

CHAPTER 7

ENERGY DISSIPATION

7.1 Symbols And Definitions

To provide consistency within this chapter as well as throughout this manual the following symbols presented in Table 7.1-1 will be used. These symbols were selected because of their wide use in many energy dissipation publications.

**Table 7.1-1
Symbols And Definitions**

<u>Symbol</u>	<u>Definition</u>	<u>Units</u>
A	Cross section area	sq ft
D	Height of box culvert	ft
d_{50}	Size of riprap	ft
d_w	Culvert width	ft
Fr	Froude Number	-
g	Acceleration of gravity	ft/s ²
h_g	Depth of dissipator pool	ft
L	Length	ft
L_a	Riprap apron length	ft
L_B	Overall length of basin	ft
L_s	Length of dissipator pool	ft
PI	Plasticity index	-
Q	Rate of discharge	cfs
S_v	Saturated shear strength	pounds/in ²
t	Time of scour	min.
t_c	Critical tractive shear stress	pounds/in ²
TW	Tailwater depth	ft
V_L	Velocity L feet from brink	ft/s
V_O	Normal velocity at brink	ft/s
V_O	Outlet mean velocity	ft/s
V_s	Volume of dissipator pool	ft ²
W_O	Diameter or width of culvert	ft
W_s	Width of dissipator pool	ft
y_e	Hydraulic depth at brink	ft
y_o	Normal flow depth at brink	ft

END OF SECTION 7.1