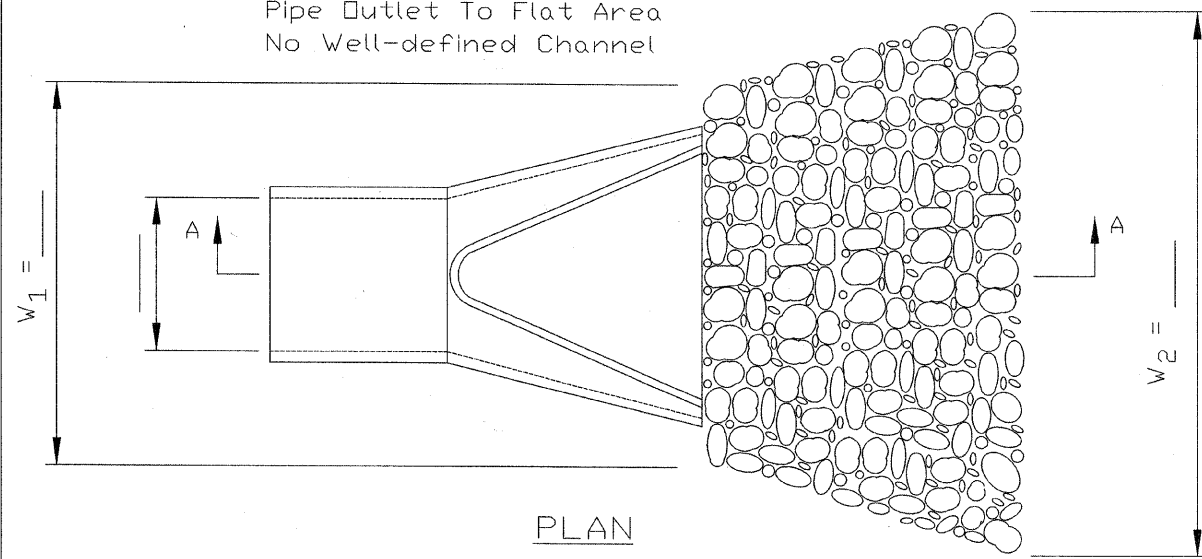
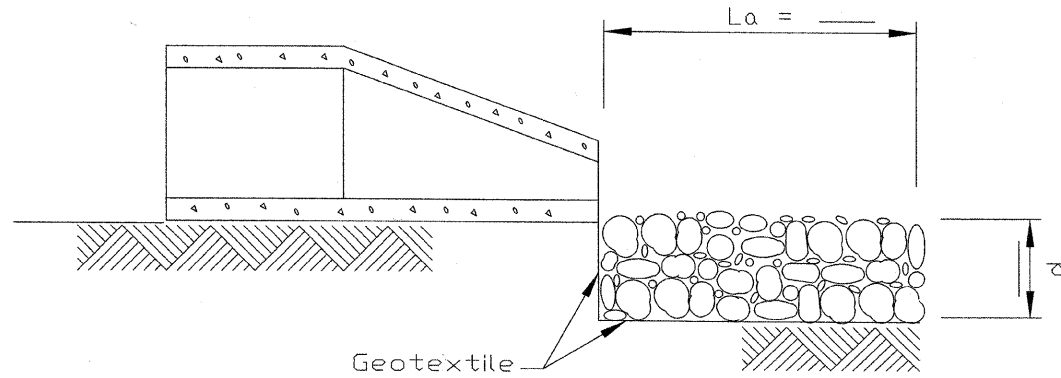


PIPE OUTLET TO FLAT AREA

Pipe Outlet To Flat Area
No Well-defined Channel



PLAN



SECTION A-A

NOTES:

1. The filter fabric shall meet the requirements in material specifications 592 GEOTEXTILE Table II Idr IdI class , or
2. The rock riprap shall meet the IDOT requirements for the following gradation: RR _____ , Quality
3. The riprap shall be placed according to construction specification 61 LOOSE ROCK RIPRAP. The rock may be equipment placed.

REFERENCE
 Project _____
 Designed _____ Date _____
 Checked _____ Date _____
 Approved _____ Date _____



STANDARD DWG. NO.
 IL-610
 SHEET 1 OF 1
 DATE 9-15-93

PIPE OUTLET TO FLAT AREA RIPRAP SIZE CHART

CULVERT DIA. (IN.)	W ₁ (IN.)	W ₂ (IN.)	La (FT.)	d (IN.)
12	36	132	10	8
18	54	186	14	8
24	72	216	16	8
30	90	246	18	15
36	108	276	20	15
48	144	336	24	15
60	180	444	32	15
72	216			15
96	288			15

12/17/2010
 K:\11177925\CAD\Sheets\1777925-ErosionDetails.dwg

DESIGNED - MK	REVISED -
DRAWN - DW	REVISED -
CHECKED - MH	REVISED -
DATE - 12/20/2010	REVISED -

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
336	99-00232-01-WR	KANE	215	109
CONTRACT NO. 63541				
ILLINOIS FED. AID PROJECT				