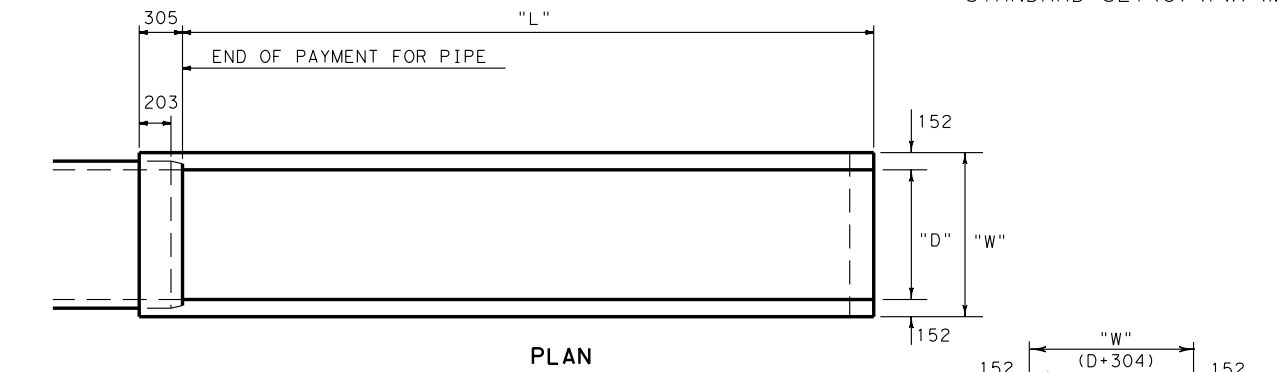


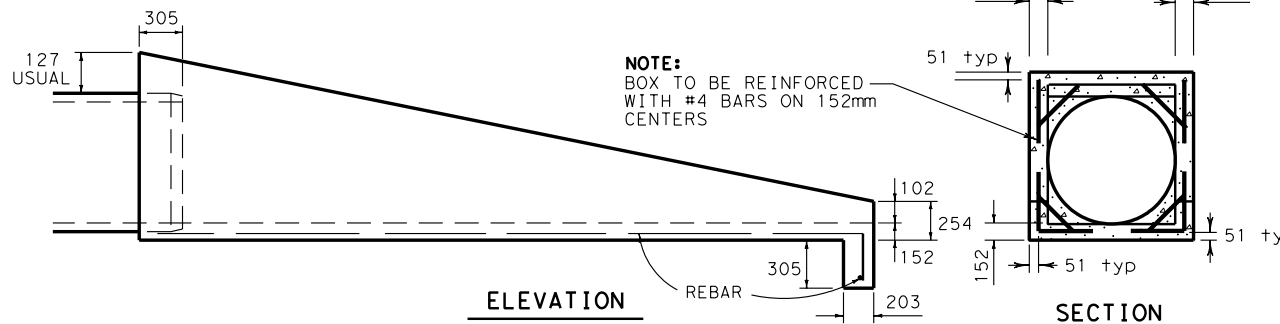
PLAN

MULTIPLE PIPES PLAN
(CROSS DRAINAGE ONLY) *

* FOR MULTIPLE PIPES
IN PARALLEL DRAINAGE
APPLICATIONS, USE
STANDARD SET (3) (FW) (M).



PLAN



ELEVATION

SECTION

NOTE:
BOX TO BE REINFORCED
WITH #4 BARS ON 152mm
CENTERS

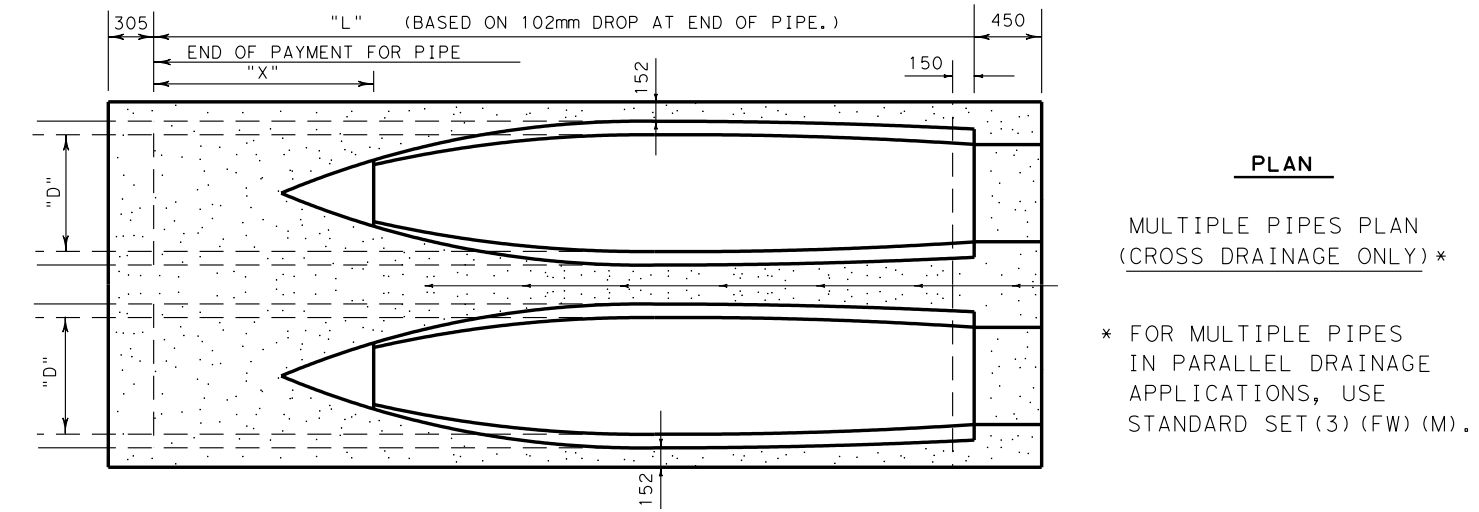
SLOPED CLASS "A" CONCRETE BOX

"D"	SLOPE	"L"	"W"	CL. A CONC (m ³)	125mm CL. B CONC RIPRAP (m ³)
450	1:3	1334	761	0.43 (N)	0.01 (N-1)
450	1:4	1880	761	0.55 (N)	0.02 (N-1)
450	1:6	2972	761	0.81 (N)	0.02 (N-1)
450	1:8	4064	761	1.06 (N)	0.03 (N-1)
525	1:3	1581	837	0.54 (N)	0.02 (N-1)
525	1:4	2210	837	0.70 (N)	0.03 (N-1)
525	1:6	3461	837	1.02 (N)	0.05 (N-1)
525	1:8	4724	837	1.34 (N)	0.05 (N-1)
600	1:3	1829	914	0.66 (N)	0.04 (N-1)
600	1:4	2540	914	0.86 (N)	0.05 (N-1)
600	1:6	3962	914	1.25 (N)	0.07 (N-1)
600	1:8	5385	914	1.65 (N)	0.10 (N-1)
675	1:3	2076	990	0.79 (N)	0.05 (N-1)
675	1:4	2870	990	1.03 (N)	0.07 (N-1)
675	1:6	4458	990	1.51 (N)	0.10 (N-1)
675	1:8	6045	990	2.00 (N)	0.14 (N-1)
750	1:3	2324	1066	0.93 (N)	0.07 (N-1)
750	1:4	3200	1066	1.22 (N)	0.10 (N-1)
750	1:6	4953	1066	1.80 (N)	0.14 (N-1)
750	1:8	6706	1066	2.37 (N)	0.18 (N-1)

OPTION TWO

NOTE: "N" = # OF PIPES.
CONCRETE QUANTITIES ARE
SHOWN FOR CONTRACTOR'S
INFORMATION ONLY.

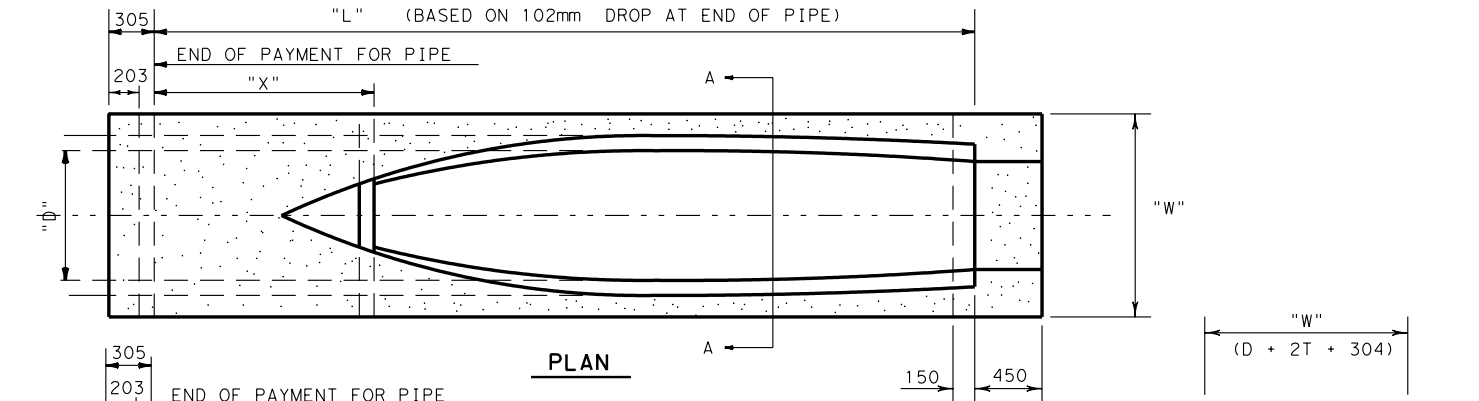
ALL DIMENSIONS ARE mm
UNLESS SHOWN OTHERWISE.



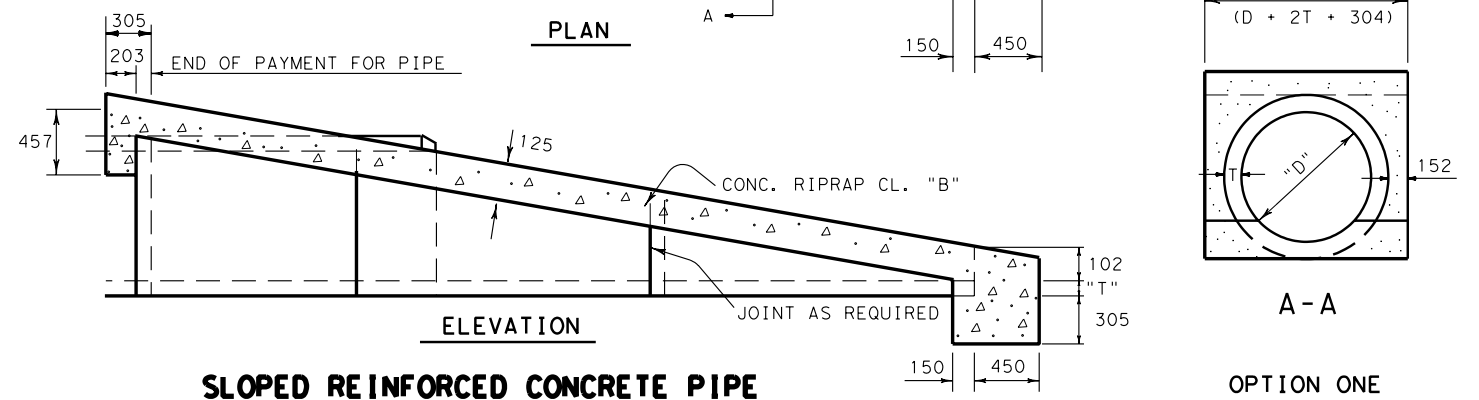
PLAN

MULTIPLE PIPES PLAN
(CROSS DRAINAGE ONLY) *

* FOR MULTIPLE PIPES
IN PARALLEL DRAINAGE
APPLICATIONS, USE
STANDARD SET (3) (FW) (M).



PLAN



ELEVATION

A-A

SLOPED REINFORCED CONCRETE PIPE

OPTION ONE

"D"	SLOPE	"T"	"L"	"X"	1 PIPE		2 PIPES		MULTIPLE PIPES (N = # OF PIPES)	
					"W"	RIPRAP	"W"	RIPRAP	"W" (mm)	RIPRAP (m ³)
450	1:3	64	1556	489	889	0.37 m ³	1702	0.69 m ³	813 (N) + 75	0.0407 + 0.329 (N)
450	1:4	64	2096	673	889	0.41 m ³	1702	0.77 m ³	813 (N) + 75	0.0465 + 0.363 (N)
450	1:6	64	3188	1054	889	0.49 m ³	1702	0.92 m ³	813 (N) + 75	0.0577 + 0.428 (N)
450	1:8	64	4274	1429	889	0.56 m ³	1702	1.05 m ³	813 (N) + 75	0.0684 + 0.491 (N)
525	1:3	70	1803	508	977	0.42 m ³	1905	0.81 m ³	927 (N) + 50	0.0290 + 0.390 (N)
525	1:4	70	2426	699	977	0.47 m ³	1905	0.90 m ³	927 (N) + 50	0.0333 + 0.433 (N)
525	1:6	70	3683	1092	977	0.56 m ³	1905	1.07 m ³	927 (N) + 50	0.0417 + 0.513 (N)
525	1:8	70	4934	1480	977	0.64 m ³	1905	1.23 m ³	927 (N) + 50	0.0501 + 0.591 (N)
600	1:3	76	2051	527	1066	0.47 m ³	2108	0.93 m ³	1041 (N) + 25	0.0154 + 0.454 (N)
600	1:4	76	2756	724	1066	0.52 m ³	2108	1.03 m ³	1041 (N) + 25	0.0178 + 0.505 (N)
600	1:6	76	4178	1130	1066	0.63 m ³	2108	1.23 m ³	1041 (N) + 25	0.0226 + 0.604 (N)
600	1:8	76	5594	1537	1066	0.73 m ³	2108	1.43 m ³	1041 (N) + 25	0.0272 + 0.700 (N)
675	1:3	83	2299	546	1156	0.52 m ³	2311	1.04 m ³	1156 (N)	0.521 (N)
675	1:4	83	3086	749	1156	0.58 m ³	2311	1.17 m ³	1156 (N)	0.583 (N)
675	1:6	83	4674	1168	1156	0.70 m ³	2311	1.40 m ³	1156 (N)	0.701 (N)
675	1:8	83	6255	1581	1156	0.82 m ³	2311	1.63 m ³	1156 (N)	0.815 (N)
750	1:3	89	2546	565	1244	0.57 m ³	2515	1.17 m ³	1270 (N) - 25	-0.0168 + 0.593 (N)
750	1:4	89	3416	775	1244	0.62 m ³	2515	1.31 m ³	1270 (N) - 25	-0.0199 + 0.665 (N)
750	1:6	89	5169	1207	1244	0.78 m ³	2515	1.58 m ³	1270 (N) - 25	-0.0252 + 0.801 (N)
750	1:8	89	6915	1632	1244	0.91 m ³	2515	1.84 m ³	1270 (N) - 25	-0.0313 + 0.939 (N)

NOTES: CONCRETE QUANTITIES ARE
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INFORMATION ONLY.

ALL DIMENSIONS ARE mm
UNLESS SHOWN OTHERWISE.

REVISIONS:

Texas Department of Transportation

TYPE II
SAFETY END TREATMENT
CROSS OR PARALLEL DRAINAGE
450mm TO 750mm PIPES

SET (1) (FW) (M)

ORIG DRAW DATE: FEB. 1996

DESIGN: []
CHECKED: []
DRAWN: []
CHECKED: []

FED. REG. 6
DISTRICT []
FTW

STATE TEXAS
COUNTY []

FEDERAL AID PROJ NO. []
CONTROL SECTION []

HIGHWAY []
JOB []
SHEET []

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