BRANDYWINE CREEK Greenway

Implementation Tool Kit

Part 3 of 3

BRANDYWINE CONSERVANCY

CPC Chester County Planning Commission

WILLIAM PENN FOUNDATION

pennsylvania DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES

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BCG Partnership – The Enablers

Recent and Current Funders

- The William Penn Foundation
- Pennsylvania Department of Conservation and Natural Resources
- Chester County Planning Commission
- The George and Miriam Martin Foundation

Planning team

- Brandywine Conservancy
- Chester County Planning Commission
- Delaware County Planning Department

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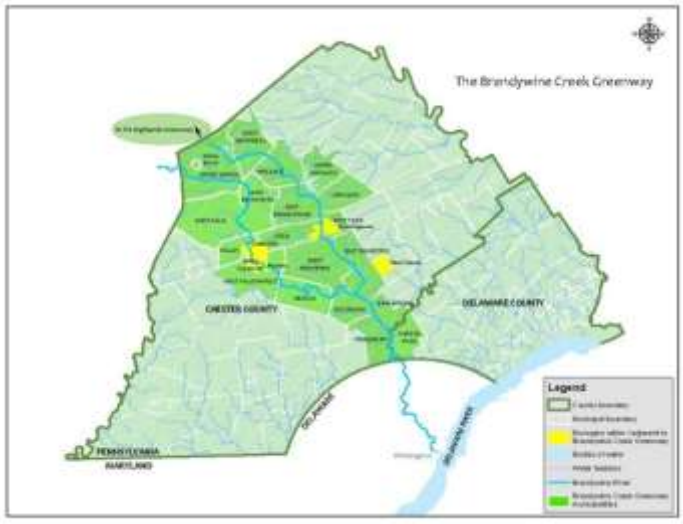
Introduction



The Strategic Action Plan for the Brandywine Creek Greenway consists of three distinct and separate documents:

1. Part I of 3 (Strategies) provides organizational strategies and broad natural and cultural resource conservation strategies that are relevant to all twenty-four greenway municipalities.

2. Part 2 of 3 (Municipal "To Do" Packets) consists of 24 chapters with each containing information unique to a single greenway municipality. The focus of this document is on clearly-defined recreation, transportation, and green corridor initiatives.

3. Part 3 of 3 (Took Kit) provides a suite of conservation tools and resource maps that are intended to provide guidance for greenway municipalities according to their unique circumstances and priorities.

This Tool Kit (Part 3 of 3) is to be used by municipalities as a basis to explore potentially new approaches to natural and cultural resource conservation. It will help municipalities to identify parcels of land that have important natural, cultural, agricultural, and water resources that could be considered by landowners for conservation and should be considered by municipalities during the land development process if private land conservation is not an option. The series of regulatory and non-regulatory tools include a brief introduction to the issues that each tool addresses, a description of how the tool can be implemented, its applicability in the Brandywine Creek Greenway, and a list of other resources that are available to learn more about the tool. Resource Summary maps highlight parcels of land with important natural (habitat), cultural, agricultural, and water resources to be considered for conservation or protection. Two maps highlight opportunities for restoration of woodlands and water resources. A list of the Portfolio Projects (described in Part 2 of 3) is included since it lists where several green corridors are planned at the municipal level. The final section of the Tool Kit (to be published in the next

draft) provides model natural resource protection ordinances that can be modified to suit each municipality and adopted by Board resolution. The model ordinance includes provisions for conservation of steep slopes, woodlands, wetlands, riparian buffers, and floodplains.

Regulatory and Non-regulatory Tools

Contents

Regulatory Tools

Sketch Plan

Introduction

What issues does this tool address?

In many instances, when a preliminary plan is submitted for a land development application, the site engineering is substantially complete and the applicant has a considerable investment in the preliminary plan. The applicant is often reluctant to make dramatic (or even modest) changes in the final plan. The Sketch Plan option provides an incentive for the applicant to meet with municipal officials in order that both may discuss the land development project at the conceptual level before preliminary engineering begins.

What does this tool accomplish?

Discussion allows the municipality and the developer to articulate their goals for the project and to discuss site layout and design alternatives. It benefits both parties; by facilitating the approval process for the developer (a financial savings), the municipality can achieve its community development objectives.

Implementation

How is this tool implemented?

1. By updating the Comprehensive Plan, OSRER, and Official Map to articulate community development objectives.

2. Through an amendment to the "Plan Process and Content" provisions in the SALDO Procedure: Sketch Plan and Site Visit; Preliminary Plan; Final Plan.

3. The sketch plan option can be bundled with ERSAP, Conservation Design Option, Natural Features Protection Ordinance, Historic Resource Protection Ordinance, or an EAC (optional).

Applicability

How can this tool be used in the BCG?

- Relevant for municipalities that are in the path of new development or potentially subject to future development pressures.

- Effective in municipalities with scenic roads or byways, scenic rivers, historic resources, prime agricultural soils, community trail plans, transportation improvement plans, open space preservation plans, and/or greenway plans.

- To help balance new development with resource protection.

- Requires municipal representatives to be willing to accommodate an additional step in the land development application process.

- Developers should not expect to achieve maximum density under the zoning.

More information

Where can one learn more about this tool?

- Examples to review include: Kennett Township SALDO Subsection 206-305; and Thornbury Township, Delaware County SALDO Subsection 22-402.

Natural Resource Protection Ordinance preparation assistance

- The Brandywine Conservancy.

- Natural Lands Trust.

- Chester County Planning Commission.

Conservation Design

Introduction

What does this tool accomplish?

- Avoids many of the negative aspects of sprawl.
- Fits new development into the character and landscape of the community.
- Enhances resource protection initiatives.
- Implements specific planning objectives.

Implementation

How is this tool implemented?

- Through local land use regulation.
- Usually offered as a zoning option to conventional lot-out development.
- Permitted "by right" or via conditional approval.
- "Four-step design process."
- Zoning provisions provide for overall density, use types & lot sizes, and open space.
- Design standards may be provided in Zoning or in the SALDO.

Keys to Ultimate Effectiveness of Conservation Design

- Adoption of flexible regulatory provisions.
- Careful plan review.
- Deliberate crafting of conditions of approval.
- Education regarding landowner options.

Success

Where has this tool been used successfully?

Upper Uwchlan Township, Kennett Township, and South Coventry Township.

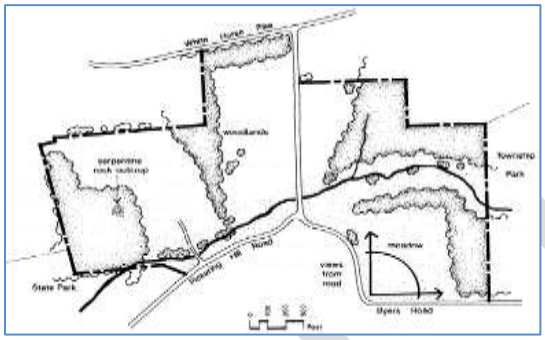
Applicability

How can this tool be used in the BCG?

- The Conservation Design tool is already used broadly and variably in the Brandywine Creek Greenway region.

- The tool is applicable in every township, less so in the boroughs due simply to lack of larger-scale developable land.

- Successful use of Conservation Design, whether termed “Open Space Design” or “Flexible Development” or “Cluster Development,” depends on both the design standards for development and open space AND the degree to which more conventional development options are more or less favorable for developers.



More information

Where can one learn more about this tool?

Contact:

- Chester County Planning Commission.
- The Brandywine Conservancy.
- Natural Lands Trust.

Existing Resources and Site Analysis Plan (ERSAP)

Introduction

What issues does this tool address?

A typical land development application is required to provide site information regarding contours, wetlands, floodplains, and steep slopes. However, there are often no provisions in the municipal ordinance for the applicant to identify important natural features such as: sensitive habitat; specimen trees; high quality woodlands; woodland interior; hydric soils; site hydrology; prime agricultural soils. Municipal ordinances also typically do not require the applicant to consider site context for: a regional complex of natural areas; connections among habitat areas; habitat corridors; woodland complexes; existing or planned greenways or trails; or alternative transportation.

What does this tool accomplish?

The ERSAP provision in a municipal SALDO helps municipal officials to understand which areas on a proposed land development site have the least sensitive natural features and are most suitable for development. An ERSAP empowers municipal officials to require that the most sensitive natural features are left undisturbed. This approach to site design is often referred to as Conservation Design or Low Impact Development, and it is consistent with stormwater best management practices.

Implementation

How is this tool implemented?

1. Prepare a Botanical Survey, Woodland Classification Study, and Exceptional Natural Areas Inventory for the municipality.

2. Draft a Natural Resource Protection Ordinance update to the SALDO.

3. Bundle the ordinance update with a Conservation Design option, stormwater ordinance, and/or sketch plan review option.

Applicability

How can this tool be used in the BCG?

- Relevant for municipalities that are in the path of new development or potentially subject to future development pressures.

- Effective in municipalities with woodland interior habitat, wetlands, Pennsylvania Natural Diversity Inventory sites, Important Bird Areas, confirmed populations of state-endangered or threatened plants or animals.

- Suitable in municipalities with sensitive natural features that are not protected by state and/or federal regulation (such as floodplains, surface waters, wetlands).

More information

Where can one learn more about this tool?

Examples to review include:

- Pocopson Township SALDO Subsection 190-23.
- Upper Uwchlan Township SALDO Subsection 162-9.D.

Natural Resource Protection Ordinance preparation assistance:

- The Brandywine Conservancy.

Floodplain Regulations

Introduction

What issues does this tool address?

Flooding occurs even under natural conditions. Flooding is known to worsen as the result of the changes in land surfaces resulting from land development. Flooding directly destroys valuable property and impacts human health. Pennsylvania suffers from one of the nation's greatest losses in terms of flood-linked damage to property as well as loss of life, injury, flood-related human health impacts, etc. Indirectly, flooding and related changes to natural watershed hydrology (e.g., increased stream "flashiness") translate into reduced groundwater recharge, reduced stream base flow, increased streambank erosion, and a general reduction in aquatic richness and diversity in stream systems. It is important to note that as watersheds develop, the nature and extent of flooding worsens – flood events become more frequent and cresting of flood events grows ever higher such that floodplains grow ever broader.

What does this tool accomplish?

A municipality can enact floodplain regulations to limit flooding damage directly to both property and human health as well as to reduce flooding itself. Reducing flooding also results in indirect environmental benefits including reduced streambank erosion and scouring of streambeds, reduced sedimentation, and improved water quality. The net benefits lead to an improved benthic and overall aquatic habitat.

Implementation

How is this tool implemented?

Historically, municipal floodplain regulations in Pennsylvania municipalities have been driven by national Federal Emergency Management Act (FEMA) Flood Insurance Administration (FIA) insurance requirements which are at the core of the national Flood Insurance Program (FIP). In short, if property owners are to be able to purchase heavily subsidized flood insurance (typically very important), municipalities must be members in good standing in the FEMA program and enact minimum FEMA floodplain regulations. These minimum FEMA regulations have a major focus on potential flooding damage to property, as well as human health, requiring that structures be constructed in ways to elevate primary living spaces above 100-year flood elevations. Also, major flooding pathways, or floodways, cannot be constricted as the result of new structures which impede flood flows. It should be noted that with the increase in coastal and non-coastal flood damage across the country in recent years, FEMA is making changes to minimum requirements and making program standards more rigorous.

Central to the FIP are FEMA's floodplain maps with their calculated floodplain elevations linked to historical flooding and flood protection/risk zones. Many of these flood maps are now somewhat outdated and do not reflect overall changes to upstream watershed land use and hydrology, coupled with more recent changes in precipitation/climate data. Typically, flooding resulting from a 1-year storm (2.4 inches of rainfall in a 24-hour period in SE PA) appears to be causing worsened flooding in many downstream municipalities; furthermore, 1-year storms appear to be happening more and more frequently – for whatever reason. In sum, many municipalities are learning that their existing floodplain regulations (typically located in their zoning ordinances) are outdated and not responsive to emerging floodplain management issues and needs. Even setting aside issues of protecting environmental functions and eco-services, conventional floodplain management doesn't seem to be effectively protecting property and safeguarding human life.

From an environmental perspective, minimum FEMA standards have their shortcomings. Minimum standards typically do not limit or manage the extent of clearing, grading, and removal of existing floodplain vegetation, all of which have significant water quantity, flow attenuation, and water quality impacts. Naturally vegetated riparian and floodplain areas slow flood flows, absorb flood waters, and filter sediment and other pollutants. Some municipalities have added additional environmental floodplain management standards to their ordinances, though few are as restrictive as they should be (the Conservancy has model environmental provisions which it recommends that Greenway municipalities adopt).

Applicability

How can this tool be used in the BCG?

Rigorous floodplain regulations should be adopted by all municipalities in the Greenway. These floodplain regulations should be coordinated with watershed and urbanization context (i.e., location in the watershed in terms of stream order, and extent of development occurring upstream and downstream. Floodplain regulations should be integrated with forested riparian regulations as well to avoid duplication and promote clarity and simplicity of application.

More Information

Where can one learn more about this tool?

Virtually all municipalities within the Greenway have adopted floodplain regulations, typically residing in their respective zoning ordinances. Substantial information is available regarding floodplain regulations at www.fema.gov and www.fema.gov/national-flood-insurance-program.

Contact the Municipal Assistance Program at the Brandywine Conservancy for additional help.

Chester County Planning Commission.

Chester County Water Resources Authority.