



Loudoun County, Virginia

Department of Building and Development

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Technical and Procedural News Letter

The purpose of this correspondence is to inform the Land Development and Home Building Community of technical and procedural updates that have recently transpired. Please distribute this information to applicable personnel within your organization

Date: May 22, 2017

To: Members of the Land Development and Engineering Design Community

From: Gary R. Clare, PE, Chief of Engineering Division

IN THIS EDITION: Explanation of when Floodplain Studies are required

BACKGROUND:

Loudoun County is a participating community in the National Flood Insurance Program (NFIP). As such, the County is provided with a set of documents called a Flood Insurance Rate Map (FIRM) and Flood Insurance Study (FIS). These documents are provided by the Department of Homeland Security (HDS) Federal Emergency Management Agency (FEMA) and are used by insurance agents to assess flood risk for any given property or structure. These products are used to determine the need for, and amount of insurance needed for such structures to satisfy the requirements of the NFIP.

Since entering the program in April of 1975, the methods and technology used in creating the FIRM and FIS has improved dramatically. As a result, the data stemming from today's studies are much more accurate than those provided only 10 years ago, thus resulting in a more accurate delineation of the floodplains and fewer losses due to flooding. This more detailed information is included in the flood map products through the application of periodic updates to the FIRM and FIS. While this has occurred several times over the years, none of these revisions have included updates to all of tributaries and streams throughout Loudoun County, and many remain unstudied.

Approximately 6 years ago, FEMA allocated funds for an engineering firm to conduct detailed analysis on streams in Loudoun County to, once again, obtain better floodplain data to update the FIRM and FIS. However, because funding was limited, the scope of the detailed analysis was limited and focused primarily on the areas of the county in which development occurred most rapidly since the last FIRM and FIS revisions in July of 2001. Such areas were primarily in the eastern portions of Loudoun County, and were not all inclusive of the tributaries within them. Most streams in Loudoun County that did not receive detailed analysis during the recent remapping by FEMA were updated using less sophisticated (and less expensive) methods that provided improved, but only approximate results.

The information contained in the FIRM and FIS as adopted on February 17, 2017, is an assortment of data that has been collected over the past 50 years. Some of this data still reflects the floodplain delineations conducted throughout the 1960's and 1970's. Such delineations were based on general assumptions involving watershed area, land use, and overall terrain. It was only when development encroached onto such areas that detailed analysis was conducted and provided to FEMA for inclusion in future map revisions.

While the methods and technology used in determining the degree to which an area may be subject to flooding has improved dramatically over the years, it would prove cost prohibitive for the County, State, or Federal agencies to conduct all-inclusive studies in all localities as required to update all of the information associated with this nationwide program. It is for this reason that the onus of providing more detailed floodplain data is placed on those who wish to develop in proximity to the Special Flood Hazard Areas as delineated on the FIRM and FIS. These are the areas defined as Major Floodplain in Loudoun County, and for which the study requirements can be found in Title 44, Part 60.3(b)(3) of the Code of Federal Regulations.

Loudoun County has also historically regulated the areas of Minor Floodplain, which are areas that are shown on the FIRM and classified as the 100-year floodplain. These areas generally fall under the drainage area threshold regulated by FEMA and are defined as "Shaded Zone X" on the FIRM. This further aids in the prevention of flood losses to residential and commercial structures, and reduces disputes among adjacent property owners resulting from adjacent development.

ISSUES: While detailed analysis has been conducted as part of the county-wide FIS and FIRM revisions, the need for detailed floodplain studies for projects within, and in proximity to, the Floodplain Overlay District (FOD) remains. Factors that determine whether further analysis must be conducted include the following:

- the property's geographic location
- the proximity of the proposed development to the FOD
- the date when the last detailed study was conducted, and
- whether development has occurred that would likely affect the floodplain since the last detailed study was conducted.

The floodplain areas studied in detail for the county-wide remapping were limited to those that had already been mostly developed. Therefore, much of the developable land lies in areas that were not studied and for which the current data may stem from the original 1978 mapping.

Questions have arisen as to whether a Floodplain Study is required for development of all property in which floodplain exists on or near a property regardless of the proximity of the floodplain to the development. The short answer is NO. Section 5.411B of the Loudoun County Facilities Standards Manual (FSM) states, "The Floodplain Administrator may determine that a floodplain study is not required for the specific circumstances below.

1. The proposed development or disturbance has sufficient vertical and horizontal separation from the floodplain.
2. If existing base flood data is the result of a study specifically conducted as part of the current FIRM for the County, and any floodplain study approved by the County subsequent to the effective date of the FIRM"

Unfortunately, based upon the issues previously identified above, it is not possible to establish a one size fits all of when a study is not required. Each circumstance or situation must be evaluated on a case by case basis. Figure 4 (copy attached) in Chapter 5 of the FSM flowcharts the process, and identifies that the Floodplain Administrator should be contacted as early in the development process as possible.

VDOT applications are often not submitted to the county for review. Therefore, the limits of the FOD may not be consistent with alterations associated with road crossings.

SUMMARY: The determination as to whether or not detailed analysis is warranted for any given land development application must be made on a case by case basis and it is recommended that all applicants consult with the Floodplain Administrator as soon as possible to ensure that any delays are minimized.

FIGURE 4

Note: County Floodplain Administrator designates appropriate application type and process for both the floodplain study and floodplain alteration. When appropriate, floodplain study and floodplain alteration may be combined for ease of preparation and review.

