



## Soil Categories

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### BACKGROUND

John H. Elder, Jr., Virginia Polytechnic Institute, studied the soils of Prince William County. The Soil Conservation Service of the United States Department of Agriculture published this comprehensive study as the “Soil Survey of Prince William County, Virginia,” in 1989. This survey is useful for many different purposes, such as, agricultural, planning, engineering and environment enhancement.

The above survey describes 56 different kinds of soils in the County, represented by numerals 1 through 56. Each of these soils carry a suffix, A through E, representing the class of slope, and a final number 3 indicating that the unit is severely eroded. This results in a total of 91 soil units.

The above survey has some limitations, e.g., the depth of exploration does not exceed 72 inches. Also, the areas already developed at the time of the survey have not been studied. However, it contains very valuable information in the form of maps and tables, which is a good starting point for development planning.

### ENGINEERING CATEGORIZATION OF SOILS

For purposes of complying with the Virginia Uniform Statewide Building Code and the County’s Design and Construction Standards Manual, the 91 soil units have been placed into three categories. Category I soils are good soils for supporting foundations. Category II and III soils may not be suitable as foundation materials without special engineering solutions. Approximately 40% of the County has Category II and III soils. The following criteria was utilized to determine the soil categories for each of the 91 soil units:

Category I Soils (Good Soils)	All soils not in Category II or III
Category II Soils (Potential Problem Soils)	High groundwater Non-durable rock Shallow rock Natural asbestos formations
Category III Soils (Problem Soils)	High shrink/swell soils Marine clay soils Compressible soils Existing uncontrolled or undocumented fills Flood plain and perennial high groundwater tables (Significant engineering difficulties anticipated)

For greater details regarding soils categorization, refer to Table I in Appendix A to Section 770.00 of Design and Construction Standard Manual (DCSM)