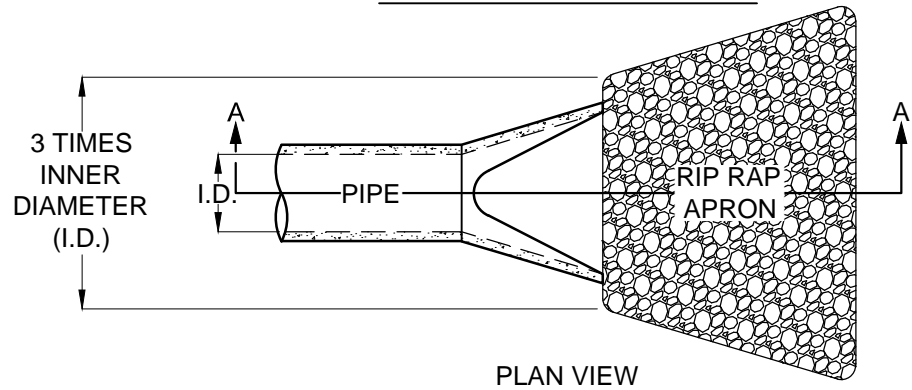
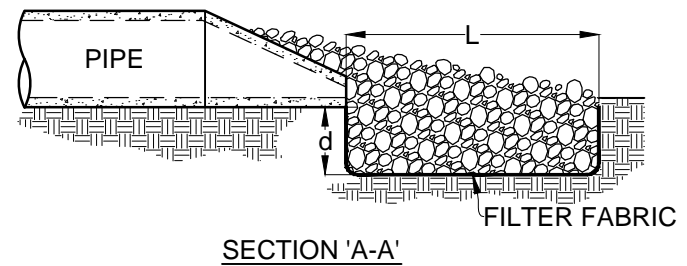
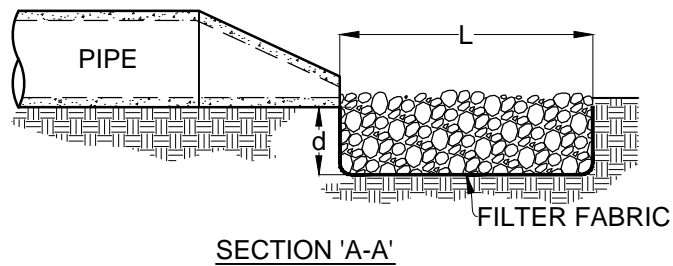
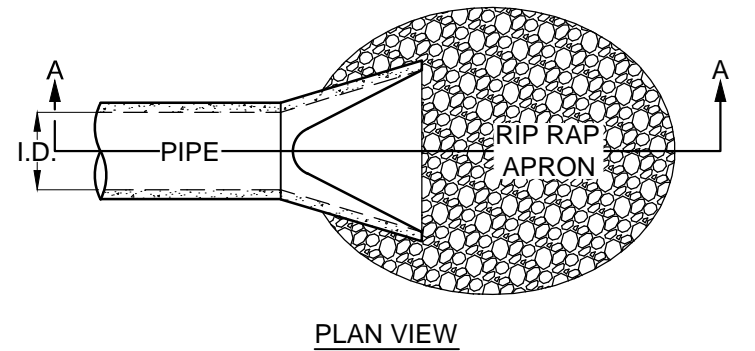


PIPE OUTLET TO FLAT AREA
NO WELL-DEFINED CHANNEL



PIPE OUTLET TO WELL-DEFINED CHANNEL



NOTES:

1. L = THE LENGTH OF THE RIPRAP APRON
2. d = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESS THAN 12 INCHES
3. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIP RAP AND SOIL FOUNDATION.
4. IN A WELL-DEFINED CHANNEL EXTEND THE APRON UP THE CHANNEL BANKS TO 6 INCHES ABOVE THE MAXIMUM TAILWATER DEPTH OR THE TOP OF THE BANK, WHICHEVER IS LESS.