

ORDINANCE NO. 92-18-CM

WHEREAS, the members of the Board of Commissioners of the County of Tippecanoe, in the State of Indiana are also members of the Tippecanoe County Drainage Board; and

WHEREAS, the members of the Board of Commissioners of the County of Tippecanoe, State of Indiana, did on the 7th day of November, 1988 adopt Ordinance No. 88-40 CM which established "Tippecanoe County, Indiana, A General Ordinance Establishing Storm Drainage and Sediment Control", commonly known as the "Tippecanoe County Drainage Code", and

WHEREAS, such ordinance was adopted and approved by the Tippecanoe County Drainage Board on the 7th day of November, 1988; and

WHEREAS, problems have arisen which have delayed the permit review process provided for by said Tippecanoe County Drainage Code because of widely varying methods and information being submitted by the design engineers for the projects, which methods and information do not reflect the current state of the art in hydraulics and hydrology; and

WHEREAS, the Engineer, employed by the Tippecanoe County Drainage Board, has recommended that certain updated requirements be adopted by such Drainage Board for permit applications; and

WHEREAS, it is the opinion of the Tippecanoe County Surveyor and the Tippecanoe County Drainage Board that the adoption of updated requirements which supersede those now required by the Tippecanoe County Drainage Board will expedite the review process and provide for more rapid approval of applications filed with the Tippecanoe County Drainage Board.

NOW, THEREFORE, BE IT ORDAINED AND ENACTED by the Board of Commissioners of the County of Tippecanoe, State of Indiana and the Tippecanoe County Drainage Board that:

A. The following updated requirements be used and submitted with all applications filed for approval with the Tippecanoe County Drainage Board:

1. TIME-OF-CONCENTRATION: All stormwater management projects within Tippecanoe County must be done using the time-of-concentration methodology outlined in the SCS TR-55 Manual. The TR-55 methodology examines the factors which affect time of concentration which include surface roughness, channel shape and flow patterns along with watershed slope. Through the examination of sheet, shallow, concentrated and open channel flows, a more refined time of concentration may be determined. The methodology represents the best attempt of a Federal Agency to standardize times of concentration procedures.
2. STORM SEWER: Storm sewer design should utilize the ILLUDAS or ILUDRAIN computer programs. The design should use the Huff First Quartile (50%) rainfall distribution with no greater than a 1-hour storm duration. The Huff First Quartile (50%) rainfall distribution is the default distribution for the computer models and is included in the user manuals.

The Rational Method will still be acceptable for storm sewer design, as long as the TR-55 time-of-concentration methodology is used. Determination of hydraulic capacity for storm sewers sized by Rational Method analysis should continue to be done using Manning's Equation. A minimum drop of 0.1 foot through manholes should be provided.

3. INLETS: Inlet design and spacing may be done using the Rational Method. Use of the HEC-12 computer program is also an acceptable method. Gutter spread on continuous grades may be determined using the modified Manning's equation, or by using the attached Figure 1.
4. DETENTION STORAGE: All detention storage calculations for sites \geq 5 acres and for sites with existing depressional storage must be done using the SCS TR-20 computer program. The SCS TR-55 time-of-concentration and curve number calculation methodologies must be used, along with the Huff Third Quartile (50%) rainfall distribution. The Huff Third Quartile (50%) rainfall distribution is listed in the attached Table 1. Various storm durations, up to and including the 24-hour duration, must be used to determine the duration which gives the highest storage volume.

The Rational Method as described in Paragraph 5 "Stormwater Control Policy", Paragraph 7 "Determination of Runoff Quantities", Section a, and Paragraph 14 "Storm Water Detention", Section e(1) of Ordinance No. 88-40 CM is an acceptable method of determining detention storage volume only for sites of less than 5 acres of commonly owned contiguous property, where no depressional storage exists on the site. Use of the SCS TR-55 computer model and/or the POND-2 computer model is not recommended, since only the SCS Type II distribution can be used. The ILLUDAS computer model, while preferred for storm sewer design, also is no longer acceptable for determining detention storage volume.

5. RELEASE RATE: The SCS TR-20 computer model with the SCS TR-55 time-of-concentration and curve number calculation methodologies, and Huff Third Quartile (50%) rainfall distribution must be used to determine the 10-year return period pre-development release rate for sites \geq 5 acres and for sites with existing depressional storage.

The Rational Method may be used to determine the 10-year return period pre-development release rate for sites of less than 5 acres of commonly owned contiguous property where no depressional storage exists.

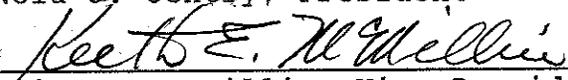
6. DEPRESSIONAL STORAGE: For sites where depressional storage exists and the pre-development release rate is less than the maximum allowable pre-development release rate, the allowable after development, release rate and corresponding site runoff storage volume shall be based on the existing pre-development release rate for the site.
- B. The requirements set forth herein in Section A above, supersede the requirements of Ordinance No. 88-40 CM.
 - C. Three copies of each submittal, including written report, appendices, and construction plans, are required. Two copies must be submitted to the Tippecanoe County Surveyor, and the third copy must be submitted to the Tippecanoe County Highway Department.
 - D. No application shall be considered by the Tippecanoe County Drainage Board or the Tippecanoe County Surveyor until it meets the requirements listed in Sections A and C above of this Ordinance.
 - E. This Ordinance shall become effective after its final passage, approval and publication as required by law.

Enacted at Lafayette, Indiana on this 8th day of September, 1992.

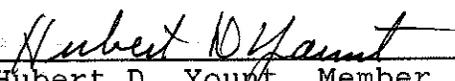
BOARD OF COMMISSIONERS
OF THE COUNTY OF TIPPECANOE,
STATE OF INDIANA,



Nola J. Gentry, President

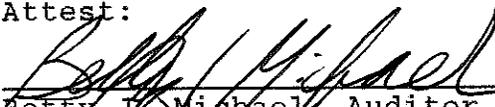


Keith E. McMillin, Vice President



Hubert D. Yount, Member

Attest:



Betty J. Michael, Auditor