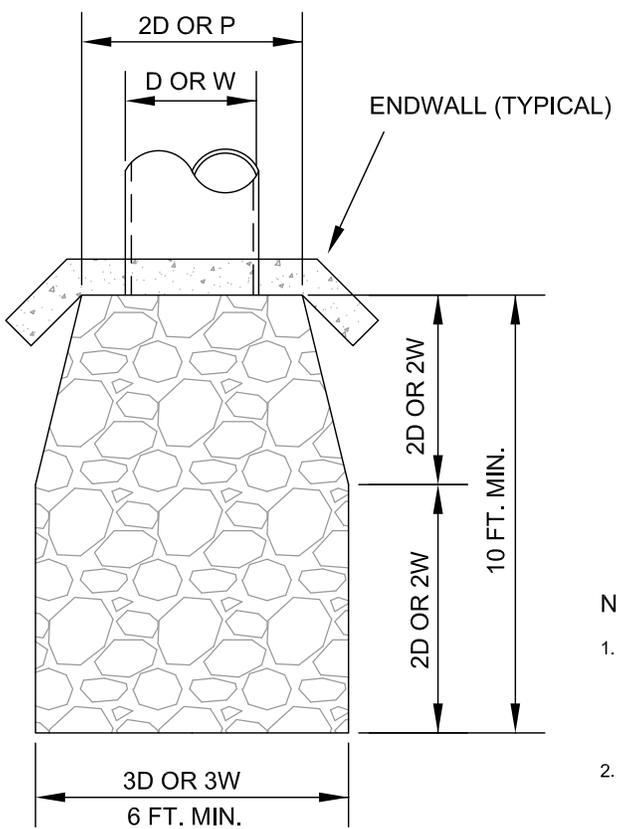


THIS DETAIL DRAWING SHALL NOT BE ALTERED OR CHANGED IN ANY MANNER EXCEPT BY THE CITY ENGINEER. IT IS THE RESPONSIBILITY OF THE USER TO ACQUIRE THE MOST CURRENT VERSION OF THE DETAIL.



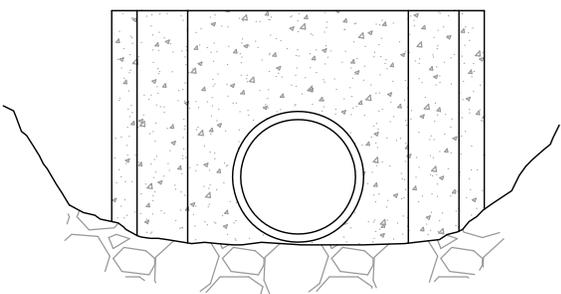
D = PIPE DIAMETER
W = BOTTOM WIDTH OF CHANNEL
P = WETTED PERIMETER OF CHANNEL

DESIGN VELOCITY FT./SEC	ROCK CLASSIFICATION BY WEIGHT
6 - 10	200 LBS.
10 - 12	1/4 TON
12 - 14	1/2 TON
14 - 16	1 TON
16 - 18	2 TON

SELECTION OF RIP RAP
(SEE NOTE 1)

NOTE:

1. DIMENSIONS FOR RIP RAP APPLY TO FLOWS
 - < 2 CFS RIP RAP FOR FLOWS
 - > 2 CFS MUST BE DESIGNED BY AN ENGINEER
 - FLOWS > 20 FPS SHALL USE ENERGY DISSIPATOR
2. TYPE OF RIP RAP
 - A. REGULAR QUARRY STONE CLASS 50-200
 - B. COBBLESTONE
 - C. CONCRETE (ONLY ALLOWED UPON APPROVAL OF THE CITY)
3. PLACEMENT
 - A. MINIMUM DEPTH = 1 1/2 TIMES AVERAGE STONE SIZE.
 - B. ROCKS SHALL BE PLACED TO PROVIDE A MINIMUM OF VOIDS.
 - C. SURFACE ROCKS OR CONCRETE SHALL PROTRUDE AT LEAST 1/2 THEIR VERTICAL DIMENSION.
 - D. RIP RAP IS TO BE PLACED OVER A NATURAL BEDDING, OR IT MAY BE GROUTED OR PLACED OVER A GRAVEL BEDDING AS REQUIRED BY THE CITY.



STORM SEWER OUTFALL

	DATE: 2010
	DRAWING NO. WL-614
	FILE NO.