



SECTION A-A

RIP-RAP APRON
FOR FLARED END SECTION

PLAN

CONSTRUCTION SPECIFICATIONS :

- A. BOTTOM GRADE SHALL BE 0.0 %.
- B. SIDE SLOPES 2:1 OR FLATTER.
- C. SIDEWALLS SHALL EXTEND UP AS SHOWN ON THE PLANS BUT NOT LESS THAN TWO-THIRDS THE PIPE DIAMETER.
- D. THERE SHALL BE NO OVERFALL FROM THE END OF THE APRON TO THE SURFACE OF THE RECEIVING CHANNEL. THE AREA TO BE PAVED OR RIP-RAPPED SHALL BE UNDERCUT SO THAT THE INVERT OF THE APRON SHALL BE AT THE SAME GRADE (FLUSH) WITH THE SURFACE OF THE RECEIVING CHANNEL. THE APRON SHALL HAVE A CUTOFF TO TOE WALL AT THE DOWNSTREAM END.
- E. APRON DIMENSIONS AND RIP-RAP SIZE OR CONCRETE THICKNESS MUST BE AS SHOWN ON THE PLANS.
- F. THE WIDTH OF THE END OF THE APRON SHALL BE EQUAL TO THE BOTTOM WIDTH OF THE RECEIVING CHANNEL AT THE OUTLET PIPE, WHICHEVER IS GREATER, OR 3 TIMES THE DIAMETER.
- G. THE PLACING OF FILL, EITHER LOOSE OR COMPACTED IN THE RECEIVING CHANNEL SHALL NOT BE ALLOWED.
- H. NO BENDS OR CURVES IN THE HORIZONTAL ALIGNMENT OF THE APRON WILL BE PERMITTED.
- I. FILTER FABRIC TO BE MIRAFI 500 OR APPROVED EQUAL
- J. THICKNESS OF RIP-RAP TO BE 1' OR AS NOTED BY THE ENGINEER.

USE USDA NOMOGRAPH FROM NC SEDIMENT AND EROSION CONTROL MANUAL FOR DESIGN DATA

* d50 (see fig 8.06 a&b "NC SEDIMENT AND EROSION CONTROL MANUAL")

$$d_{max} = 1.5 \times d_{50}$$

$$T = 1.5 \times d_{max}$$

L_a = LENGTH OF RIP RAP APRON. 4x0

W1 = END OF APRON. 3xd

W2 = END OF FLARED SECTION

REVISIONS		
NO.	DATE	DESCRIPTION
1	4/20/04	NOTES/FORMAT
2	05/08	ADD TABLE



RIP RAP APRON FOR F.E.S

FILE: I:\New_I\Maps-Details\Detail Manual&Specs/ Standard Detail & Spec Manual\Standard Details\03	
DRAWN BY: JAM	DATE: 08-07-0
CHECKED BY: JNL	SCALE: N.T.S.
DETAIL 03.05.01	