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| |  |  |  | | --- | --- | --- | | **SECTION 3: INSTRUCTIONS** | | | | **COLUMN** | **ITEM** | **INSTRUCTIONS** | | 1 | STA/LOC | Station and Location of Inlet | | 2 | CA | C X A:  Weighted Runoff Coefficient times Drainage Area to Inlet in Acres | | 3 | Q | Rational Discharge = (2) x I (Intensity) | | 4 | Qc | Carryover from Previous Inlet Upstream | | 5 | Qa | Total Gutter Flow Available = (3) + (4) | | 6 | Sx | Pavement Cross-Slope at Inlet; use minimum of 0.001 for inlet placed 50 feet back of flat spot in Superelevated Roadway. | | 7 | Sw / Sx | Ratio of Gutter Cross Slope (Sw) to (6) | | 8 | So | Longitudinal Slope; use minimum of 0.001 for inlet in Sag Vertical Curve. | | 9 | T / W | Ratio of Top Width (Spread) to Gutter Width | | 10 | T | Top Width Flow at Inlet (Spread) | | 11 | d | Depth of Flow at Inlet | | 12 | V | Velocity at Inlet = (3) / Area | | 13 | W / T | Ratio of Gutter Width to Top Width | | 14 | Eo | Ratio of Gutter Flow to Total Flow = Qw / (3) = 1-(1-W/T) 2.67 | | 15 | Se | Equivalent Cross Slope at Depressed Inlets = Sx + Sw x Eo | | 16 | Lt | Length of Curb Opening Inlet required for Total Interception = 0.6Q0.42So0.3(1/nSe)0.6 | | 17 | L / LT | Ratio of Length of Inlet to Curb Opening Length required for Total Interception | | 18 | Rf | Ratio of Grate Frontal Flow intercepted to Total Frontal Flow = 1 - 0.09(V - Vo),  where Vo = gutter velocity where grate splash-over first occurs (see HEC-12) | | 19 | 1-Eo | Ratio of Grate Side Slow, Qs, to Total Gutter Flow = Qs/Q = 1-Qw/W = 1-Eo | | 20 | Rs | Ratio of Grate Side Flow intercepted to Total Side Flow = 1/[1+(0.15V1.8)/(SxLg2.3)], where Lg is length of grate | | 21 | E | Efficiency of:                   Grate                       = RfEo + Rs(1-Eo)                                           Curb Opening          = 1 - (1 - L/Lt)1.8 | | 22 | Qi | Total Discharge intercepted by inlet,  Qi = EQ | | 23 | Qc | Carryover Discharge (not intercepted) to next  inlet, Qc = Q - Qi | |  | da | Depth at Curb Face times Gutter Depression | |  | Ta | Top Width times Gutter Depression | |  | I | Rainfall Intensity | |  | n | Manning's Roughness Coefficient for Pavement | |  | Wg | Width of Grate | |  | Lg | Length of Grate | |  | a | Gutter Depression at Inlet in feet | |  | Li | Length of Curb Opening Inlet | |  | Qsum | Sum of Total Gutter Flow in Sag | |  | Cw | Weir Coefficient | |  | Co | Office Coefficient | |  | h | Height of curb opening | |  | do | Effective Head on Center of Orifice Throat of Curb Opening Inlet,  do = d - (h/2)Sinʘ,  where h is height of curb opening orifice and ʘis angle of orifice opening (see HEC-12) | |  | A/2 | Area of Clear Grate Opening divided by 2 | |  | P/2 | Perimeter of Grate divided by 2 | |