

SYMBOL	DEFINITION	UNITS
A	Cross-sectional area of flow	m <sup>2</sup>
d	Hydraulic depth	m
E	Energy of a system	m
Fr	Froude number	--
n	Manning's roughness coefficient	--
P	Wetted perimeter	m
q	Discharge per unit width of channel	m <sup>3</sup> /s/m
Q	Total discharge	m <sup>3</sup> /s
R	Hydraulic radius	m
S	Slope of the energy gradeline	m/m
T	Channel top width at the water surface	m
V	Mean velocity	m/s
V <sub>c</sub>	Critical velocity	m/s
y <sub>c</sub>	Critical depth	m
α	Velocity distribution coefficient	--
h	Elevation of channel bottom, with respect to some datum, plus y, depth of water	m
h <sub>L</sub>	Head loss in the reach under study	m
y	Depth of water	m
Z	Elevation above some datum	m

## SYMBOLS FOR OPEN CHANNELS

**Figure 30-1A**