

## **Recommendation for: Defining Channel Improvement in Harris County (Revised 09/12/2002)**

**Goal:** To understand the original definition of channel improvement as presented in the *Hydrology for Harris County* seminar notebook. The manner in which channel improvement is applied under current methodology may be askew of the original definition.

**Recommended Procedure:** A description of channel improvement and a recommended procedure for defining it follows.

1. The original intent of the channel improvement parameter was to define how much of the longest watercourse is able to effectively convey water to the outfall point of the subarea by means of a channel improvement.<sup>1</sup>

2. The definition in the “Hydrology for Harris County” seminar notebook states,

“Percent channel improvement (DCI) is the portion of the longest watercourse which has an improved channel. It is expressed as a percent of the longest definable channel. An improved channel section is defined as a section which has been significantly altered from its natural state by a construction project for the purpose of providing storm flow capacity for existing or proposed development. It is used in the interpolation between undeveloped and fully developed values of the time of concentration (TC) for a subbasin. Aerial photographs, construction plans, and field investigations are used to determine the extent of channel improvements.”<sup>2</sup>

This definition seems to indicate that DCI is equal to the percent of the definable channel along the longest watercourse which is improved.

3. As an example, suppose the longest watercourse for a particular subarea is measured to be 1.54 miles, and (based on an aerial photo) the definable channel along that watercourse is 1.17 miles. If the length of the channel improvement along that definable channel were 0.89 miles, DCC would equal 76% (or, 0.89 divided by 1.17).

**Assumptions:** None.

**Testing Procedure:** None.

**Test Results:** None.

**Final Notes:** None.

**Committee Resolution:** The committee agreed with this definition.

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<sup>1</sup> Harris County Flood Control District Memorandum to File from Andy Yung, “Notes Regarding the Conclusions and Recommendations of the Ad Hoc Committee for the Resolution of White Oak Bayou Modeling Concerns,” August 25, 1994.

<sup>2</sup> Harris County Flood Control District, “Hydrology for Harris County,” March 3, 1988, page E-5.