

GREEN

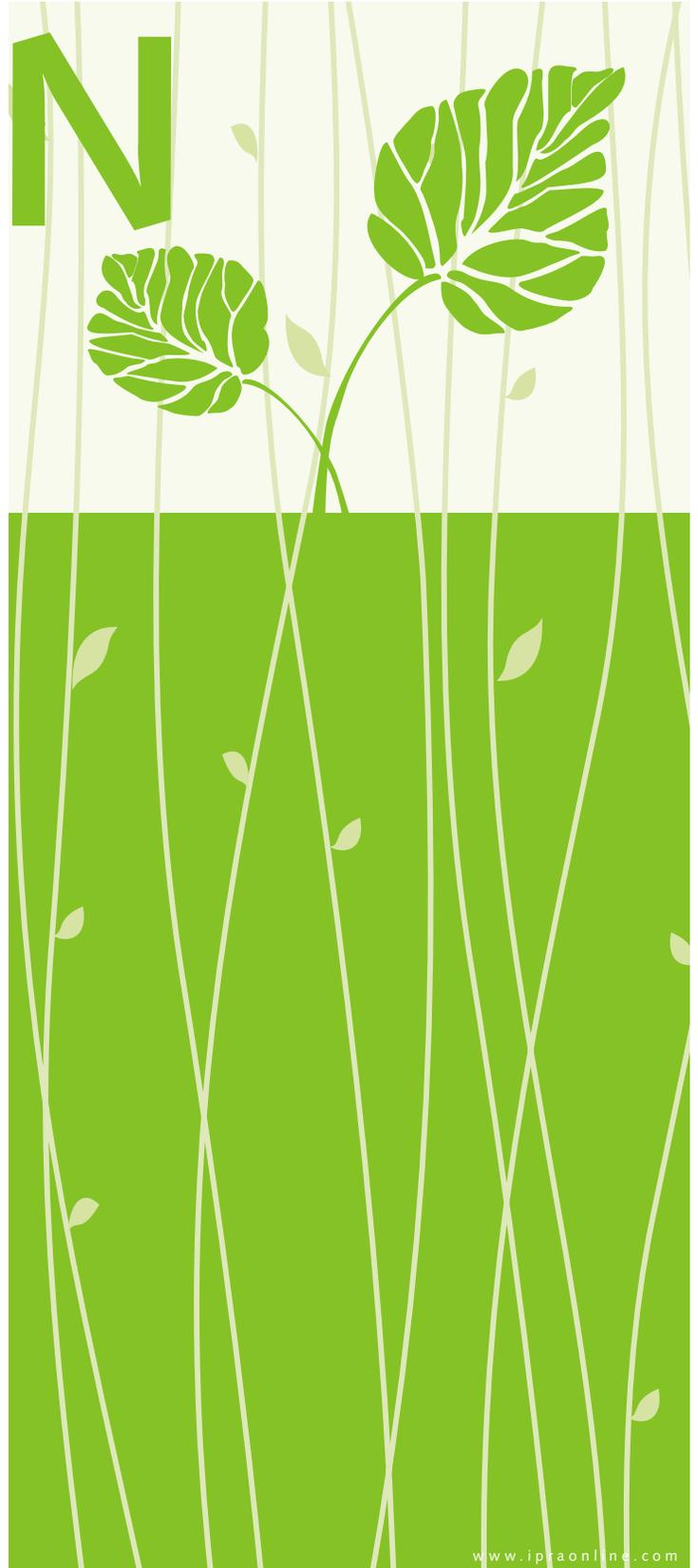
INFRASTRUCTURE

BRINGS NEW PARTNERS AND POSSIBILITIES TO PARKS

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Expanding (or even maintaining) parks in the face of rising costs is a top concern for most park districts in Illinois. Every spending decision must maximize the value of the dollars invested on projects – whether maintaining existing parks or developing new recreation options. As park districts examine their options for future maintenance and development, green stormwater infrastructure can be a project design decision that contributes multiple benefits and brings in a variety of new partners.

The good news is that green stormwater infrastructure projects can complement park facilities and operations because they can be designed in many shapes and sizes. A green stormwater project is an alternative infrastructure strategy that relies upon onsite rainwater capture, storage and infiltration. A green infrastructure project reduces stormwater runoff through natural systems that mimic pre-development hydrology. Projects may include rain gardens, rain barrels, cisterns, constructed wetlands, bioswales, stormwater parks and green roofs. In more urban environments, space constraints may dictate that projects take the form of green roofs, permeable pavements and rain gardens. Larger parks may incorporate reforestation strategies or large-scale constructed wetlands.



“More and more, residents expect park districts to provide natural areas by preserving existing lands or completing habitat restoration.”

GREEN INFRASTRUCTURE COMPLEMENTS NEW PARK DEMANDS.

As park districts conduct surveys of residents about desired facilities, a growing demand is emerging for new park facilities beyond traditional active recreation opportunities. In fact, the top response of most resident surveys will include “trails” or “improved park access and connectivity”. The intergenerational appeal of walking and biking trails creates an evolving role for park districts to retrofit existing parks for additional trails and multiuse path connections between parks and other community destinations. The linear design of trails easily lends itself to complementary green infrastructure installations that can enhance the trail. Resident preference surveys also indicate that more environmental education facilities and programming are desired. Again, these facilities may be retrofitted on existing sites or may involve the development of new park facilities. Since park expansion planning is always challenging, there needs to be some examination of other strategies that can assist in meeting these new public interests and needs.

More and more, residents expect park districts to provide natural areas by preserving existing lands or completing habitat restoration. For example, the Deerfield Park District completed its first open space park, Briarwood Nature Area (2008), as a response to resident desires to avoid the longer distances to existing Forest Preserve lands. Both the Nature Area and subsequent Woodland Park (2010) feature sustainable design features, including permeable parking lots, native plantings and rain gardens.

GREEN INFRASTRUCTURE CAN REDUCE MAINTENANCE COSTS

OVER TIME. There are a number of reasons for considering green infrastructure and native landscaping at park district sites, and one of them is potential operation and maintenance cost savings. In most situations, there are start-up costs for establishing a healthy green infrastructure or native landscaping area. Initial costs include soil preparation, seeding and/or plugging plants, nurturing plants while they get established and weeding to keep out invasive plants. Over time, maintenance costs are greatly reduced, as the healthy native landscape needs little watering or mowing. A number of analyses have shown that over a 10- or 20-year time period, the costs for establishing and maintaining native landscapes are significantly less than planting, mowing and maintaining turf grass.

Many parks with recreational facilities such as soccer fields and baseball fields have peripheral land that may not be in active use. These underutilized spaces may be good locations for green infrastructure. One example of this is Veterans Memorial Park in South Holland, Illinois. Veterans Park is a beautiful 21-acre park located along the south bank of the Little Calumet River. It is the oldest and most active park in the community. Key features of the park are ball fields and space for community events. Beginning in 2006, the community added a wetland basin with native plants to the park. The wetland basin serves as a storage and filtration system for stormwater runoff from the park and nearby areas. In addition to providing stormwater benefits, the wetland area is a new park feature. Park-goers can view the wetland plants and wildlife such as birds, butterflies and frogs. The natural area is an attractive complement to other more manicured areas of the park.

GREEN INFRASTRUCTURE CAN BRING NEW PARTNERS. An evolution in federal stormwater permitting and enforcement may yield new partners for park districts. In the past two years, green stormwater infrastructure solutions have received added emphasis in US EPA settlements and permits with communities. As green infrastructure becomes more commonplace in stormwater permits and enforcement, there will be an increase in opportunities for project collaboration with other government agencies, including park districts. In Northeastern Illinois, the Metropolitan Water Reclamation District, as part of its program to reduce the combined sewer overflow events, will be investing \$25 to \$50 million for green infrastructure projects. As park districts consider partnerships with sewer districts and public works departments to implement green infrastructure, there may be interest in identifying sites for large-scale rain gardens or other spaces for detention and/or infiltration of stormwater. Given the scarcity of resources available for both park and stormwater facility development, it makes sense to collaborate on projects that involve decentralized green infrastructure. Streamlining and collaborating on government functions to reduce duplication and costs of services are goals well-received by the public.

The public, especially residents who can view park areas from their windows, are key partners in the project as well. Outreach with residents is needed, both early and often. Changes in mowing schedules or plantings can be flash points for controversy if not properly advertised. Communication is critical to emphasize to residents that shifting from grass to native plantings helps park budgets, stormwater management and the environment. In Glenview, new partners also include local volunteers who have been actively involved in replanting detention basins with native plants.



Rain Garden, South Park, Inverness, IL

GREEN INFRASTRUCTURE “SEED MONEY” IS AVAILABLE – PLAN AHEAD.

Creating a green infrastructure plan for the park district or municipality is a great starting point in the search for funding sources. A clearly identified list of potential projects and partners aids in matching proposals to the appropriate grant opportunity. Given the competitive nature of grants, the addition of a green stormwater infrastructure component may be the edge needed to separate a project from the many other competing proposals. Municipal case studies about green infrastructure are available on the US EPA website: http://cfpub.epa.gov/npdes/home.cfm?program_id=298

Grant opportunities exist at all levels of government, and technical assistance may be available from local watershed organizations. Key search terms in a grant announcement may include, “stormwater runoff reduction” or “best management practices”. Creativity is useful in identifying local opportunities that may not be traditional park funding sources. For example, areas covered by a “stormwater utility” may pay a stormwater utility fee – and the revenue generated is used to implement stormwater runoff control projects. Many Illinois state agencies have programs that fund green stormwater infrastructure projects:

- **Illinois Environmental Protection Agency**
 - The Section 319 Nonpoint Source Grant Program funds green infrastructure stormwater management practices, including green roofs, permeable pavers, bioswales and wetland restoration. Applicants must show the nonpoint source pollution control benefits.
 - <http://www.epa.state.il.us/water/watershed/nonpoint-source.html>
 - Illinois Green Infrastructure Grant Program: The FY12 program awards have yet to be announced. Program funding levels for FY13 have not been determined.
- **Soil & Water Conservation Districts and the Illinois Department of Agriculture**
 - Conservation cost share programs may fund green infrastructure in the more urbanized counties.
 - The SWCD can provide free technical assistance to the park district for conservation planning for the property. Contact your local SWCD office to find out more.
 - <http://www.agr.state.il.us/Environment/LandWater/swcddirectory.pdf>
 - The SWCD can also connect park districts to the local watershed planning efforts.
- **Illinois Department of Commerce and Economic Opportunity**
 - Disaster mitigation funds are useful since a single project might simultaneously address flooding and water quality issues. DCEO continues to fund stormwater management projects through the Hurricane Ike Disaster Recovery Program.
 - http://www.ildceo.net/dceo/Bureaus/Community_Development/CDBG+Disaster+Recovery+Programs/ike.htm
- **Illinois Department of Transportation**
 - Transportation enhancement (TE) funds may include stormwater management strategies that feature green stormwater infrastructure. Biking and walking improvements, especially multiuse paths, are common projects that could include a green stormwater infrastructure component.
 - <http://www.dot.il.gov/opp/itep.html>



Wetland Basin, Veterans Park, South Holland, IL

PUTTING IT ALL TOGETHER: The Village of Park Forest successfully illustrates how a series of small park infrastructure decisions in the Central Park Wetlands have led to positive changes for the entire community.

Central Park Wetlands. When developed as a planned community in the Chicago south suburbs, the open space areas designated as “parks” were also the “bottoms” - the lowest lying grounds that provided drainage for the entire community. Many parks dedicated by builders face this same issue, which means that stormwater management is critical as the community develops over time. Not to be dissuaded from developing a modern park system, Park Forest used drain tiles in the 1960's as an engineering solution to combat the wetland soils that retained water on the Central Park site. As explained by John Joyce, Director of Recreation & Parks:

Central Park was mowed for years and years, and it was always difficult. In the past, we were unable to mow for several days after a rain in many locations. In time, the maintenance costs for mowing the 45-acre wetland portion of the site were simply too high.

Given the soil conditions, there was an interest in letting part of the site become a natural area. Eventually the Village decided to mow the field fewer times and start planting woody plants. Many project partners contributed to the evolution of this project. A small grant from the South Suburban Mayors and Managers Association allowed for the study to evaluate the options for restoration.

In the mid-1980s, it was decided to let the site go back to native plantings and wetlands. After disconnecting the drain tile, the large park site began to function as a wetland. After restoring the natural hydrology, the vegetated swales are performing well since the water can flow through the site. A boardwalk and viewing station allow residents the opportunity to experience the site in its restored condition. Funded partially by two separate IDNR C-2000 grants, this project has become a jewel of the south suburbs for wetlands restoration, management and public education (www.backtowetlands.com).

Native Restoration as a Gateway to Sustainability.

The Central Park Wetlands project was one of the first projects that led to a broader sustainability movement within the Village. Rob Gunther, Parks and Recreation Superintendent, describes the larger impact on the community:

Since it was originally a wetland, the project was largely a restoration project. It generated a lot of understanding of how the park district could complete future projects. The neighbors were supportive, and it led to all sorts of different expansion projects. The first project was so big and so visible that it attracted much attention.

An adjacent bathhouse and environmental education center received an Open Space Lands Acquisition and Development (OSLAD) grant from the Illinois Department of Natural Resources. This rehabbed facility now complements the Central Park Wetland area by offering additional park programs. The indoor environmental center space is now the site for Enrichment Camps that allow elementary-age children to interact with the restored wetlands. Indoor space also allows for a longer season of activities, which includes building bat houses and learning about the life cycle of the dragonfly. During the last re-roofing of the 11,000 square foot bathhouse, designs included access to a demonstration green roof that also includes solar panels.

Increasing environmental awareness in Park Forest has inspired a broader sustainability movement. Most recently, the Village is working on a Sustainability Plan that embraces all aspects of the community, especially park and open space. Since the Parks and Recreation Department is integrated into the municipal government, many Sustainability Plan elements connect to ongoing park and recreation activities. Collaboration with other departments and local organizations is now commonplace and allows for enhanced project outcomes, such as green infrastructure. This Sustainability Plan is facilitated by the Chicago Metropolitan Agency for Planning (CMAP) as a local technical assistance program funded by the Department of Housing and Urban Development (HUD). By starting with small steps to better manage park lands, the Parks and Recreation Department has brought in new funding sources and established collaborative partnerships. The Village of Park Forest now finds itself creating positive environmental change for the entire community – from the green rooftops to the park "bottoms".



Rain garden installation, Aqua Center, Park Forest, IL



Bioswales in Parking Area, North Park, Lincolnshire, IL

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