

# Conservation Development

*This Sustainable Development Series is a product of the Northeastern Illinois Planning Commission and the Campaign for Sensible Growth with funding by the Illinois Department of Commerce and Economic Opportunity. It is intended primarily to assist local government officials in making sustainable community decisions and secondarily as guidelines for those working with local governments such as developers, civic organizations, and the private sector.*

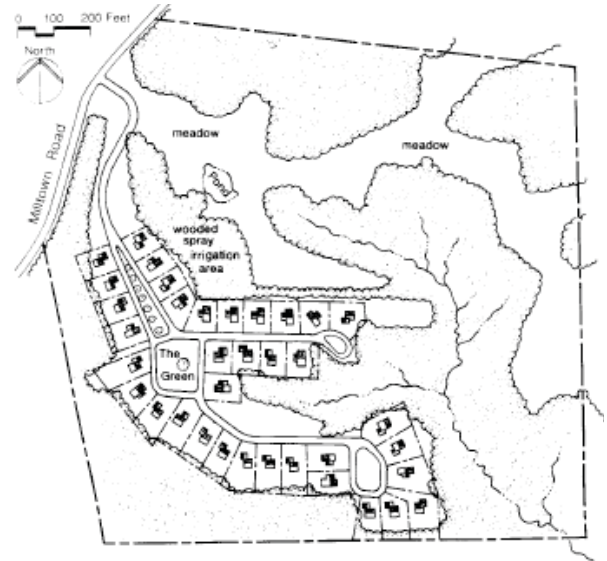
By definition, development is sustainable if it meets the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable development in action aims to satisfy three guiding principles: economic prosperity, ecological integrity, and community livability. Truly sustainable actions are those that satisfy all three of these principles and enhance rather than deplete the long-term quality of life in our communities.

Sustainable development fosters economic growth without sacrificing the natural resource assets of the community. It promotes double bottom-line investments, providing returns for investors as well as social and economic benefits for residents. It creates active, walkable, and full service communities within compact neighborhoods and town centers. It fosters easy access to community amenities and services regardless of location or socioeconomic status. It reduces disparities between cities and suburbs. And it encourages meaningful community participation, leadership, and ownership in the decision-making process.

## IN BRIEF

Conservation development is a far-sighted approach to real estate development in which efforts are made to protect the existing natural resources within a development as well as minimize the impact to natural resources surrounding it. This type of development often incorporates a significant amount of open space into the design, as well as environmentally friendly site management practices.



*Conservation design. (Courtesy "Growing Greener: Conservation by Design" by Randall Arendt, 1998, Natural Lands Trust, Media, PA.)*

## WHY IS THIS IMPORTANT?

Conservation development integrates protection of natural resources and open space with development needs of communities. Residents appreciate the natural beauty, open space, and trails that conservation developments provide.

These amenities increase home values boosting local property tax revenues. They also can reduce municipal spending for parks and open space, which is conserved in private ownership. Development costs for site preparation and stormwater management infrastructure also are reduced since only a portion of the site needs modification and the remaining natural landscape can be used to filter and absorb



*Prairie Crossing's naturalized detention basins clean stormwater and provide habitat and aesthetics.*

stormwater, which helps protect water resources. Protected natural areas provide wildlife habitat, protect biodiversity, and contribute to regional greenways and natural area networks. Open space also can help to recharge groundwater supplies.

## IDEAS FOR IMPLEMENTATION

See *Building Green Infrastructure, Water Resource Protection, and Sustainable Sites and Natural Landscapes for additional and related ideas.*

### Provide encouragement, guidelines, and incentives to developers willing to build conservation developments.

1. Incorporate the goals of conservation development into community comprehensive plans.
2. Update local policies and ordinances so that conservation development is permitted by right and preferred over conventional development.
3. Create and adopt a conservation-based land use plan for specific undeveloped or underdeveloped areas.
4. Develop staff expertise to contribute to conservation development designs. Team expertise can include landscape architects, physical planners, civil engineers, attorneys, and natural scientists such as ecologists.
5. Work closely with developers to educate them about conservation design principles, and to help them create acceptable conservation designs. Emphasize the opportunities for decreased costs and increased revenues.
6. Develop an appropriate density bonus for developers pursuing conservation development.
7. Develop an incentive system to reward alternative stormwater management that decreases the volume and increases the quality of stormwater runoff.
8. Build relationships with local land trusts who may accept a conservation easement within a conservation development.
9. Require conservation site design practices for most types of development, from installation and protection of trees and natural landscaping to full conservation developments.

**Simplified Conservation Development**

1. Identify and protect important natural features.
2. Locate and group the building sites in the remaining areas.
3. Lay out streets, trails, and infrastructure according to locations of building sites and natural features.



*Natural landscaping integrates with Mill Creek's golf course.*

### Conservation Development

10. Streamline the administrative approval process for conservation developments.
11. Develop special service areas, a special taxing district in which a portion of tax revenues are earmarked to ensure long-term maintenance of open space within conservation developments.

### Practice conservation design on community-owned sites such as schools, libraries, and government buildings.

1. Use conservation development techniques on new development sites that provide a clean palette for good design.
2. Retrofit existing sites with sustainable development techniques such as natural landscaping, naturalized stormwater detention basins, and alternative paving materials.



*Matteson's Village Hall and Green uses naturalized stormwater management practices.*

### Educate the community and its leaders about conservation design principals, benefits, and challenges.

1. Educate new and existing planning commissioners, village boards, and city councils on the benefits of conservation development.
2. Provide continuous education to new and existing plan commissioners and board or council members on the benefits of conservation development.
3. Educate staff and consulting engineers on the benefits and challenges of conservation development.
4. Provide educational opportunities to community members in managing protected and restored public and private properties.



*Higher density development in Mill Creek (in unincorporated Kane County) allows for more open space protection.*

# SUCCESS STORIES

**Prairie Crossing** is a large-scale residential conservation community located in Grayslake, Illinois that is nationally studied as a model of conservation design. The environmentally friendly development design has provided important benefits including infrastructure savings of several million dollars, lower maintenance costs, restoration and creation of native prairies and savannahs, repopulation with endangered plants and fish, and wildlife use of the open spaces and restored landscapes. It has been suggested that these features have generated an approximate 15 percent price premium over the local market and competition.

Prairie Crossing's 362 homes are located on a portion of the site's 667 acres. The 350 acres of open space include 160 acres of restored prairie, 158 acres of active farmland, 13 acres of wetlands, a 22-acre lake, three ponds, a village green, and recreational parks. This open space network is part of the 2500-acre Liberty Prairie Reserve. The natural landscape of this development, in addition to its habitat and aesthetic benefits, serves as part of an alternative stormwater management system that uses the natural functions of these systems to cleanse stormwater runoff. In fact, this system is so effective in cleansing runoff that the



*Natural buffers between homes and detention basins filter pollutants from stormwater runoff.*



*Rain gardens capture and cleanse rooftop runoff and provide wildlife habitat and aesthetics.*

large stormwater detention basin in the center of the development is clean enough to double as a recreational lake for swimming and non-motorized boating.

The Prairie Crossing Environmental Team educates the residents of the community about conservation by providing a handbook, "Living with Nature," and numerous educational opportunities for residents throughout the year. Homeowners are educated regarding the environmentally progressive aspects of the development and are encouraged to minimize use of chemicals, to landscape with native plants, and to minimize lawn area. A community supported garden program and a 15-acre organic farm provide additional opportunities to involve homeowners with natural resources and develop a greater understanding and appreciation for natural landscaping. The on-site charter school emphasizes environmental and hands-on education.

Although many construction details and plans, including the stormwater management scheme, required long and arduous negotiations, the local community and public officials were ultimately supportive of alternative strategies for landscaping and stormwater management.

Other features of the development include the reuse of an historic 1885 barn as a community and cultural arts center; integration into the regional natural area network and the nearby Liberty Prairie Reserve; proximity to regional rail transportation; and a wind turbine that will produce 30,000-40,000 kilowatt hours per year, enough to power a number of systems on the organic farm and to sell excess energy to Commonwealth Edison.

In addition to being a model of conservation development, homes within the Prairie Crossing community are models of energy efficiency. Originally built through the Building America program of the U.S. Department of Energy by Sturbridge Construction Company, the homes cost on average only \$1500 more to build than conventional homes. The major premise behind the Prairie Crossing homes is to design the house around the heating and cooling system, and to build a shell around the living space tightly enough to retain the heated or cooled air. The more efficient building envelope reduces the size and cost of the heating and cooling system.

Green building techniques such as tighter building envelopes, thermal windows, and thicker insulation result in approximately

50 percent less energy use for heating and cooling than conventional new homes in the area. The bottom line: an average of almost \$400 in savings on heating and \$10 in savings on water heating per home each year, and 20 percent less construction waste. Interior air quality is improved due to use of fresh air ventilation systems and building materials with low toxic content. Homebuyers can work with mortgage companies to secure energy-efficient mortgages. Annual savings in home energy costs can be applied to an energy efficient mortgage; higher mortgage payments increase home-buying power. Design features of

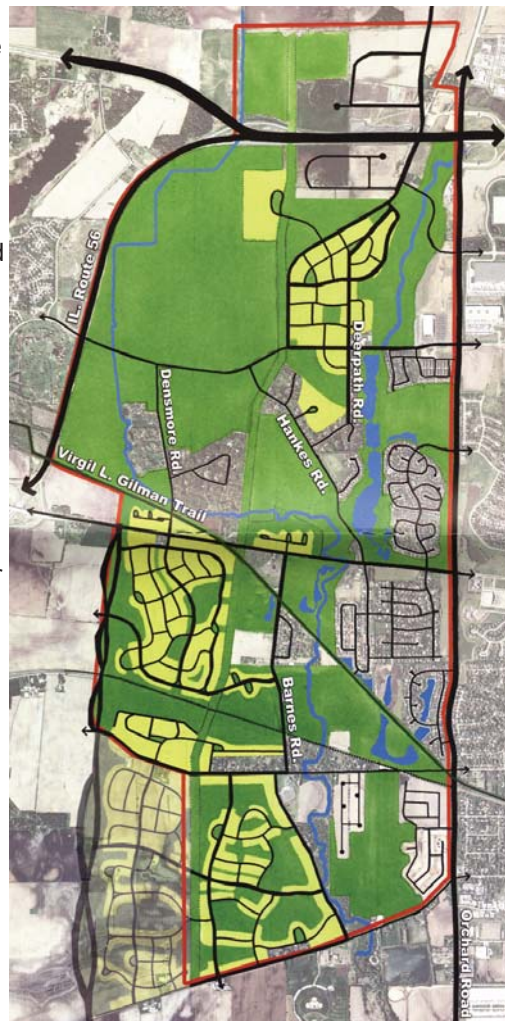
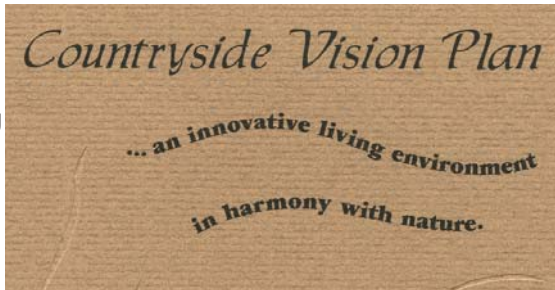


*Energy efficient home in Prairie Crossing.*

the homes, including gabled roofs, wraparound porches, transom windows, and architecture reminiscent of prairie farmhouses, prove that aesthetics do not have to be sacrificed to achieve energy efficiency. For more information on Prairie Crossing's natural landscape and management practices contact the Prairie Crossing Environmental Team at 847.548.4062. For information on Prairie Crossing's energy efficient homes contact Prairie Crossing at 847.548.5400.

The *Countryside Vision Plan: An Innovative Living Environment in Harmony with Nature* produced by the **City of Aurora** is a conservation-oriented plan for a 4000-acre development on the western edge of this established city. The city will use the plan to encourage developers to incorporate conservation elements into development designs for the area. Prompted by significant flooding of Blackberry Creek in 1996, the city's approach to development began by

"looking at the land first" and protecting important natural flood control elements, and then working compatible development into the remaining land area. Land uses within the area include open space, estate residential, agriculture, low density residential, office/research/light industrial, and commercial. The development plan includes a green infrastructure for managing stormwater by using natural topography and natural features for flood control and water quality enhancement. Other features include protected scenic views, a trail network, and roadway designs that suggest a rural atmosphere by using reduced roadway widths and natural drainage swales instead of curbs and gutters. These features require less landscape modification and site preparation than conventional development designs, which translates into reduced costs for developers. The plan includes guiding principles, suggested techniques to be used, and a strategy for implementing the plan. For more information on the City of Aurora's Countryside Vision Plan contact the City at 630.844.3670.



*The Countryside Concept Plan shows areas for development and preservation.*

## RESOURCES

*Better Site Design: A Handbook for Changing Development Rules in Your Community* (Center for Watershed Protection, 1998) presents principles for reducing impervious cover, conserving natural areas, and reducing stormwater pollution from new development.

The *Conservation Design Resource Manual* (NIPC, 2003) provides detailed technical information and ordinance language for conservation design and can be found on the Campaign for Sensible Growth website at [www.growingsensibly.org](http://www.growingsensibly.org).

*Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks* (Randall Arendt, 1996) provides information on creating environmentally sound residential developments.

The *Conservation Development Resource Manual* (Western Reserve Resource Conservation and Development Council, 1998) provides communities, developers, and public officials the information and resources they need to make good decisions about conservation and development.

*Economic Benefits of Parks and Open Space* (Trust for Public Land, 1999) presents many economic arguments for preserving parks and open space within our communities.

*Growing Greener: Putting Conservation into Local Plans and Ordinances* (Randall Arendt, 1999) assists communities with codifying conservation design into local policies.

The *Model Ordinance for Open Space Development* (US Environmental Protection Agency, 2002) contains language that fosters development that is consistent with many local zoning standards and sets guidelines for management of open space and the amount of open space required on a site ([www.epa.gov/owow/nps/ordinance/open-space](http://www.epa.gov/owow/nps/ordinance/open-space)).

The National Association of Home Builders ([www.nahb.com](http://www.nahb.com)) provides materials highlighting benefits to developers of Conservation Design.

*Protecting Nature in Your Community: A Guidebook for Preserving and Enhancing Biodiversity* (NIPC, 2000) presents a number of tools and techniques for local government officials interested in protecting community natural assets and biodiversity.

*Reducing the Impacts of Urban Runoff: The Advantages of Alternative Site Design Approaches* (NIPC, 1997) presents alternative development techniques that help protect water quality.

