

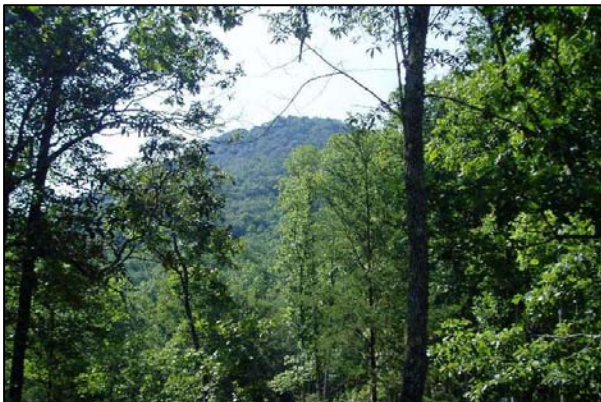
# CONSERVATION-BASED DEVELOPMENT

## What is conservation-based development?

Conservation-based development is a tool some land developers now use that is intended to minimize the amount of disturbance to the natural landscape by preserving onsite resources identified during the planning stages of development. Resources commonly targeted for preservation include wetlands, streams and ponds, riparian buffers, natural or sensitive habitat areas, steep slopes, viewsheds and open fields or agricultural lands. The goal is to successfully integrate a development with its environment and unique natural surroundings, rather than having the environment functioning apart from the development altogether. Such an approach minimizes the site disturbance footprint by confining development to within existing open spaces and taking advantage of site topography by constructing roads on natural ridgelines. A conservation-based development typically involves a multidisciplinary approach whereby a team of scientists, engineers, planners, and landscape architects conduct site assessments to identify features of interest to preserve from which a design layout is generated. The following principles are integral to a good conservation-based development design:

- Preservation and protection of natural drainage patterns
- Protection of sensitive natural resources
- Maintenance of existing topography
- Clearing and grading as little as possible
- Minimize the amount impervious cover
- Maintaining a roughly 3:1 ratio of open space to developed area

Minimizing the amount of disturbance to the natural landscape is commonly achieved by reducing lot sizes, property setbacks, and clustering buildings so supporting infrastructure like roads and utilities disturb as little area as possible. Minimizing impervious areas is another technique for limiting disturbance. Impervious surfaces cause stormwater to runoff rapidly as concentrated flow, conveying pollutants like sediment, metals, and oils to nearby water bodies. Minimizing these surfaces and their connectivity, and using alternative materials like porous pavement or interlocking pavers, allows precipitation and runoff to infiltrate. Infiltration of stormwater runoff helps to recharge groundwater and decreases the volume of peak flows by increasing basin lag times. The maintenance of natural drainage ways and preservation of natural areas and riparian buffers involved with a conservation-based development affords many opportunities to limit erosion and treat stormwater runoff locally.



## Why is conservation-based development important?

Using a conservation-based approach to development protects the watershed by working with the landscape, making it a higher priority than in most traditional approaches to development. It also often results in protection of viewsheds and preservation of community character.

*The mountain (left) will be preserved as open space within a conservation development in Towns County, Ga. It will serve as an amenity for the new residents and the community.*

**The North Hill at Staurolite**  
*A 60-acre Conservation by Design Community  
in Brasstown, NC*

**FOR SALE: 7 south-facing home sites in a village-like cluster including a 40-acre permanent conservation easement with protected ridge tops, walking trails and streams**

**A residential community by  
Conservation Community Group, LLC**  
For more details, contact Kim Joris or Jo Deck:  
**(828) 389-1367**

*Conservation-based development places a high priority on the landscape features to be preserved and protected, while creating lots to be developed with minimal impact to the environment.*

## What are the benefits of conservation-based development?

Water quality benefits include infiltration of water and filtering of stormwater pollutants within preserved natural areas, riparian buffers, and wetlands. Protection of sensitive habitat areas, potential recreational areas, viewsheds, and natural resources enhance property values and quality of life for homeowners and the surrounding community using this method of planning development.

Many conservation-based developments result in lower net costs for developers primarily due to savings in road building, earthwork, and stormwater management. Developers can also spread the stormwater out over the property, rather than concentrating it in one location, allowing for additional building area. Conservation-based developments often result in many amenities for the future landowners as well. Walking trails and picnic areas and/or access for water-based recreation within the common "open space" areas are often available for new residents in conservation-based development communities.



*Conservation developments often offer residents amenities in the open space areas.*

## Are there disadvantages of conservation-based development?

The disadvantages of using conservation-based development seem largely related to the newness of the idea. Sometimes getting through the permitting requirements of zoning and subdivision ordinances for these types of developments can be time consuming. Also, potential buyers are not yet used to the concept of smaller lot sizes and common open space within a development. This can make marketing more of a challenge. As more developers try conservation-based development, these disadvantages will likely cease present cause for concern.

## How does one implement conservation-based development?

Implementation of a conservation-based development typically involves the following steps:

- Make contact with the necessary city, county, or state governing agencies to investigate requirements and regulations for conservation-based developments
- Assemble a multidisciplinary team of professionals to contribute to site assessment and design
- Conduct a site assessment to identify features and natural resources of interest to preserve
- Design the layout of site, clustering building lots within remaining open areas
- Layout supporting infrastructure (roads, trails, utilities) in conjunction to protected natural features and building sites

## Resources for more information about conservation-based development:

Center for Watershed Protection

*Better Site Design Resources*

[http://www.cwp.org/Resource\\_Library/Better\\_Site\\_Design/](http://www.cwp.org/Resource_Library/Better_Site_Design/)

*PowerPoint slide show describes the major concepts of Better Site Design*

<http://www.stormwatercenter.net/Slideshows/bsd%20for%20smrc/sld001.htm>

*Watershed Protection Techniques- Article Summary*

<http://www.stormwatercenter.net/Library/Practice/47.pdf>

Hiwassee River Watershed Coalition

*N. Georgia Growth Readiness Report*

<http://www.hrwc.net/growthreadiness2007.pdf>

Etowah Aquatic Habitat Conservation Plan

*Better Site Design for Local Officials*

[http://www.etowahhpc.org/research/documents/factsheet3b\\_bsd\\_officials\\_2008-11\\_21.pdf](http://www.etowahhpc.org/research/documents/factsheet3b_bsd_officials_2008-11_21.pdf)

New York State Department of Environmental Conservation

*Chapter 2: Better Site Design*

<ftp://ftp.dec.state.ny.us/dow/stormdocuments/design-guidance/Better%20Site%20Design-final.pdf>

Tennessee Valley Authority – Sustainable Development Guide

*Section 1: Conservation Design Approach*

[http://www.tvaed.com/sustainable/site\\_design.htm](http://www.tvaed.com/sustainable/site_design.htm)

The Stormwater Manager's Resource Center

*Fact Sheets: Open Space Design*

[http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Tool4\\_Site\\_Design/open\\_space.htm](http://www.stormwatercenter.net/Assorted%20Fact%20Sheets/Tool4_Site_Design/open_space.htm)

Building Sustainable Communities, Volume 1, January 2004

*Conservation Development*

[www.nipc.org/environment/sustainable/development/communities/BSC%20Series%20Conservation%20Development.pdf](http://www.nipc.org/environment/sustainable/development/communities/BSC%20Series%20Conservation%20Development.pdf)

North Carolina State University, Department of Landscape Architecture

*Presentation: Minimizing Environmental Impact through Design*

[www.ces.ncsu.edu/depts/agecon/WECO/blackcreek/Milburn%20Min%20Enviro%20Impact%20thru%20Design.pdf](http://www.ces.ncsu.edu/depts/agecon/WECO/blackcreek/Milburn%20Min%20Enviro%20Impact%20thru%20Design.pdf)

Western North Carolina Green Building Council

<http://www.wncgbc.org/>

The Low Impact Development Center, Inc.

<http://www.lowimpactdevelopment.org/>

Environmental Protection Agency

<http://epa.gov/nps/lid/>

Walk Softly, LLC is an example of a conservation-based development company in NC

[www.walksoftlyontheearth.com/](http://www.walksoftlyontheearth.com/)

Sources for Sustainable Building

<http://www.greenbuilder.com/general/BuildingSources.html>

The National Center for Appropriate Technology

*The Sustainable Building Technical Manual*

<http://www.freshstart.ncat.org/articles/ptipub.htm>

University of Minnesota

*Center for Sustainable Building Research*

<http://www.csbr.umn.edu/>