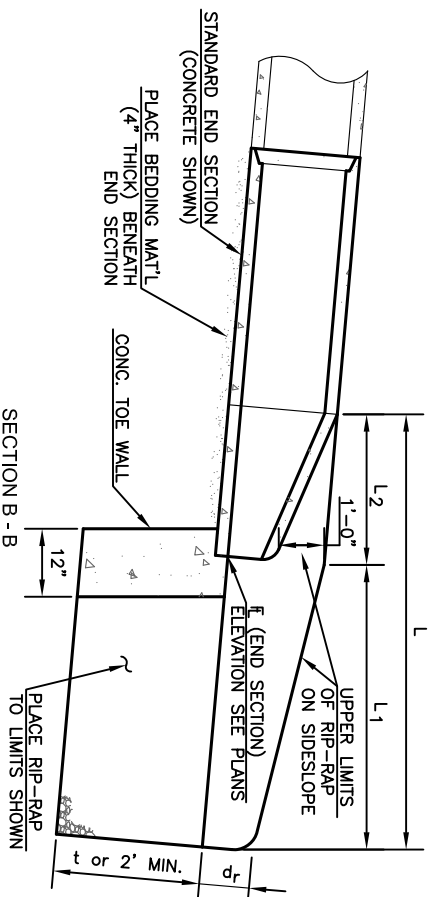


OUTFALL WITH RIP-RAP SCOUR PROTECTION

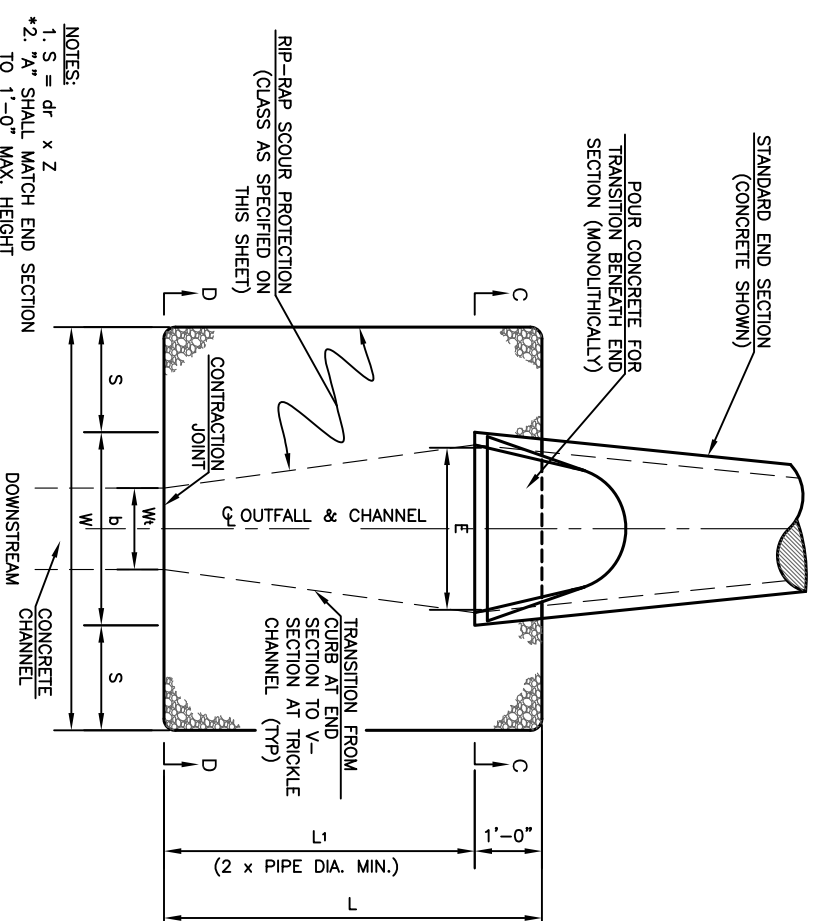
- NOTES:
 1. S = $d_r \times Z$
 2. b = DOWNSTREAM CHANNEL BOTTOM WIDTH

SECTION A - A

PLACE FILTER FABRIC BENEATH RIP-RAP WHEN SPECIFIED ON PLANS



SECTION B - B



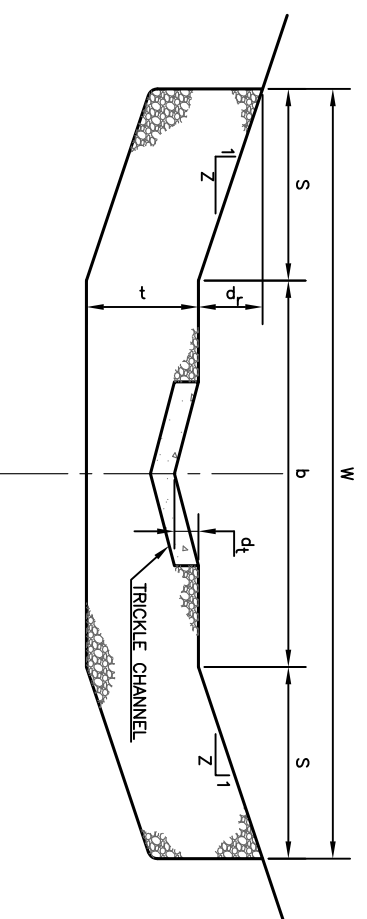
OUTFALL TO TRICKLE CHANNEL TRANSITION & SCOUR PROTECTION

- NOTES:
 1. S = $d_r \times Z$
 *2. "A" SHALL MATCH END SECTION TO 1'-0" MAX. HEIGHT

SECTION C - C

PLACE FILTER FABRIC BENEATH RIP-RAP WHEN SPECIFIED ON PLANS

6" MINIMUM THICKNESS BENEATH END SECTION



SECTION D - D

GENERAL NOTES:

1. ALL CONCRETE SHALL BE "PAVEMENT CLASS", IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.
2. MIXING, PLACING, FINISHING, JOINTING AND CURING OF ALL CONCRETE SHALL BE IN ACCORDANCE WITH THE APPLICABLE PORTIONS OF THE STANDARD SPECIFICATIONS FOR SIDEWALKS AND DRIVEWAYS.
3. WELDED WIRE FABRIC (WWF 6 x 6--W29 x W29) SHALL BE USED THROUGHOUT AND CENTERED IN ALL SLABS AND FOOTINGS. WIRE FABRIC SHALL CONFORM TO ASTM A 185.
4. MATERIALS USED FOR STONE RIP-RAP SHALL CONFORM TO THE OF THE KANSAS DEPT. OF TRANSPORTATION STANDARD SPECIFICATIONS, LATEST EDITION. GRADATION FOR EACH CLASS OF RIP-RAP SPECIFIED SHALL BE IN ACCORDANCE WITH THE ABOVE TABLE.
5. BROKEN CONCRETE RIP-RAP MAY BE SUBSTITUTED FOR STONE RIP-RAP PROVIDED IT MEETS GRADATION REQUIREMENTS FOR THE CLASS OF RIP-RAP SPECIFIED.
6. THE FOLLOWING UNITS OF MEASUREMENT SHALL APPLY TO ALL ITEMS OF WORK DETAILED ON THIS SHEET, UNLESS OTHERWISE SHOWN ON THE PROPOSAL.
 CONCRETE TRANSITION } SQUARE FOOT (ACTUAL EXPOSED SURFACE AREA)
 STONE RIP-RAP }
 BROKEN CONCRETE RIP-RAP } SQUARE YARD (FOR EACH CLASS OF RIP-RAP)
 REFER TO "CONCRETE WASH CHECK, TRICKLE CHANNEL & FLUME" STANDARD DETAIL
7. SHEET FOR CONCRETE TRICKLE CHANNEL DETAILS.

RIP-RAP GRADATION REQUIREMENTS

CLASS	D ₅₀	*GRADATION, MINIMUM PERCENTAGE LARGER THAN										
		2000lb	1400lb	700 lb	500 lb	200 lb	100 lb	60 lb	40 lb	25 lb	12 lb	
I	0.50'	3" dia	2.5" dia	2" dia	1.8" dia	1.3" dia	1.0" dia	0.9" dia	0.8" dia	0.7" dia	0.5" dia	100
II	1.00'											100
III	1.50'											100
	2.00'											100

*BASED ON UNIT WEIGHT OF 165 lb/ft³ - MINIMUM UNIT WEIGHT = 150 lb/ft³

OUTFALL SCHEDULE

OUTFALL NO OR STATION	d _r	Z	S	b or E	W	L ₁	L ₂	L	RIP-RAP CLASS	TRANSITION				
										t	E	A	W _t	

NO. 1
 DATE: Feb. 2008
 Mod. General Notes
 DHS SB
 REV. APP'D.
 DRAWN BY: em/ams
 APP'D BY: *Eric Chandy-Meyer*



SHAWNEE COUNTY, KANSAS
 PUBLIC WORKS DEPARTMENT
 1515 NW 54TH ST
 TOPEKA, KS 66618
 (785) 233-7702

TOPEKA
Public Works
 ENGINEERING
 620 SE MADISON St., 2nd Floor • TOPEKA, KS 66607
 Phone: (785) 388-3842 • Fax: (785) 388-3881

STANDARD DETAILS

PIPE OUTFALLS
 (D1-015)
 DATE: _____
 SHEET: _____
 PROJ.: _____