



2C-1 General Information for Stormwater Hydrology

Methods of runoff estimation

The Rational Method or approved alternatives may be used in both the minor and major storm runoff computations for relatively uniform basins in land use and topography, which generally have less than 160 acres*. The averaging of the significantly different land uses through the runoff coefficient of the Rational Method should be minimized where possible. For basins that have multiple changes in land use and topography or are larger than 160 acres, or both, the design storm runoff should be analyzed by other methods such as unit hydrographs or computer applications. These basins should be broken down into sub-basins of like uniformity and routing methods applied to determine peak runoff at specified points. For drainage areas less than 160 acres and when routing is needed, the Modified Rational Method is an acceptable method.

If the Rational Method is not used, TR-55 Urban Hydrology for Small Watersheds (NRCS) may be used for drainage areas up to 2000 acres. For areas larger than 2000 acres, TR-20 or an approved alternative may be used. When computer programs are under consideration for use, it is important to check for the program's high and low drainage area limits or other limits before it is selected.

*The American Society of Civil Engineers Water Environment Federation, "Design and Construction of Urban Stormwater Management Systems," 1992 edition, states that the Rational Method is not recommended for drainage areas much larger than 100-200 acres.