

ENCOURAGING SUSTAINABLE DEVELOPMENT IN A COASTAL COMMUNITY: NEW HANOVER COUNTY, NORTH CAROLINA'S EXCEPTIONAL DESIGN ZONING DISTRICT

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While New Hanover County is the second smallest county in North Carolina, it is also the second most densely populated with approximately 850 people per square mile. Nestled between the Cape Fear River and Atlantic Ocean with surrounding barrier island beach communities, the County's geographic location provides a prime vacation destination, as well as an ideal location for residents who wish to live at the water's edge. Wilmington is the largest city in the County with a population just under 200,000. Most of the Wilmington metropolitan area is developed, creating intense development pressures for the remaining undeveloped land in the unincorporated County. In order to provide development opportunities for mixed use or high density projects within unincorporated New Hanover County where appropriate urban features are in place to support such projects without the negative effects of urban sprawl, County Planning Staff recently developed an Exceptional Design Zoning District (EDZD). Largely based on the LEED for Neighborhood Development program, the EDZD standards were scaled to fit the unique conditions of the County with the goal of encouraging sustainable development while providing density incentives to entice the use of the voluntary district. The incentive for the voluntary zoning district is increased density in areas where the density may not be allowed under normal circumstances. The rationale behind allowing for higher density projects is that development can be concentrated in areas where appropriate urban features are in place to support such projects, and the tendency toward urban sprawl can be minimized. With water quality being of high importance, it is perceived that higher density development will better protect water quality than lower density projects.

The Argument for Higher Density Development

Studies have shown that at 10% imperviousness, a watershed is likely to become impaired and grows more so as imperviousness increases. As a result, most communities (including New Hanover County) have adopted low-density zoning in order to minimize impervious surfaces. However, limiting density does not necessarily limit or eliminate growth – in many cases it just locates the growth in a larger area. The “pervious” surface that is often left in low-density development can mimic impervious surfaces. For example, through the construction process and then through years of mowing, the soil in lawns becomes compacted, thereby limiting the effect of the infiltration of the lawn. Additionally, low-density development can actually contribute to high rates of land conversion and stormwater runoff and missed opportunities to preserve valuable land within the watershed. In the EPA publication *Protecting Water Resources with Higher-Density Development*, three different densities were modeled at the one-acre, lot and watershed levels.¹ The modeling results suggested that low-density development is not always the preferred strategy for protecting water resources and that higher density development could better protect regional water quality because it consumes less land to accommodate the same number of houses. The study also concluded that “a superior approach to protect water resources locally is likely to be some combination of development densities, based on local factors, incorporating adequate open space, preserving ecological and buffer areas, and minimizing land disturbance.”

New Hanover County's Exceptional Design Zoning District

Through the conservation of water bodies, wetlands, floodplains and open spaces, it is intended that the EDZD will prevent the degradation of water quality and provide design flexibility to achieve public and private spaces that advance a sense of community in a well-integrated service area that diminishes the need for vehicular traffic. Through core requirements that include wetland preservation, floodplain avoidance and a mandatory utilization of Low Impact Development (LID) techniques, the district seeks to protect water quality and preserve open space while allowing for increased density. The entirely voluntary zoning district requires that the applicant produce all of the background material needed to adequately identify if the project can meet the requirements of the district. Once the applicant meets pre-screening requirements, they must hold two public meetings with the area residents and then proceed through the County's political process which includes a public hearing with both the County's Planning Board and Board of Commissioners.

In order to be considered for the EDZD, the applicant must meet six core requirements plus a minimum of twelve points accrued from a list of additional requirements. In addition to the requirements established in the following table, the applicant must also preserve a substantial amount of land for open space and provide setbacks and buffering techniques that satisfy any privacy, light, air and safety impacts on adjacent properties. The requirements of the EDZD include the following:

CORE REQUIREMENTS	
<p>1. Smart Location Option 1: Locate project on an infill site</p> <p>Option 2: Locate project on an adjacent site with pre-project connectivity.</p> <p>Option 3: Locate project near existing or planned adequate transit service.</p> <p>Option 4: Locate project near existing neighborhood shops, services, and facilities.</p>	REQUIRED
<p>2. Proximity to Water and Wastewater Infrastructure Option 1: Locate project on a site served by existing water and wastewater infrastructure. Replacement of or other on-location improvements to existing infrastructure are considered existing for the purpose of achieving this option.</p> <p>Option 2: Locate project within an area scheduled for water and sewer expansion where verifiable expansion plans can be provided and allocation of capacity can be confirmed with the Cape Fear Public Utility Authority.</p>	REQUIRED
<p>3. Significant Species and Ecological Communities Option 1: After consultation with the NC Natural Heritage Program map as found on the New Hanover County online mapping services, no species present or likely to be present that are listed under the federal Endangered Species Act, NC endangered species list or listed in the NC Natural Heritage Program as either Nationally, State or Regionally Significant.</p> <p>Option 2: If initial consultation with the NC Natural Heritage Program map is inconclusive, then a qualified biological scientist performs biological surveys to determine the presence of endangered or significant species or the applicant consults with the NC Natural Heritage Program in Raleigh to receive a State determination.</p> <p>Option 3: If endangered or significant species are found, comply with an approved Habitat Conservation Plan (HCP) under the Endangered Species Act for each species or receive an approved mitigation plan from the NC Natural Heritage Program.</p> <p>Option 4: If endangered or significant species are found and no approved HCP exists, work with an appropriate authority to create and develop one or develop an approved mitigation plan with the NC Natural Heritage Program.</p>	REQUIRED
<p>4. Wetland and Water Body Conservation Option 1: Locate project on a site that includes no jurisdictional wetlands, water bodies (including but not limited to intermittent and perennial streams) or land within 100 feet of these areas.</p> <p>Option 2: Locate project such that pre-project jurisdictional wetlands, water bodies (including but not limited to intermittent and perennial streams), and land within 100 feet of such areas shall not experience significant destruction or lasting detrimental effects to water quality or other protected natural resources as a result of new development. Significant destruction shall include the construction, excavation, deposition, of materials in, over or on such land or any work that would affect the course, location, condition, or capacity of the receiving water body.</p>	REQUIRED
<p>5. Floodplain Avoidance Option 1: Locate on a site that does not contain any land within a 100-year floodplain.</p> <p>Option 2: Locate the project on an infill site or a previously developed site and comply with the</p>	REQUIRED

NFIP requirements for developing portions of the site that lie within the floodplain.	
Option 3: Develop only on portions of the site that are not in a floodplain or on portions that have been previously developed.	
6. Stormwater Management Implement a comprehensive stormwater management plan for the project that infiltrates and reuses stormwater runoff. Stormwater shall be managed following the principles prescribed in the New Hanover County-City of Wilmington Joint Low Impact Development Manual and will enable a project to use the LID-EZ Spreadsheet Tool. A determination that a project qualifies as a Low Impact Development shall be made by the Technical Review Committee (TRC).	REQUIRED
ADDITIONAL REQUIREMENTS (MINIMUM OF 12 POINTS FROM THE CRITERIA LISTED BELOW IN ADDITION TO THE CORE REQUIREMENTS)	Points
1. Bicycle and Pedestrian Access Include a pedestrian or bicycle through-connection in at least 90% of any new cul-de-sacs, except where prohibited by topographical conditions. Provide bicycle parking and storage for developments that contain multifamily, retail and commercial development. Provide convenient access and off-site connections to all constructed or planned bicycle and pedestrian infrastructure networks.	2 points
2. Housing and Jobs/Commercial Opportunity Proximity Option 1: Include a residential component equaling at least 30% of the project's total building square footage, and locate and/or design the project such that the geographic center is within a ½ mile walk distance of pre-project full-time equivalent jobs equal to or greater than the number of dwelling units in the project Option 2: Include a non-residential component equaling at least 30% of the project's total building square footage	2 points
3. Diversity of Uses Include a residential component in the project that constitutes at least 25% of the project's total building square footage and design or locate the project such that at least 50% of the dwelling units are within ½ mile walk distance of the number of diverse uses in the approved diversity of uses table. At least one use from two of the three diversity of uses list is required.	2-4 points
4. Conservation Management of Habitat or Wetlands Create a long-term management plan for new or existing on-site native habitats, and/or water bodies and wetlands and their buffers, and create a guaranteed funding source for management.	2 points
5. Transit Facilities Locate development within ¼ mile of an existing or planned transit route. Provide or identify covered and at least partially enclosed shelters, adequate to buffer wind and rain, with at least one bench, at each transit stop. Provide kiosks, bulletin boards, and/or signs devoted to providing local public transit information as part of the project, including basic schedule and route information at each public transit stop within or bordering the project.	4 points
6. Certified Green Building Design, construct, or retrofit one whole residential or non-residential building to be certified through: LEED, NAHB Green Building Standards, North Carolina Healthy Built Homes or Green Globes.	2 points
7. Minimum Building Energy Efficiency For non-residential building, mixed use buildings, and multifamily residential buildings four stories or greater, new buildings must be on average 10% better than ANSI/ASHRAE/IESNA Standard 90.1-2007. For new multifamily residential buildings three stories or fewer and new single-family residential buildings: 90% of new buildings must meet Energy Star criteria.	4 points
8. Water Efficient Landscaping Reduce potable water consumption for outdoor landscape irrigation by limiting turf to 25% or less, incorporating rainwater catchment system(s) such as rain barrels or cisterns into the project, installing drip irrigation and utilizing stormwater for landscape irrigation.	2 points
9. Building Orientation Design the project so that a minimum of 75 percent of the building sites are constructed with the longer dimension of the structure facing 0-30 degrees of south.	2 points
10. Affordable Housing	2 points

Include a minimum of 15% of the dwelling units as rental and/or for-sale dwelling units priced for households earning below area median income (AMI). Rental units must be maintained at affordable levels for a minimum of 15 years.	
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At the time this paper was written, two projects were being considered for the EDZD. It is anticipated that these projects will be far enough along in the review process that they can be utilized as pilot projects during the presentation.

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