

Model Ordinance Provisions – Revised draft for discussion (7/1/05/lrs)

SUSTAINABLE DEVELOPMENT in FORESTLANDS: Subdivision Planning and Design to Protect Forest Ecosystems and Water Quality in the Mountains of Virginia

The overriding goal of the Sustainable Development in Forestlands Project is to accommodate residential housing in a manner that effectively conserves an interconnected network of viable forestlands and agriculture – to continue to serve as a vital part of our rural heritage and to function as an important component in the supply of locally-grown food and fiber.

The following framework is offered to counties and other localities so that as residents, elected officials, and planning staff consider changes to existing zoning and subdivision ordinances, and as new comprehensive planning language is developed, conservation of intact forestlands can become more readily achieved. These ideas are especially relevant in locations where residential developments are occurring within forestlands, or are likely to occur in the foreseeable future.

A Framework for Forestland Conservation

Purpose: Accommodate “rural estate subdivisions” and other single-family residential types in a manner that conserves large tracts of forestland.

Primary Land Use Planning & Policy Recommendations:

- Establish districts or floating zones where “Rural Planned-Unit-Development/PUD Clusters” are the **by-right** development type (i.e., the default option), and where each new development will be evaluated by local administrators and code officials based upon the development’s ability to conserve intact forestland for its ecological, social, and economic values and for its ability to effectively address health, safety, and welfare needs and concerns.
- Employ “conditional rezoning” or the use of voluntary proffers (conditions, limitations, or specific conservation design features) by developers/owners (*Virginia Code Ann. Sections 15.2-2296 to 15.2-2303*). Provide density bonuses (increased numbers of allowable housing units per acre in exchange for utilizing cluster development, for example). Implement, incentive zoning or “the use of bonuses in the form of increased project density or other benefits to a developer in return for the developer providing certain features or amenities desired by the locality within the development” (*Virginia Code Ann. Sections 15.2-2201 and 15.2-2286.A.10*). Allow rezoning approvals with no relapse date to increase feasibility and reduce uncertainty. Process incentives – for example, providing technical assistance to those who choose to prepare a conservation-based development, and requiring neighborhood meetings and requesting written comments from neighbors and the public, as opposed to mandating formal public hearings – will help insure that new developments are planned, designed, and engineered in a manner that meets the purpose of the established Rural PUD Cluster districts. In addition, standard subdivision requirements can be waived if owners/developers/designers conclusively show that a property will be developed in a manner that conserves resources and addresses health, safety, and quality-of-life issues.
- Encourage the use of legally-binding conservation easements (where these are appropriate) and create subdivision covenants and conditions to establish reliable mechanisms for long-term monitoring and appropriate use/management.

Goals of Rural PUD Cluster Districts or Overlay Zones:

- 1) Conserve forestlands in large enough tracts to make them highly useful for protecting watersheds, providing regionally and locally appropriate habitat, offering marketable timber and non-timber products, and affording appropriate recreational uses.
- 2) Enable landowners to make a reasonable economic return from the use and/or future sale of their land – *and* for localities to offer homeowners a diversity of rural residential housing types thus helping to meet the demand for single-family housing.
- 3) Arrange housing in compact villages, hamlets, clusters, or farmstead-like groupings in order to:
 - a) limit impacts to environmentally sensitive and other highly valued farm/forestland ecosystems and provide large, visually pleasing tracts of forested open space, b) reduce infrastructure demands and costs, *and* c) encourage neighborliness and active living (i.e., walking, running, biking, hiking, community gardening, and other outdoor activities).
- 4) Retain large, visually attractive and physically accessible areas of open space – farms, forestlands, and protected areas that serve as working-and-living landscapes in perpetuity.

Model Ordinance and Planning Provisions (examples):

- ***Provide flexibility in setbacks and lot sizes to allow for compact village or hamlet clusters*** (for example, through the use of small village or patio lots or by using zero-lot lines). Allow designers and developers to establish lot sizes as small as is necessary to create the type of high-quality residential community envisioned¹. In other words, there should be no minimum lot sizes and there should be incentives to promote more compact groupings of homes and neighborhoods.
- ***Require that plans and designs account for the larger, off-site context as well as internal site sensitivities*** by asking each owner/developer/designer to provide a context map, and an existing resources/site assessment plan (including an assessment of the current and potential value of forest and farm resources). With the context map and site assessment in hand the owner, developer and designer must then walk the site with local officials (or if this is simply not possible then to review the context map and site assessment with the locality using aerial photographs and/or GIS maps to highlight important features and relationships). In combination these actions will provide a deeper understanding of the best locations for on-site conservation and of the potential landscape linkages to nearby farms, forests, and other ecosystems.
- ***Require that the first development site plan to be prepared be a preliminary sketch plan*** so that a discussion of suggested changes and improvements can be made prior to the investment of substantial time and money on detailed plans/designs. This conceptual phase can typically be completed within a 30-day period and can be followed by more detailed design and engineering. Localities should ***require that “potential conservation areas” be identified at the outset, with the types of acceptable uses for different conservation areas noted***. For example, stream corridors and steep slopes are typically two very sensitive forest resource areas and more limited access, be it for timber harvesting or recreation, should be considered for these and other sensitive resource areas. Once the location and use of conservation areas are designated then the location of house sites can be appropriately determined. If timber harvests are proposed, buffer areas between homes and timber harvest areas can be designated. Once house sites are located, road and trail alignments can be shown, integrating permanent trails and temporary timber harvesting roads where this is possible. Lot lines should be drawn last².
- ***Encourage high quality design and construction by qualified professionals*** to insure that compact housing and lot arrangements allow for safe, affordable and comfortable living, privacy, energy and resource efficiency, and the use of outdoor space for gardening, family use/gatherings, and other valued activities. Designers should also seek to create a development that reflects the area’s unique “sense of place” – one that fits the character of the surrounding landscape.
- ***Establish private road standards that are flexible enough to accommodate different sizes and types of developments within a locality***, but which appropriately address safety and traffic demands, the limitations imposed by terrain, and low-impact stormwater management. Roads should be laid out and graded to minimize the total amount of disturbance to the land (particularly to large, unbroken areas of forestland, stream corridors, steep slopes, important habitats, and other sensitive lands), and to facilitate the collection and cleansing infiltration of stormwater into nearby soils and aquifers.
- ***Indicate the specific mechanisms that will be used to collect fees and effectively maintain private roads and other infrastructure*** (for example, written clauses about how community, neighborhood, or private wastewater treatment systems will be regularly monitored and maintained for the life of the development; in short, the who and how of ongoing management).
- ***Require the preparation and adoption of a forest stewardship plan for effective management of conserved forestland***. This forest stewardship plan must be prepared by a professional forester or other qualified person(s)³.

¹ For an example of a recently proposed “hamlet” cluster design refer to NannyCatch Commons, which received rezoning approvals as a five-lot Planned Unit Development in Giles Co., VA: http://www.lar.arch.vt.edu/forests/nannycatch_desc.htm.

² For more information on conservation-based subdivision design strategies and associated changes needed in plans, policies, ordinances and the planning process, refer to Randall Arendt’s 2004 article “Linked landscapes: Creating greenway corridors through conservation subdivision design strategies...” (available online at: www.elsevier.com/locate/landurbplan), and his 1997 text, *Growing Greener: Putting Conservation into Local Plans and Ordinances*, published by Island Press.

³ For an example of a Forest Stewardship Plan contact Foresters Incorporated and/or Reisinger & Associates, Incorporated in Blacksburg, Virginia.

Performance Standards (examples):

Many performance standards can be drawn by referring to the Guidelines. See: <http://www.lar.arch.vt.edu/forests/guidelines.htm>

The following are examples of performance standards that could be adapted to meet local conditions, then adopted for Rural PUD Cluster districts and/or as statements contained within local comprehensive plans, and zoning and subdivision ordinances.

Developers must adequately demonstrate the viability of all development plans and associated forest, landscape, and development management plans. Viability may be demonstrated through a report prepared by a professional forester or other qualified person. In this report, developers must show how fees will be collected for ongoing monitoring, maintenance, and management activities and also explain who will be responsible for these important activities.

On sites that have 20 or more acres of forestland, the development shall retain at least half of the forest as “intact forestland” (forest that is un-fragmented by new residential lots and roads). Previously cleared or logged/timbered areas, excepting important farmland or other high-value areas/resources, should always be considered as potential locations to cluster residences and related infrastructure.

Habitats associated with forest-dependent species shall be identified early in the planning process. Habitats associated with forest-dependent species; rare, threatened and endangered (RT&E) species, and other “sensitive species” shall not be encroached upon unless no viable alternatives exist.

Conserve as much forestland and non-invasive vegetation as possible for watershed protection. Retain natural hydrologic patterns by protecting existing forest vegetation, by minimizing concentrated surface water flows, and by infiltrating stormwater flows into forest soils, rain gardens, dry wells, or other appropriately located and designed bio-retention areas.

Minimize the amount of earth moving (cut and fill) during the construction of roads, residences and other elements, and minimize the removal and compaction of forest soils in order to protect soil structure, biology, and fertility.

Trails, which may be used as temporary logging roads, may be created throughout the forest, but must be located and constructed to minimize erosion and subsequent sedimentation of streams and drainageways.

Locate, design, construct, and maintain wastewater treatment systems that are well-suited to soils, geology, forest types, drainageways and other features. Consult with wastewater treatment experts who have experience designing systems appropriate for forestland settings. Use technologies that minimize damage and capitalize on natural cleansing processes. Provide an adequate buffer (at least 150 feet) between streams and treatment systems.

Locate homes in forest settings where wildfires will have little chance of damaging homes and property. Account for upslope drafts, prevailing winds and wooded areas with high potential to ignite and burn. Establish a transition zone between the home site and woodland edge to create a fire deterrent buffer. Create a protective buffer of lawn or other non-flammable landscaping around each home. Use fire resistant construction materials - typically brick, stone and fire-protected metal rather than wood, vinyl or other more readily flammable materials. Refer to VDOF “firewise” recommendations for construction and landscaping at: <http://www.dof.virginia.gov/fire/firewise-const-cklist.shtml> and <http://www.dof.virginia.gov/fire/firewise-land-cklist.shtml>.

Use of site-appropriate native plants are highly recommended and the use of non-invasive plants required. Invasive plant species shall not be planted in the development. For lists of native and invasive plants refer to: <http://www.dcr.virginia.gov/dnh/native.htm> and <http://www.dcr.virginia.gov/dnh/invinfo.htm> - where information on the benefits of buying and growing native plants and of avoiding and managing invasive species can be found.