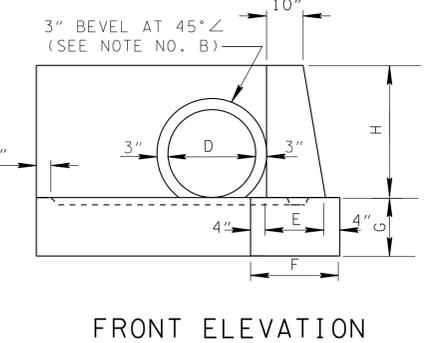
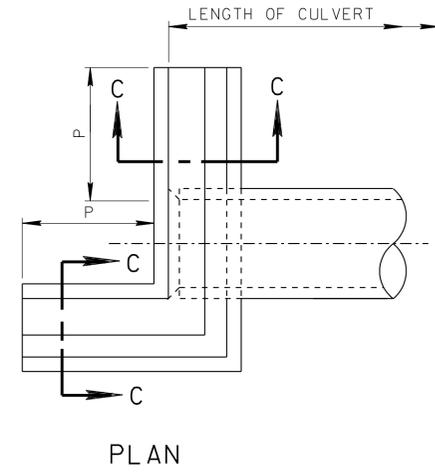


STRAIGHT TYPE CONCRETE ENDWALL

DIMENSIONS							CONC. IN ONE ENDWALL			C.Y. FOR EACH ADDITIONAL LINE OF PIPE	C.Y. PER FOOT OF LENGTH "L"		
OPENING		WALL			FOOTING		WALL	FOOTING	TOTAL		WALL	FOOTING	TOTAL
D	AREA	L	H	E	F	G	C.Y.	C.Y.	C.Y.				
1'-6"	1.77	6'-0"	2'-6"	1'-3"	1'-11"	1'-3"	0.51	0.53	1.04	0.39	0.096	0.089	0.185
2'-0"	3.14	8'-0"	3'-0"	1'-4"	2'-0"	1'-4"	0.83	0.79	1.62	0.52	0.120	0.099	0.219
2'-6"	4.91	10'-0"	3'-6"	1'-6"	2'-2"	1'-6"	1.29	1.21	2.50	0.74	0.151	0.121	0.272

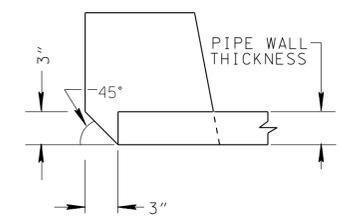
D	SKEW											
	30°	35°	40°	45°	50°	55°	60°	65°	70°	75°	80°	85°
1'-6"	4.15	3.61	3.23	2.93	2.71	2.53	2.39	2.29	2.21	2.15	2.11	2.08
2'-0"	6.45	5.62	5.02	4.56	4.21	3.94	3.73	3.56	3.43	3.34	3.28	3.24
2'-6"	9.96	8.68	7.75	7.05	6.50	6.08	5.75	5.50	5.30	5.16	5.06	5.00

NOTE: WHEN PIPE IS ON A SKEW USE TWO STRAIGHT ENDWALLS AND MAKE "L" EQUAL TO "L" IN TABLE ABOVE DIVIDED BY SINE OF ANGLE OF SKEW.



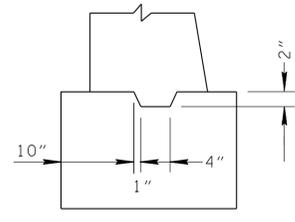
DIAMETER	P	CONC. C.Y.
1'-6"	2'-3"	1.28
2'-0"	3'-0"	1.91
2'-6"	3'-9"	2.90

NOTE: DIMENSIONS NOT SHOWN ARE SAME AS FOR STRAIGHT ENDWALL.

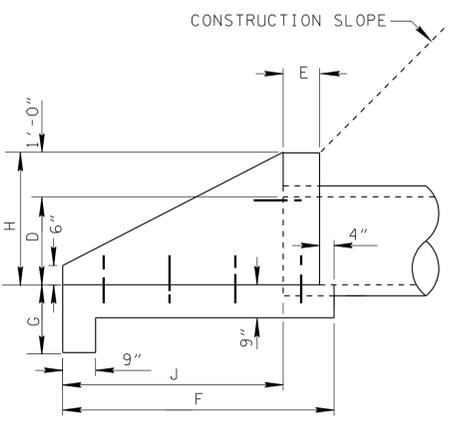
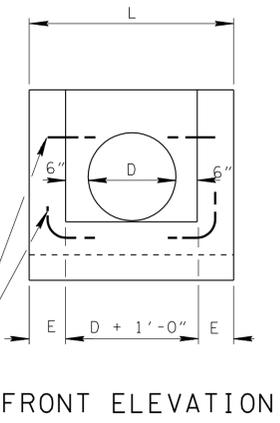
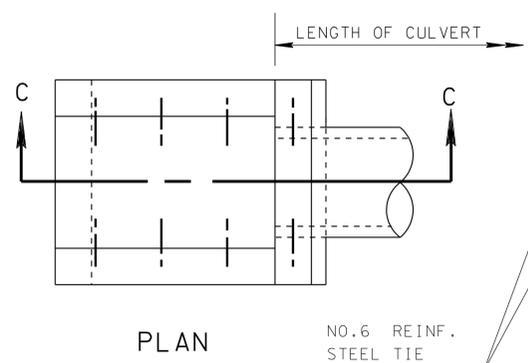


DETAIL OF BEVEL

(A)	CONCRETE ENDWALL SHALL BE CONSTRUCTED IN ACCORDANCE WITH STANDARD SPECIFICATION, SECTION 611, AND/OR SPECIAL PROVISIONS.
(B)	ALL STRAIGHT AND "L" TYPE CONCRETE ENDWALLS ON INLET END OF PIPE, AND AT 90° SKEW SHALL BE BEVELED AT 3" AT 45° ANGLE. BEVEL WILL NOT BE REQUIRED WHEN ENDWALL IS CONSTRUCTED ON THE "BELLED" END OF CONCRETE PIPE.
(C)	WHEN MORE THAN ONE LINE OF PIPE IS REQUIRED THE DISTANCE FROM CENTER TO CENTER OF PIPE SHALL BE D + 1'-0".
(D)	PAYMENT FOR ENDWALLS WILL BE MADE FOLLOWS: ITEM 611-07.01, CLASS "A" CONCRETE (PIPE ENDWALLS)---CUBIC YARD. ITEM 611-07.02, STEEL BAR REINFORCING (PIPE ENDWALLS)---POUND.



SECTION C-C SHOWING CONSTRUCTION JOINT



NO.6 REINF. STEEL TIE BAR (LENGTH 2'-0")

"U" TYPE CONCRETE ENDWALL

DIMENSIONS							CONC. IN ONE ENDWALL			C.Y. FOR EACH ADDITIONAL LINE OF PIPE	C.Y. PER FOOT OF LENGTH "L"	REINF STEEL LB.	
OPENING		WALL			FOOTING		WALL	FOOTING	TOTAL				
D	AREA	L	H	E	J	F	G	C.Y.	C.Y.	C.Y.			
1'-6"	1.77	4'-0"	2'-6"	9"	4'-0"	5'-1"	1'-3"	0.61	0.62	1.23	0.554	0.225	20
2'-0"	3.14	4'-8"	3'-0"	10"	5'-0"	6'-2"	1'-6"	0.86	0.90	1.76	0.728	0.275	20
2'-6"	4.91	5'-2"	3'-6"	10"	6'-0"	7'-2"	1'-6"	1.12	1.14	2.26	0.996	0.328	20

NOTE: USE "U" TYPE ENDWALL SHOWN ON STANDARD DRAWINGS D-PE-3B (FOR 3:1 SLOPES), D-PE-4B (FOR 4:1 SLOPES) AND D-PE-6B (FOR 6:1 SLOPE) WITHOUT GRATES OUTSIDE THE CLEAR ZONE.

- REV. 9-28-83: REDREW AND ADDED TABLE FOR STRAIGHT ENDWALL WHEN PIPE IS SKEWED.
- REV. 2-19-88: ADDED SAFETY ADJUSTMENTS "U" TYPE ENDWALL.
- REV. 1-19-94: REDREW AND REORGANIZED DRAWING. ELIMINATED TYPE "U" ENDWALL FOR 3:1 SLOPE.
- REV. 1-19-97: ADDED UNITS TO HEADING FOR TABLE FOR SKEWED PIPE.
- REV. 6-1-09: ADDED GENERAL NOTE (D).
- REV. 7-19-10: REMOVED GENERAL NOTE (D).

MINOR REVISION -- FHWA APPROVAL NOT REQUIRED.

STATE OF TENNESSEE DEPARTMENT OF TRANSPORTATION

STRAIGHT, "L" AND "U" TYPE CONCRETE ENDWALL

3-1-94 D-PE-4