

CHAPTER 8.0 INLETS

8.1 Introduction

This chapter provides the criteria and methodology for design and evaluation of storm drain inlets located in the County. The primary purpose of storm drain inlets is to intercept excess surface runoff and convey it into a storm drainage system, thereby reducing or eliminating surface flooding.

8.2 Inlet Types and Application

Most inlets fall within one of four types: grate, curb-opening, combination, and slotted. Table 8-1 provides a description of the most applicable setting for each type. Inlets are further classified as being on a “continuous grade” or in a “sump.” Roadway geometry often dictates the location of street inlets located along the curb and gutter. In general, inlets are placed at all low points (sumps), along continuous grade curb and gutter, median breaks, intersections, and crosswalks. The spacing of inlets along a continuous grade segment of roadway is governed by the allowable spread of flow and flow depth. See further details of allowable spread of flow in CHAPTER 7.0, Streets.

Inlets on **continuous grade** are placed in a section of curb and gutter on a continuous slope such that ponding does not occur when the inlet capacity is exceeded.

Inlets are also placed in **sump** conditions. Sump conditions exist wherever ponding occurs, such as at low points.

Table 8-1 Inlet type and application

Inlet Type	Applicable Setting	Advantages	Disadvantages
Grate	Sumps and continuous grades (should be made bicycle safe)	Perform well over wide range of grades	Can become clogged and lose some capacity with increasing grade
Curb-opening	Sumps and continuous grades (but not steep grades)	Do not clog easily	Lose capacity with increasing grade
Combination	Sumps and continuous grades (should be made bicycle safe)	High capacity and do not clog easily	More expensive than grate and curb-openings alone
Slotted	Locations where sheet flow must be intercepted	Intercept flow over wide section	Susceptible to clogging

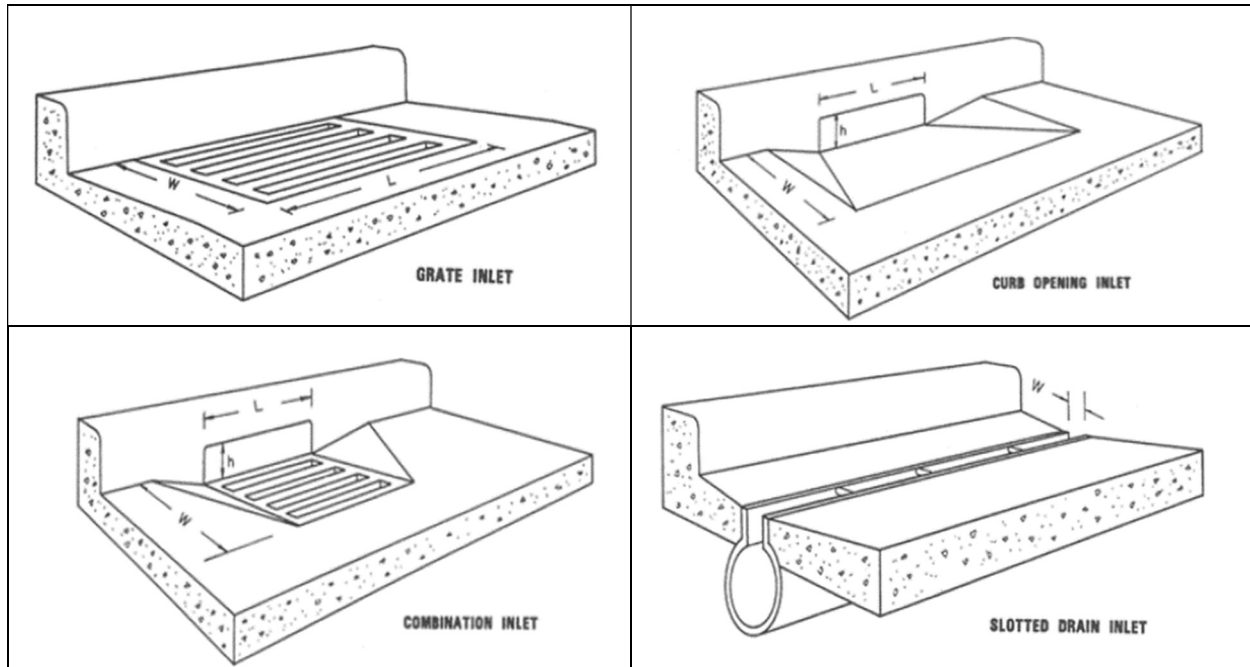


Figure 8-1: Perspective view of different inlet types

8.3 Design Procedures and Considerations

Inlet design includes both determining hydraulic capacity and appropriate inlet placement. The engineer shall follow the inlet design procedures and considerations outlined in the *Inlets* chapter of the MHFD Manual to determine appropriate inlet types, sizes, and locations. The County recommends the UD-Inlet software, downloadable from the MHFD website, be used for all inlet calculations.

8.4 Submittal Requirements

Drainage Reports shall include the following information (at a minimum) to document inlet design and application:

- Spreadsheet tables showing street capacity, runoff and inlet calculations. The use of MHFD-Inlet workbook is preferred, but not required. If the MHFD-Inlet workbook is not used, all equations used to calculations must be documented.
- Plans shall show the locations and type of inlets.
- For sump inlets, plans shall show the emergency overflow path and maximum ponding elevation for the major event, assuming the inlets become clogged.