

A. Coefficient for Culvert Outlet Scour - Cohesionless Materials

	$\alpha$	$\beta$	$\theta$
Depth, $d_s$	2.27	0.39	0.06
Width, $W_s$	6.94	0.53	0.08
Length, $L_s$	17.10	0.47	0.10
Volume, $V_s$	127.08	1.24	0.18

B. Coefficient  $C_s$  for Outlets Above the Bed

$H_s$	Depth	Width	Length	Volume
0	1.00	1.00	1.00	1.00
1	1.22	1.51	0.73	1.28
2	1.26	1.54	0.73	1.47
4	1.34	1.66	0.73	1.55
$H_s$ is the height above bed in pipe diameters, m.				

C. Coefficient  $C_h$  for Culvert Slope

Slope %	Depth	Width	Length	Volume
0	1.00	1.00	1.00	1.00
2	1.03	1.28	1.17	1.30
5	1.08	1.28	1.17	1.30
>7	1.12	1.28	1.17	1.30

**COEFFICIENTS**  
**(Scour Hole Estimation)**  
**Figure 34-4A**