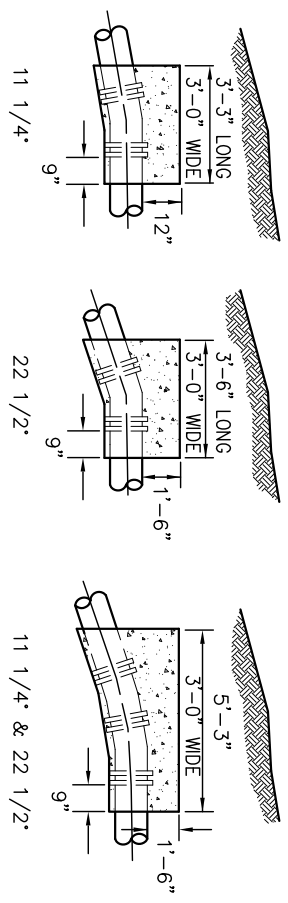
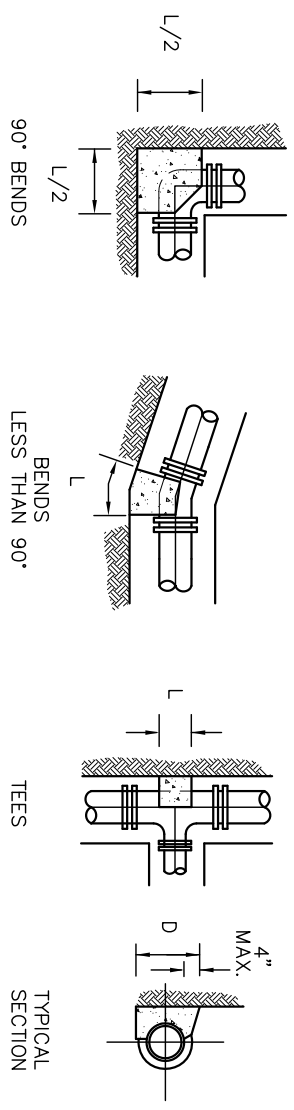


**DETAIL - END OF WATER LINE**



**CONCRETE BLOCKING FOR VERTICAL BENDS**



**CONCRETE BLOCKING FOR HORIZONTAL BENDS**

SIZE OF PIPE	BENDS									
	DEGREE OF BEND									
3", 4", 6"	11 1/4°	22 1/2°	45°	90°						
	8"	6"	10"	6"	20"	6"	36"	6"		
8"	9"	8"	14"	8"	24"	9"	50"	8"		
	12"	14"	12"	22"	30"	16"	60"	15"		
16"	18"	16"	24"	18"	33"	36"	70"	22"		

RUN	TEES									
	BRANCH									
3", 4", 6"	3", 4", 6"	8"	12"	16"						
	16"	6"	18"	12"						
8"	14"	8"	18"	12"						
	9"	12"	18"	12"	24"	18"				
12"	8", 16"	14", 16"	28", 16"	30", 26"						

**NOTES**

- A. CARE SHALL BE TAKEN TO KEEP CONCRETE AWAY FROM MECHANICAL JOINTS BY PLACING VISQUEEN OR OTHER APPROVED MATERIAL OVER PIPE BEFORE PLACING OF CONCRETE. BOLTS SHALL NOT BE ENCASED IN CONCRETE.
- B. BLOCKING SHALL BE USED ONLY WITH RESTRAINTS OR AS APPROVED BY CITY ENGINEER. CONCRETE FOR BLOCKING SHALL CONFORM TO SECTION ODOT 499 CLASS C.
- C. CONTRACTOR SHALL USE THE THRUST BLOCKS AS SHOWN ONLY IF PREAPPROVED FOR SPECIAL CONDITION BY THE CITY PRIOR TO BEGINNING CONSTRUCTION AND IT IS DISCOURAGED.