

CHAPTER 1: SITE DESIGN CONSIDERATIONS



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The purpose of this document is to provide reassurance readers what is discussed can in fact be built. One way to provide that is through profiling case studies of exemplary residential site developments that are built or in the process of being constructed in Pennsylvania. The developments included in these case study profiles are located throughout the state in either rural or more-suburban locations. Each features one or more goals for site development that are highlighted in the various chapters of this publication and help to promote environmentally and economically responsible residential development.

Brighton, Lancaster County
(p. 1-20, 1-21)

Chesterbrook, Chester County
(p. 1-16, 1-17)

Eagleview, Chester County
(p. 1-14, 1-15)

Farmview, Bucks County
(p. 1-6, 1-7)

Lantern Hill, Bucks County
(p. 1-8, 1-9)

Millcreek, Lancaster County
(p. 1-22, 1-23)

Pantops, Centre County
(p. 1-12, 1-13)

Pennswoods Village, Bucks County
(p. 1-10, 1-11)

Summerset at Frick Park, Allegheny County
(p. 1-4, 1-5)

Weatherstone, Chester County
(p. 1-18, 1-19)

Site Design Considerations

1.0 INTRODUCTION

When new developments are proposed, they should be designed to create vibrant, healthy living environments befitting of their unique location. A community's land is one of its key resources and how it is used and developed is a responsibility of the community's elected officials (Ref. 1). Many issues and factors must be considered when determining a vision for a community's future. As the Preamble states, many communities in Pennsylvania fall short in determining an appropriate vision for the future and ensuring that this vision can become reality through sound land use policies.



Figure 1.0. Crawford Square

All over Pennsylvania, communities are beginning to understand the benefits of low impact development. Here townhouses front a community green at Crawford Square in Pittsburgh.

The over-riding objective of this document is the presentation of recommended engineering standards for residential site design that promote responsible, sustainable, and affordable development. These standards are presented as options, with a range of choices to satisfy given objectives. It is anticipated that most municipalities can benefit from these standards, however each must consider their own unique situation to determine how and where the standards should be adopted.

Engineering design standards, however, are only part of what is needed to facilitate the development of a healthy community. In this context "healthy" relates to a community's economic health

as well as the health and well-being of its residents. To enhance a community's future health and well-being, responsible planning and zoning considerations are needed.

This chapter provides a brief overview of the factors and issues that should be considered in thinking about your community's future and how those can be addressed, including a "Top 10 Community Checklist" to assist officials and residents in making necessary changes for their community's future health and well-being. Each checklist item is discussed in more detail throughout Chapter 1. Also included throughout this chapter in the gray side-bar are a series of case study communities. These are actual, built communities in Pennsylvania that have one or more of the characteristics advocated in this document.

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Top 10 Community Checklist

1: Policies

When were your community’s Comprehensive Plan and Land Use ordinances last updated? Have you ensured that these ordinances have not been outpaced by changes in your community’s goals, population, technology and/or the economy?

2: Interconnections

Does your community have an official map that delineates where you desire to have future streets, trails, open spaces, and utilities?

3: Citizen Engagement

Have citizens been involved when your community makes changes to its planning policies and ordinances?

4: Recreation

Does your community have a recreation plan that clarifies what areas are to remain in permanent open space and distinguish between various recreational opportunities, such as strolling parks, trails, playgrounds, gardens and/or ballfields?

5: Environment

Does your community have a plan for the open space that respects the area’s ecological functions, clarifying what is to remain in permanent open space, and encompassing environmentally sensitive lands, and natural and/or agricultural features?

6: Community Character

Has your community defined what it feels is special about the places where you live, work and play? Have you worked to protect that elusive, but important thing called “community character”?

7: Building Placement

Do your community’s ordinances for building design and their placement on a site seek to maintain or enhance a neighborhood’s character?

8: Housing

Does your community permit different types of housing, not only as housing for those with a variety of incomes, but housing that produces distinctive places – as opposed to similar subdivisions?

9: Flexibility

Are your ordinances structured to provide flexibility in how developers can achieve your community’s desires?

10: Infrastructure and Maintenance Costs

Do your community’s policies consider resource and energy use in regards to construction, the development process, its products and the costs associated with each?

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SUMMERSET AT FRICK PARK

Illustration 1-a. New Community Park



Source: LaQuatra Bonci Associates, Michael Haritan

When completed, this 238-acre community will include a total of 713 housing units comprised of 336 single-family homes, 121 townhouses, and 256 apartment units. It will be built in three phases over several years.

Summerset at Frick Park embraces its unique context. It is a public/private effort that develops a former brownfield site while reclaiming, restoring, and beautifying lost park lands and critical environmental areas.

This land reuse and land reclamation project, located on a former slag heap, establishes a new mixed-use community and extends and rehabilitates an existing urban park. In redeveloping the site, almost 140 acres will be dedicated to the expansion of Pittsburgh's historic Frick Park and the creation of new neighborhood parks. A stream, watershed and the surrounding hillsides will be restored and a trail system developed to provide riverfront access.

The completed mixed land use project is highlighted

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The intent of Chapter 1 is to understand land development as a balance among community vision (what people want), environmental stewardship (respect for the environment), fiscally responsible public services (operation and maintenance of utilities and infrastructure), and economic viability (providing affordable housing consistent with employment needs) as well as promoting consideration for the integration of all elements of design to achieve a community design befitting its context.

1.1 POLICIES

√ *When were your community's Comprehensive Plan and Land Use ordinances last updated? Have you ensured that these have not been outpaced by changes in your community's population, goals, economy and/or advances in technology?*

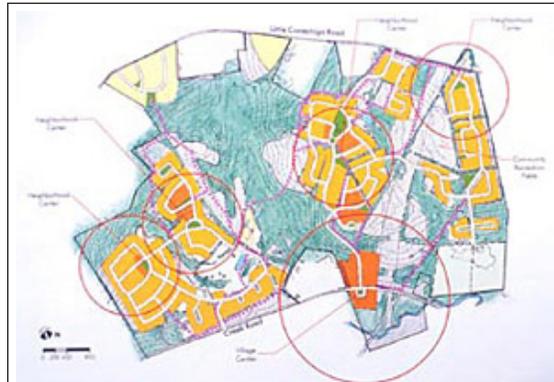


Figure 1.1. Site Development Plan

Requiring site development plans that clearly explain what will be preserved and what type of development will occur and where, makes it easier for everyone to better understand the proposal. (Source: PA-DCNR)

Municipalities have the right to control the look and function of land uses, and can encourage development that fits – not fights – the residents' desires (Ref. 1). This right is established in the Pennsylvania Municipalities Planning Code (MPC) (Ref. 14, Section 105). A community's desired future can be orchestrated by sound land use ordinances, which have their foundation in the community's adopted Comprehensive Plan.

1.1.1 Comprehensive Plan

A Comprehensive Plan is a policy document that identifies the desired physical, social, economic and environmental future of a municipality based on current conditions and the citizens' vision of the next five to ten years. This document is a thorough description – in words, maps and pictures – that translates the community's vision into a plan that will maximize quality of life, describe economic opportunities, and enhance the benefits

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provided by an area’s natural environment. The primary uses of the Comprehensive Plan are to:

- Keep citizens informed about the goals of the community;
- Guide public infrastructure investments;
- Provide guidance to private investors and land holders for the appropriate use of property; and
- Establish a roadmap to evaluate progress towards achieving the vision.

The Comprehensive Plan balances community desires, legal requirements affecting land use, and market forces (Ref. 1). A Comprehensive Plan will vary in complexity depending on a community’s population and its desires for future growth and development. A Comprehensive Plan may also reveal the desire to partake in multi-municipal planning where adjacent municipalities have similar issues and/or where sharing information about land uses would be beneficial to several municipalities.

The most important tools for carrying out the Comprehensive Plan are the Zoning and Subdivision/Land Development Ordinances. Ensuring that these key ordinances are consistent with your community’s Comprehensive Plan will encourage the type of quality development desired by the community (Ref. 1).

1.1.2 Zoning Ordinance

Zoning is rooted in powers granted to the municipality through the MPC.

According to the MPC the purpose of zoning is to (Ref. 14; Ref. 3):

- Protect the health, safety, and welfare of its citizens.
- Promote coordinated development.
- Prevent blight, congestion, loss of life and property.
- Accommodate all uses and a “fair share” of the area’s regional growth.

Zoning Ordinances may not be very exciting reading. However, when one looks around their community and countryside, the things that are liked and disliked are the direct result of zoning decisions, or the lack of them. Zoning can determine if buildings and specific land uses enrich or depress our communities. Zoning can control whether parks and open spaces are effectively integrated into a residential area. Zoning can explain the community’s land use wishes to developers and residents, before planning or building begins. Since any deviation from Zoning ordinances requires a trip to the Zoning Hearing Board, municipalities should consider how to accommodate and anticipate these deviations. Every site is unique and therefore “one size fits all” ordinance provisions are often not effective. Ordinances that build in flexibility make it easier for a developer to accommodate the municipality’s goals. For example, allowing a percent of the housing

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by:

- High standard multi-type housing units, including EPA Energy Star certification for all homes
- Restoration and day-lighting of one of the area’s last urban streams
- Restoration of the health and biological diversity of an aquatic ecosystem
- Restoration and expansion of wetlands and park lands
- New park trails and a new soccer field

During design and planning, more than 400 community meetings were held, resulting in a series of conditions that were approved by the City of Pittsburgh Planning Commission and incorporated into the final land development plan. By engaging citizens in this process, communication was enhanced and public resistance minimized.

By September 2005, 79 single-family homes had been completed and occupied, and 40 rental apartments had been completed and rented. (Source: Urban Redevelopment Authority of Pittsburgh; 10,000 Friends of Pennsylvania)

Illustration 1-b. Single-Family Detached Homes



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FARMVIEW

Illustration 1-c. View of Farmland from Street



From the public street, everyone enjoys the permanently preserved views of the farm. A land trust manages the farmland, as highlighted in the sign.

Farmview is a single-family home community designed in a clustered development style that permanently preserves 51% of the site. The design is “density-neutral,” meaning that the developer built the same number of homes, but on smaller lots. The developer and Lower Makefield Township worked together for 18 months in the 1990s to rewrite the township’s zoning ordinance, resulting in the Farmland Cluster Ordinance. This new code allowed the building of homes on half-acre lots where previously only lot sizes of one acre or more were allowed. The community’s design conserved 213 acres of the 418-acre site, including 145 acres of cropland and 68 acres of mature woods. While 59% of the original farmland was needed for development, 41% categorized as prime agricultural land of statewide importance was preserved in addition to nearly all of the wooded areas. By reducing the developable land area and lot width, Farmview realized savings in construction costs and promises lower, long-term public maintenance costs.

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lots (10-15%) to be exempt from setbacks enables a site’s design to accommodate property anomalies such as rock outcrops, existing trees, etc., and will also help avoid “cookie cutter” development when every lot meets the exact same setbacks. Promoting flexibility in zoning ordinances can facilitate environmental conservation and might help lower development costs and possibly the eventual operations and maintenance costs that fall to the municipality.

Zoning gives municipal leaders the power to create pleasing and efficient places. It is crucial, therefore, that a community’s Zoning Ordinance be thoughtfully crafted and up to date. Upon reviewing the recommended development standards included in the remainder of this document, it may likely be necessary to change your municipality’s current Zoning Ordinance to reflect these standards. For example, the parking information in Chapters 2 and 4 is often discussed in Zoning Ordinances.

1.1.3 Subdivision/Land Development Ordinance

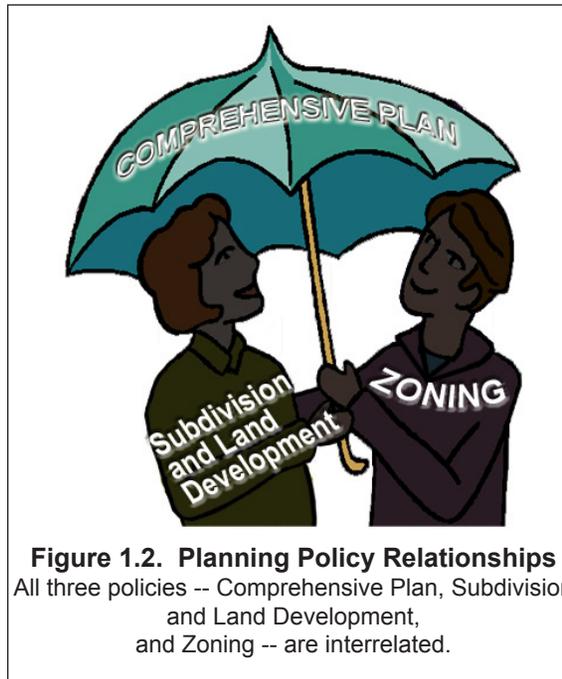


Figure 1.2. Planning Policy Relationships
All three policies -- Comprehensive Plan, Subdivision and Land Development, and Zoning -- are interrelated.

The Subdivision/Land Development Ordinance must also be current and consistent with the community’s Comprehensive Plan. The Subdivision/ Land Development Ordinance deals more with the specific details of a development, such as the width of streets, requirements for water and sewer lines, sidewalks, and so forth. These details are the focus of this publication, and the recommended standards provided in the following chapters have been written with the intent of assisting communities in bringing their regulations up to date with the most current engineering science, design practice and experience, and professional knowledge regarding these issues. This publication’s recommended standards can serve as a solid foundation upon which a community can revise and update their ordinances.

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1.2 INTERCONNECTIONS

√ **Does your community have an Official Map that delineates where you desire to have future streets, trails, open spaces, and utilities?**

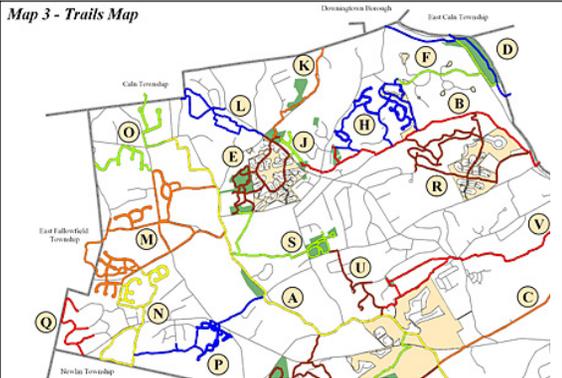


Figure 1.3. Interconnections

This map excerpt shows the extensive network of pedestrian and bicycle connections that are part of the “Greenways, Trails, and Gateways Plan for West Bradford Township.” (Source: West Bradford Township, Chester County)

Many important components of communities are actually systems that function better when they are not isolated, but rather, are interconnected to form networks or functional units. Streets, trails, farmlands, sewer/ water lines, drainageways, etc., are some examples that serve their purposes more effectively if interconnections are considered. A well-delineated, hierarchical street network that considers future development and needs, for example, will serve current and future community residents’ transportation needs more efficiently, ensure a safe network for emergency responders, and can be planned to avoid future congestion as a community grows. The viability of working lands is greatly

enhanced when farms and farming-related businesses, such as feed supply stores, are retained as a unit and not allowed to become fragmented (Ref. 4).

1.2.1 Official Map

In Pennsylvania, a municipality can make an Official Map of all or a portion of the community to show existing and proposed public lands, roads, and facilities (Ref. 14, Article IV; Ref. 3). This is an excellent tool for implementing recommendations from the community’s Comprehensive Plan. This map is intended to serve as a formal public record to indicate where the municipality is likely to require future right-of-ways, easements, and/ or land for new roads, drainageways, utilities, recreation facilities, and so on. This map enables property owners to make their future development plans with the knowledge of what the municipality has planned, and it can often reduce land acquisition costs by virtually ensuring that critical land segments will remain available for these future municipal needs and goals.

An Official Map can be used to show any or all of these types of land uses (Ref. 14; Ref. 3):

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The preserved farmland was donated by the developer to a newly created Lower Makefield Farmland Preservation Corporation, a local conservation organization composed of local farmers, township residents and an elected official liaison. The farmland is leased to farmers in the community through multi-year agreements that encourage adoption of traditional farming practices. The developer also donated 68 acres of woodland to the township to support local conservation efforts in creating an extended network of forest habitat and wildlife travel corridors.

Although many were at first skeptical of building 322 large homes (2,600–3,700 sq. ft.) on lots which were often less than a half-acre in a marketplace consisting primarily of one-acre lots, brisk sales made it the fastest selling development in its price range in the county. Its success prompted other developers to create additional conservation-based cluster subdivisions, resulting in the preservation of 500 acres of farmland in the vicinity.

Illustration 1-d. Farmview Development Plan



Modified from source: Growing Greener (Ref. 29)
Most houses have a permanent view of either farmland or mature woods.

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LANTERN HILL

Illustration 1-e. Single-Family Homes Spaced Similar to Adjacent Doylestown Setting



Source: Carter van Dyke Associates

Lantern Hill at Doylestown was developed on a previously contaminated manufacturing brownfield site. It is now a mixed-use traditional neighborhood located within the historic borough of Doylestown. It serves as an example of collaboration between developer and local municipalities to achieve responsible land planning, open space preservation, and architectural integrity while satisfying the growing demand for new residential and commercial development. The 18.5-acre site was remediated with PA DEP Land Recycling and Environmental Remediation Standards Act 2 clearance before the planned development. Lantern Hill now consists of 117 residences, and 62,400 square feet of office and retail space, pocket parks, and walking paths. As the brownfield site was already situated in a developed area, the community design could easily connect to existing infrastructure.

The residential units were designed after the traditional Victorian style of the area, including bright colors, porches, and variations in size and materi-

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- public streets, grounds, parks, watercourses, environmentally sensitive areas, and open space reservations
- pedestrian, railroad, and transit ways
- flood and stormwater areas and facilities

This Official Map approach can ensure that new developments will be connected to existing and future street extensions and designed in a coordinated manner. The Map can help establish pedestrian and biking networks that are linked to important and desirable destinations, making these community-serving uses more attractive and valuable to residents and visitors alike. A planned system of interconnecting sidewalks and trails can provide safe pedestrian routes among neighborhoods, stores, schools, and parks. This is best implemented when planned as part of a new development, although existing neighborhoods can be retrofitted to accommodate a pedestrian/ bike network. Officials and citizens should also be alert to recreational opportunities presented by abandoned rail and road right-of-ways (Ref. 1).

Official Maps can further assist in future health and safety precautions by being used to reserve resources needed to protect current and future drinking water supplies, such as recharge areas (Ref. 4). A municipality can also identify contiguous woodlands, sensitive natural resources, such as wetlands, and their connection to other important natural areas, such as flood plains and critical drainageways, which can aid in stormwater management and flood control.

Setting aside these lands can also have economic benefits. The positive impact on property values of conserved open space has been documented in numerous studies. For example, in Columbus, Ohio, property values of similar homes were up to 23% greater if they faced open space. In Boulder, Colorado, properties adjacent to greenbelts averaged 32% more in value than those located a half-mile away. In Philadelphia, a park accounted for 33% of the value of land adjacent to it (Ref. 12).

1.3 CITIZEN ENGAGEMENT

√ ***Have citizens been involved when your community makes changes to its planning policies and ordinances?***

Each community is comprised of a variety of people with multiple interests and backgrounds - teachers, parents, business owners, police, students, couples, singles, and senior citizens, to name a few. Every public decision affects these groups in different ways. While elected officials have been selected by the populace to represent their interests, community

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planning processes benefit greatly from soliciting and receiving input from a cross-section of the community. Elected officials need to take initiative and invite citizens to participate in a community's decision making. However, it is the quality of participation efforts that determines whether the citizenry will take ownership of the decisions that will affect the future quality of life in the community.

1.3.1 Community Volunteers



Figure 1.4. Citizen Engagement

Children are community stakeholders, too. Their ideas often provide a fresh look at the topic. Involving kids usually means parents get interested too –which helps build momentum.
(Source: Pennsylvania Environmental Council)

Whenever a community looks to make changes to its planning policies and ordinances, community volunteers should be engaged as much as possible to assist municipal staff, officials, and/or professional consultants (Ref. 1). This not only helps to keep costs down, but it may even help to meet the matching requirements for outside funding. Most importantly, citizen involvement strengthens the community commitment to the process and its product -- citizen "buy in" and acceptance of the results are much greater if people know that community volunteers -- their friends and neighbors -- are actively involved (Ref. 5).

It is often difficult to engage citizens in the process of planning for the future

of their community. However, once they begin earnest observation of their town and realize they can make a difference, participation is forthcoming (Ref. 5). Volunteers can be engaged in a variety of ways. For example, they can help collect data, conduct interviews, or survey current housing conditions. They should also be part of gathering perceptual data, which involves learning about citizens' opinions, ideas, and desires for the future.

1.3.2 Collecting Perceptual Data

Perceptual data can be collected in many ways -- including community-wide meetings, and smaller informal discussion that are targeted towards specific issues or interest groups. Visual preference surveys can be a fun way to learn about personal opinions, which most everyone likes to express. These types of surveys can focus on key community issues and can challenge people to think anew about the basis for their preferences. Mapping is another fun way to engage community residents. This can be done at a community

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als. The mixture of housing types and costs have attracted a variety of residents to form the community. The residential units include 9 single-family detached homes, 76 townhomes, 24 back-to-back manor homes, and 8 twin homes.

Streets in the development are walkable and attractive through the use of off-street parking in rear alleys and curvilinear streets. Downtown Doylestown is a short walking distance from Lantern Hill residences, providing opportunities to walk to work. Office space on the site provides further opportunity for pedestrian commuting.

The commercial portion of the development uses design techniques such as limiting building height to three stories and use of four small buildings to maintain the same character and scale as the residential portion of the community.

Stormwater is controlled within the development through the use of planted green spaces.

Illustration 1-f. Multifamily Housing Faces Small Green with Gazebo

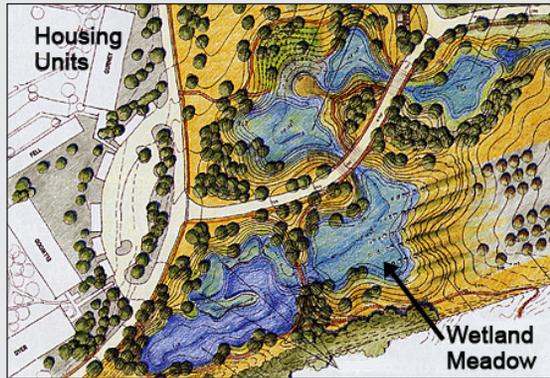


Source: Carter van Dyke Associates

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PENNSWOOD VILLAGE

Illustration 1-g. Plan View of Stormwater Management Facilities



Source: Landscape Architecture Magazine, Sept. 2006

Pennswood Village, located on 82 acres in Newtown, Bucks County, PA. The early 1980s development is a non-profit Continuing Care Retirement Community. Although not exclusively a Quaker community, Pennswood is guided by values that foster community, simple and functional environmental design, and consensus planning. The approximately 450 residents of Pennswood live in a variety of apartment styles within twelve single- or two-story buildings.

In the late 1990s, Pennswood Village sought a new plan for expansion and stormwater management. During large flood events, runoff from the adjacent Route 413 and other nearby buildings overflowed the existing retention basin and flooded the residential area of the village. Through group consensus within the community and working with a team of interdisciplinary professionals, the design achieved preservation of the historical landscape character, avoided development on former farmland, and preserved open space. An aesthetically designed system of stormwater retention now not only prevents flooding, but serves as an entrance to

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meeting or by inviting people to stop by a public place, such as a school or library, to draw or paste stickers on a map indicating what they like or dislike about the issue at hand (Ref. 1). Mapping is also an excellent way to engage senior citizens and the youth of a community. It is important to try a variety of ways to involve citizens and get an objective opinion of the community.

The final outcome of public policy making should be the result of weighing values and making judgments based on the many individuals and groups that are able to present their needs and wishes. However, municipal leaders also must be mindful of their responsibility to children, low-income residents, and others whose voices may not otherwise be heard (Ref. 1).

1.4 RECREATION

√ *Does your community have a Recreation Plan that clarifies what areas are to remain in permanent open space and distinguish between various recreational opportunities, such as strolling parks, trails, playgrounds, gardens and/or ballfields?*



Figure 1.5. Recreation

All ages and abilities find trail use to be an enjoyable outing. These people are using a rail-trail in York County. (Source: PA-DCNR)

Community open space serves many purposes, including, but not limited to, recreational opportunities, environmental and public health benefits, and increased land values. Visual and physical access to quality open space can also improve the quality of life and health of a community. A sense of community spirit and enhanced social interaction can occur through public interaction at local parks, tot lots and recreation areas (Ref. 2).

The quality and availability of recreation facilities affects the attractiveness of your community as a place to live. Studies have shown that in the last 10 years people are looking for “quality of life”

amenities, such as access to open space, when deciding where to live. “Knowledge workers,” today’s new economic workforce, prefer communities with a diverse range of outdoor recreation. A National Association of Realtors survey shows that 57% of home buyers would choose a house close to a park over one that was not (Ref. 8).

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1.4.1 Human Health Benefits

Parks and recreation also have human health benefits. A high percentage of Pennsylvania’s population is overweight or obese. According to the PA Department of Health, 60% of adults are overweight and 24% are obese (Ref. 10). In the last ten years, 73% of Americans do not get the recommended 30 minutes of moderate physical activity on most days of the week. Making recreation facilities convenient, right in their own neighborhood, could assist residents in being more physically active. In fact, studies show that 51% of adults agree that more accessible and affordable recreation facilities would help them be more active (Ref. 10).

A community should strive to provide publicly accessible open space that is of a quality that will be valued and used by both current and future residents. Your municipality may require the dedication of land for recreation as long as several requirements are met. This includes land that is:

- Accessible to the development;
- Consistent with a recreation plan adopted by the municipality; and
- Reasonably related in both amount and location to the use anticipated by residents of the development.

Instead of land dedication, the municipality may permit a developer to make a contribution that would be combined with others to provide a larger or higher-quality recreation facility (Ref. 1).

1.5 ENVIRONMENT

√ ***Does your community have a plan for open space that respects the area’s ecological functions, clarifying what is to remain in permanent open space, and encompassing environmentally sensitive lands and natural or agricultural features?***

Less developed areas contribute to an area’s visual and cultural assets by providing views of forests and open fields. These areas also serve important functions related to stormwater run-off absorption, ground water recharge, and wildlife habitat. These key benefits, along with others previously mentioned, are the primary role of open spaces (Ref. 2).

For a municipality, the loss of “things that used to be there” is not just cause for nostalgia, the loss can cause real problems. For example, when the natural absorption and stormwater management functions of a mature wooded area are cleared and replaced with

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the community, provides recreational open space, and has created wetland habitat for a variety of flora and fauna. This system appears as an undulating natural meadow with wetland areas. Since the installation of this system, no runoff from the community property has impacted the adjacent creek, even in heavy storm events. The planting design serves both functional and aesthetic purposes, consisting of species native to the area.

This project now serves as an example of successful and attractive community stormwater management.

Illustration 1-h. Meadow



Source: Landscape Architecture Magazine, Sept. 2006

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PANTOPS

Illustration 1-i. Depressed Center Island



Generous open space (65%), narrow roads and vegetated stormwater facilities, such as this center island, help to make this an environmentally responsive development.

Pantops is a rural preservation community of single-family homes on 113 acres, of which 65% remain as permanent open space. The lot sizes range from 1 to 3.7 acres and are clustered in small groupings with generous open space between the groups. The developer had site plan approvals for subdividing the entire site into 2- to 5-acre lots; however, in the mid-1990s when Patton Township enacted new Rural Preservation Design Standards, the developer reworked the plans. They hired a local landscape architect to develop site design plans that respected the site's rolling topography, wildlife habitat and beautiful views. The Rural Preservation Design Standards, part of the Township's Agriculture zoning district, require that at least 50% of the tract remain in open space.

The developers were concerned about increasing growth beginning to surround their forested perimeters. They wanted to create a rural setting guaranteed to stay that way. The site plan's open

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a large impervious parking lot, flooding downstream could result. One of the most effective ways to protect important environmental features is to encourage new development to locate where existing infrastructure is available. This can be accomplished by the transfer or purchase of development rights, thereby "relocating" those development rights to an area of the municipality that has the infrastructure and capacity to handle it. Another effective way to help protect valued open spaces is to permit a certain housing yield, but then allow the houses to be situated on smaller lots, thereby resulting in the remainder of the site being preserved as permanent open space. This type of development is sometimes called "cluster" development as the development is located or "clustered" on less environmentally sensitive parts of a site. The remaining open space can be used for stormwater management, community on-lot waste water facilities, agriculture, and/or natural parklands.



Figure 1.6. Environment

New Street Ecological Park in Lititz, Lancaster County, was a public-private community partnership to restore a degraded stream. The result is a more stable natural system with improved water quality. (Source: LandStudies, Environmental Restoration and Planning)

Policies and regulations that protect open space resources are not just an ideal -- they are practical tools for conserving the functionality of the larger community landscape. Delineating and protecting these resources help you assess how the specific details of your community can have a positive effect on public health, safety, welfare and fiscal soundness -- the very functions that your municipal government is empowered to protect.

Permanently preserved open space provides economic advantages regarding real estate values. Homes adjacent to permanently preserved open space sell for more and accrue more quickly than those farther from open space (Ref. 8).

1.6 COMMUNITY CHARACTER

√ ***Has your community defined what it feels is special about the places where you live, work and play? Have you worked to protect that elusive but important thing called "community character"?***

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Certain aspects of the physical beauty and/ or setting of a community elicit pride among its residents. The character of a community or neighborhood is typically defined by the presence and quality of elements, such as architectural design and its relationship to a street, sidewalk/ bikeway design, the presence of landmark structures and public places, and the quality of landscaping and signage (Ref. 5). While the consideration of these elements are typically discussed in terms of “aesthetics,” they do play a significant role in establishing the quality-of-life for a community (Ref. 6). Tourist destinations and resort communities have long understood the importance of retaining cherished community character attributes, and now many other communities are also realizing they do not want to lose that which makes their own community special. Studies have also shown that the unique character and identity of a place can serve as economic advantage as more regions complete for new companies, residents, and tourists (Ref. 15).

1.6.1 Legal Basis



Figure 1.7. Community Character

Stone Gateway Pavilion and Walls – Summerset at Frick Park community spaces reflect the character of the adjacent, historic Frick Park, Pittsburgh. (Source: LaQuatra Bonci Associates, Landscape Architects)

The old adage “beauty is in the eye of the beholder” may cause some to worry that creating policies related to protecting aesthetics are too subjective. This, however, has not proven to be the case so long as the “standards are well articulated and applicants for new construction or change are given good notice of what is required of them” (Ref. 6, p. 11). A key U.S. Supreme Court case in 1978 set the stage for courts to uphold regulations whose primary basis is aesthetics.

...[W]e emphasize what is not in dispute... This court has recognized, in a number of settings, that states and cities may enact land-use regulations or controls to enhance the quality of life by preserving the character and the desirable aesthetic features of a city... (*Penn Central Transportation co. v. New York City*, 438 U.S. 104 (1978) at 129) (Ref. 6, p. 7).

Municipalities are increasingly inserting provisions in their zoning and subdivision/ land development codes to protect key attributes of community character (Ref. 5). These ordinances cover a variety of issues, such as tree and vegetation protection, historic structures and districts, signage controls, scenic vista protection, cell-tower controls, and site landscaping requirements. Thousands of communities nationwide

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space was designed to be contiguous with adjacent agricultural and/or natural areas to preserve wildlife corridors. The township’s parkland requirement was met through the creation of bike and nature paths, which were deeded to the township. The property was developed in three phases and is nearly built-out. Wooded lots sold in early phases for \$100,000, a record high for the area. Pantops illustrates the effect of open space on property values. Those adjoining open spaces sell at higher values than properties across the street that do not.

Native plants were used for all common and open-space landscaping. The developer installed signage to designate natural areas and for homeowner education. Non-structural stormwater controls were employed, such as wetlands and bioretention areas sited in naturally-occurring drainage and retention areas. Cul de sac islands were designed with center depressions and no curbing to filter stormwater. Road widths in the first two phases were 18 feet to reduce paving costs and stormwater runoff. An on-site fire department passing/turning radius demonstration caused the township to change the minimum street widths to 20 feet for Phase 3.

Illustration 1-j. Bioretention



Naturally low portions of the site remain undeveloped to serve as bioretention areas and, as a bonus, become a scenic feature—a wildflower meadow.

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EAGLEVIEW

Illustration 1-k. Narrow Tree-lined Streets with Sidewalks



Eagleview is a mixed-use planned development of over 800 acres that when fully built out will include 825 residential units, about 3.5 million square feet of corporate office, R&D, medical, YMCA, hotel, daycare, neighborhood and regional shopping areas, restaurants, educational and recreational facilities. Eagleview will ultimately provide employment for nearly 10,000 individuals and housing for a population of over 2,000 people.

The design and planning for Eagleview strive to overcome the fragmentation typical of suburban development. It is an integrated community designed to foster an intimate, village-like atmosphere.

The residential and corporate areas are in close proximity, connected not only by roads, but also by an extensive network of footpaths, bike trails, and greenways, which also tie into a county-wide trail system. A two-acre town center with a large commons area provides the place where the residential and corporate communities meet.

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have adopted historic district or landmark preservation controls to preserve and enhance community character. This includes hundreds in Pennsylvania, both large (Philadelphia, Pittsburgh) and small (Village of Dillsworth in Birmingham Township, Chester County). For example, the Village of Dillsworth's historic preservation ordinance is used to determine the appropriateness of proposed changes within the historic district, and to convey to residents and developers what types of changes would be least harmful to the district's unique characteristics (Ref. 5).

For communities where woodlands are important contributors to community character, standards have been enacted to protect them. For example, Lower Allen Township in Cumberland County restricts the maximum amount of a site that can be cleared to 15%. The town of McCandless in Allegheny County varies the percent of woodland to be preserved based on the stand's maturity and size (Ref. 5).

Preserving community character includes not only building quality, but the enhancement of the local economy and social institutions as well as the protection of the surrounding area. Sprawling, dispersed growth in a community can drain a community's vitality while also destroying valued farmland and open spaces (Ref. 16). Balancing the amount and quality of growth adjacent to already developed areas, as well as reinforcing the character and appeal of the existing community, provide the best strategies for success (Ref. 5).

1.7 BUILDING PLACEMENT

√ Do your community's ordinances for buildings seek to maintain or enhance a neighborhood's character?

Carefully configured lots and how buildings are placement upon them can allow for the best use of land, affect the walkability of a neighborhood, and accommodate the changing needs of residents over time. How a building looks, its placement on a site and its relationship to adjacent structures and the immediate surroundings are some of the most significant influences on the character of a community, furthering the points related to community character discussed above (Ref. 7). Ordinances should allow for flexibility in how a building is designed to encourage creativity in meeting your municipality's goals.

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Figure 1.8. Buildings

For the construction of these new townhouses in Lewisburg, the designer/ developer was asked to reflect the setbacks and the characteristics of historic housing nearby.

1.7.1 Building / Site Relationship Factors

Below are four factors that should be considered related to building design:

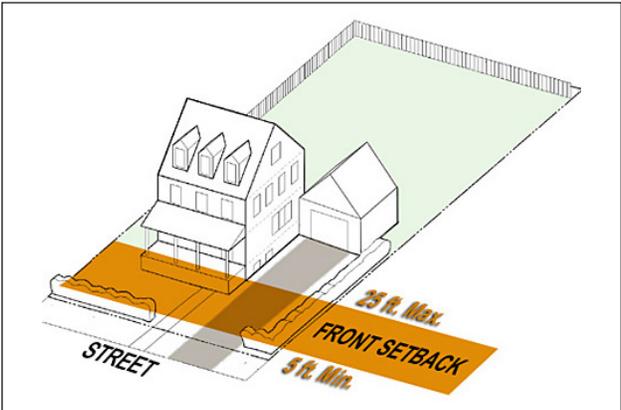


Figure 1.9. Setback

A variety of setbacks within a desired range creates visual interest along the streetscape and allows for usable yard space in the rear. Note that the garage is setback further than the front façade to provide adequate room for parking and to give the house more prominence from the street. (Modified from source: PennSCAPEs, Ref. 2)

- **Setbacks** – The setback is the distance a building is located from a front, side or rear property line. Unfortunately, ordinances for new structures sometimes ignore the established setback or build-to lines in the immediate area. The result can be new structures that are in stark contrast to the established community character, such as buildings set back substantial distances from the street. To provide a sense of enclosure for the street and to create, or reinforce, a pedestrian-friendly environment, a growing number of municipalities require that new buildings be sited in a manner that respects existing, traditional setback lines (Ref. 5).

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Eagleview embraces innovative planning and design techniques that incorporate the principles of Traditional Neighborhood Design and Smart Growth. In addition, advanced techniques for centralized storm water management and ground water recharge have been found to be successful.

Eagleview would not have been possible without the support and imagination of the local governments of Uwchlan and Upper Uwchlan Townships. New zoning regulations were created, tested, and revised over several years to permit new methods of planning, including provisions for small-lot, alley-served homes and the juxtaposition of a variety of uses. Likewise, cooperation and coordination with numerous environmental organizations allowed new concepts for open space preservation and environmental integrity to be incorporated in the planning.

The developer makes presentations and provides tours for visiting educational and governmental groups who wish to see how these planning principles result in a special community. (Source: The Hankin Group; 10,000 Friends of Pennsylvania)

Illustration 1-I. Extensive Open Spaces for Recreation and Preservation



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CHESTERBROOK

Illustration 1-m. Homes at Chesterbrook



Source: Wallace, Roberts, and Todd

The mixed-use community of Chesterbrook was developed on an 864-acre site in Chester County, PA. The community site is within commuting distance of downtown Philadelphia, offering urban convenience. The suburban setting also adjoins the Valley Forge National Historic Park.

The residential portion of the development plan includes 177 single-family homes, 1,238 townhomes, and 765 units in mid-rise apartments.

A total of 150 acres of the site is dedicated to a corporate center within the community hosting 1.45 million square feet of office space, nine restaurants, a 120,000 square-foot shopping center, a day-care facility, and a 250-room hotel.

357 acres, approximately 40% of the site, are dedicated to recreational open space and habitat, with 200 acres of this portion permanently dedicated to preservation. Seven miles of trails connect Ches-

Site Design Considerations

Ordinances that specify a small front yard setback can encourage more neighborly interactions, the use of porches, and increased public safety (Ref. 1). Another important consideration regarding the front setback is how much room will then be available in the rear yard. With lots becoming smaller to accommodate different lifestyles and to provide for affordable housing, it is important that the house placement maximize usable yard space. Communities might also consider setting a minimum and a maximum front setback. This provides flexibility in house location while also establishing the desired relationship of the building to the street (Ref. 2). In other instances, a code might require larger setback distances to protect scenic vistas and/or trees within the setback area. For example, three communities along the Three-Rivers Parkway in Allegheny County -- Findlay Township, Rosslyn Township and Carnegie Borough -- adopted a recommended 100-foot scenic-buffer building setback in their regulations (Ref. 5).

- Orientation -- Traditionally, the main facade of a building fronted the street and had a clearly marked or prominent entryway. Today, buildings -- both commercial and residential -- often turn their back on streets, completely altering the feel of a community. Commercial buildings are particularly notorious in this regard. Many communities now require that the primary entrance to a building face the street, to reinforce the street as a community space (Ref. 2). There are also communities that seek to enhance a setting comfortable for the pedestrian and therefore limit the placement of garage doors facing the street, or require that garages be set back farther than the front façade of the house to give the latter more prominence on the street.
- Building design -- Many contemporary codes contain standards governing the design, appearance and accessibility of new structures. A building design consideration that is growing in popularity is “visitability,” also called inclusive home design. The goal is to ensure that a majority of new homes built include features that make the home easier for people with a mobility impairment to live in and/or visit. With an aging population it is unacceptable that most new homes being built today include barriers that can be easily avoided. Relative to a building’s relationship to the site is landform grading that allows at least one entry with no steps (Ref. 20).

It is also possible to address building appearance by considering some basic details such as building massing, roof types and lines, materials, the height and placement of windows or the height and width of porches along a street. This not only maintains the neighborhood character but can also support property values in existing areas (Ref. 1). It should be noted that these standards must not be vague. For example, Lower Pottsgrove Township, Montgomery County’s Village District requires that new buildings be sensitive to the historic architectural context of the village. This is not to suggest prescriptive building design, but rather that new buildings respect the scale and character of existing buildings

Site Design Considerations

and the larger neighborhood context.

- Lot size -- Communities can accommodate a significant number of new housing units and businesses without destroying their essential character if that new development is consistent with the area’s historic development patterns. Large lot, suburban-style development provides a stark contrast to the character of villages and towns. Because of its larger lot sizes and miles of roads, this type of development drives up the cost of housing and consumes valued open space. Smaller lots, townhouses and mixed uses of buildings help to maintain the vitality and affordability of a community. By encouraging a range of lot sizes and widths, including higher densities with smaller lots sizes, a community can enable a greater diversity of housing choices (for more about housing, see the next section, below) (Ref. 5).

1.8 HOUSING

✓ ***Does your community permit different types of housing, not only as housing for those with a variety of incomes, but housing that produces distinctive places -- as opposed to similar subdivisions?***



Figure 1.10. Housing
Townhouses at the Summerset at Frick Park community are designed to fit in with their adjacent single-family detached neighbors.

Some of the liveliest communities are those that encourage a mix of land uses. Many municipalities are establishing mixed-use zoning districts that encourage and even require several uses rather than the more common separation of uses. That separation of uses is a characteristic of what is called “Euclidean zoning,” which evolved from the 1926 U.S. Supreme Court decision from Euclid, Ohio. That type of land use regulation is at the heart of the dispersed suburban pattern that has been transforming our countryside for the past 40+ years (Ref. 5).

1.8.1 Mixing Uses

Most small towns have a pleasant mix of uses because they evolved and developed prior to the implementation of Euclidean zoning. Contemporary ordinances are attempting to

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terbrook with the adjacent Valley Forge National Historical Park.

The Chesterbrook development connects residents and local commuters with public transportation routes on SEPTA and connects with regional rail lines. Chesterbrook’s own interchange at Route 202 connects with the nearby turnpike and expressway.

The developer held many work sessions to solicit public opinion and demonstrate the benefits of the plan for natural and fiscal environments within Tredyffrin Township.

With a strong market response and appreciating property values, this mixed-use community is a regional success.

Illustration 1-n. Open Space and Trail

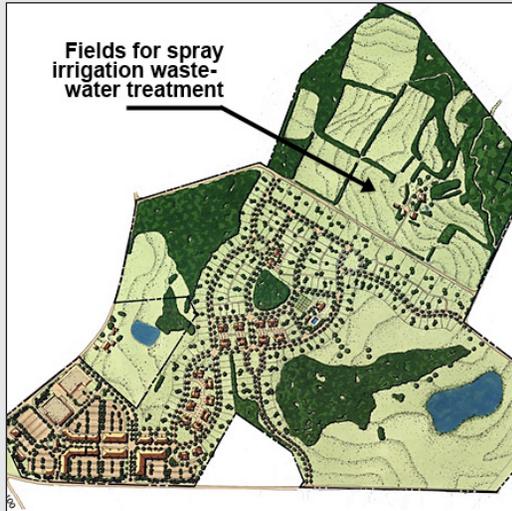


Source: Wallace, Roberts, and Todd

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WEATHERSTONE

Illustration 1-o. Open Space Used for Wastewater Treatment



Source: Hankin Group, Ref. 30

The community of Weatherstone in West Vincent Township, Chester County, is designed as a walkable village surrounded by preserved open space. Nearly two-thirds of Weatherstone's 300 acre site is retained in recreational and permanent open space. The community design includes many small neighborhood parks, playgrounds, trails, and preserved natural areas. Much of that retained open space is used for land application wastewater treatment.

The developer constructed their own wastewater treatment plant, which includes ponds and spray irrigation applied to fields on the north portion of the site. The spray fields are planted in orchard grass and a local farmer harvests the crop three times a year to make hay. The original farmstead sits on 10 of the 300 acres. To preserve this important part of

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move away from the Euclidean-based approach of separating uses and are recognizing the benefits of mixed uses. In Pennsylvania, communities can adopt a Planned Residential Development (PRD) provision to encourage mixed use development that integrates different dwelling types with employment, commercial and civic uses. For example, Manheim Township in Lancaster County has adopted PRD regulations that allow neighborhood commercial uses within residential areas (Ref. 5). Ferguson Township, Centre County, has recently adopted a TTN (Traditional Town Neighborhood) which capitalizes on the 2000 MPC amendment that allows Traditional Neighborhood Zoning Districts (Ref. 14, Section 701-A). Ferguson Township's ordinance allows six different types of housing ranging from single-family detached and semi-detached to two-family dwellings and mixed-use buildings, where residential use is a component of the structure.

One of the reasons communities are shying away from single-use zoning is that it produces a homogeneity of housing that also means a lack of diversity within the population. If housing choices in a community do not provide for diversity of incomes, recent college graduates, fireman, teachers, elderly on fixed-incomes, and so on, will be excluded (Ref. 11). By providing the opportunity for a range of housing types in a neighborhood, your community can help to create a diverse population that can accommodate all ages and a variety of income levels. The result will be a richness in both the physical and social fabric of the neighborhood (Ref. 2). In addition, research shows that a community's overall economic performance improves when compact, mixed-use development is present. It can help to foster more diverse labor markets, vibrant community centers, and efficient transportation systems (Ref. 13).

1.9 FLEXIBILITY

√ Are your ordinances structured to provide flexibility in how developers can achieve your community's desires?

Every piece of ground proposed for development or redevelopment is unique. Many current ordinances are quite rigid and attempt to have everything conform to a specific approach. This is not only ineffective, but it is producing problems in communities. There are many ways that municipalities can be more flexible in how they approach new development and get the results they desire. As examples, a municipality can facilitate the development process, or it can allow alternatives by providing a range of choices that can be employed to satisfy an objective, or approvals can be based on performance or outcome rather than exact prescription, or a municipality can provide incentives to encourage developer exploration of a goal.

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1.9.1 Facilitate Approval Process



Figure 1.11. Flexibility

By saving the woodland grove across the street, the developer created an amenity for these houses, saved on development costs, and did not have to plant street trees on the retained woods side of the street.

Designing and building a new residential development is expensive. The municipal approval process and meetings, professional designers’ fees, etc., all take time, energy, and resources. Due to these financial obligations, most developers take the “path of least resistance” and least cost to meet municipal policies. Therefore, one of the best ways for a municipality to get what it wants is to make an ordinance that supports it be “by right.” This means that if a developer meets all of the regulatory standards in their development proposal, they will not be required to present their plans at extra meetings or special hearings in order to receive development approval. Often, even “conditional use” approvals can deter a developer as the

time (and therefore money) required to receive that approval is an unknown. A conditional use means that the municipality can set reasonable conditions that, if met, will allow the use to be built. Since those conditions are often unknown until the municipal approval process has started, this process makes developers less sure about the outcome.

1.9.2 Allow Alternatives

There are many instances in which a community can offer a developer alternatives, such as allowing a range of different lot sizes or a variety of residential housing types.

If tree preservation is important to your community, consider ordinances that waive or reduce other landscaping requirements if existing trees on the site are retained. In Pennsylvania there are several examples. Montgomery Township in Montgomery County has a sliding scale of credit towards supplemental planting requirements for preserving existing trees. They seek to encourage developers to meet the site’s tree planting requirements through preservation of existing trees. Depending on their size, preserved trees can count for between 1-6 new trees (larger trees receive greater credit). Another example is Tinicum Township in Bucks County, which waives the planting of new street trees if trees are preserved along a new street (Ref. 5).

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the area’s history, this portion of the property was sold off separately, including a deed restriction to limit future development and retain the farmstead complex.

The developed part of the property is designed with tree-lined streets to create a village setting. There are 273 single family homes and townhouses along with shops, offices a proposed grocery store, restaurants and a new branch of the Chester County Library. Much of the new construction uses stone and other materials that reflect those found in the original farmstead buildings. The site is served nearby by both bus and trail public transportation.

West Vincent Township had been considering creating a village ordinance and had begun working with the Natural Lands Trust when the developer approached them. The developer and their design team worked with the township and their consultants to write the ordinance that enabled this community to be built. The process took about five years to secure all of the approvals. Because of their unique wastewater approach, part of the time was consumed in working with soil scientists, engineers and the state Department of Environmental Protection.

One of the approaches that helped all to gain comfort with a new village ordinance was to prepare a “by-right comparison.” When the process started, the existing zoning on the site allowed warehouse distribution and two-acre lot residential development. A trial development plan that looked at what could be done then, “by right”, yielded a better understanding of allowed uses and housing numbers, which enabled the discussion to progress towards alternatives. (Ref. 30, June 2005 interview with Bob and Richard Hankin.)

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BRIGHTON

Illustration 1-p. Alley-access Garage



Brighton includes alleys and some garages with carriage homes above. Source: Millfield Construction (Ref. 26)

Brighton is a mixed-use community that provides a variety of residential types and densities, including single-family homes and townhomes. The community is located just 10 minutes from Lancaster on 53 acres. Construction started in 1997 and the development is now more than half built out. Manheim Township allowed Traditional Neighborhood Development (TND) as an option, as well as the possibility of increasing the community's density through the transfer of development rights (TDR).

The developer was excited about trying a development that combined these approaches. Brighton became the first community in Lancaster County to incorporate many TND features, such as alley access to rear garages, having offices or small living units (Carriage Homes) over the garage, pedestrian-oriented design such as brick sidewalks, trails, and a local elementary school and neighborhood shops within walking distance. The development also features community greens with a fountain,

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1.9.3 Performance-based Approvals

Chapter 2 includes discussions about sizing a street's width based on the expected traffic volume. This type of ordinance is performance-based in that the requirements are derived from how it will need to perform, rather than a one-size-fits-all approach. This flexibility in street design may "free up" money that would have gone into extra asphalt. Street widths greater than necessary to accommodate the anticipated traffic, especially for low-volume residential traffic, mean more expenditure for streets. By having a reduced road width, the developer can realize significant road construction savings. For example, a 36-foot wide road is approximately 44% more costly than a 24-foot wide street, and nearly twice as expensive as an 18-foot wide street. Reduced expenditure for road construction can benefit the community by enabling that infrastructure money to be transferred from unnecessary asphalt to desirable neighborhood amenities, such as street trees and sidewalks, without impacting the cost of the home or lot (Ref. 5).

1.9.4 Incentives

Providing bonuses is a common way to encourage flexibility in how a development is designed. For example, if the preservation of open space is important, then consider allowing a developer to build a few more units if they set aside more open space than required. For example, East Bradford Township in Chester County has an overlay district that protects a scenic river corridor. They encourage sensitive development by offering density incentives and a streamlined development-review process (Ref. 5).

Communities throughout Pennsylvania are beginning to recognize that housing for many is becoming unaffordable. Workforce housing, for those in occupations such as emergency responders, teachers, nurses, and maintenance and janitorial workers, is becoming a topic that municipalities can no longer ignore. Local firms, hospitals, etc., are having problems hiring and retaining employees due to rising housing and rental prices (Ref. 18). Often developers can be encouraged to include a percentage of workforce housing within a new development through incentives. Some approaches being used include density bonuses and fast-track permitting. Another strategy is to allow an additional small unit above a garage with rear (alley) access to easily gain an affordable housing unit (Ref. 19).

1.10 Infrastructure and Maintenance Costs

√ Do your community's policies consider resource and energy use in regard to construction, the development process, its products and the costs associated with each?

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It is well documented that communities in which development is more disbursed and disconnected have higher financial burdens due to increased costs for infrastructure and services (Ref. 13). This same principle holds true at the site-scale level. If more land is disturbed and moved, and if roadway lengths are longer, then more energy and costs will be required for both the construction process and the community’s future maintenance. With increasing energy costs, an individual house’s energy use requirements are also of great interest today.

By requiring more compact development and/or preserving open spaces, your municipality can decrease the energy impacts of new development as well as future maintenance costs. For example, a typical single-family development designed as a conventional 1-acre subdivision would require 9,800 linear feet of street. A PRD (Planned Residential Development) design on the same site with the same number of units (76 units on 129 acres), only at 1/2-acre lot sizes, would require only 4,130 linear feet of road. Therefore, less than half the amount of land disturbance and pavement is required for the same number of housing units (Ref. 5). As a bonus, that neighborhood could also enjoy land that is dedicated to open spaces and parks which, as previously discussed, have multiple community benefits. A development with even smaller lots or a greater variety of unit types could further reduce the energy consumption and materials required to build this development.

Natural hydrologic (surface water) systems such as floodplains, wetlands, and drainage swales provide many valuable “engineering functions” at practically no cost. It is only when the integrity of these systems is disturbed that their functions have to be replaced with expensive man-made alternatives, which cost both money and energy resources to build and maintain. For example, floodplains and wetlands, which naturally absorb storm water like a sponge, are often replaced by detention ponds that are expensive to construct, use valuable land and will require future maintenance. By requiring site designers to identify a property’s existing natural systems, and integrate them into a new development’s design rather than destroy them, the municipality will require less energy to be expended on the development and developers can enjoy cost savings by not having to replace those natural systems with man-made structures (Ref. 5).

The energy and expense required to remove existing trees as compared to the benefits they provide are important considerations for a community. Environmentally, trees perform a number of functions naturally during their life-span, at no cost, which provide universal benefit to everyone. For example, trees help improve the air quality by releasing oxygen and absorbing pollution. Trees also help to stabilize soil and decrease storm water runoff. Removing a mature tree and replanting a smaller tree within the now compacted soils will have a much lower capacity to slow and infiltrate stormwater. Stands of trees can

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gazebo, play areas and gardens, as well as a large meadow and a bike trail that connects to neighboring areas.

The developer hired a local landscape architecture and planning firm to prepare comparative development analyses and alternative development options. This team enjoyed a supportive township environment where the Board of Supervisors and Planning Commission participated in work sessions and provided strong guidance. They worked together for about a year in the mid-1990s and ended up with modifications to the ordinance, which is not surprising since this was the first time it was used. The township’s comprehensive plan was well defined, which enabled the designers to easily explain how this development’s concept fit the township’s goals. Analysis showed that the economics of TDR made sense since purchasing the rights from the township’s “bank” enabled the density to increase from 2.2 dwellings/ acre (allowed under Planned Residential development) to 2.95 with the purchased development rights-nearly a 30% increase.

Illustration 1-q. Townhouses Face Green Space



Brighton’s townhouses face a community green and fountain. Source: Millfield Construction (Ref. 26)

MILLCREEK

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Illustration 1-r. Homes at Millcreek



Source: Charter Homes (Ref. 27).

The Millcreek neighborhood, on 87 acres in W. Lampeter Township, Lancaster County, is an example of growth with land and resource preservation. The developer sought partnerships among the builder, township, planning officials, fire and police departments, and adjacent residents to create a unique development plan. A new ordinance, the Neighborhood Design Option (NDO), was created to allow Millcreek, and future township growth, to be planned more creatively. Through collaboration, Millcreek was developed with respect for natural resources, to promote diversity among residents, and to preserve local characteristics of Lancaster County.

Millcreek includes a mix of 80 townhomes, 54 carriage homes (two homes side by side) and 103 single-family homes. The design provides a variety of housing types, styles, floorplans, and prices. Home sites are smaller at 5 to 6 single-family homes per acre on the site. This adds to the neighborhood feel and allows preservation of open space. Homes have deep front porches and garages in the rear to create an attractive and social streetscape. The

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also serve as windbreaks that help to moderate cold winter squalls and in the summer they provide shade to reduce heat build-up. It is because of the realization of these many benefits that communities are thinking ahead. Rather than incurring costs both during the development process for their removal and in the future to have mechanized or engineered structures perform the same functions as the trees, municipalities are requiring the protection of these valuable resources during the planning and design of new developments (Ref. 5).

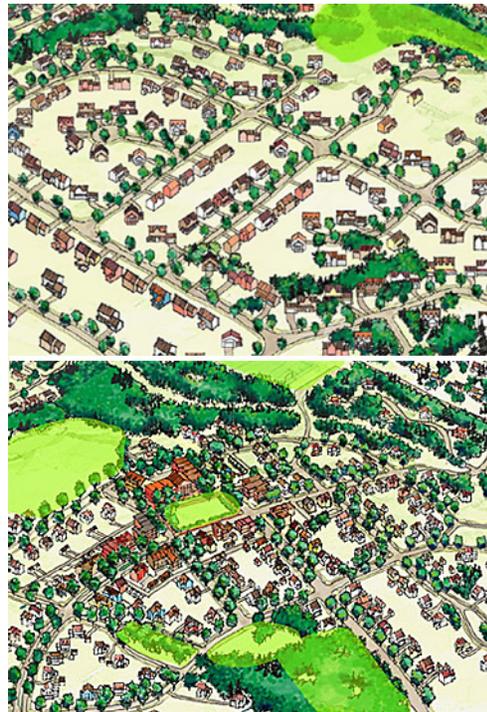


Figure 1.12. Infrastructure and Maintenance Costs

Alternative site designs show the difference between 16% open space (top) and 40% open space (bottom). Along with the benefits open space provides, the bottom design also resulted in over 2 acres less pavement needed for streets. (Source: PennSCAPEs)

Architects and developers are paying more attention to siting buildings in ways that will keep the home's energy use to a minimum. This can include buffering the building from winds and positioning the structure to receive beneficial winter sunlight and shade it from the hot summer sun. Subdivision and land development ordinances can support these approaches by recognizing siting issues like orientation to the path of the sun or positioning buildings below hilltops, rather than on top of them (Ref. 1). The U.S. Green Building Council is introducing standards for energy-efficient building for residential construction. This program is called LEED™ (Leadership in Energy and Environmental Design) and has been well received throughout the country for commercial building construction (Ref. 17). The Green Building Association of Central Pennsylvania has adopted the LEED rating system (Ref. 28). A municipality could consider asking developers to make a percentage of the development's housing meet one of the LEED levels of certification to encourage energy resourcefulness.

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1.11 CONCLUSION

Citizens and municipal officials have the power to design a community that can become what everyone envisions – they really do hold the keys to quality development. The negative impacts of development that are seen all too often can be prevented. Communities struggling with how to approach these issues can make use of this publication to get started. The remaining chapters provide guidance about updates to municipal Subdivision and Land Development ordinances.

An important first step in making changes to how your community will grow and develop is to review the “Top 10 Community Checklist” on page 1-3 and take time to thoroughly answer these questions. By assembling a group of committed citizens and municipal officials, a community can move forward by engaging residents in determining what needs to be done. A first step for this team might be to identify the key policy tools (Comprehensive Plans and Ordinances) that need to be brought up to date. They should determine what sections or elements of the regulatory tools need to be revised. The team can then put together a plan of action to complete those updates and establish what, if any, assistance they need from their County planner or others who are equipped to provide assistance, such as the Governor’s Center for Local Government Services, and other groups that have municipal assistance programs.

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sidewalks, trails, and narrow, curbed streets at Millcreek add to its community character.

The community is adjacent to Mill Creek on a site full of woodlands, steep slopes, and open fields. The finished development allows for 31 acres of open space, including three main features: The Meadow, The Great Lawn, and The Woodlands. These were valuable, useable spaces for residents at the start of the development process and serve as aesthetic and functional preserved open spaces. 11.5 acres of the site will be donated to W. Lampeter Township for recreational access by the public.

Tree preservation was one goal of the development. Homes were built at a distance from the creek to preserve woodlands and allow vegetation to act as a filter for groundwater runoff into the creek.

An old bank barn on the site was preserved and restored to be used by the community for events. A new building, “The Farmhouse”, was built on the site to host the sales office, a general store, and coffee shop.

Illustration 1-s. Millcreek Trails



Source: Charter Homes (Ref. 27)

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