

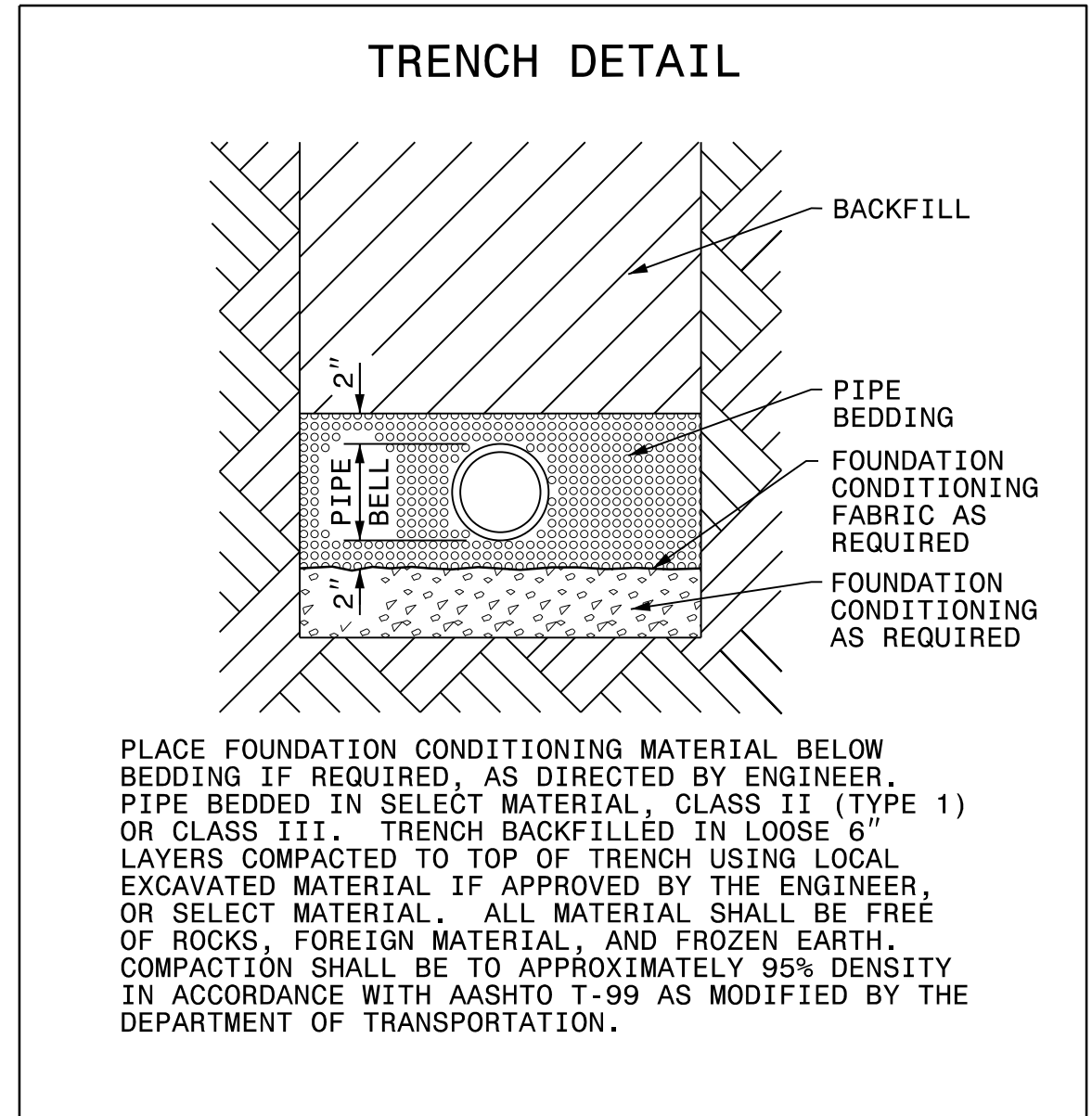


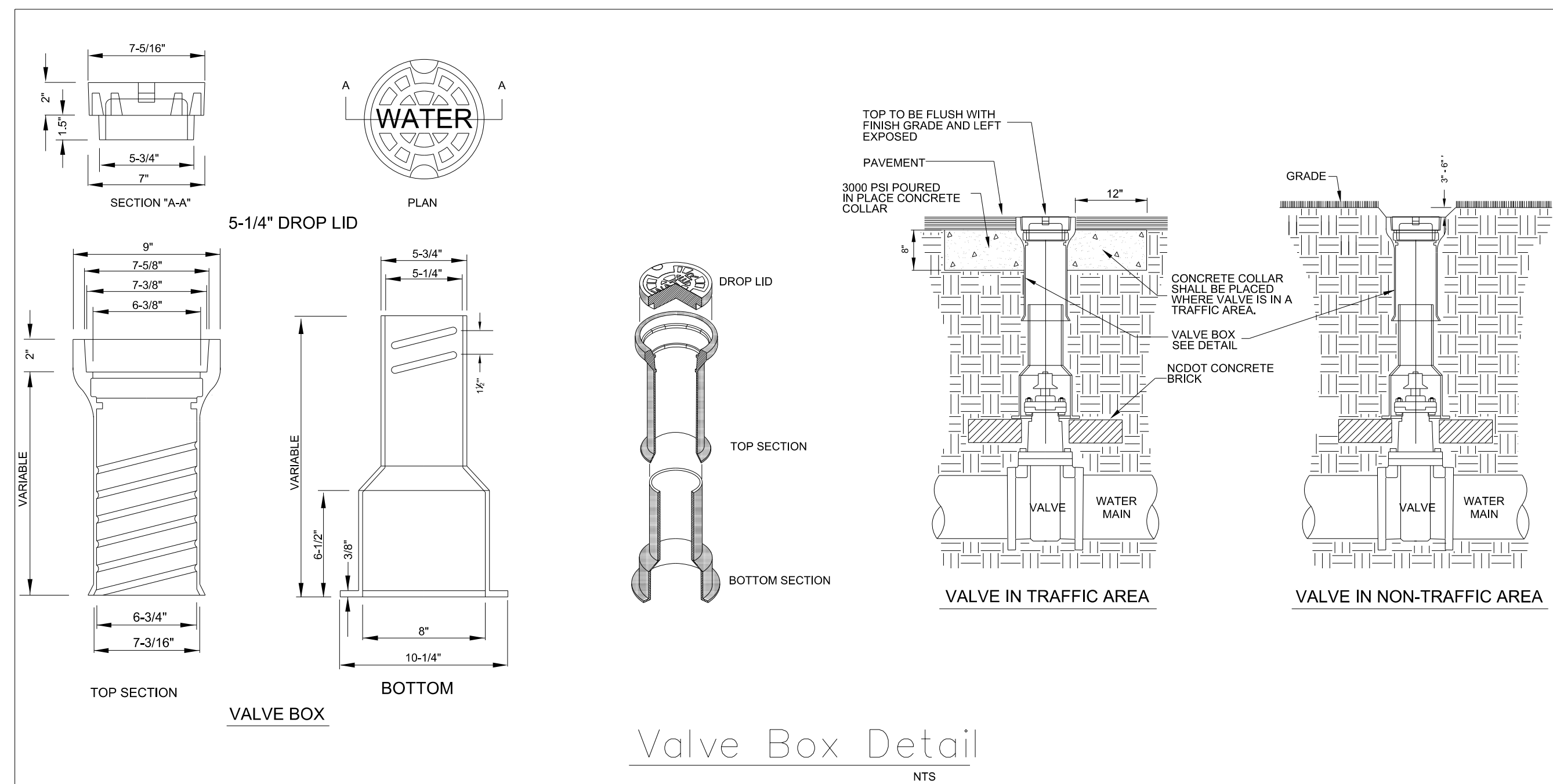
8/17/99

REVISIONS

BRIDGE 320035	PROJECT REFERENCE NO. BR-0112	SHEET NO. UC-3A
UTILITY CONSTRUCTION PLANS	DESIGNED BY: SLK	4/17/2020
 1223 Jones Franklin Rd. Raleigh, N.C. 27606 License No. F-0377 Bus: 919 851 8077 Fax: 919 851 8107	DRAWN BY: SLK	
	CHECKED BY: MVZ	
TRANSPORTATION PLANNING/DESIGN - BRIDGE/STRUCTURE DESIGN CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION	APPROVED BY: MVZ	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	REVISED:	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
		UTILITY CONSTRUCTION PLANS ONLY

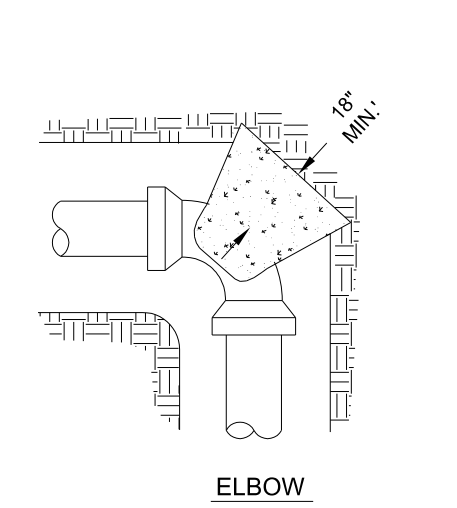


## UTILITY CONSTRUCTION

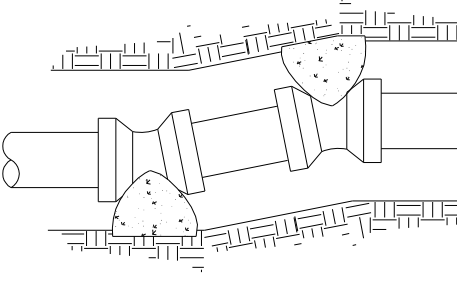


### CONCRETE THRUST BLOCK DETAIL

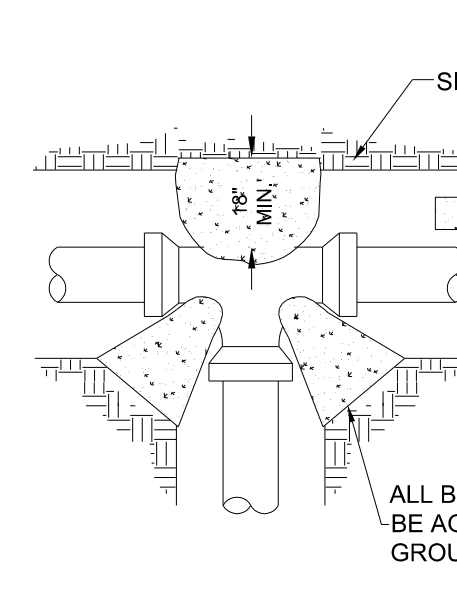
NTS



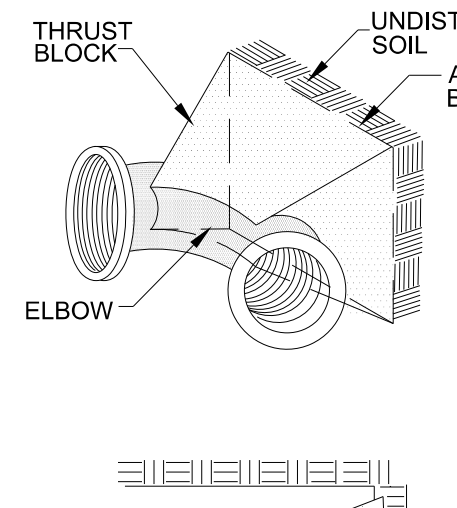
ELBOW



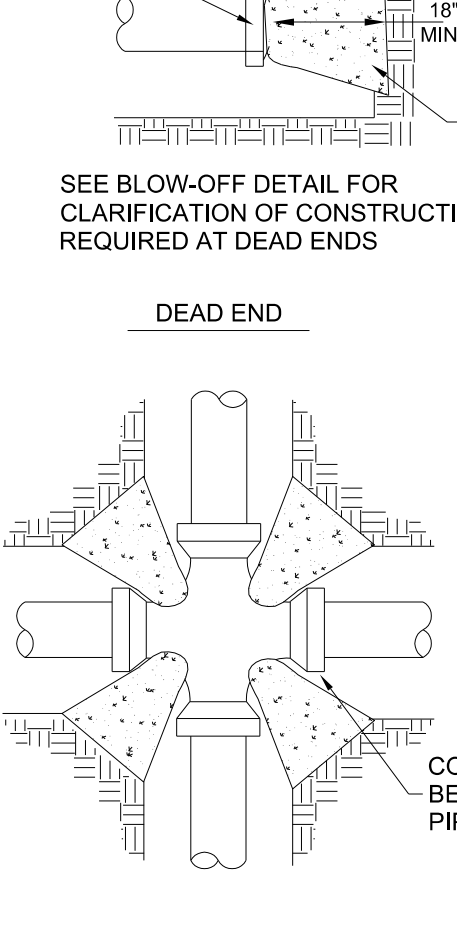
HORIZONTAL BEND



TEE



DEAD END



CROSS

SEE BLOW-OFF DETAIL FOR CLARIFICATION OF CONSTRUCTION REQUIRED AT DEAD ENDS

CONCRETE SHALL BE KEPT CLEAR OF PIPE JOINTS (TYP.)

ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED GROUND (TYP.)

THRUST BLOCKS SHALL BE INSTALLED ON PVC WATER DISTRIBUTION LINES 6" THRU 12" DIA. IN THE MANNER SHOWN.

PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.

SAC-CRETE SHALL NOT BE ALLOWED.

NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.

CONCRETE SHALL BE A MINIMUM 3,000 PSI.

ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL.

FITTING SIZE (IN.)	MINIMUM BLOCKING AREA AND VOLUME IN S.F. AND (C.Y.)					
	11 1/4"	22 1/2"	45"	90"	TEE	PLUG
2			0.23 (0.11)	0.38 (0.11)	0.30 (0.11)	0.30 (0.11)
4			0.83 (0.18)	1.35 (0.18)	0.98 (0.18)	0.98 (0.18)
6	0.40 (0.01)	0.80 (0.02)	1.73 (0.20)	3.00 (0.33)	2.17 (0.25)	2.17 (0.25)
8	0.80 (0.02)	1.50 (0.04)	3.08 (0.34)	5.40 (0.60)	3.83 (0.42)	3.83 (0.42)
10	1.20 (0.03)	2.30 (0.07)	4.72 (0.52)	8.40 (0.94)	5.92 (0.66)	5.92 (0.66)
12	1.70 (0.05)	3.30 (0.12)	6.82 (0.75)	12.00 (1.33)	8.48 (0.94)	8.48 (0.94)
16	3.00 (0.33)	5.90 (0.65)	11.60 (0.86)	21.30 (1.57)	15.00 (0.97)	15.00 (0.97)
20	4.60 (0.52)	9.20 (0.76)	18.00 (1.32)	33.30 (3.60)	23.30 (1.87)	23.30 (1.87)
24	6.70 (0.75)	13.20 (0.97)	26.00 (2.28)	48.00 (5.29)	33.60 (3.24)	33.60 (3.24)
30	10.40 (0.77)	20.70 (1.80)	40.60 (4.45)	75.00 (10.30)	52.50 (6.32)	52.50 (6.32)
36	15.00 (1.28)	29.80 (3.11)	58.40 (7.67)	108.0 (17.90)	75.60 (10.90)	75.60 (10.90)

NOTE: Values given are based on 200 psi water pressure and 2000 lb/sf soil bearing capacity. Soils with less bearing capacity such as muck, peat or soft clay will require greater blocking areas and volumes.

The thrust blocking shown above is based on the use of mechanical joint as shown on plans.

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