

HICKORY NUT FOREST DESIGN GUIDELINES

Introduction

Hickory Nut Forest is a "net-zero energy", conservation development that is designed to protect and celebrate the property's unique ecology. A conservation easement area (referred to as the "Nature Preserve") joins the homesites and permanently protects the forested, mountainous terrain from future development. The homesites are situated to provide easy access to this easement area with its hiking trails through the forest and along two cascading mountain streams.

Statement of Intent

The intent of the Design Guidelines is to encourage homesite designs that are in harmony with the surrounding landscape. The Design Guidelines are intended to assist property owners, landscape architects and architects, and building contractors prior to the beginning of the homesite design.

Each homesite owner will be required to provide the Design Review Committee (DRC) with a preliminary conceptual plan, prior to the design of the detailed plans, illustrating the main design elements of the proposed home and homesite development. This plan will identify the key features and floorplan of the proposed home, house location, solar orientation, driveway access, planned grading, tree protection areas, drainage and erosion control, locations of septic field and well.

While the guidelines are not comprehensive in scope, they will be used by the Design Review Committee (DRC) to determine a minimum standard for building and landscape elements. The DRC will have the authority to define and interpret the design elements contained in the Design Guidelines. The DRC may grant variances or waivers for any of the Design Guidelines, provided the design is compatible to the intended character of Hickory Nut Forest.

All final plans must meet all building regulations of Henderson County, N.C including all construction permits required for home construction and land improvements.

Community Design Concept - The Homesites

Each homesite is located adjacent to or in close proximity to the Nature Preserve with its nature trails and mountain streams. The homesites offer seasonal views and privacy within a forest environment. The guidelines calls for careful placement of the home and use of appropriate building materials to maximize solar gain and achieve harmony within the forested setting. The forest is an oak-hickory forest containing a mix of hardwoods trees such as white oak, red oak, white pines, tulip poplar, rhododendrons, hemlocks and over 15 other varieties.

Site Design and Planning

Locate homes to maximize solar gain, and minimize site disturbance, giving consideration to topography, existing vegetation, drainage patterns, viewsheds and solar orientation. Avoid alteration of natural drainage patterns, tree removal and construction on slopes greater than 20% grade.

Driveways

Design driveways to complement the lot's natural features. Gently curve the drives to accommodate existing topography and vegetation. Driveways cannot exceed 18% grade. Driveways on steep grades shall be built to parallel contours when possible.

Utilities, Utility Equipment & Refuse Storage

All utility lines shall be buried underground from the street to the house.

Signs

Any signage shall be approved by the DRC.

Tree Protection & Removal

Trees may be removed on the southern side of the house allow solar gain, for septic field, a garden or permaculture pond. Trees on the remainder of the property shall be left mostly undisturbed to preserve the forest and maintain a woodland buffer between homes. Cutting of trees for viewshed enhancement shall be limited and subject to the prior approval of the DRC.

Erosion & Sediment Control

Builders and homeowners will utilize sediment and erosion control measures that prevent stormwater runoff from entering streams, creeks, other water bodies and neighboring properties. During construction, streets must be kept clean of soil and debris. These measures will comply with all local and state regulations. Immediately following construction, all disturbed areas must be reseeded and replanted. Driveways will be designed to minimize stormwater runoff and erosion.

On-site Milling of Trees

On-site milling of trees cleared during construction of driveway and housesite is permitted during the construction phase of the house. Machinery may be used during daylight hours only, so as to minimize noise disturbance to neighbors. All waste slabs must be used in construction, cut into firewood, hauled off, or mulched upon completion of milling. On-site milling is not permitted after house is completed without permission of DRC.

Landscaping

The landscape design should use native plantings and materials that reflect the natural patterns, character, forms and colors of the Blue Ridge Mountain region. Materials and structures should also blend into and reflect the rustic, natural qualities of the property.

Plants

Use native plants and avoid using invasive, exotic and introduced plants. An approved plants list is available from the DRC.

Retaining Walls. Paths.

Appropriate organic materials include wood rounds, mulch, decomposed granite, and natural stone.

Decks. Fence & Arbors. Gazebos

Appropriate materials include stained wood, locust (and other natural insect/rot resistant wood) and recycled materials. Fence design, layout and color shall be submitted for DRC approval.

Pools

Swimming pools may be approved by the DRC on a case-by-case basis..

Landscape Lighting

Light fixtures may be used along driveways and paths shall not exceed 24" in height and shall be spaced a minimum of 25 feet apart along driveways. The use of non-shielded "security" type lights and floodlights will not be permitted. Gas lanterns may be used.

Landscape & Garden Art

Garden and yard art shall fit within the context of the community and may be subject to DRC approval.

Architectural Plans

Approved plans must be submitted to the DRC prior to beginning construction.

Exterior Colors and Materials

All homes are encouraged to have exterior colors designed to visually blend into the forest.

Size and Height

Houses are encouraged to be smaller in size with no minimum size requirement. In any case they shall be no more than 3,500 finished sq.ft. without DRC approval. Building heights shall be limited to 30 feet above grade.

Roofs

Roofs shall be metal with rainwater catchment encouraged. Other roofing materials will require DRC approval.

Ancillary Structures

Ancillary structures include all structures on a lot exclusive of the primary residence, such as guest houses, greenhouses, gazebos, trellises, tree houses, detached garages, and temporary structures for use during construction. Ancillary structures may be approved by the DRC on a case-by-case basis.

Green Building Recommendations

The goal at Hickory Nut Forest is to build energy-efficient green homes to create a "net-zero energy community", where overall we make more energy from renewable sources than we use. Green building techniques are an integral part of the overall design and construction process to achieve this goal. Various factors should be taken into consideration including existing site conditions, availability of resources, and global environmental issues. A systematic approach that incorporates these factors allows for a more environmentally conscious building and landscape. To assist homebuilders in making wise energy-efficient decisions, we require for all homes to minimally meet Healthy Built Home or LEED standards.

Building Design

- Orient building with longer south-facing side for maximum solar gain
- Design to work with the topography
- Use efficient space planning
- Plan roof lines for renewable energy use

Site Design

- Protect trees and topsoil during sitework
- Filter storm water on site
- Employ sediment and erosion control techniques
- Incorporate permeable surfaces
- Use native plants and existing landscape

Building Envelope

- Maximize energy-efficiency
- Use high insulation values
- Install high performance windows
- Use air sealing construction techniques

Renewable Energy

- Use renewable energy as much as possible for heating, cooling and electrical needs
- Solar thermal hot water panels encouraged but not required

Photovoltaic electricity generating panels encouraged but not required
Natural ventilation designs for cooling
High-efficiency, wood-based heating systems

Energy Efficiency

Use high-efficiency mechanical equipment
Install high efficiency lights and appliances
Provide appropriate overhangs and sun-shading devices
HVAC ductwork should be properly sealed

Materials & Resources

Use local and regional sources
Incorporate durable, low maintenance materials
Choose low embodied energy materials such as stone and wood
Minimize construction waste
Use certified or reclaimed wood
Use recycled and recyclable materials
On-site milling and re-use of trees from driveway and housesite in building home

Indoor Environment

Create a healthy indoor air quality
Provide ventilation and fresh air supply
Use least-toxic finishes and materials
Incorporate natural light throughout the building

Sustainability

The growth and development of our communities affect our natural environment. How and where we build are two of the most important factors that impact our future. The manufacturing, design, construction, and operation of the buildings in which we live and work are responsible for the consumption of many of our natural resources. However, simple design and construction techniques can be applied to considerably reduce the negative effects of construction and development.

Sustainability is defined as a process that can be continued indefinitely without degrading the environment. This holistic, long-term approach balances economic, social, and environmental influences on a local, regional, and global scale. Sustainable design, also called "green building", is a broad term for the design and construction of energy and resource efficient, durable, healthy buildings that have minimal impact on the environment. There are three primary issues to consider with sustainable design:

Environmental Consequence

Analyze natural systems and surrounding infrastructure that affect growth and development
Identify sensitive habitats and areas of protection

Resource Sustainability

Utilize readily available resources
Consider the life cycle assessment of products and materials
Use energy, water, and materials efficiently

Humanistic Response

Design with a sense of when and where we are (Sense of Place)
Connect inhabitants with various light stages of the day and visual connection with outdoors (N, S, E, W and time of day)
Create a healthy indoor environment

Sustainable Landscape

A sustainable landscape should improve water quality, lower energy use and resource consumption, reduce waste, provide wildlife habitat, and produce food. While many principles of "sustainable" landscape design are imbedded within the previous required guidelines such as the use of native plants and limiting the amount of lawn, the following recommendations expand and build upon the concepts of sustainability.

Edible Landscapes

Producing food by using native edible plants and a garden containing vegetables, vines, and fruit trees can provide homeowners with a supply of fresh food. These plants can be integrated into the landscape and do not have to be planted in a traditional square vegetable garden but can be interplanted among native perennials, shrubs, and trees.

Water Collection

Storing rainwater in rain tanks or underground cisterns to irrigate the landscape and vegetable garden can significantly reduce the usage of well water. "Greywater" is water collected from showers, washing machines, dishwashers, and air conditioning systems and can also be collected and reused for landscape irrigation. Greywater systems should meet all state and county regulations.

Energy Conservation

Energy conscious design can reduce heating and cooling costs and create comfortable environments that are buffered against harsh weather. Solar heat gain, wind speed, and wind direction are affected by topography and therefore vary from one homesite to another. Each homesite has a unique setting and the following strategies should be evaluated for their effectiveness on a case-by-case basis. They include solar orientation, placement of trees to block winter winds and summer sun, and placement of trees to help cool a house. In addition, a significant energy savings may result in shading the AC unit of the home. If solar panels are being used on roofs, do not block solar access to the photovoltaic system. If landscape lighting is desired consider using solar, halogen, and other energy efficient lights.