floodplain.



Hydrology: Wetlands

According to the U.S. EPA, wetlands are areas where water covers the soil or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season.

Wetlands provide several important benefits including:

- **Water Storage:** Wetlands act as natural reservoirs, storing water and helping to regulate water flow. During heavy rainfall or flooding, wetlands absorb excess water, reducing the risk of downstream flooding.
- **Water Filtration:** Wetlands play a crucial role in filtering pollutants and sediments from water. As water flows through wetland vegetation and soil, it undergoes natural purification, improving water quality.
- **Biological Productivity:** Wetlands support diverse ecosystems, providing habitat for various plant and animal species. They are breeding grounds for fish, birds, amphibians, and insects. The rich organic material in wetland soils also supports microbial activity and nutrient cycling.





Habitat

Habitats refer to places where a plant or animal species naturally lives and grows. Habitats include all the necessary components that an organism needs to survive such as shelter, food, and an appropriate climate.

It is important to ensure that organisms and natural processes (e.g., seed spreading) can move unimpeded across habitat. Therefore, it is not only crucial to maintain habitats, but to maintain and increase habitat connectivity. Connectivity of habitats can be maintained and/or increased through:

- **Greenways:** Linear open spaces, consisting of natural vegetation, that connect different habitats.
- **Preserved Landscapes:** Areas protected from development or overdevelopment.
- **Forest Management:** Maintaining and enhancing the existing forest ecosystem.

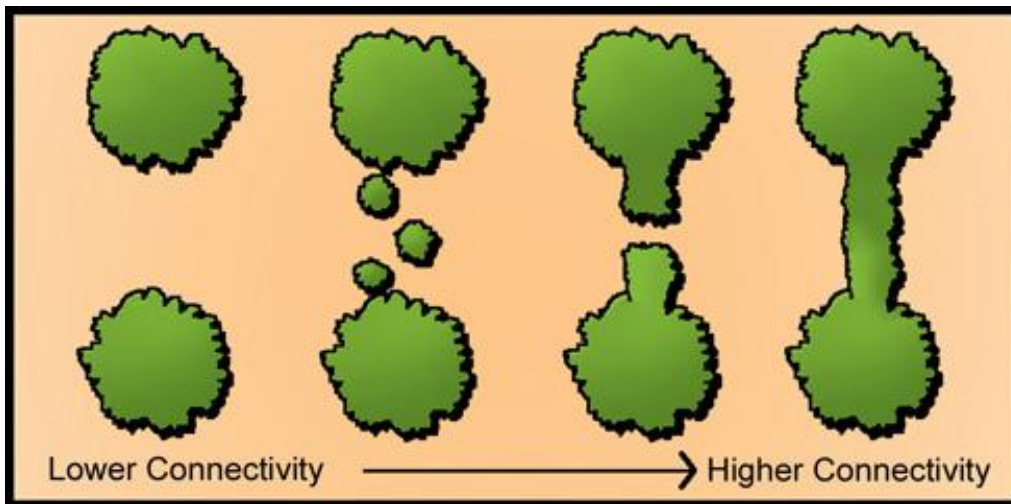
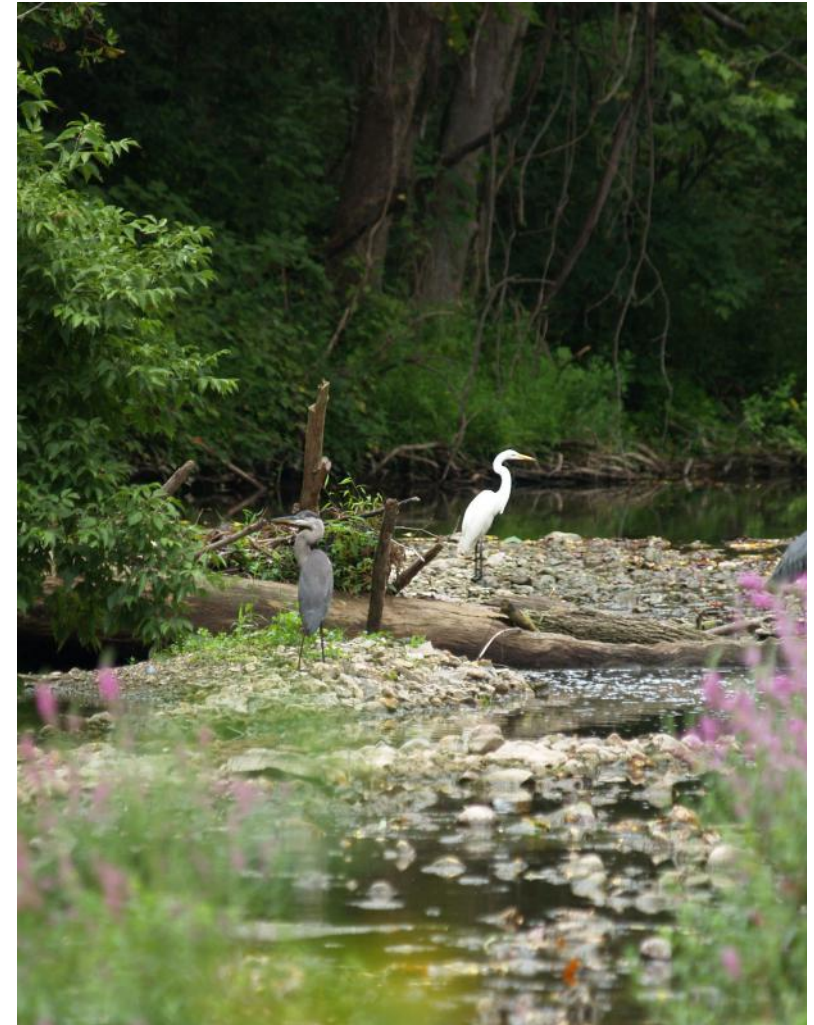


Diagram of Habitat Connectivity | Source: USDA



Example of birds in habitat | Source: Wildlands Conservancy

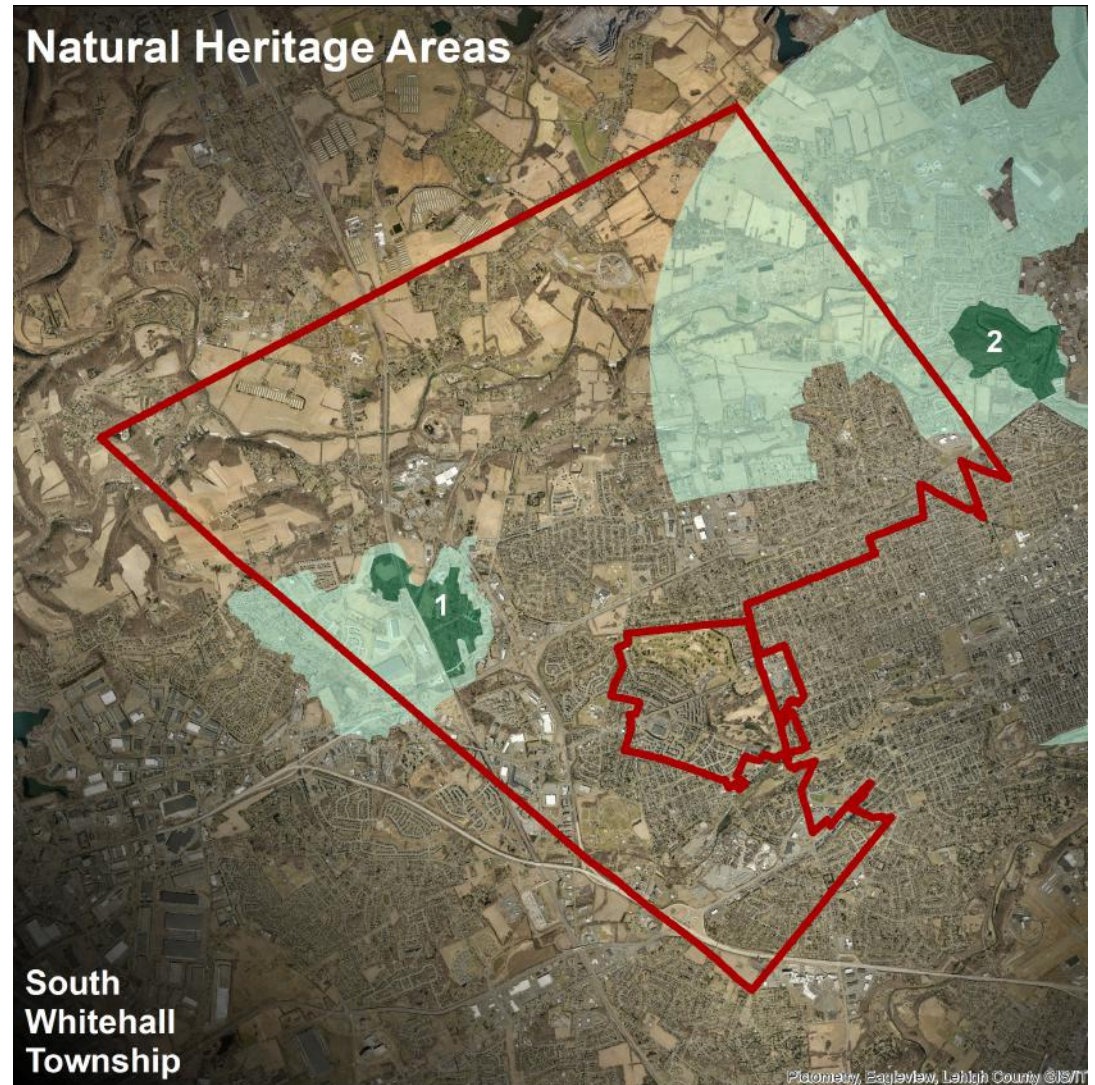
Habitat: Natural Heritage Areas

The Pennsylvania Natural Heritage Program (PNHP) is a partnership amongst state agencies and the Western Pennsylvania Conservancy to gather and provide information on the location and status of important ecological resources. Through this program, areas of significance are inventoried and studied, then designated as Natural Heritage Areas (NHAs). These NHAs contain either rare plants or animals, exemplary ecological communities, or provide exceptional native species biodiversity. The boundaries of NHAs are intentionally broad as to prevent unwanted attention to sensitive plant and/or animal species. Natural Heritage Areas are given one of two designations:

- **Core Habitat:** Areas that represent critical habitat that cannot absorb significant levels of activity without substantial negative impacts.
- **Supporting Landscape:** Areas directly connected to the Core Habitat that maintain vital ecological processes. Supporting Landscapes may be able to accommodate some low-impact activities.

South Whitehall Township contains two designated Natural Heritage Areas:

1. Crackersport Road Wetlands (Core Habitat)
2. Fullerton Forest (Supporting Landscape)



Goals

1 **Protect: Priority Natural Resource Lands**

Priority natural resource lands are areas with high ecological value, such as the woodlands, steep slopes, hydrology network, and habitats explained in this chapter. The Township can protect these priority natural resources lands through direct acquisition, appropriate forest management, and investing in the urban forest/shade trees. By purchasing land that contains valuable natural resources, the Township can ensure its protection and manage it in a way that preserves its ecological value and provides public benefit. The Township can also apply appropriate forest management techniques to sustain woodlands and the urban forest/shade trees. A forest management plan can support the creation of more contiguous stands and increase the amount of core forest in the Township. The urban forest/shade trees can be maintained and enhanced through land development policies that support tree planting with appropriate species.

2 **Encourage: Better Stewardship of Natural Resources**

The Township can lead as a steward of natural resources through example. By examining existing landscape maintenance practices of Township-owned properties, the Township can identify practices that can be adjusted to better protect and enhance the area's natural resources. An example of this would be naturalizing areas that are currently grass. Naturalizing grassy areas returns this land to a more natural state which reduces reliance on mowing, water, and fertilizing, and instead allows native plants and wildlife to reestablish themselves over time. Restoring areas to their natural state will help create more connected habitats for flora and fauna to prosper.

3 Regulate: Natural Resource Protection

When there isn't an opportunity to protect land through acquisition or easement, natural resources can be protected through regulation.

Township ordinances apply certain protections or considerations to important resources when threatened by development. Examples of existing ordinances include the Township's floodplain and stormwater management ordinance. The Township can evaluate its current ordinances to identify opportunities to strengthen regulation or introduce additional regulation to protect the sensitive natural resources identified in this chapter, including hydrology, topography, woodlands, and habitat. Additionally, the natural resources protection of high-priority natural resources in the Township can be integrated into the Township's land use regulations, including its zoning ordinance and subdivision and land development ordinance.

4 Connect: With Local and Regional Partners

Protecting natural resources requires efforts at all scales – from individual actions to regional collaboration. This goal encourages the

Township to connect with those partners to further the protection and better stewardship of the Township's natural resources. Starting at home, the Township can connect with residents and local organizations to coordinate volunteer efforts or raise awareness about existing volunteer or educational events. These events will allow residents to learn more about how they can be stewards of the environment on their property and within the larger community. There are also opportunities to engage with regional partners. We know that natural resources are of regional importance and do not follow municipal boundaries. As such, their protection requires a coordinated effort that extends beyond the borders of the Township. The Township can connect with regional partners such as regional Metropolitan Planning Organizations (MPOs) including the Lehigh Valley Planning Commission, Delaware Valley Regional Planning Commission, Berks County Planning Commission/Reading MPO, and the Northeastern Pennsylvania Alliance (NEPA); non-profit and non-governmental organizations including WeConservePA, Wildlands Conservancy, watershed groups and neighboring Environmental Advisory Councils, and local colleges/universities. The Township should work closely with surrounding municipalities for multi-municipal collaboration.

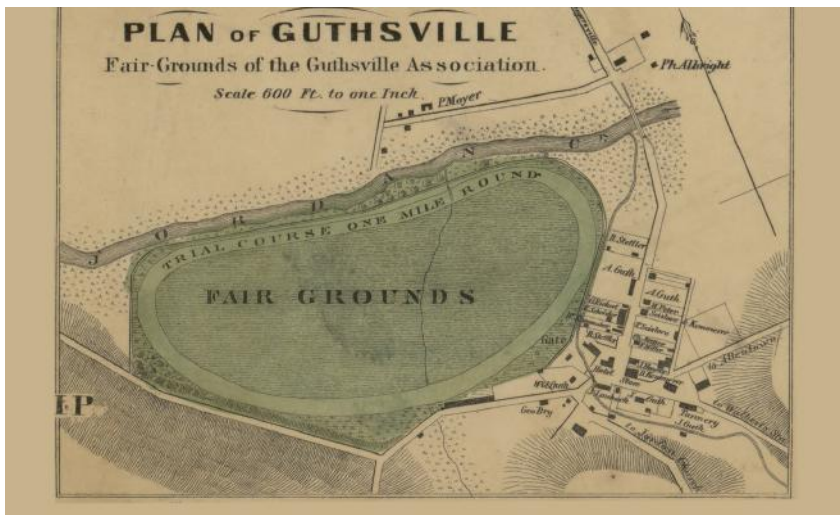
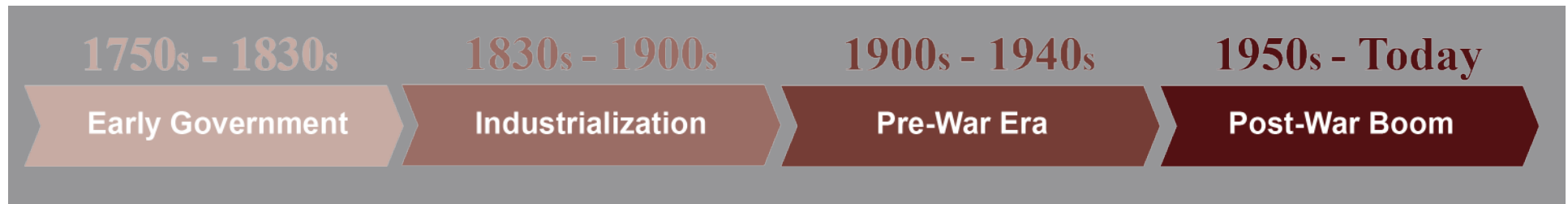


Historic Resources

Introduction

History of South Whitehall

This history of South Whitehall was shaped by strong influences around agriculture, industry, and residential development. The Lenni Lenape were the first to occupy the lands of current South Whitehall for hundreds of years prior to European colonization. The Lenape likely took advantage of the fresh water from the Jordan Creek and Cedar Creek, while appreciating the surround fertile pastures of the Jordan Valley. Modern European settlers started to arrive in the early 1700s, with the early foundation of government forming in the mid-1700s through the “Walking Purchase of 1737” and establishment of Northampton County (prior to Lehigh County) in 1752. The history of the officially governed area of South Whitehall is best described in four distinct eras over the past 275 years.



Early Government

The early settlements under official government rule can be characterized as rural homesteads and sporadic village development. Some of these early settlements were Guthsville and Guth’s Station. Many of the original “Guth Family” homes are still standing today. For many years this area was considered part of Whitehall Township, until 1810 when Whitehall was divided into three separate Townships (North Whitehall, South Whitehall, and Whitehall). South Whitehall was a prominent place to live as it was the geographic center of the newly formed Lehigh County (circa 1812). The responsibility of local government was primarily to build and maintain new roads, with the introduction of the State Highway extending into the Township in the early 1900s.

Plan of Guthsville | Source: Map of Lehigh County, PA - G.A. Aschbach 1865

Industrialization

Early industry took shape in the 1800s and greatly expanded villages and more formalized settlements around access to resources and industries. Iron ore mines and stone quarries were the predominant industries that shaped South Whitehall for some time. Brickmaking and pottery were also strong industries for the latter half of the century. South Whitehall was rich with these extractable resources that served production in more urbanized areas along the Lehigh River. Most of the land in the northern tier of the Township was leased to larger industries in the Whitehall area, helping to grow significant businesses like the Crane Iron Works and Thomas Iron Works. The need for shipping raw materials to industrial processing led to the development of the Catasauqua & Fogelsville Railroad.

The leading industry in South Whitehall for the greater part of the century was the Allentown Non-Freezing Powder Company, later to be known as the Trojan Powder Company. This titan of a business occupied over one sixth of the entire Township and manufactured explosives which would be used in both World War I and World War II. It is the namesake of the company that inspired the name for the Parkland School District “Trojans”.



Remnants of Allentown Brick Company (circa 1896 – 1913 |
Source: Kohler Ridge Master Site Plan 2022



Trojan Powder Company (circa 1918) | *Source: William B. Williams, History of the manufacture of explosives for the Great War, 1917-1918*

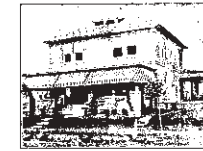
Pre-War Era

South Whitehall quickly grew as a suburb to the City of Allentown connected by trolleys and street cars. Small villages began to grow into more formalized patterns including Cedarville and Wenersville. The Township is also home to some of the earliest planned neighborhoods in the Lehigh Valley such as Greenawalds, where many of the original houses are still intact. This neighborhood was a primary stop on the Allentown to Slatington Trolley Line, which was operated by the Lehigh Valley Transit Company in the early 1900s. The line began in downtown Allentown and connected into the Township through the fairgrounds district and right through the center of Greenawalds. The line continued northwest to Siegersville and eventually to Slatington to serve workers in the slate industry. Service between Greenawalds and Slatington ceased in 1931, but continued service between Allentown and Greenawalds until 1952, when automobiles and bus service started to take over as the primary mode of transportation.

Plan of GREENAWALD'S Suburb of the City of Allentown

A. M. GREENAWALD, J. P., Owner of Tract.

Bell Phone 1123R2 Allentown R. F. D. No. 3



Residence of D. D. Trexler



Residence of A. M. Greenawald
Owner of Tract



Lawyer's Store

Lots Sold on
EASY TERMS

Special Inducement
Given to Persons
Building a Home.



LODGE HALL



Neighborhood Plan for Greenawalds | Source: South Whitehall Township

Post-War Boom

Following the Great Wars, South Whitehall, like many other suburban communities in the country, began to explode with residential development. The proximity of South Whitehall to the City of Allentown and the construction of new highways caused the Township to be a focal point for the post-war building boom in this area. Between 1940 and 1950, The Township increased its population by over 30%. Population nearly doubled again between 1950 and 1960 as suburbanization took hold with the development of neighborhoods such as Sterlingworth, Country Club Gardens, and Crest Acres. The allure of new residential neighborhoods and expanding highway system allowed South Whitehall to grow as quickly as houses could be built. Unfortunately, like many post-war communities the lack of proper land use planning would create difficulties with sprawl, challenges with utilities and emergency services, and lack of community cohesion. Annexation also became a problem in the 1950s, with the City of Allentown annexing several tracts in the southeastern portion of the Township including the infamous Harry C. Trexler Estate (now Trexler Park). To help prevent further annexation, South Whitehall became a First-Class Township in 1966.



Allentown to Slatington Trolley (circa 1950) | Source: South Whitehall Township

What is Historic?

Historic and Historical are often used interchangeably, but in terms of preservation it is important to note the difference between the two. Historic refers to something distinct and significant to our past whereas historical is used to identify something as just old. Significance is an important component of determining a feature's options for preservation but can often be the most challenging component to identify. There are different philosophies on preserving historic vs historical resources and depending on the abundance of resources in a community, significance depends on the context. For example, homes built before 1960 may be few and far between in states like Arizona and Nevada, increasing their levels of significance purely due to lack of inventory. On the other hand, homes built before 1960 in states like Pennsylvania and New York account for almost half of the housing stock and would barely be considered "old", let alone "historic". Unless a structure played a significant role in history, such as the birth home of a famous President or a meeting place for an iconic military battle, it may be old but might not historic. However, many communities will consider older structures that are reminiscent of a specific time period important to preserve, whether it be for the architecture, building materials, or a unique design of a space. In this case, the significance may not be with the feature itself, but the history it reflects through its form.

The significance of a historic property is usually identified when it is evaluated within its historic context. Historic context is the resource's connection to a theme, a place, or a time or the resource's affiliation to an important piece in history. Context is the thread that draws the individual resource to its meaning, which in turn leads to context being as important to preserve as the resource itself. For example, if a century old bridge is considered historic because of the design of its span, it loses its context if the span is covered completely by new-age materials. This also ties into the final piece of recognizing historic importance, by evaluating a resource's integrity. Historic integrity is the authenticity of a property's historic identity, evidenced by the survival of the physical characteristics that existed during contextual period of history. Integrity includes qualities such as design, setting, materials, workmanship, feeling, and association. Different approaches to historic preservation may have stricter rules on how much the integrity of a resource may be compromised. For example, a historic house with modern windows may be considered suitable for a municipal preservation program, but may not meet the threshold for the National Historic Landmarks standards.



Remnants of an old outdoor oven | *Source: South Whitehall Township*

Types of Historic Resources

Historic Resources can come in a variety of shapes, sizes, and types. Some may be specifically tied to an important piece of history such as the Liberty Bell or The Alamo in San Antonio. These physical remnants are iconic symbols of our story as a nation and are often taught about in school or visited daily by tourists. However, just because a feature might not be a keystone in the building of our nation, doesn't mean it doesn't have historic context or meaning. Sometimes the historic resources in a town can be the places that make us feel at home or the features that define the character of our community.

The National Historic Preservation Act recognizes five different types of historic resources that are eligible for listing on the National Register. These resource types provide a framework for identifying and categorizing resources in the township. They include:

- **Building:** A building, such as a house, barn, church, hotel, or similar construction, is created principally to shelter any form of human activity.
- **Structure:** The term “structure” is used to distinguish from buildings those functional constructions made usually for purposes other than creating human shelter.
- **Object:** The term “object” is used to distinguish from buildings and structures those constructions that are primarily artistic in nature or are relatively small in scale and simply constructed. Although it may be, by nature or design, movable, an object is associated with a specific setting or environment.
- **Site:** A site is the location of a significant event, a prehistoric or historic occupation or activity, or a building or structure, whether standing, ruined, or vanished, where the location itself possesses historic, cultural, or archeological value regardless of the value of any existing structure.
- **District:** A district possesses a significant concentration, linkage, or continuity of sites, buildings, structures, or objects united historically or aesthetically by plan or physical development.



Historic Preservation and Federal Legislation

Our nation began taking a keen interest in historic resources around the turn of the century with the Antiquities Act of 1906 and the Historic Sites Act of 1935, both of which helped authorize the federal government to recognize and preserve properties significant to our national heritage (i.e. National Historic Landmarks program). It wasn't until the **National Historic Preservation Act of 1966** that changed and inspired the way we handle historic preservation today.

Arising out of the threat of post WWII “Urban Renewal” the National Historic Preservation Act aimed to safeguard the potential loss of historic resources by requiring projects undertaken by the federal government or with federal funding to pause and consider impacts to historic resources prior to demolition or construction. This process, now known as the **Section 106 review**, is still required today. The Preservation Act also played a significant role in empowering other forms of government to preserve history through the establishment of **State Historic Preservation Offices (SHPO)** to carry out historic preservation duties on a more local level. This includes nominating resources to be considered for the **National Register of Historic Places**, the nation's official list of historic places worthy of preservation.

Historic Resource Treatment

The United States Secretary of the Interior identifies four Standards for the Treatment of Historic Properties: Preservation, Rehabilitation, Restoration, and Reconstruction. These standards are intended to provide guidance for handling all types of historic buildings and take into consideration the properties' significance, physical condition, interpretive goals, and economic/technical feasibility. These standards are required to be followed for any federally funded historic treatment grants and are used as determination criteria for Federal Historic Preservation Tax Incentive programs. Different methods are appropriate for different circumstances and intents of preservation.

Preservation

The process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. However, new exterior additions are not within the scope of this treatment. The Standards for Preservation require retention of the greatest amount of historic fabric along with the building's historic form.

Rehabilitation

The act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. The Rehabilitation Standards acknowledge the need to alter or add to a historic building to meet continuing or new uses while retaining the building's historic character.

Restoration

The act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a restoration project. The Restoration Standards allow for the depiction of a building at a particular time in its history by preserving materials, features, finishes, and spaces from its period of significance and removing those from other periods.

Reconstruction

The act or process of depicting, by means of new construction, the form, features, and detailing of a non-surviving site, landscape, building, structure, or object for the purpose of replicating its appearance at a specific period of time and in its historic location. The Reconstruction Standards establish a limited framework for recreating a vanished or non-surviving building with new materials, primarily for interpretive purposes.



Strategies: Inventory

Historic Resource Inventory

A Historic Resource Inventory is a valuable step in evaluating what resources should be preserved and to what extent. A resource inventory typically starts with a survey of all features in an area that could be considered historic. This may include property/deed research, physical inspections, and interviews with residents or stakeholders. A simple inventory, otherwise known as a “windshield survey” is conducted by driving around the selected area and at first glance identifying what is visible and looks old to the naked eye. A competent surveyor can use the windshield survey to identify buildings, structures, and objects in need of further investigation.

Once the initial survey of resource has been completed, research is conducted to determine the resource’s historic context, significance, and integrity. Typically, this requires minimal research for a community-wide survey, with the goal of depicting a snapshot of what makes the resource historic, not necessarily writing its entire story. Often, a community will then classify the resources based on a set of criteria to help set parameters on what should be done with those resources to appropriately preserve their context, significance, and integrity.

The Historic Resource Inventory serves as the official record for properties considered historic in a community, which can then be used to determine preservation tactics, put controls on construction/restoration/demolition, or prioritize properties for protection. South Whitehall Township began conducting a Historic Resource Survey in the winter of 2023/2024. This survey included visual inspections, review of past Township plans and documents, and research into historic texts/maps. Once completed, the survey will be cataloged into an official Historic Resource Inventory for the Township and help guide future preservation efforts. Resources will be classified into four categories outlined on the next page. This inventory will be a dynamic database that can be updated if more resources are identified or information on existing resources are updated. Resources will also be able to move through classification levels following the criteria outlined on the next page.



Daniel Troxell Blacksmith Shop | *Source: Jenna Soldridge*

The goal of the South Whitehall Township Historic Resource Inventory is to provide adequate information to understand the context, significance, integrity, and community importance of historic resources in the Township.

Strategies: Classify

Class IV

Listed on the South Whitehall Historic Resource Inventory, but additional research is required to determine eligibility for further classification.

Class III

Designated as a Class III resource by the Board of Commissioners by resolution. Class III resources may be eligible for adaptive reuse provisions provided assurances are in place. Class III resources may be added to the Official Map. These resources may be eligible for additional Township programs.

Class II

Class II resources are listed on the Pennsylvania Historical and Museum Commission’s list of National Resister-eligible resources. These resources shall be identified on the Official Map.

Class I

Class I resources are listed as a National Historic Landmark or on the National Register of Historic Places. These resources shall be identified on the Official Map.

Designation Process

If not already identified in the South Whitehall Historic Resource Inventory, an application or letter requesting designation should be submitted. Submission should include justification for inclusion and statements of significance and integrity.

A technical review will be conducted by Township staff and/or third party consultant. Review shall include statements of integrity and significance or community importance. Designation should further the goals of SWT Landscapes. Report and recommendation will be provided to the BOC for possible designation by resolution.

Designation process is the responsibility of State Historic Preservation Office (SHPO). Township staff may assist property owners with the application process.

The designation of National Register properties is the responsibility of the National Park Service. Township staff and or third-party consultant may assist in the application process.

Strategies: Reuse

Adaptive Reuse

A more modern approach to historic preservation is the reutilization of historic buildings for new purposes. This concept, known as “adaptive reuse,” is a way to preserve the history and character of an old building, while updating and extending the operational lifespan of that building in a contemporary setting. Whereas renovations may just include fixing a roof, refinishing a floor, or freshening the appearance of a building, adaptive reuse is essentially repurposing the building for a use other than initially intended. This is a revitalization technique that injects new life into a blighted area or makes better use of a building with an outdated purpose.

Adaptive reuse can be a form of economic development by focusing new business growth on buildings that have not generated income for a long time. Typically, it is far easier and less expensive for a developer to build new homes or for businesses to lease space in modern buildings. This can stagnate areas of the Township with older buildings, create eyesores, and eventually turn into blight. For adaptive reuse to be successful, a business or a builder must understand the benefits of occupying an old building whether for its uniqueness or sense of history. By identifying and promoting the history of these older buildings, a municipality can help to attract interest from the right developer or business and encourage a new use that compliments the old “feel”.

Adaptive reuse is one strategy to help direct new development away from greenfields or undeveloped lands and encourage economic growth in the already built environment. Not only is this a way to help direct development to areas with appropriate infrastructure, but it also usually results in new tax revenue from old buildings, while helping to preserve a unique structure that honors the community history. Since it can be much more expensive and time consuming to take on the reconstruction or reuse of an old building, a successful adaptive reuse program typically provides incentives to developers. These can come in the form of exemptions from specific building code requirements, tax credits, or zoning relief. It’s important to first identify the features or districts considered historic that may be eligible for these adaptive reuse incentives, and then craft legislation that appropriately directs how these incentives can be unlocked. Adaptive reuse is also a useful strategy for South Whitehall Township to encourage the use of historic resources as a way to ensure long-term maintenance of these structures.



The former Guthsville Hotel (later Magnolia’s Vineyard) has been closed since 2010 | Source: South Whitehall Township



HOLD FOR ADAPTIVE REUSE CASE STUDY

Strategies: Community Preservation

Storytelling

History can also be preserved in less direct ways than legally protecting or physically preserving structures. History is about our collective story and the spread of that story is as important as (if not more than) the structure or historic artifact itself. Stories can be shared through a variety of media that can be interpreted in different ways, whether it be aural, visual, or experience.

Story Maps

Story Maps are interactive maps that provide supporting information and context to what is depicted in a cartographic way. They integrate maps, text, images, graphics, and sometimes video to present a particular topic with a geographic focus. Story Maps are great tools to display a specific story or concept in a standalone publication. They can be created to show a linear progression of the story such as following the timeline of the industrial revolution and how cities grew over time, or it can be a way to organize several features together in a geographic way like a map of all Native American settlements spread across Pennsylvania. The greatest benefit of Story Maps is the ability for the reader to interact with the map and discover linkages between features and other contextual information. Story Maps can be a useful tool for South Whitehall Township to compile and present robust historic information in a way that is easy to understand.



Story Map Example | Source: Esri

Signage

Signage is an easy way to share a story at a specific location or draw distinction to a particular space. Interpretive signage is a great way to retell the story of the significance of a place that may have lost some of its historic integrity. This type of signage is typically seen at historic ruins or large areas that have been developed over time and do not have the same visual impact they once did. Historical markers are also commonly used to signify a historic resource. These standardized markers are erected at sites to provide a snippet of information about a particular resource. The uniformity of the sign makes it recognizable as a historic feature, even if driving by.

The Pennsylvania Historical Museum Commission (PHMC) has operated a historical marker program for well over 100 years, supporting the development and installation of over 2,500 markers across the Commonwealth. Unfortunately, PHMC temporarily paused new nominations to the Historical Marker Program in 2022. Beyond the state program, several municipalities have enacted their own marker program to identify important historic resources to the community. A municipal marker program should have a defined goal and objective, clear criteria for evaluating potential sites, a documented approval process, and promotion of the program.

BARNs, DECORATIVE ART & MUSIC

Barns in this area, with their distinctive decorations, are widely admired. Nowhere else can you find as many fine barns of the type known as "Pennsylvania standard" barns. Their signature features are symmetrical rooflines and a forebay that extends over the stable doors and very often beautiful geometric motifs on the forebays. These are purely decorative adornments that some believe are ancient symbols for protection and good luck. Although they are often called "hex signs" they have nothing to do with witchcraft or spells.

You will see these great decorated barns in Lehigh County, Northampton County, and part of Berks County—the region largely settled by Germans and Swiss of the Lutheran and Reformed faiths. Amish settlers to the west and English settlers to the south did not decorate their barns.

Barn decorations are related to Fraktur, an elaborate form of illuminated folk art and lettering that flourished between 1740 and 1860. Similar designs can be found in drawings, watercolors, birth and baptismal certificates, book plates, and marriage and house blessings. Rosettes, tulips, birds such as the distelfink, and hearts are very common motifs used by regional folk artists in decorative work and everyday household items. Young girls learned to embroider liners with fine decorative stitches using the same motifs.

Musical was central to the lives of German immigrants in this region. Music was taught in school and Sunday School. Singing schools were established in most communities, where contests were held at Christmas-time in schoolhouses, churches, and farmhouses. Secular music was actively performed in homes, taverns, and private social clubs. Simple songs about work and life or ballads about mournful events were sung while working on the farm. During harvest season the most popular musical event in rural Pennsylvania was the hoe-down. These community barn dances were held when a farmer could finally put down his hoe, clear the threshing floor of the barn, and invite relatives, friends, and neighbors to eat, drink, and dance the night away.

Hamilton Crossings

TCH

The Commons Center

**Lehigh County
Historical Marker**
Source: Pennsylvania
Historical Museum
Commission



**Interpretive Signage at Hamilton
Crossings** | Source: Lower Macungie
Historical Society

Strategies: Historical Groups

Municipal Boards

State legislation enables municipalities to preserve historic resources through several authorized ways. In many cases, historic preservation can be carried out in the strongest form at the local level. Act 167 of 1961 authorized the *Historic District Act*, which authorizes municipalities to identify, define, and regulate local historic districts through adoption of an ordinance. This is currently carried out by a number of municipalities in Pennsylvania and has proven to be a fairly successful way to preserve the historic character and feel of specific blocks, neighborhoods, and villages. The Historic District Act requires local municipalities establish an advisory board known as a Historical Architectural Review Board (HARB) to guide the governing body on activities related to buildings within the designated historic district and the appropriateness of those activities. A HARB is required by law to carry out the procedures outlined in the Historic District Act, but the challenge for many municipalities comes with populating a HARB with qualified members of the public. Law requires a HARB include at minimum, a registered architect, a building inspector, and a licensed real estate broker. Beyond these specific required appointments, it can still be difficult to find knowledgeable, committed members of the public to serve in other positions on the board.

In addition to the authorizations provided to municipalities through the Historic District Act, the Pennsylvania Municipalities Planning Code (MPC) enables municipalities to utilize zoning as a way to preserve historic resources, specifying that “zoning ordinances shall provide for the protection of natural and historic features and resources” and the ability to regulate “places having unique historical, architectural, or patriotic interest or value”. Utilizing components of the MPC to preserve historic resources can be a more suitable approach for municipalities that don’t have a specific or dense concentration of historic features, compared to a city or a borough. The provisions authorized in the MPC allow for municipalities to prevent unnecessary demolition of historic resources, require the integration of treatment techniques for historic resources as part of land developments, and offer certain reliefs from code compliance if appropriate for adaptive reuse. South Whitehall Township currently has historic resources identified in the Township Zoning Ordinance but may want to consider updating components of this ordinance to further the goals of this plan.

While the Historic District Act outlines specific procedural requirements for reviewing and protecting historic resources, the provisions of the MPC are more open. It is good practice to still establish a clear process to review and make decisions about historic resources, with the support of an advisory board. A South Whitehall Township Historical Advisory Board may be a more appropriate body than a HARB to advise the Board of Commissioners on the processing of historic resource classification applications, updates to the Historic Resource Inventory, and review of zoning-related decisions authorized by the MPC. The makeup of this Historical Advisory Board may be more flexible than a HARB, as there is not explicit guidance on the required membership. Anticipating that the activities of this Board will be slow unless a specific project arises, this Board could meet on an as-needed basis.



LMTHS Board Meeting | *Source: LMTHS*

Historical Society

The terms Historical Commission, HARB, and Historical Society are often used interchangeably, but they actually serve very different purposes. As mentioned previously, a HARB is a specifically authorized arm of municipal government with a very focused mission and duty. Historical Commissions/Boards/Councils/etc. are similar in the fact that they also are an extension of government and serve on behalf of the elected body. While Historical Commissions/Boards/Councils/etc. can take on activities like community outreach and education, their primary function is typically on the regulatory side of preservation.

Separate from a Historical/Commission/Board/Council/etc., a Historical Society is a non-governmental organization (often times incorporated as a nonprofit) that takes on its own mission related to historic preservation. Unlike the previous groups mentioned that follow strict statutes and guidelines, Historical Societies develop their own mission, by-laws, and form of governance. Historical Societies can also support a much larger membership and by nature are encouraged to increase membership, rather than limit seats at the table.

Historical Societies play a very important role in preservation, both as a constant promoter of the community's history and as a beacon to attract common interests. They can take on the role of a museum by collecting and archiving historic materials or artifacts and sharing that information with the public. Some Historical Societies even utilize historic buildings or museums for meeting space, events, and public education. The role of a Historical Society is really established by the current need of the community and the capacity of the membership. In the beginning, a Historical Society may just consist of a group of people gathering to share stories and showcase artifacts. Given the robust number of high-quality historic resources in South Whitehall however, a future Historical Society could take on a number of duties to further the education, promotion, and application of the Township's history.



Lower Macungie Township Historical Society

Neighboring community, Lower Macungie Township has had an active Historical Society since 1989. It was originally formed to assist in the restoration of a 19th Century Log House. Since then, the Historical Society has collected dozens of artifacts and materials that are on display online and in various locations. Members of the Society have been involved in publications, tours, and educational lessons to further extend the knowledge of Lower Macungie's history and important people, events, and places.

Over the past few years, the Historical Society has conducted surveys of historic barns in the Township, held photo contests, and developed interpretive signage to help spread awareness of Township history and historical resources. This Historical Society currently meets in a restored historic barn that has been converted to an event space and museum in a Township-owned public park. This partnership between the Historical Society and the local government can be a model for South Whitehall Township to consider.

Goals

1 Protect: Historic Resources
The Township can protect historic resources through acquisition and code regulations. The acquisition of properties with historic resources can offer direct protection to these resources. Through ownership, the municipality can ensure the preservation and appropriate use of these properties, safeguarding them from potential threats. Municipal code regulations can be enacted to ensure that any alterations or redevelopment of historic resources are carried out in a manner that respects and preserves these valuable assets. These regulations can also provide guidelines on maintaining the architectural integrity of historic buildings. This dual approach of acquisition and regulation utilizes the Township's authority to protect its historic resources for the enjoyment and education of existing residents and future generations.

2 Encourage: Historic Resource Preservation
Preserving historic resources is considerably more complex than other resources identified in this plan due to the required maintenance and attention to built infrastructure. As mentioned earlier, different preservation strategies require various levels of detail (i.e. rehabilitation vs. restoration). The objectives of this goal are to develop ways to sustainably preserve our historic infrastructure which in many cases may be beyond the Township's responsibility or even capacity. Utilizing creative incentives, the Township should develop opportunities to encourage and support the preservation of historic structures by private owners. This could include adaptive re-use provisions that allow properties to be functional in a way that generates income without compromising their historic integrity. This encourages proactive preservation while at the same time supporting economic development.

3 **Connect: Our Past with the Present**

Our past not only remains alive in the present through the protection of historic resources, but also through the stories that are passed from community member to community member and from generation to generation. The Township aims to strengthen the connection of past and present through encouraging community preservation efforts of Township residents. This includes the formation of an active municipal board focused on historic preservation (e.g., a Historic Advisory Board) and a historical society, both of which would play crucial roles in the identification, preservation, and promotion of historic resources. The historical society could promote South Whitehall Township's history and historic resources through both in-person and online education. In-person events could bring together community members for a guest speaker, panel, or history-focused festival. Engaging Story Maps can provide information about historic resources, providing an interactive and educational online educational platform. Another way to connect the past with the present is to introduce signage that educates community members on the historic significance of a building or site. Signage is a powerful tool for making history accessible and engaging to the wider community. By involving the community in these preservation efforts, we can ensure that our historic resources are not only protected but also celebrated as integral parts of our collective identity.



Open Space

Introduction

What is Open Space?

Open Space refers to many different types of undeveloped land or common areas. A variety of uses can be found in Open Space, such as agricultural uses, passive and active recreational uses, stormwater management (utility) uses, and ecological uses. Open Space can be publicly owned, such as parks, or privately owned, such as privately-owned farms. Likewise, some Open Space is designed for public access, whereas other Open Space has restricted access because it is privately owned or because restricted access helps further the intent of the Open Space (e.g., not permitting access to a wild area that is a habitat for an endangered species).

In this chapter, classifications of Open Space will be defined to create a nuanced understanding of different types of Open Space and their characteristics, opportunities, and limitations for furthering the goals of this plan.

Why is Open Space so important?

Open Space is an all-encompassing way to preserve and support the agricultural resources, natural resources, and historical resources detailed in this plan. Open Space is important to maintain the health of the community in the following ways:



Public Health

Open Space has a myriad of benefits for people's health and wellness. Open Space can provide opportunities for recreation and exercise, as well as access to nature and the outdoors which has been shown to have positive effects on mental health and cognitive development. The opportunities for social connections (i.e., community gatherings, socialization with neighbors and friends, etc.) in Open Space is also a great benefit. Additionally, Open Space contributes to good air quality and reductions in noise pollution which impact the overall health of community members.



Ecological Health

Open Space helps to maintain and enhance ecological health through supporting the ecosystem services that the environmental features provide. These services include but are not limited to purification of water and air, carbon sequestration, waste decomposition, pest and disease control, pollination, and flood protection.



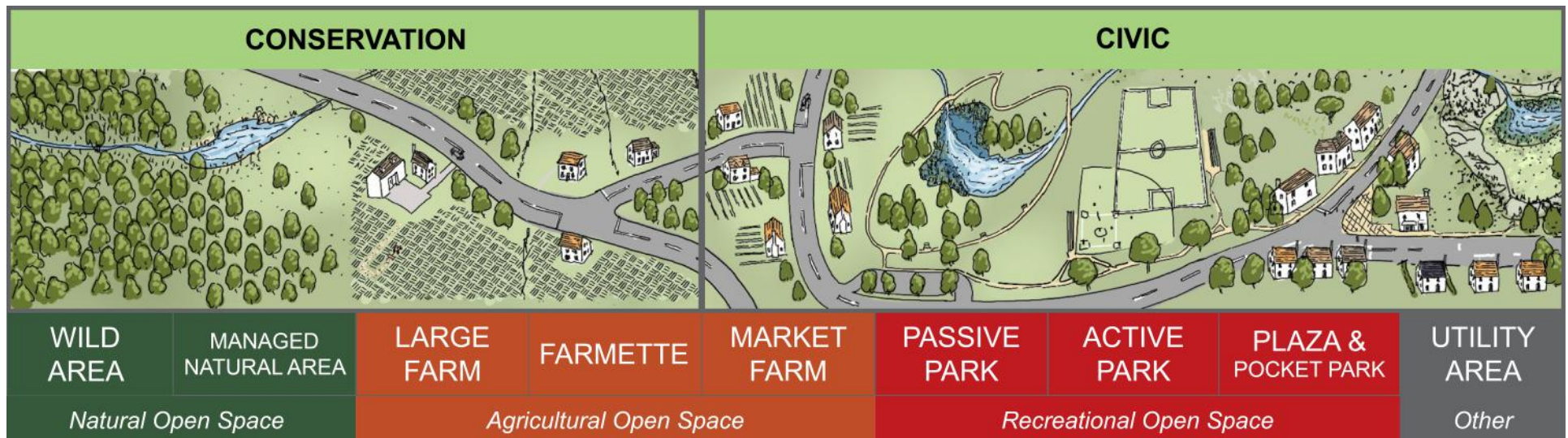
Economic Health

Open Space has been proven to support the economic health of municipalities directly and indirectly. Open Space can be used for agricultural production or tourism activities. The provision of Open Space can also attract businesses and families to the area. Proximity to Open Space can also have positive impacts on property values.

Open Space Classifications

The term “open space” can mean many different things depending on who is asked to define the term. Some people may think of preserved agricultural land, other may think of parks with trails and sports fields, whereas others would define it as land left completely in its natural state. All of these definitions are correct. South Whitehall Landscapes aims to establish a collective vocabulary around different types of open space in order to have more productive, focused conversations, programs, and policies about open space that will help South Whitehall Township accomplish the goals in this plan. This section provides information on each type of open space, including general sizes, land uses, ownership, maintenance, and recommended preservation methods associated with each space.

To visualize the open space classifications, an open space transect was created. In planning, an urban-to-rural transect is used to show and define a series of zones that transition from rural areas to dense urban downtowns. The open space transect below follows a similar approach in categorizing types of open space from wild areas to plazas and pocket parks often found in town or neighborhood centers. The transect moves from areas that are more rural in nature on the left of the transect starting with wild areas to open spaces that may be found closer to neighborhoods or within neighborhoods, such as active parks, stormwater management areas, and plazas or pocket parks on the right.



Open Space Classifications

The following pages describe the nine (9) classifications of Open Spaces in more detail to help define the types of open spaces typically seen in South Whitehall Township and guide a future Open Space Preservation Program. Each open space classification is accompanied by the following information:

Description & Land Use

A brief description of the open space classification and the general types of land use occurring on the open space. In some cases, this description is accompanied by a photograph as an illustrative example.

Type

The open spaces are either categorized as a conservation open space or a civic open space:

- **Conservation** open spaces are primarily intended for environmental protection and agricultural preservation. Conservation open spaces are sometimes open to the public, but most of the time access is restricted.
- **Civic** open spaces tend to be open to the public and designed to be nearby development (such as residential neighborhoods or village centers). Civic open spaces are intended to meet ecological as well as social needs.

Size

The typical size of the open space classification:

- **Any size**
- **Less than 5 acres**
- **5 to 10 acres**
- **More than 10 acres**

Ownership

The typical ownership of the underlying property: either **private** or **public**. In many cases, a public entity may hold certain rights to private property, without having full ownership. This is further explained in the Property Rights Overview section of this plan. If both public and private are selected, it is common to see these types of open spaces owned by government agencies or private organizations/individuals.

Recommended Preservation Methods

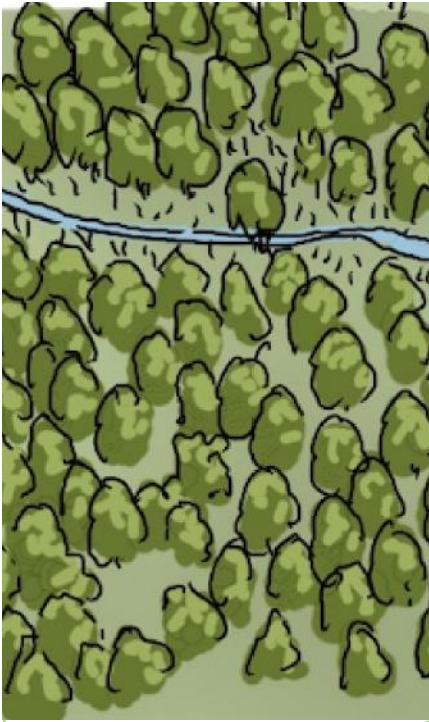
Preservation methods that are best suited for the classification of open space. The preservation methods include **fee simple acquisition**, **easement**, **deed restriction**, and **zoning** as described in the Open Space Preservation Strategy section.

Maintenance

Anticipated maintenance level of open space classification. For some of these open spaces, detailed management plans will need to be created and submitted:

- **Zero to Limited:** Areas that require zero to little maintenance because they are meant to be left wild or in a natural state.
- **Limited:** These areas require seasonal or annual maintenance.
- **Regular:** Due to intensity of use, regular (daily to weekly) maintenance is needed for these areas, such as planting, mowing, trash collection, and more.
- **Intensive:** Areas that require intensive maintenance may need maintenance workers with a specialized skill set or certification (e.g., playground inspection).

Open Space Classification: Wild Area



Description & Land Use

Wild Areas are open spaces that are typically unmaintained and left in their natural state. They often contain sensitive natural resources such as woodlands or water features. Wild Areas allow ecosystems to thrive naturally without impact from humans.



Kohler Ridge Park
Source: Omnes Studio



Type

Conservation	Civic
--------------	-------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
--------	---------

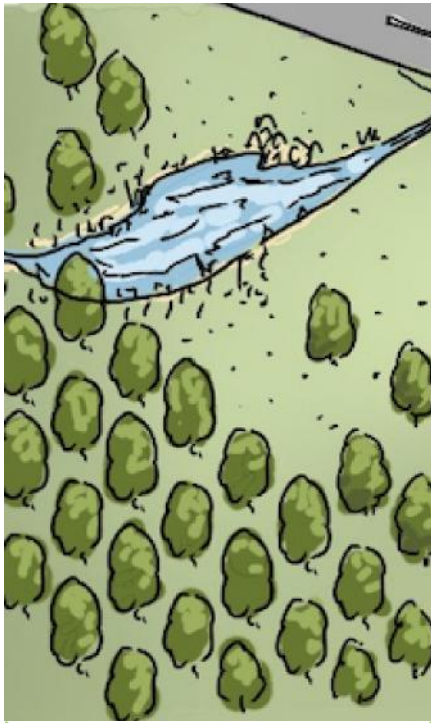
Recommended Preservation Methods

Fee Simple
Easement
Deed Restriction
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Managed Natural Area



Description & Land Use

Managed Natural Areas are similar to Wild Areas in that they often contain a natural resource. They are also left primarily in their natural state with some limited maintenance or a planned management strategy such as a Forest Management Plan or landscaping plan. Limited maintenance is focused on removing invasive species or impacts from human use and supporting the naturally occurring ecosystem. Species selection and planting schedules can be used to further a specific resource goal (such as introducing more pollinator habitat) or enhance a design aesthetic. Managed Natural Areas may have limited public access if they are part of a Passive Park.



Ballas Meadow Preserve | *Source: Lehigh Valley Greenways*



Type

Conservation	Civic
--------------	-------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
--------	---------

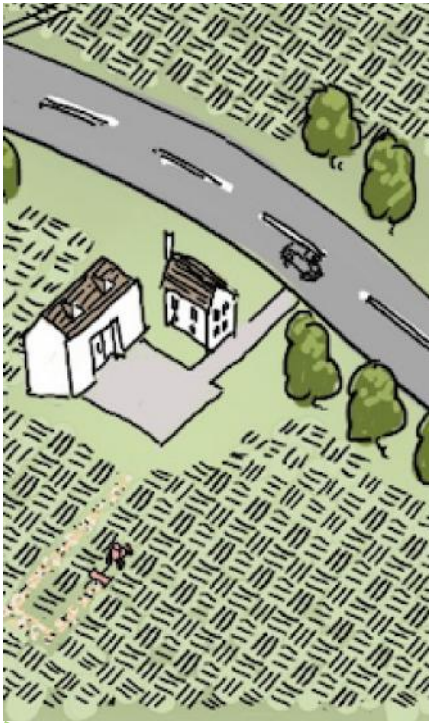
Recommended Preservation Methods

Fee Simple
Easement
Deed Restriction
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Large Farm



Description & Land Use

The primary use of large farms is agricultural. They typically practice monoculture, meaning that one crop species is grown in the field at a time, for the wholesale market. Due to the size and type of crops, large farms use mechanized labor to perform agricultural operations. Large farms tend not to allow public access unless for a special event or agri-tainment purpose.



Lehigh County Farm

Source: Michael Baker International



Type

Conservation	Civic
---------------------	-------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
--------	----------------

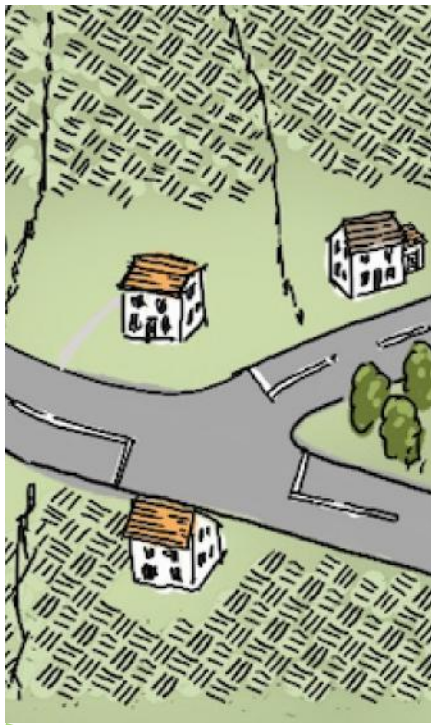
Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

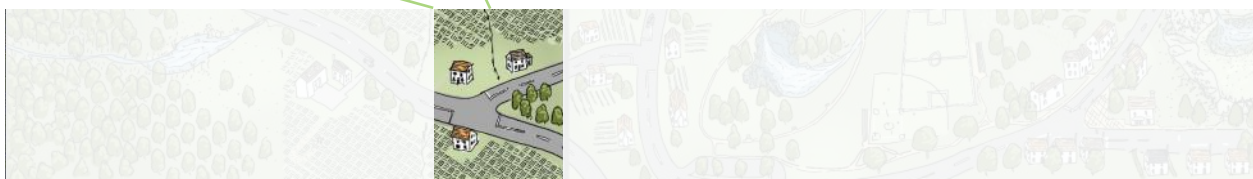
Open Space Classification: Farmette



Description & Land Use

Farmettes are small farms. The primary use is agricultural and there is often an accessory residential use. Farmettes cultivate multiple types of crops for the wholesale market, Community Supported Agriculture (CSA) shares, or market sales. Farmettes can also include raising of low-impact livestock (e.g., horses, goats, etc.). In addition to fields for crops and livestock, portions of farmettes can also include a natural feature such as a stream, steep slope, etc.

** Ownership: Small farms are typically privately owned; however, there are opportunities for municipal or land trust ownership.*



Type

Conservation	Civic
--------------	-------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private*
--------	----------

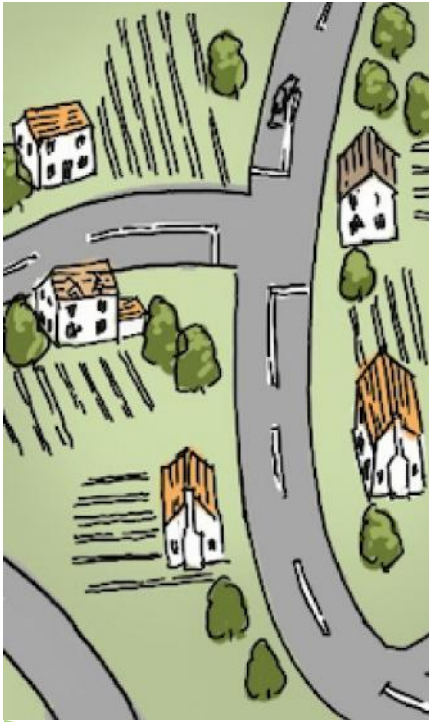
Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Market Farm

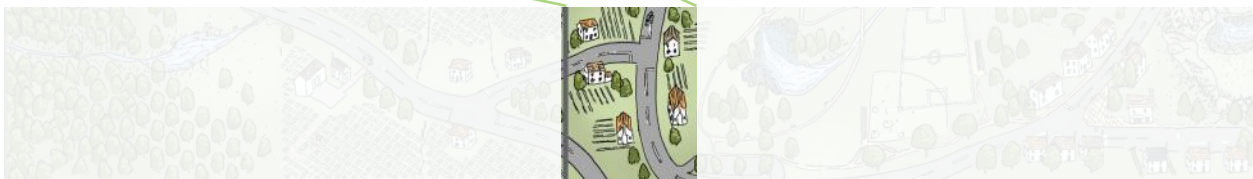


Description & Land Use

A market farm can either have an agricultural or residential primary use with the other use being accessory. Market farms grow multiple crops or produce specialty products for market sales, retail sales, or direct to consumer sales. Market farms always have a commercial component, which makes them suitable for more developed areas. Due to the size and nature of production on a market farm, hand/small tool labor is used rather than mechanized labor.



Kore Flower Farm
Source: Melissa Miller



Type

Conservation	Civic
--------------	--------------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
--------	----------------

Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Highlight:

Market Farms

Neversink Farm

Catskill Mountains, New York

Neversink Farm plants, cultivates, and harvests using modern tools and techniques, but without mechanized labor to produce high quality vegetables. Neversink Farm offers a farm store on their property that sells their produce along with other local, sustainable, and humane products.

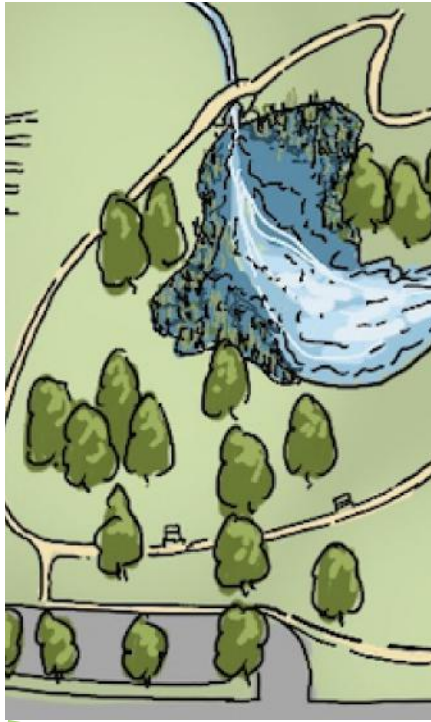


Scholl Orchards

Bethlehem, Pennsylvania

Scholl Orchards started as a farm stand and evolved into a market farm offering a variety of fruit and vegetables from their farm store on the orchard's property.

Open Space Classification: Passive Park



Description & Land Use

Passive parks are open spaces for passive recreation (e.g., walking, wildlife viewing, picnicking, etc.). Passive parks contain a limited amount of maintained areas for passive enjoyment while conserving the remainder of the property.



Spring Valley Estates Park
Source: South Whitehall Township



Type

Conservation	Civic
--------------	--------------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
---------------	---------

Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Active Park



Description & Land Use

An active park is an open space maintained for active recreation activities. It can contain structures (e.g., playground equipment or pavilions) and well maintained sports fields or courts.



Covered Bridge Park
Source: Michael Baker International



Type

Conservation	Civic
--------------	--------------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
---------------	---------

Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Plaza & Pocket Park



Description & Land Use

Plazas and pocket parks are typically found in village or town centers. They are public spaces tucked between existing residential or commercial uses, or located at key intersections or points of interest within the village or town. Plazas and pocket parks have features that encourage people to gather, such as benches, tables, public art, and plantings.



Pocket Park

Source: Michael Baker International



Type

Conservation	Civic
--------------	--------------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
---------------	---------

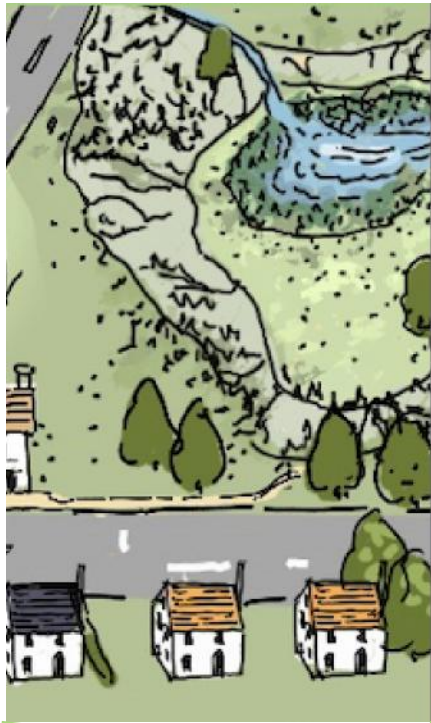
Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Classification: Utility Area



Description & Land Use

Utility Areas are open spaces that are dedicated to managing stormwater, treating wastewater, or accessing/buffering utility infrastructure. These open spaces often have minimum space requirements depending on their function relative to the utility. Maintenance is prescribed by Best Management Practices (BMPs) or regulatory agencies. The intent of this open space classification is to promote the use of green infrastructure for utility system management whenever possible.



Stormwater Management Area
Source: Michael Baker International



Type

Conservation	Civic
--------------	--------------

Size

<5 acres	5-10 acres	>10 acres
Any Size		

Ownership

Public	Private
---------------	---------

Recommended Preservation Methods

Fee Simple
Deed Restriction
Easement
Zoning

Maintenance

Zero to limited	Limited
Regular	Intensive

Open Space Preservation Strategies

In this section, the plan explores open space preservation strategies that can be used to preserve different types of open space. Preserving open space means collaborating with existing property owners to employ the preservation strategies. Some of the strategies require a complete transfer of property, whereas others ask the property owner to transfer a portion of their property rights. This section starts with an explanation of those property rights. Each preservation strategy presented includes:

- An explanation of the strategy.
- What type of open space it can help preserve.
- How the strategy impacts property rights.

Case studies and more details are also provided for context.

Open Space Preservation Strategies

- *Fee Simple Acquisition*
- *Easements*
- *Deed Restrictions*
- *Zoning*

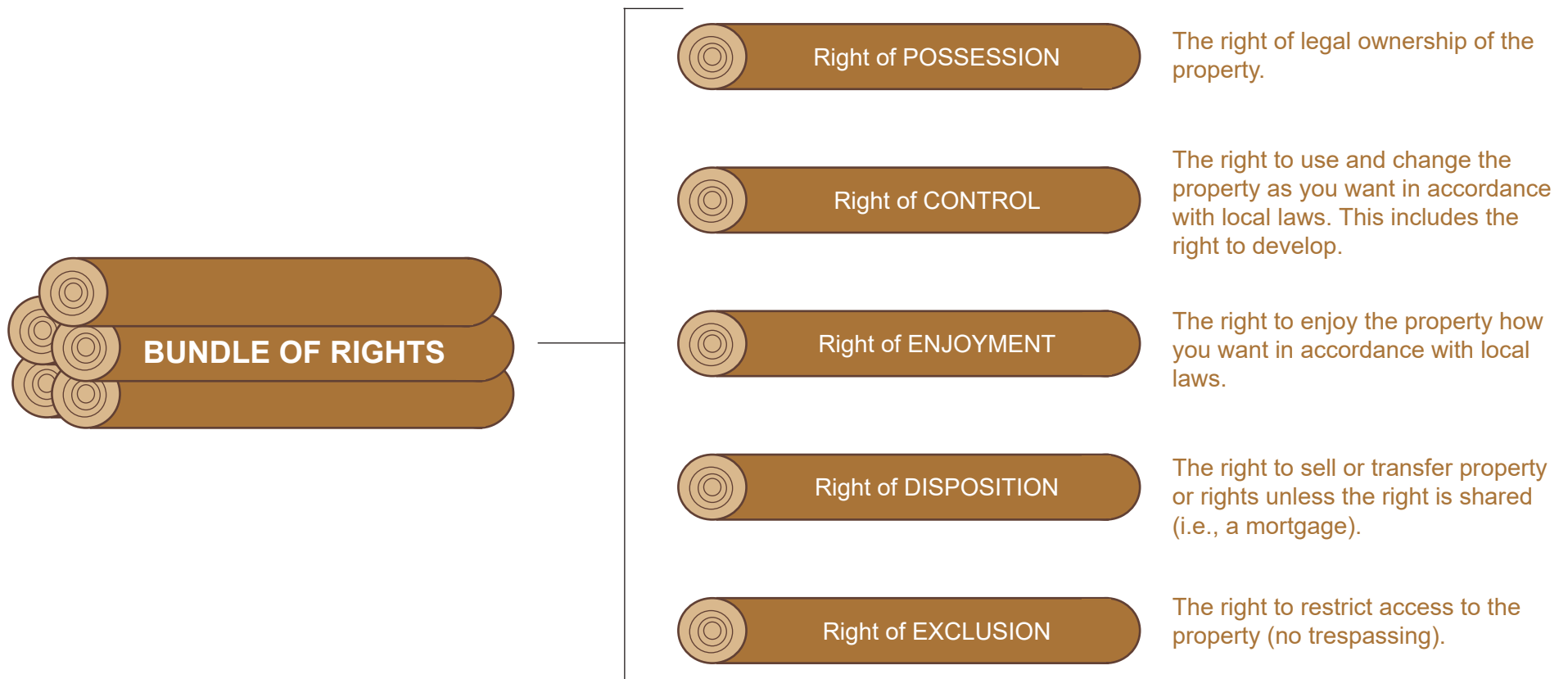


Unprotected Open Space | Source: South Whitehall Township

Open Space Preservation Strategies:

Property Rights Overview

This plan showcases different open space preservation strategies that can be used individually or in tandem to preserve land. Each open space preservation strategy has a specific impact on property development rights. Property ownership comes with a set of ownership rights (a bundle of rights), outlined below. Some rights may be partially or fully relinquished (i.e., donated, sold, or taken), while still retaining others. These rights can be thought of as a “bundle of sticks.” The property owner can have all the sticks or give some of the sticks to others.

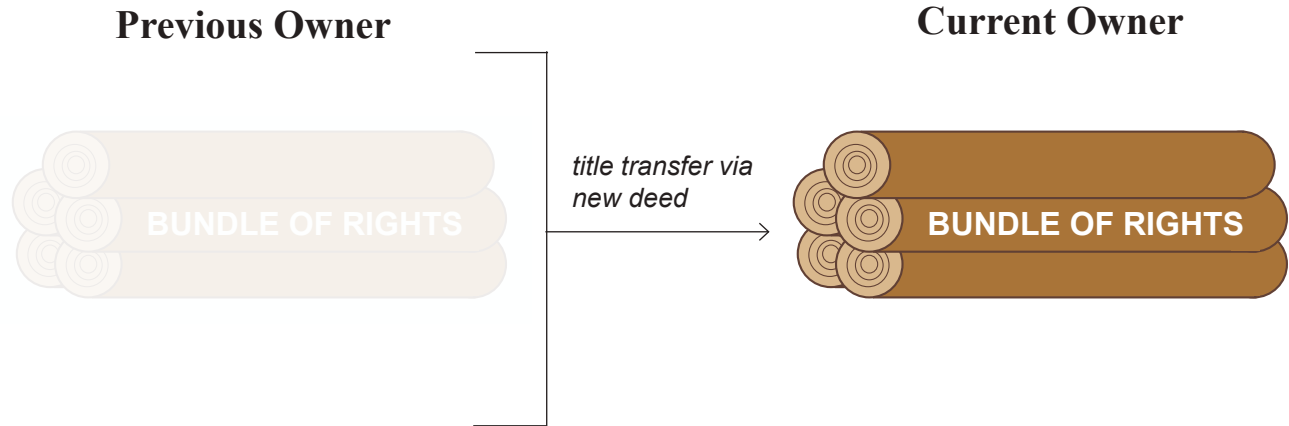


Open Space Preservation Strategy: Fee Simple Acquisition

What is it?

A fee simple acquisition is when a title is transferred via a new deed from one owner to another owner by donation, sale, or exchange. When a property is acquired in fee simple, the owner gains full control over the land. The entire bundle of sticks is transferred from one owner to another owner.

Bundle of Sticks



Most Appropriate for Preservation of:

								
WILD AREA	MANAGED NATURAL AREA	LARGE FARM	FARMETTE	MARKET FARM	PASSIVE PARK	ACTIVE PARK	PLAZA & POCKET PARK	UTILITY AREA

Highlight:

Fee Simple Acquisition

Davis-Smith Preserved Open Space

South Whitehall Township

In 2022, South Whitehall Township accepted the donation of a 26-acre agricultural parcel at the intersection of Route 22 and Springhouse Road. The property was donated with the intent of preserving agricultural land in a developing area and providing a community benefit. The property is restricted to be used only for farming in the immediate future and eventually for open space and recreation. This is a great example of how to combine fee simple acquisition and deed restrictions to ensure permanent preservation of land, while specifying the use of that land for a particular resource.

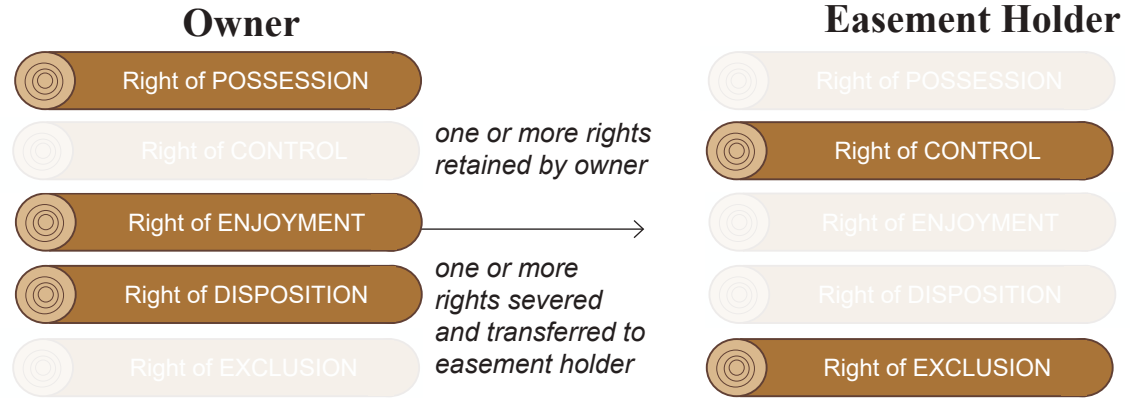


Open Space Preservation Strategy: Easements

What is it?

An easement is a legal agreement between the owner and the easement holder that transfers the possession of one or more rights from the bundle to the easement holder. Easements are either permanent or have a specific term associated with it (often a long-term period). There are different types of easements based on the intention of the preservation: conservation easements, agricultural easements, and historic preservation easements.

Bundle of Sticks



In this example, an easement for a portion of the owner's property requires the area to be maintained as a naturalized area with a public access hiking trail.

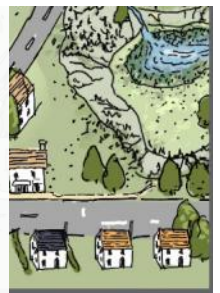
Most Appropriate for Preservation of:



- WILD AREA
- MANAGED NATURAL AREA
- LARGE FARM
- FARMETTE



- MARKET FARM
- PASSIVE PARK
- ACTIVE PARK
- PLAZA & POCKET PARK



- UTILITY AREA

Open Space Preservation Strategy:

Easements

Easement Components

An easement that includes clearly written delineation of the property, monitoring protocol, enforcement process, and access regulations is key in establishing an understanding between the property owner and easement holder.

Delineation

An easement must have a delineation of boundaries. Delineations must be noted on the easement by a written description and/or a visual depiction on a survey. In some cases, it is also helpful to have a physical marker on the property that delineates the easement.

Monitoring

A system for monitoring should be established to ensure that the restrictions associated with the easement are being followed. The system for monitoring, including the frequency and documentation, should be established by the entity responsible for the preserved area within the easement. Frequency of monitoring is dictated by the number of conservation easements that the entity needs to monitor, when violations are most likely to occur, and relevant ecological factors. Monitoring can occur on site or via aerial observation or remote imagery.

Enforcement

Much like monitoring, the entity responsible for the preserved area within the easement is responsible for reporting violations and taking corrective action to enforce. The entity can establish a process for minor and major violations that have a specific set of steps for reviewing the violation and engaging legal counsel if required. Addressing violations in a timely manner is key in avoiding the proliferation of any harm to the area and remedying the violation.

Access

The easement should clearly establish access regulations. Even if the property is not publicly accessible, it should be noted how the entity responsible for the property will gain access to the property for monitoring and in case of emergency.

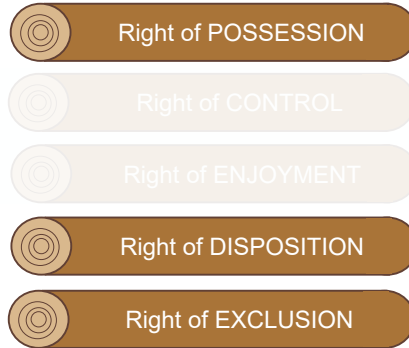
Open Space Preservation Strategy: Deed Restrictions

What is it?

A deed restriction is a specific restriction on use of a property included in the property deed. It “runs with the land,” meaning anyone who buys the property in the future must abide by the restrictions.

Bundle of Sticks

Owner

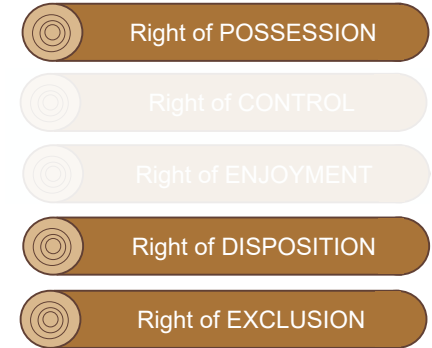


rights that are restricted by the deed remain restricted even if sold



in this example, the deed restriction prohibits development on a specific portion of the property

Future Owner



Most Appropriate for Preservation of:



WILD
AREA

MANAGED
NATURAL AREA



LARGE
FARM

FARMETTE



MARKET
FARM



PASSIVE
PARK

ACTIVE
PARK



PLAZA &
POCKET PARK

UTILITY
AREA

Open Space Preservation Strategy: Deed Restrictions

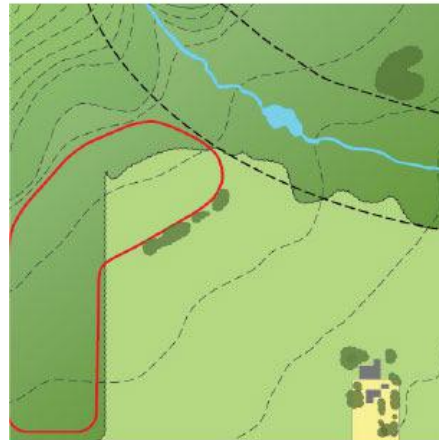
Save for Case Study

Open Space Preservation Strategy: Zoning - Conservation Subdivision

What is it?

A conservation subdivision is a site planning approach that clusters residences on smaller lots to preserve a portion of the site for open space. As illustrated in the figure to the right, the subdivision sprawl patterns and the conservation neighborhood pattern both accommodate the same number of residences; however, the conservation neighborhood subdivision allows for the preservation of open space on the site.

Fee-simple acquisition can help accomplish long-term preservation goals, as well as development goals. Land can be acquired with the intention to protect a portion of the land and resell the other area for conservation development. The preserved property could be held in fee-simple or a conservation easement.



Existing Landscape



Subdivision Sprawl



Conservation Neighborhood

Conservation Subdivision Example | Source: *Rural by Design* - Randall Arendt

Open Space Preservation Strategy: Zoning - Conservation Subdivision

Conservation Subdivision

Design Process

There are three primary steps in designing a conservation subdivision:

Step 1: Site Analysis

An analysis of the existing conditions of the site, including identification of natural and cultural resources (i.e., floodplains, steep slopes, water bodies, wetlands, tree canopy, vegetation, scenic views, historic buildings or ruins, etc.) and infrastructure resources (i.e., utility easements/rights-of-way, existing roads, etc.).

Step 2: Delineation of Preservation Areas

A determination of areas to be preserved and connections between the preserved areas.

Step 3: Sketch Plan

Once the areas to be preserved are set aside, the area identified for development can begin to take shape, including building placement, lot configuration, and street layout.

Most Appropriate for Preservation of:



Goals

1 Plan: Open Space

This plan puts a lot of emphasis on the importance of open space. Using the open space classifications presented in this plan, the Township should conduct a detailed open space inventory. Utilizing GIS and other planning tools, the Township and Environmental Advisory Council can develop a resource priority map that can identify areas of emphasis for preservation. This can all be incorporated into an update to the Township's Official Map, which outlines a process to initiate conversations with private property owners.

2 Protect: Open Space

Once the Township identifies priority open spaces to protect, it should develop a process to preserve properties using the strategies identified in this plan. This process should consider how the Township can be proactive in reaching out to property owners and how to finance any property acquisitions. In addition to direct acquisition of properties, the Township should utilize other strategies to protect open space through regulations such as zoning and land development requirements.

3 Manage: Open Space

In addition to inventorying and classifying open spaces in their current form, the Township should consider new management techniques for open spaces to enhance the resource values identified in this plan. This may include naturalization areas, developing forest management plans, or even just adjusting maintenance schedules.





Action Plan

Navigating the Action Plan

The Action Plan chapter details specific actions that will accomplish the goal set forth in South Whitehall Landscapes. Each action will be accompanied by details that will aid in its implementation. Each Action will include the following information:

The action statement and number.

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

The boxes above will be highlighted if the action is related to the specific chapter. In this example action, it is related to historic resources and agricultural resources.

This section will provide an overview of the action and why it is important.

Associated Goals

- This section will include the goals that this action works to accomplish.



This section will include further detail on potential funding sources, partners, best practices, case studies, and other resources that will be helpful when implementing the action.

Role of the Environmental Advisory Council (EAC)

In 2024, South Whitehall Township re-established the South Whitehall Environmental Advisory Council (EAC). The EAC advises the Board of Commissioners and other Boards and Commissions on matters dealing with protection, conservation, management, promotion and use of the natural resources located within the Township. The EAC will play an important role in the implementation of South Whitehall Landscapes and help echo the importance of resource preservation in the Township. As residents, members of the EAC are tuned in to the needs and concerns of the community and best equipped to be a direct line of communication to the public when it comes to environmental issues and the goals of this plan. Several actions specifically call out the EAC as an implementation partner and members should be well-versed with the content and vision for South Whitehall Landscapes.



Planning & Programs

There are eight actions within the Planning & Programs Action Plan. All of these actions propose either a program (i.e., on-going operations or initiatives) or planning initiative (e.g., a study, analysis, inventory, etc.).

Action	Associated Goals
A.1 Inventory and categorize public and private open spaces	OS1, OS2
A.2 Investigate opportunities for municipally owned agricultural land leases	AG1, AG2, AG3 OS2, OS3
A.3 Develop an Open Space Preservation Program	AG1 NR1 HR1 OS1, OS2
A.4 Finance an Open Space Preservation Program	AG1 NR1 HR1 OS1, OS2
A.5 Conduct a Historic Resource Survey	HR1, HR2, HR3
A.6 Classify historic resources in a Historic Resource Inventory	HR1, HR2, HR3
A.7 Investigate new municipal yard waste/composting programs	AG2, AG3 NR2, NR4 OS3
A.8 Investigate opportunities to naturalize open spaces	NR2, NR4 OS3

A.1

Inventory and categorize public and private open spaces

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

Working with the Environmental Advisory Council, the Township shall inventory and map all existing publicly and privately owned open spaces. Staff shall then utilize the nine Open Space Classifications introduced in this plan to categorize open space properties based on current use. These maps can be used as a baseline to help determine the amount of open space by classification is already in the Township and where opportunities may be to convert open spaces from one classification to another, either through naturalization or other improvements. This dataset can also be used to identify priorities for open space protection and subsequent updates to the Township Official Map.

Associated Goals

- Open Space Goal 1
- Open Space Goal 2

A.2

Investigate opportunities for municipally owned agricultural land/leases

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES
NATURAL RESOURCES
HISTORIC RESOURCES
OPEN SPACE

As the Township considers how best to acquire and manage open space, consideration should be given to leasing appropriate tracts for agricultural purposes to local farmers. Instead of relying on privately-owned agricultural easements, it may be more effective for the Township to outright purchase certain agricultural parcels and lease them to farmers for a nominal fee. The Township already leases the Davis-Smith Preserved Open Space to a local farmer, which has proven to be a suitable relationship. Additionally, the Township should consider smaller tract leases to support small-scale agriculture for aspiring farmers who cannot afford to purchase an entire farm on their own. This could include options for local farm stands or Co-ops. This program could have tremendous benefits to the farmers, but also could be way to bring consumers closer to the product in lieu of a standalone market.

Associated Goals

- **Agricultural Resources Goal 1**
- **Agricultural Resources Goal 2**
- **Agricultural Resources Goal 3**
- **Open Space Goal 2**
- **Open Space Goal 3**

The Seed Farm
Upper Milford Township, Lehigh County

Lehigh County owns 43 acres of protected open space that serves as an incubator for new farmers to learn their craft and connect with other farmers at a low-cost. Although the farm is owned by the County, the operations are managed by Community Action Lehigh Valley and a specific Farm Director for the property.

A.3

Develop an Open Space Preservation Program

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

Using the Open Space Preservation Strategies introduced in this plan as guidance, the Township should consider developing a proactive Open Space Preservation Program. This program should provide clear direction to staff and appropriate Boards as to the process to identify, evaluate, and acquire open space properties and property rights. The program shall be used to further protect the resources identified in the South Whitehall Landscapes plan and subsequent maps produced by the Township as part of the implementation of this plan.

Associated Goals

- **Agricultural Resources Goal 1**
- **Natural Resources Goal 1**
- **Historic Resources Goal 1**
- **Open Space Goal 1**
- **Open Space Goal 2**

A.4

Finance an Open Space Preservation Program

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES

NATURAL RESOURCES

HISTORIC RESOURCES

OPEN SPACE

In order to appropriately fund a South Whitehall Open Space Preservation Program, the Township will need to develop a sustainable financing mechanism to support the purchase of open space properties and property rights, as described in this plan. A common and viable option for South Whitehall Township to pursue is an increase to the Earned Income Tax (EIT) to be used towards the purchase and maintenance of open space properties. This option has been used frequently and successfully throughout Pennsylvania and the Lehigh Valley. In order to pursue this option, the Township will need to submit a ballot referendum for public vote, following the provisions of Act 442 of 1967 “Preserving Land for Open Air Spaces” and the “Pennsylvania Election Code” in respect to submitting questions to the public ballot.

Associated Goals

- **Agricultural Resources Goal 1**
- **Natural Resources Goal 1**
- **Historic Resources Goal 1**
- **Open Space Goal 1**
- **Open Space Goal 2**



Local Example | Township Earned Income Tax Referendum

Lower Macungie Township, PA
In 2021, nearby Lower Macungie Township allowed for a public referendum on the establishment of a 0.15% earned income tax credit to support open space preservation and affiliated costs.

A.5

Conduct a Historic Resource Survey

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES **HISTORIC RESOURCES** OPEN SPACE

As previously stated, a Historic Resource Survey is a useful first step to better understand a community’s history and what resources are still present to exhibit that history. In late 2023, the Township hired Jeff Marshall to conduct an initial Historic Resource Survey as part of this plan. Staff and their consultants should continue to pursue that survey and the necessary research to outline a Historic Resource Inventory for South Whitehall. Staff and their consultants should also consider how best to continue to update this inventory as time and budgets allow. The results of this inventory should provide guidance to staff and associated Boards as to which resources should be prioritized for classification based on this plan.

Associated Goals

- **Historic Resources Goal 1**
- **Historic Resources Goal 2**
- **Historic Resources Goal 3**



Resource Guide | Pennsylvania Above Ground Survey (PAGS)
Pennsylvania Historical & Museum Commission

PAGS collects and shares data about the commonwealth’s older and historic above ground places, such as buildings, farms, bridges, downtowns, neighborhoods, industrial areas, and landscapes. The PAGS website includes resources for surveying, FAQs, and additional resources that can be used to establish a historic resources survey methodology in South Whitehall.

Funding | Certified Local Government Grant Program
Pennsylvania Historical & Museum Commission

Mini-grants and project grants available for studies, plans, programs, and tools.

A.6

Classify historic resources in a Historic Resource Inventory

This action is related to the following plan chapter(s):



Once the initial Historic Resource Inventory is complete, The Board of Commissioners should officially designate and classify the priority historic resources into a South Whitehall Township Historic Resource Inventory. This inventory shall include relevant information on the resource, status, and classification. This inventory shall be dynamic and continuously updated and reviewed with other documents and policies. Any related historic preservation policies or ordinances shall reference the Township’s Historic Resource Inventory as the official list documenting identified historic resources.

Associated Goals

- **Historic Resources Goal 1**
- **Historic Resources Goal 2**
- **Historic Resources Goal 3**

A.7

Investigate new municipal yard waste/composting programs

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES
NATURAL RESOURCES
HISTORIC RESOURCES
OPEN SPACE

Throughout the agricultural resource research period, it became apparent to the Project Team how important and useful composting can be to all scales of agriculture. The Township currently collects yard waste curbside and at a small yard waste center at the Township Municipal Complex. This waste is then hauled to a 3rd party offsite to be composted, sometimes requiring the Township to pay a drop-off fee. If the Township were to develop their own municipal composting yard, it would allow for a more robust yard waste recycling program that could include supplying residents with compost at no cost or a small fee. This type of program could be very beneficial to backyard gardening and small-scale agriculture, while also helping the Township reduce cost in annual fees for yard waste handling by outside parties.

Associated Goals

- **Agricultural Resources Goal 2**
- **Agricultural Resources Goal 3**
- **Natural Resources Goal 2**
- **Natural Resources Goal 4**
- **Open Space Goal 3**



Funding | Municipal Recycling Program Grant

PA Department of Environmental Protection (DEP)

DEP's Municipal Recycling Program grants can be applied to municipal yard waste and composting programs.

Resource Guide | Municipality Composting

PA DEP

The DEP's municipal waste program regulates the storage, transportation, processing, beneficial use, composting, and disposal of municipal waste. They have a series of resource regarding municipal composting regulations.

A.8

Investigate opportunities to naturalize open spaces

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES HISTORIC RESOURCES OPEN SPACE

Once the municipal open spaces have been mapped and classified, Township staff shall work with the EAC to identify open space areas that are underutilized or could benefit from naturalization. Examples of this may include reverting a mowed field to a meadow, restoring an eroded streambank, or reforesting an area previously disturbed. All naturalization efforts shall be thoroughly coordinated with appropriate Township Departments and Boards to avoid conflicts and ensure that the naturalized area will be properly maintained.

Associated Goals

- Natural Resources Goal 2
- Natural Resources Goal 4
- Open Space Goal 3



Northampton County Parks & Recreation - Environmental Restoration

Multiple Parks, Northampton County
 Northampton County Parks & Recreation staff have been implementing environmental restoration projects into public parks for the past several years. These treatments are aimed at helping to better manage invasive species, reduce unnecessary maintenance, and introduce more wildlife habitat. Turf grass conversions have been underway at Louise Moore Park and Wayne Grube Park to convert underused mowed grass to wildflower meadows.



Policy & Regulations

There are nine actions within the Policy & Regulations Action Plan. All of these actions propose a policy or regulation, such as additions to the Township code, zoning ordinance text amendments, zoning map overlays, or updates to the Subdivision and Land Development Ordinance (SALDO).

Action	Associated Goals
B.1 Develop agricultural-friendly zoning regulations.	AG2, AG3 NR2, NR4
B.2 Create Natural Resource Protection Ordinances	NR3, NR4
B.3 Update and enforce existing natural resource ordinances	NR3
B.4 Map and classify streams	NR3, NR4
B.5 Update Township Shade Tree Policy & Guide	NR2, NR3, NR4
B.6 Repeal and update Historic Preservation Ordinance(s)	HR1, HR2
B.7 Create an Open Space Zoning Overlay for the Jordan Valley	AG1, AG2 NR1, NR2, NR3 HR1, HR2 OS1, OS2
B.8 Update SALDO with new open space classifications and requirements	AG1 NR1 OS1, OS2
B.9 Manage Township open spaces by classification recommendations	NR2 OS3

B.1

Develop agricultural-friendly zoning regulations

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES HISTORIC RESOURCES OPEN SPACE

The Township shall look for opportunities to adjust the Township Zoning Ordinance or introduce new ordinance language that better supports agricultural practices. Examples of this could be provisions to allow agricultural-specific commercial opportunities such as farm stands, “pick your own” produce, or ag-related businesses onsite. To better encourage small-scale agriculture in the Township and promote better natural resource enhancement, changes can be made to allow small domestic livestock in certain areas/situations such as chickens or goats. In relation to this, beekeeping, home composting, and low-impact agricultural operations could be considered in appropriate residential areas.

Associated Goals

- **Agricultural Resources Goal 2**
- **Agricultural Resources Goal 3**
- **Natural Resources Goal 2**
- **Natural Resources Goal 4**

B.2

Create Natural Resource Protection Ordinances

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES **NATURAL RESOURCES** HISTORIC RESOURCES OPEN SPACE

The Township should investigate model resource protection ordinances and consider adopting specific ordinances to help preserve critical natural resources. Resources to consider ordinances for include:

- Steep Slopes
- Riparian Buffers
- Woodlands

Associated Goals

- **Natural Resources Goal 3**
- **Natural Resources Goal 4**



Model Resource Protection Ordinances

Lehigh Valley Planning Commission
 The Lehigh Valley Planning Commission (LVPC) has existing guides and model ordinances for protection of steep slopes, riparian and wetland buffers, woodlands, and floodplains. While these guides were developed over 10 years ago, they offer a suitable framework to start from.

B.3

Update and enforce existing natural resource ordinances

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES	NATURAL RESOURCES	HISTORIC RESOURCES	OPEN SPACE
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In addition to creating new resource protection ordinances, the Township should review existing natural resource ordinances such as the Township Floodplain Ordinance, Stormwater Ordinance, and new Trees Ordinance. To most effectively administer these existing ordinances, the Township should consider appropriate training for staff or the hiring of new staff with the proper qualifications to assist with management of these ordinances. This could include ISA Certified Arborists training and/or certifying the Floodplain Manager.

Associated Goals	<ul style="list-style-type: none"> Natural Resources Goal 3
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International Society of Arboriculture (ISA)

The ISA promotes the professional practice of arboriculture and has been the leader in tree care across the globe for 100+ years. Through professional development, training, and advocacy, the ISA continues to set the standard for tree care and management. The organization offers multiple levels and options for certification and achieving higher levels of knowledge.

B.4

Map and classify streams

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

As described in the plan, streams can have very different characteristics and attributes. The Township should make a concerted effort to map stream the streams within the Township's watersheds and assign a rough classification. The purpose of this classification is to help assess what protections should be given to different classifications of streams and help make the distinction between a watercourse with year-round flow and depression channels that carry runoff. This effort can also be useful in helping to identify priority areas for headwater and drinking water supply protection.

Associated Goals

- **Natural Resources Goal 3**
- **Natural Resources Goal 4**



National Hydrography Dataset (NHD)

The National Hydrography Dataset is a data source that represents the drainage network of all surface water systems in the United States. This free dataset can be a useful tool to help map overland flow and surface water characteristics.

B.5

Update Township Shade Tree Policy & Guide

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

**NATURAL
RESOURCES**

HISTORIC
RESOURCES

OPEN SPACE

The Township recently adopted a new Tree Ordinance, providing information about the regulations and requirements for street/shade trees. To better promote the details of this ordinance, the Township should update the corresponding Shade Tree Policy & Guide in a viewer-friendly, consumable way. While the current guide has useful and relevant information, a smaller, graphic-oriented guide may be more convenient to distribute and easier for residents to read.

Associated Goals

- **Natural Resources Goal 2**
- **Natural Resources Goal 3**
- **Natural Resources Goal 4**

B.6**Repeal and update Historic Preservation Ordinance(s)**

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

**HISTORIC
RESOURCES**

OPEN SPACE

The goals of the Historic Preservation chapter are best carried out through a clear, understandable ordinance. The Township currently acknowledges Historic Resources in the Township Zoning Ordinance, but additional clarity and direction on how to use this section of the Ordinance would be helpful. Instead, the Township should repeal some of the provisions of the Historic Resources section of the Ordinance and adopt a new Historic Preservation Ordinance that clearly defines the Township's intent to preserve historic resources, the mechanism(s) to do so, and how developers and private property owners can benefit from preserving historic resources.

Associated Goals

- **Historic Resources Goal 1**
- **Historic Resources Goal 2**

B.7

Create an Open Space Zoning Overlay for the Jordan Valley.

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES HISTORIC RESOURCES OPEN SPACE

The northern tier area of the Township has been identified as a hotbed for priority resources to be preserved. This area, referred to as the Jordan Valley in the Township Comprehensive Plan, has unique land use goals identified which are centered around open space preservation and complimentary development patterns. In order to carry out these land use goals; zoning needs to reflect and encourage the type of development and preservation proposed in the Comprehensive Plan and South Whitehall Landscapes Plan. It is recommended that the Township develop a new zoning overlay specific to the Jordan Valley that prioritizes open space preservation and the additional land use goals previously identified.

Associated Goals

- Agricultural Resources Goal 1
- Agricultural Resources Goal 2
- Natural Resources Goal 1
- Natural Resources Goal 2
- Natural Resources Goal 3
- Historic Resources Goal 1
- Historic Resources Goal 2
- Open Space Goal 1
- Open Space Goal 2

B.8**Update SALDO with new open space classifications and requirements**

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

In order to appropriately encourage the use of the Open Space Classifications introduced in this plan, the Township will need to update the Subdivision and Land Development Ordinance to accurately reflect the types of open space and process to dedicate open space in relation to subdivision and land development. The existing open space requirements should be reviewed, adjusted and/or repealed in order to make SALDO consistent with the goals of this plan. Additionally, more specification should be made to outline the role of the Environmental Advisory Council regarding the review of land developments and any requirements related to natural feature preservation and/or open space dedication.

Associated Goals

- **Agricultural Resources Goal 1**
- **Natural Resources Goal 1**
- **Open Space Goal 1**
- **Open Space Goal 2**

B.9

Manage Township open spaces by classification recommendations

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

Once Township staff and the Environmental Advisory Council have classified the public open spaces, staff should adjust as necessary to manage open spaces according to their classification. This may include adjustments to the maintenance schedule, naturalization of areas, or planning other capital improvements.

Associated Goals

- Natural Resources Goal 2
- Open Space Goal 3



Case Study | Churchview Park Meadow Conversion

Emmaus/Upper Milford EAC

In 2015, the Emmaus/Upper Milford Joint Environmental Advisory Council converted approximately 2.5 acres of mowed grass in the middle of the Township's Churchview Park to a wildflower meadow. The areas chosen to convert were laid out on a map with enough of a buffer as to not impact the surrounding walking path. Areas for a mowed path were left in between of the wildflower area, connecting the paved walking path. Once the field was prepared, the EAC hosted a public event for community members and volunteers to learn about the project and plant seeds for the meadow.





Outreach & Education

There are eight actions within the Outreach and Education Action Plan. All of these actions are related to engaging community members through formal committees/organizations and the establishment of educational programming and resources.

Action	Associated Goals
C.1 Guide the EAC to implement goal and actions of the Landscapes plan.	ALL
C.2 Promote agricultural-related public resources	AG2, AG3
C.3 Prepare an Ag-Producer Municipal Guidelines Information Packet	AG2, AG3
C.4 Investigate volunteer stewardship opportunities	NR2, NR4 OS3
C.5 Promote natural resource preservation through outreach and education	NR2, NR4
C.6 Investigate the creation of a natural habitat certification program	NR2, NR3, NR4
C.7 Encourage and support the creation of a South Whitehall Historical Society	HR2, HR3
C.8 Promote Township history through available channels	HR3

C.1

Guide the EAC to implement goal and actions of the *Landscapes* plan

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

As previously mentioned, the Environmental Advisory Council will be a critical part of implementing this plan and promoting the benefits of this plan to the community. Once adopted, staff should assist the members of the EAC with understanding the process to implement actions and inform them of next steps to prepare for. Additionally, staff should be prepared to provide necessary data, materials, and information to help the EAC move forward on these actions. The first step in this process is for the EAC to prepare an annual workplan outlining the specific actions and activities they intend to pursue in relation to this plan and other environmental-related activities.

Associated Goals

- Applies to all goals.

C.2

Promote agricultural-related public resources

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES HISTORIC RESOURCES OPEN SPACE

Throughout the agricultural resources research portion of this plan, the Project Team was introduced to a vast number of resources, publications, and materials available for the agricultural community. These resources are geared towards both new farmers and seasoned farmers, under the topics of financing, business-development, technical resources, and advocacy. In order to help promote agriculture and signify that the Township is supportive of agricultural business, these resources could be consolidated and shared through available Township channels.

Associated Goals

- **Agricultural Resources Goal 2**
- **Agricultural Resources Goal 3**



**Buy Fresh Buy Local
Greater Lehigh Valley**

Nurture Nature Center, Easton, PA

The Buy Fresh Buy Local program is a network of chapters across the U.S. dedicated to increasing the economic viability of small farms. The Greater Lehigh Valley chapter is a program of the Nurture Nature Center in Easton and provides local food guides and other educational materials. This program is a great resource to learn about local farms and food producers in the area.

C.3

Prepare an Ag-Producer Municipal Guidelines Information Packet

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

Throughout the Project Team's research, they learned about the unintended impacts municipal regulations can have on the agricultural community. They also learned how by providing basic information about the regulations and any associated land development or permitting process, could drastically help farmers considering agricultural production in the Township. By creating a simple municipal guidelines packet that helps spell out frequent issues or answer common questions farmers may have, it could greatly improve the relationship between the Township and the agricultural community.

Associated Goals

- **Agricultural Resources Goal 2**
- **Agricultural Resources Goal 3**



Case Study | Agricultural Zoning District Guidelines

Lancaster County, PA

As one of the largest, predominately agricultural counties in Pennsylvania, Lancaster County Planning Commission created a simple guidebook on Agricultural Zoning Districts for the farming community.

C.4

Investigate volunteer stewardship opportunities

This action is related to the following plan chapter(s):

AGRICULTURAL RESOURCES NATURAL RESOURCES HISTORIC RESOURCES OPEN SPACE

Utilizing the EAC, the Township should look for opportunities to engage citizens and volunteers in support of natural resource stewardship activities. This may include plantings, simple maintenance, or cleanups. Organized volunteer activities are a great way to promote natural resource conservation and instill a better stewardship ethic for citizens. These are also opportunities for the EAC to partner with other organizations and promote an environmental message to an engaged audience.

Associated Goals

- Natural Resources Goal 2
- Natural Resources Goal 4
- Open Space Goal 3

C.5**Promote natural resource preservation through outreach and education**

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

**NATURAL
RESOURCES**

HISTORIC
RESOURCES

OPEN SPACE

This action item is also a productive activity for the Township's Environmental Advisory Council. The EAC should prepare a communication plan that includes information about the benefits of natural resource preservation and ways people can contribute to preserving local resources, whether it be through better practices at home or supporting Township actions and activities proposed in this plan. The EAC can also be a vocal advocate for some of the specific actions proposed in this plan such as the Open Space Preservation Program and naturalization efforts on public open spaces. Education and a clear message about the benefits of these initiatives will go a long way to gain support from residents.

Associated Goals

- **Natural Resources Goal 2**
- **Natural Resources Goal 4**

C.6

Investigate the creation of a natural habitat certification program

This action is related to the following plan chapter(s):



As part of the efforts to encourage better stewardship at home, it may be advantageous for the Township to consider adopting a natural habitat certification program to acknowledge intentional efforts by residents to be better stewards of their property. Having a legitimate program can help protect the property owners who have made specific decisions to “naturalize” their property, opposed to unintentionally neglect. The Township may want to consider utilizing an existing, established certification program instead of starting something new, but it should be clearly documented how the Township will acknowledge an outside program and document properties that are participating.

Associated Goals

- Natural Resources Goal 2
- Natural Resources Goal 3
- Natural Resources Goal 4

Backyard Habitat Programs
Bird Town Pennsylvania
 Bird Town Pennsylvania maintains a list of habitat-friendly certification/registration programs for property owners. Some of these programs include:

- Homegrown National Park
- NWF Certified Wildlife Habitat
- Penn State Extension - Watershed Freindly Certification

C.7

Encourage and support the creation of a South Whitehall Historical Society

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

HISTORIC
RESOURCES

OPEN SPACE

The Township should consider creating a specific municipal Board to help carry out aspects of the Historic Resource designation process and regulatory end of preservation. In addition to that, the Township should encourage and support the creation of a separate, non-governmental entity to take on the role of a Historical Society. As identified in the plan, a Historical Society could play an important role on the “softer” side of preservation, helping to share stories, host events, and maintain artifacts/materials. The Township has resources, technical expertise, and knowledge to help get the Historical Society on its feet, whether it be through hosting meetings at the Township building, providing speakers or topics for events, or assisting with the preparation of story sharing materials.

Associated Goals

- **Historic Resources Goal 2**
- **Historic Resources Goal 3**

C.8

Promote Township history through available channels

This action is related to the following plan chapter(s):

AGRICULTURAL
RESOURCES

NATURAL
RESOURCES

**HISTORIC
RESOURCES**

OPEN SPACE

Related to Goal C.7, the Township has a tremendous amount of resources at its disposal to help share history and promote the efforts of a Historical Society. The Township could create a Historical Resources page on the Township website to host information and relevant materials until the Historical Society grows large enough to maintain their own webpage. The Township also has the ability to host maps, videos, and other forms of media that can be distributed to residents fairly easily.

Associated Goals

- **Historic Resources Goal 3**

Action Plan Summary

Planning & Programs Actions	Policy & Regulations Actions	Outreach & Education Actions
A.1 Inventory and categorize public and private Open Spaces	B.1 Develop agricultural-friendly zoning regulations	C.1 Guide the EAC to implement goal and actions of the Landscapes plan
A.2 Investigate opportunities for municipally owned agricultural land leases	B.2 Create natural resource preservation ordinances	C.2 Promote agricultural-related public resources
A.3 Develop an Open Space Preservation Program	B.3 Update and enforce existing natural resource ordinances	C.3 Prepare an Ag-Producer Municipal Guidelines Information Packet
A.4 Finance an Open Space Preservation Program.	B.4 Map and classify streams	C.4 Investigate volunteer stewardship opportunities.
A.5 Conduct a Historic Resource Survey	B.5 Update Township Shade Tree Policy & Guide	C.5 Promote natural resource preservation through outreach and education
A.6 Classify historic resources in a Historic Resource Inventory	B.6 Repeal and update Historic Preservation Ordinance(s)	C.6 Investigate the creation of a natural habitat certification program
A.7 Investigate new municipal yard waste/composting programs	B.7 Create an Open Space Zoning Overlay for the Jordan Valley	C.7 Encourage and support the creation of a South Whitehall Historical Society
A.8 Investigate opportunities to naturalize open spaces	B.8 Update SALDO with new open space classifications and requirements	C.8 Promote Township history through available channels
	B.9 Manage Township open spaces by classification recommendations	

