

# Pender County Planning and Community Development

## Planning Division

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### MEMORANDUM

To: Pender County Planning Board

From: Megan O'Hare, Planner II

Date: June 3, 2014

RE: Cul de Sac Radius in Residential Subdivisions

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Planning Board Members,

Staff has prepared and will be presenting to you information on cul de sac radius requirements in residential subdivisions. On May 6, 2014, staff met with appropriate parties to discuss concerns brought to the Planning Board in previous sessions. Attendees included: Pender County Emergency Management staff, a Pender County Schools representative, NCDOT Division of Highways staff, a BASE (Business Alliance for a Sound Economy) representative and the Planning Board Chairman Williams.

It is Staff's recommendation that the Pender County Unified Development Ordinance text as currently written will adequately meet the needs of the community. The Pender County Unified Development Ordinance Section 7.5.1 F specifies:

Permanent dead end streets (cul-de-sacs) or temporary dead end (stub) streets shall be no longer than 1,000 ft. unless it is demonstrated by the developer that the configuration of the property prevents its development without longer streets to provide access to the lots and common area to be subdivided. Temporary dead end or stub streets shall provide turn around capabilities to meet NCDOT requirements. The Cul-de-sac end shall be a bulb type with minimum radii as follows: Curb & Gutter Section: RW = 45', Pavement = 37' to gutter edge, Shoulder Section: RW = 50', Pavement = 35'.

There are however, inherent conditions that are specific to each development which may necessitate a larger cul de sac than NCDOT minimum requirements. Conditions which a larger cul de sac may be required include for school bus turn around. In this situation each project will be evaluated on a project by project basis. Throughout the technical review process the applicant must design their subdivision in accordance with Pender County Schools standards. According to Pender County Schools, buses are required to stop per quarter mile and may not need to utilize each cul de sac in the development; some cul de sacs may need to be larger to accommodate the school buses.

Additionally, Pender County Emergency Management staff indicated that their fire trucks and emergency vehicles may require additional area to turn around above and beyond the NCDOT requirements. In such situations, during the technical review Emergency Management staff will be

encouraged to work with the applicant to properly service the residential subdivision. Any and all turn around or cul de sacs would be subject to NCDOT requirements and approvals.

In the case where the design of the cul de sac must be larger than thirty-five (35) feet of pavement as determined by technical review, the current text in the Pender County Unified Development Ordinance stating; "Temporary dead end or stub streets shall provide turn around capabilities to meet NCDOT requirements" is applicable. Alternative design standards must be approved by NCDOT Division of Highways staff during the technical review process. These design standards include a larger radius for cul de sac or other approved turn around designs as accepted by the NCDOT District Engineer.

Staff will work with each developer and the Pender County Planning Board at the time of the submittal to determine the need for a larger cul de sac with to accommodate school buses and emergency vehicles where necessary. The current Pender County Unified Development text in Section 7.5.1 F adequately addresses the need for alternative cul de sac design in accordance with NCDOT standards.