Planning Implementation Tools
Conservation Design

Center *for* Land Use Education www.uwsp.edu/cnr/landcenter/ *April 2006*

TOOL DESCRIPTION

A conservation design (cluster development) is a type of "Planned Unit Development" in which the underlying zoning and subdivision ordinances are modified to allow buildings (usually residences) to be grouped together on part of the site while permanently protecting the remainder of the site from development. This type of development provides great flexibility of design to fit site-specific resource protection needs.

Conservation design creates the same number of residences under current community zoning and subdivision regulations or offers a density bonus to encourage this type of development.

There is a savings in development costs due to less road surface, shorter utility runs, less grading and other site preparation costs. Municipalities also experience lower long-term maintenance costs for the same reasons. The preserved land may be owned and managed by a homeowners association, a land trust or the municipality.

COMMON USES

Openspace and Natural Resource Protection

A conservation design allows development to occur while permanently protecting the resources. Besides protecting unbuildable areas such as wetlands, waterbodies, floodplains and steep slopes, it can also be used to preserve woodland, farmland, upland buffers around water, meadows and critical habitat. Care must be taken to link protected areas to similar surrounding areas to be most effective.

Possible Uses

Protect:

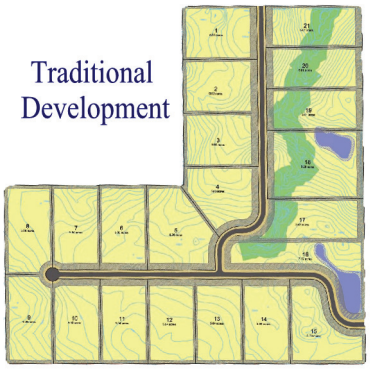
- Agriculture
- Woodlands
- Meadows
- Steep slopes
- Water corridors, wetlands
- Floodplains
- Critical Habitat
- Scenic views,
- Archaeological sites
- Historic buildings and their settings,

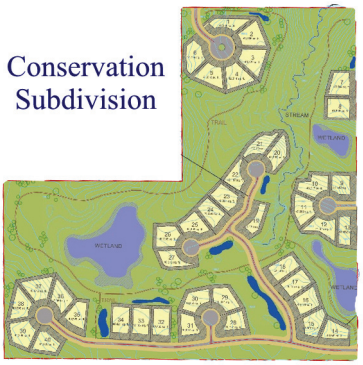
Provide:

- Buffers between residential development and non-residential uses
- Areas for passive and/or active recreational use or trails
- Stormwater management
- Groundwater recharge

Figure 1: Meadowview Subdivision, Town of Linn, Walworth Co. Private well and septic. Total area 120.98 acres.

Total area – 120.98
Lot size – 5 acres
Total unit – 21
Density – 0.17 units/acres
Common space – 0 acres
Stream corridor – private





Total area – 120.98 (less R.R.O.W.s)
Min. Lot size – 40,000 ft², Average: 41,094
Total units – 40
Density – 0.34 units/acre
Residential lot area – 37.7 acres
Common openspace – 70.85 acres (60%)
Stream corridor – common. All lots abut openspace, natural stormwater management, setback buffers between houses

Conservation Subdivision Design Process

1. Identify the cultural and natural resources found on the parcel
2. Determine the number of lot splits allowed by traditional zoning and add density incentives if any
3. Determine the amount of openspace required per ordinance
4. Identify mandated (wetlands, steep slope, etc.) and desired conservation areas,
5. Designate protected open space to preserve conservation areas. Often between 40% to 80% of the site is permanently set aside for open space
6. Arrange houses outside of protected areas, and
7. Lay out streets, lots and infrastructure.

Process adapted from Conservation Design for Subdivisions by Randall Arendt

IMPLEMENTATION

CREATION

The municipality must have adopted zoning and subdivision ordinances and should have a comprehensive plan. An amendment is created to the local zoning code to allow for conservation design or, this type of design can be included in a Planned Unit Development ordinance. The ordinance needs to include where the design will be permitted, if it is required or voluntary, what percentage of the project must be protected undeveloped land and which provisions of the zoning and subdivision ordinances can be altered (number of lot splits, lot size minimum, setback requirements, types of utilities allowed, road widths, etc.). The ordinance should include guidelines for the ownership and maintenance of any protected undeveloped areas. It should contain clear language so administration is easy and not arbitrary.

ADMINISTRATION

A developer applies for permission to use this approach. The process is reviewed like any other subdivision proposal but generally includes an additional, often onsite, meeting to confirm the number of parcels allowed, review the areas to be protected and determine areas appropriate for development. The site design should fit within the goals of the comprehensive plan. The requirements should include connection to other designated openspace or conservation areas in order to preserve large tracts for the success of agriculture and natural resource protection. Developed areas should also connect for transportation and utility efficiency.

It is critical that the openspace is permanently protected with an easement and a management plan established for it. The developer should avoid building on sections of the property that may have expensive construction problems or high community maintenance costs. Municipalities may consider group wells and septic in rural areas to facilitate connection to municipal services if needed at a future date.

This type of development may be perceived as “leapfrog” development or sprawl if not adjacent to existing development. There are challenges to this type of development as building sites tend to be mid to high end in price and not good for affordable housing because they are located far from urban job centers and their amenities. Density is generally not high enough to support public transportation.

Report Card: Conservation Design

Cost	Money or staff resources required to implement tool.
A	This tool is market and developer driven and does not require public expenditure of funds. It will require additional staff time to work with the developer and review the site design.
Public Acceptance	**The public's positive or negative perception of the tool.**
B	It is generally accepted when the density issue is understood. The public agrees with the protection of openspace and critical natural resources. Developers may be uncertain of its success if they are not familiar with the design.
Political Acceptance	**Politician's willingness to implement tool.**
A	Generally accepted by politicians especially if there is a good management plan for the openspace.
Equity	**Fairness to stakeholders regarding who incurs costs and consequences.**
A	The developer receives the income from the same or a greater number of lots as under traditional subdivision design. Lot value may increase due to the protected openspace. Citizens see valued openspace protected
Administration	**Level of complexity to manage, maintain, enforce, and monitor the tool.**
B	Does not depend on complicated regulations for shifting rights to other parcels or cooperation of two or more landowners. Municipal staff or consultants need to be educated on program goals and objectives and the approval process. The openspace easements would need to be monitored.
Scale	**The geographic scale at which tool is best implemented.**
Municipal-County	This tool is effective at both the municipal and county level as long as it is a part of an overall comprehensive plan. If not sited and designed properly, it could contribute to urban sprawl. Local zoning may limit where this can be applied.

GRADING EXPLANATION

A - Excellent
B - Above Average
C - Average
D - Below Average
F - Failing

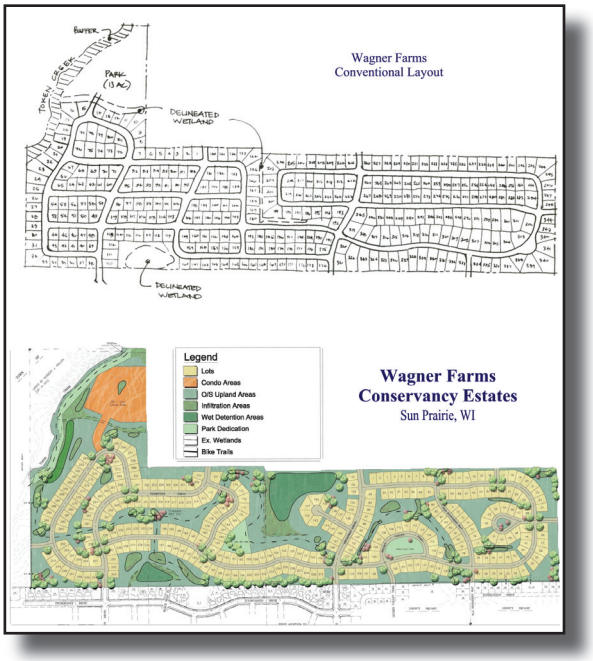
Comments and grades were derived from a Delphi process conducted with practicing planners and educators in 2005

WISCONSIN EXAMPLES

Town of Caledonia

In 2002, Caledonia adopted a conservation subdivision ordinance that requires all new developments to preserve 40% to 50% of their total area as green space as part of a plan to preserve the rural character of the town. Specific program goals include protecting open space, sensitive natural resources, significant archaeological sites and historic buildings as well as provide Stormwater management, floodwater storage, groundwater recharge, buffers between residential and nonresidential uses, and areas for passive and active recreation. In 2005 there were 14 conservation subdivisions under construction or in the approval process in the town.

Figure 2:



Sun Prairie, WI

Wagner Farms is a 201 acre conservation design subdivision located on the northern edge of Sun Prairie. The existing natural features on the site are a wetland in the central portion and Token Creek, a DNR Class III Trout Stream along the western boundary. The creek provides the largest amount of base flow of all tributaries to Lake Mendota in Madison. The development is served by city sewer and water and will consist of 314 single family homes on quarter acre lots, 30 condominium units and 85.4 acres (42% of the total property) in open space. The development contains a public park connected to existing city parks via trails and paths and all lots abut open space. The design meets or exceeds the city requirements for stormwater management and addresses the issue of ground water recharge to maintain base flow to Token Creek as well as the thermal impact of any runoff to the stream.

FOR MORE INFORMATION

Arendt, Randall (1996). *Conservation design for subdivisions: a practical guide to creating open space networks*. Washington, D.C.: Island Press.

South East Wisconsin Regional Planning Commission (1996). *Rural Cluster Development Guide*. Available at www.sewrpc.org/publications/pg/pg-07_rural_cluster_development.pdf

Haines, Anna (Summer 2002). *An Innovative Tool for Managing Rural Residential Development: A Look at Conservation Subdivisions*. The Land Use Tracker. Vol 2, Issue 1

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Figure 2 Wagner Farms by Paulson Development, design created by Craig Tuttle, Applied Ecological Services

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