$d \leq h + a$ **(Eq. A3-12)**

where:

d = depth of flow at kerb, measured from the normal cross-slope, in metres
h = height of kerb-opening inlet, in metres
a = depth of depression, in metres

Since Equation A3-11 is based on a local depression, it will give conservative capacity estimates for inlets with a continuously depressed gutter.

The weir flow equation for kerb-opening inlets without a depressed gutter is expressed as:

$Qi = 0.214\ L\ (3.28d)^{1.5}$ **(Eq. A3-13)**

where:

Q_i = interception capacity of a non-depressed kerb-opening inlet operating as a weir and located at a sump, in m^3/sec
L = length of kerb-opening, in m
D = depth at kerb, measured from the normal cross-slope, in m

The depth limitation for weir flow represented by Equation A3-13 is expressed as:

$d < h$ **(Eq. A3-14)**

where:

d = depth at kerb, measured from the normal cross slope, in m
h = height of kerb-opening, in m

The orifice flow equation for evaluating the capacity of a submerged kerb-opening inlet is expressed as:

$Qi = 0.204\ A\ [6.56\ g\ (3.28di - 1.64h)]0.5$ **(Eq. A3-15)**

where:

Qi = interception capacity of a kerb-opening inlet operating as an orifice and located at a sump, in m3/sec
A = clear area of the inlet opening, in m2
G = acceleration due to gravity, 9.806 metres/sec2
H = height of kerb opening, including the depression height (a) if appropriate, in m
D = depth of flow at lip of kerb opening, in m

Equation A3-15 is applicable to depressed and undepressed kerb-opening inlets, and the height of the kerb opening includes the depression height, if appropriate.

A3.5.2 Grated Gutter Inlets

Gutter inlets usually have one or more metal grates covering an opening in the gutter. Because debris carried by stormwater can clog the grates, effective operation may not be possible where the potential for debris transport exists. In any case, the efficiency used should be only 50% - 60% of the calculated capacity. The Consultant should also be aware of what happens to the bypass flows, and take care of them accordingly.