

## BETTER SITE DESIGN

To help cities and counties meet mandated standards, without stifling economic growth and prosperity, low-impact development techniques are gaining widespread acceptance across the country. Where appropriate, these techniques prove popular with public officials, land developers, builders, citizen groups and the environmental community.

Effectively implemented, low impact development reduces development costs, creates more livable and affordable communities, conserves and protects sensitive environmental features, enhances real estate values, and minimizes long-term public maintenance expenditures. Techniques commonly employed include:

- Reduction of impervious surfaces
- Efficient land use
- Utilizing natural features to manage storm water runoff

These are effective when prescribed independently, but work best when utilized in concert with each other.

### **Reduction of Impervious Surfaces**

When a natural surface (prairie, grassland, forest) is developed and covered with an impervious material (concrete, asphalt, structures), rain water that otherwise would be absorbed to slowly enter the watershed can be channeled into a swift-moving, often destructive force. While minimizing or even eliminating this condition can be achieved by engineered solutions, such strategies are expensive to create and maintain. Many communities have rediscovered more natural, appropriate approaches.

#### ***Narrower Streets:***

Streets in subdivisions are frequently unnecessarily wide. Reducing widths not only saves development costs (less material, more marketable land), it reduces a community's long-term maintenance expenditures (resurfacing, joint sealants, snow removal). Less pavement allows more natural surfaces to 'do their thing'. Narrower streets have been demonstrated to be safer streets as well. And if allowed to "meander" through the neighborhood, they can more easily avoid sensitive environmental features. If steeper grades are also permitted, less site grading would be necessary and aeration fields would be increased. These steps can be taken without jeopardizing public safety, relative to fire department access.

#### ***Reduced Sidewalk Requirements:***

Limiting sidewalks to one side of the right of way reduces that particular impervious surface by up to 50 percent. If the sidewalks can meander rather than shadow the street, pedestrians can be led through common ground features, or even link to public walking trails or other active open space uses. Use of natural (mulch, crushed rock) or synthetic (shredded rubber) materials whenever possible would further reduce impervious surfaces.

***Reduce Parking Requirements:***

Standards for parking spaces are often excessive for times other than peak holiday needs. Reducing such requirements would mean less impervious surface in a development, and encourage use of public transit.

***Open Paver Blocks:***

Permitting open paver blocks for seldom-used parking areas in commercial developments, for roadway shoulders, and for driveways in residential projects should be encouraged. These provide a stable, attractive and low maintenance alternative to concrete and asphalt.

**Efficient Land Use**

Higher density development and innovative land use policies encourage mixed-use and pedestrian-friendly communities with greater access to open space and public transit. Generating greater public support for this type of development will require a change in thinking . . . . by those opposed to higher density development; by local governments that have erected barriers to higher density development, and are easily influenced by its opponents; and by the majority of consumers who continue to favor a single family home on a large, individual lot. Listed below are different types of compact development.

***Cluster Development:***

Smaller lots are grouped more tightly on the most suitable portions of a site, more easily preserving sensitive natural areas.

***Higher Density Development:***

More compact development is achieved than with clustering because it places a higher overall number of units on the same amount of land. In general, higher densities reduce infrastructure costs and the potential for environmental damage. Overcoming stereotypes and false notions of reductions in property values are among the obstacles. Public transit is typically more easily brought to higher density developments. In addition, reduced development costs create more affordable housing opportunities, thus boosting home ownership levels.

***Traditional Neighborhood Development:***

These mix a number of housing types (single family detached and attached, townhouses, condominiums and villas, apartments) within a community, and typically incorporate commercial uses, 'town centers' and active open space. According to the National Association of Home Builders, over 100 traditional neighborhood developments have been built across the country, with twice that number in the planning or construction stages. These are sometimes called New Urbanism developments.

***Master Planned Communities/Planned Unit Developments:***

These typically incorporate several compact development options, achieving more varied and appealing neighborhoods. Planning is done on a broad scale, rather than parcel by parcel, or lot by lot.

## **Utilizing Natural Features**

Natural features enhance the ability to manage storm water runoff, and have been shown to reduce peak water flow by as much as 68 percent and remove a significantly higher level of nutrients, metals and suspended solids – up to 85 percent! In addition, millions of dollars may be shaved off initial development and long-range maintenance costs in a single large development. Among the approaches encouraged:

### ***Natural Vegetated Swales:***

Incorporate these into rights of way instead of curbs and storm sewers, between structures and throughout parking lots.

### ***Greater Use of Water Features:***

Retention and detention basins, ponds, lakes, restored prairies and wetlands can have a significant impact on post-development runoff. A bonus is they typically add considerable value to adjacent properties, while stimulating the market for those properties by enhancing their appeal.

### ***Regulatory Flexibility:***

Permitting certain water features to satisfy mandated open space requirements would promote efficient land use compliance.

### ***Bioretention Fields:***

Man-made feature can fulfill a need where other natural features may be absent.

Implementing these, individually or in concert, will reduce pollutant loads, conserve natural areas, save money (developers', taxpayers'), create more appealing and affordable communities, provide a variety of housing types and commercial opportunities, and increase property values and hence, a community's tax base.

The biggest obstacles to a widespread embracing of these strategies are entrenched, often inaccurate public perceptions, and outdated, rigid development standards that often contradict a community's goal of 'livability' in order to control and regulate the density and geometry of development.

Finally, development incentives should be explored as a means of introducing these measures when there might otherwise be no actual or perceived need. Credits against open space requirements, adjusted escrow amounts, reductions of parking requirements and streamlined permitting are among the effective incentives.