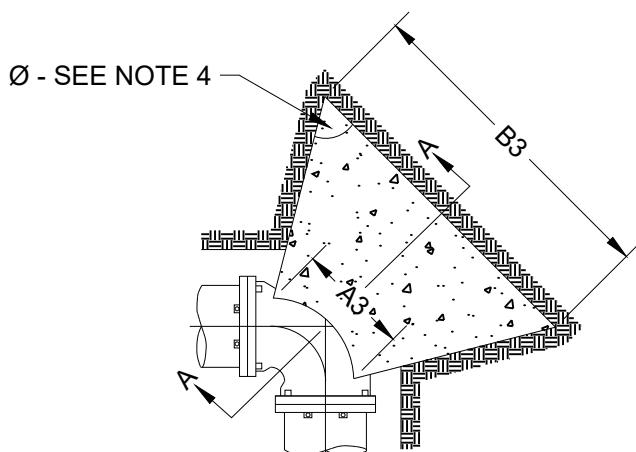


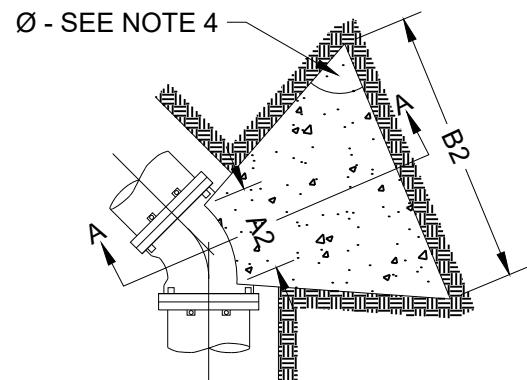
NOTES:

1. SHAPE OF BACK OF BUTTRESS MAY VARY AS LONG AS POURED AGAINST FIRM UNDISTURBED EARTH.
2. DIMENSION C1, C2,& C3 SHOULD BE LARGE ENOUGH TO MAKE ANGLE \emptyset EQUAL TO OR LARGER THAN 45°.
3. DIMENSION A1, A2, & A3 SHOULD BE AS LARGE AS POSSIBLE WITHOUT INTERFERING WITH MJ BOLTS.
4. $\emptyset = 45^\circ$ MINIMUM.
5. PLACE POLYETHYLENE BETWEEN CONCRETE & PIPE.

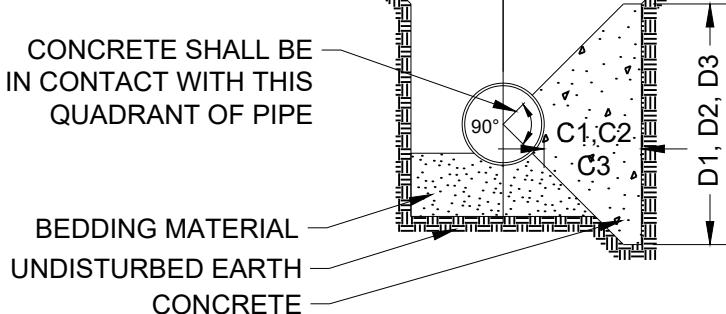
PIPE SIZE	22.5° BEND		45° BEND		90° BEND	
	B1	D1	B2	D2	B3	D3
6"	1' - 5"	1' - 5"	1' - 5"	1' - 5"	1' - 5"	1' - 5"
8"	1' - 5"	1' - 5"	2' - 1"	1' - 6"	2' - 8"	2' - 0"
12"	1' - 10"	1' - 10"	3' - 4"	2' - 0"	4' - 9"	2' - 6"
16"	3' - 0"	2' - 0"	3' - 10"	3' - 0"	6' - 2"	3' - 6"
20"	3' - 6"	2' - 8"	5' - 6"	3' - 4"	8' - 4"	4' - 0"
24"	4' - 4"	3' - 0"	6' - 10"	3' - 10"	6' - 2"	3' - 6"
30"	-	-	9' - 3"	6' - 0"	17' - 0"	6' - 0"



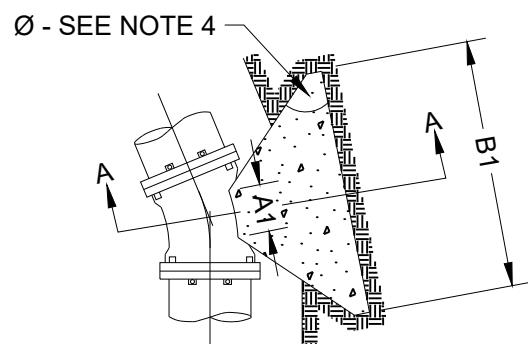
PLAN 90° BENDS



PLAN 45° BENDS



SECTION A-A



PLAN 22.5° BENDS