

APPENDIX 9-2

COMMUNITY DESIGN AND SUSTAINABILITY CONCEPTS

DEVELOPMENT TECHNIQUES OR TOOLS

Although land use patterns essentially establish the general character of an area, attention paid to detailed layout and design of developments is also crucial to preserve or achieve the appearance desired by the Village. Various development techniques or tools are important to help further protect or achieve a community's identity. These include, but are not limited to, neighborhood and special district planning, community design and sustainability concepts, and other design implementation tools.

One of the goals of the comprehensive plan is to provide aesthetically pleasing and efficient community while promoting a sustainable land use pattern that meets the social, economic, physical, ecological, and quality-of-life needs of the Village and maintaining a sense of place.

As neighborhood plans and development proposals are considered attempts to integrate green development standards, such as Leadership in Energy and Environmental Design standards for Neighborhood Development (LEED-ND), to help achieve sustainability should be examined. In addition, the neighborhood planning process should make full use of the many design concepts that can enhance the living environment and increase efficiency in the provision of urban services and facilities and in travel patterns. These design concepts and techniques as described below may include Mixed Use Development, Traditional Neighborhood Developments (TND), Transit-Oriented Development (TOD), Community Design Techniques, Community Design and Sustainability Concepts:

Mixed-Use Development

This term refers to a development that contains a diversity of land uses that are compatible and complementary to each other. It typically consists of residential development in a mixed-use setting with compatible commercial and/or institutional uses that provide a desirable environment for a variety of housing types, including those for elderly and persons with disabilities (senior and assisted living facilities), seeking the benefits of proximity to places of employment as well as civic, cultural, commercial, health, and other urban amenities. Mixed uses, as illustrated in Figure IX-3, can be horizontal or vertical arrangements, or a combination thereof. Horizontal mixed uses typically include residential structures intermixed with, or located adjacent to, buildings containing complementary commercial, institutional, or other civic uses. Vertical mixed uses may include residential living units on the ground/first floor level (convenient for elderly and persons with disabilities) in the rear of compatible businesses; or commercial uses located on the street level and residential uses located on upper levels, with offices potentially acting as a "transition" or buffer between retail activities and residential dwellings. General industrial uses should not be intermixed with residential or school uses. Suitable controls should be in place to ensure compatibility between different land uses.

Traditional Neighborhood Development (TND)

This term refers to very compact, pedestrian-oriented, mixed-use neighborhoods typically characterized by a gridlike street system, with possibly alleyways, and street-oriented setbacks and building designs. The overall design, including the layout of "complete" streets with sidewalks and wheelchair accessibility, encourages walking and bicycling as alternatives to automobile transportation within the neighborhood. TND is suitable for areas that have access to public facilities, such as schools and civic buildings, which are in close proximity. TNDs are typically designed around a commercial center or other identifiable center (i.e. park or civic center) that functions as a neighborhood gathering place.

Transit-Oriented Development (TOD)

This term refers to compact, mixed-use development whose internal design is intended to maximize access to a transit (bus or rail) stop located within or adjacent to the development. Within the development, commercial uses and medium- to higher-density residential uses are located near the transit stop. The layout of streets and sidewalks with curb cuts or ramps provides convenient walking and bicycling access and wheelchair access to the transit stop. Such development may be appropriate around existing or future commuter rail stations.

Community Design

Community design includes beautification techniques, such as tree planting programs, neighborhood enhancements, and the aesthetic benefits of buffering and landscaping. A well-designed Village will attract quality development, improve the visual character, and enhance important natural resources. Community design is an integral part of the planning process, and directly affects land use patterns, transportation planning, and neighborhood livability.

As the Village's population grows, community design concepts and methods should be addressed to accommodate new residential, commercial, utility, community facility, and industrial development. Development designs should be environmentally sensitive and complement adjacent land uses. New growth can be accommodated through compatible infill, higher density mixed-use development within the Village Center, and redevelopment areas. Mixed-use development, Traditional Neighborhood Development (TND), and Transit-Oriented Development (TOD) are types of development associated with high-density areas. Mixed-use development may help minimize street and utility requirements and promote alternative modes of transportation, particularly if such development is designed to provide high-density residential development; employment opportunities; transit, bike, and pedestrian facilities; parks; retail areas; and personal services.

Neighborhood planning and subdivision designs should also incorporate pedestrian/bike trails, pathways, and/or bikeways as means of transportation or recreational activity. It is also important that new development be designed so it is compatible with established development, and preservation of appropriate natural resources.

Commercial and office uses should be grouped in commercial nodes or located in suitable locations in mixed-use neighborhoods. Mixed-use development should promote the use and improvement of existing infrastructure, increase pedestrian activity and transit use, and provide needed goods and services for nearby residents. Industrial uses and business and industrial parks should be developed in areas served by existing infrastructure with convenient access to highway, rail, or air services. Major business parks should ideally be served by transit to serve employees and have pedestrian and bicycle access and facilities between transit (bus or rail) stops and employment centers.

Conservation subdivision design, sometimes called cluster development design, allow residential development at appropriate densities, but residential dwellings are typically clustered, thus preserving and protecting environmentally sensitive areas, historic areas, and community landmarks; and/or providing open space and recreational facilities. Conservation subdivision design techniques and guidelines are described in [Appendix 6-1](#).

The use of flexible zoning techniques in the Villages is encouraged to accommodate a variety of housing options Planned Unit Developments (PUDs), Planned Development Districts (PDDs), TNDs, TODs, and cluster development. "Universal Design" and "Visitability" design concepts, which provide increased accessibility for persons with disabilities by providing homes with wider doors and hallways, step-free level entrances and other surfaces, locating key rooms on ground or first floor levels, and other features, should also be considered during the review of proposed development projects. Building designs should minimize the apparent scale of structures and emphasize the sense of place for the streetscape. It is also recommended that a variation in lot

and home sizes in the same neighborhood be provided to avoid a repetitious facade on the homes in a neighborhood, and also provide housing for a range of household incomes.

Sustainability

Village development and redevelopment projects are integral parts of a green economy with intentions for sustainability. "Sustainable development" is a pattern of resource use that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability or "green" development should be practiced throughout the Village and at government facilities, with the intent of improving air and water quality and conserving energy. All types of development should consider incorporating energy-efficient techniques or renewable energy such as solar energy, wind energy, high-efficiency lighting, and geothermal energy. Residential "green-related" development programs, such as Energy Star Qualified Homes, Green Built Home, and LEED, described in Appendix 3-1, provide initiatives that certify new homes and remodeling projects that meet sustainable building and energy standards. LEED promotes a whole-building approach to sustainability by recognizing performance in sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

New and existing development should include techniques and designs that protect and improve water quality. Some examples of water quality management and conservation practices include maximizing porous and permeable materials and permeable soils;¹ vegetated buffers and infiltration zones; incorporating infiltration and retention areas such as rain gardens, green (vegetated) roofs, bioswales, bioinfiltration trenches and basins, and vegetated buffer or perimeter strips; and installing "gray water" systems, which allows certain water that has been used for hand washing, showering, and any other uses from sinks, showers, or washing machines to be reused for other purposes, especially landscape irrigation. Rain barrels, xeriscaping, dual-flush toilets, low-flow showerheads and faucets, and energy-efficient washing machines, dishwashers, and water heaters should also be considered as water quality management practices. The regional water supply plan provides additional information about water conservation practices and levels of conservation that are recommended for various water utilities and individual users.

Other Development Tools

Basic important regulatory tools that can be used to help direct the design of development and redevelopment, as well as achieve or implement plan recommendations, include zoning, land division, and official map ordinances, which are discussed in the Implementation Element (Chapter 10). Other available tools include design guidelines and for a based zoning, as discussed below.

Design Guidelines:

The establishment of design guidelines where compliance may be mandatory (regulatory approach by converting guidelines into ordinance regulations) or voluntary (nonregulatory approach by encouraging developers to follow a design manual). Such guidelines may be further expanded to include "green," historic preservation, and other specific design guidelines. Guidelines may be quantitative, so that compliance is directly measureable, or subjective in nature, where determination of compliance involves experienced judgment by qualified designers, such as professional architects, engineers, and/or landscape architects, as applicable. Design guidelines are not intended to hinder creative design, but to help guide the

¹The use of permeable pavement should generally be avoided if chlorides (salt) are directly applied for deicing and anti-icing, or if the area of permeable pavement will receive runoff from paved areas to which chlorides are applied.

design of development or redevelopment to achieve the visual quality level desired by the community.

Form-based Zoning:

Form-based zoning is an emerging concept that is flexible and generally places more emphasis on physical building and site design attributes ("form"- i.e. mass, scale, layout) and less emphasis on the regulation of specific uses and certain measurable regulations than conventional zoning. The use of form-based zoning is most likely applicable where a diversity of uses is desired and to allow buildings to accommodate different uses over time. Alternatively, hybrid zoning is another emerging concept that attempts to achieve the same results as form-based zoning by meshing conventional zoning codes with design standards.

Conservation techniques that are applicable to natural areas and help retain community character are discussed in the Agricultural, Natural and Cultural Resources. These include conservation easements, cluster development, lot averaging, purchase of development rights, and transfer of development rights.