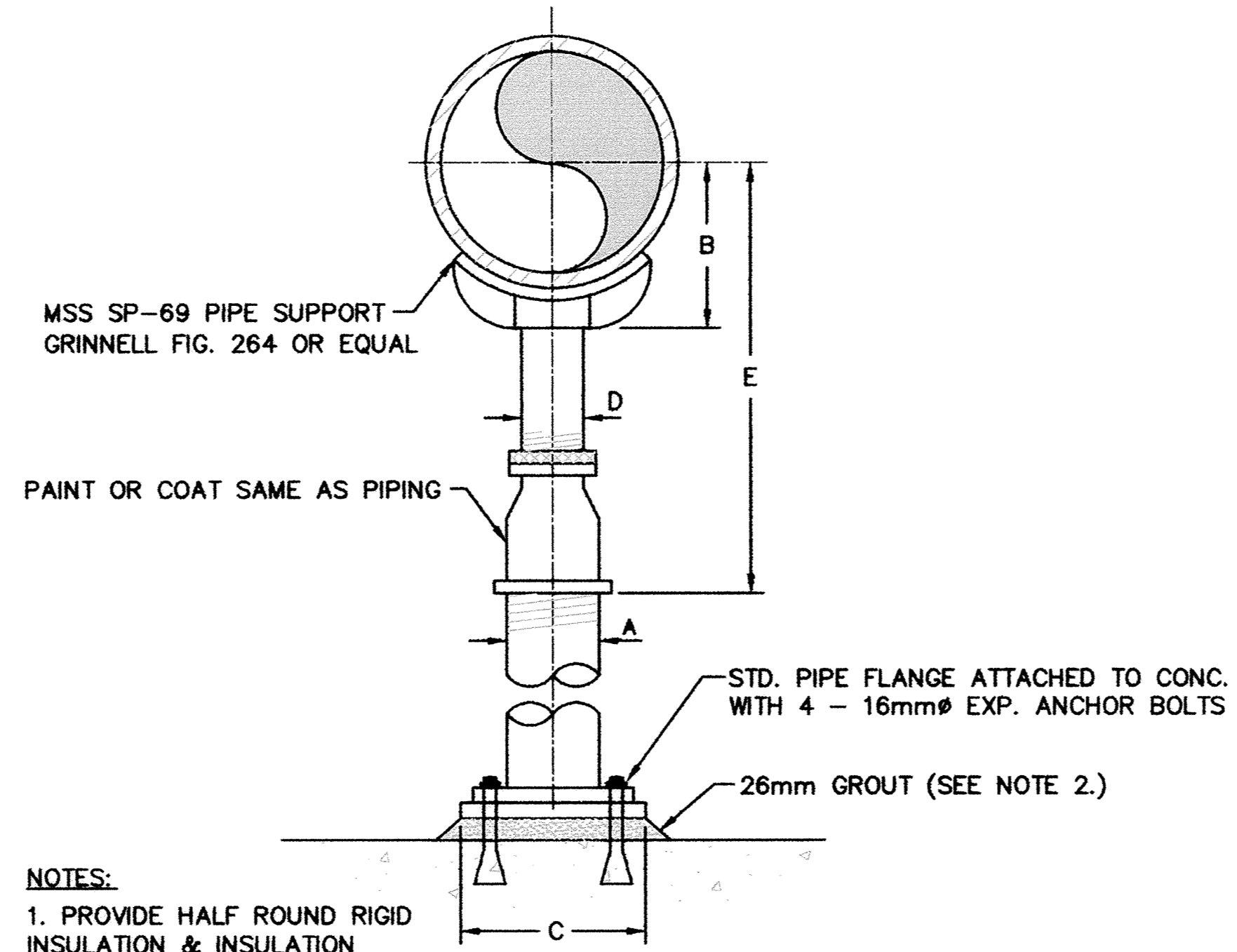


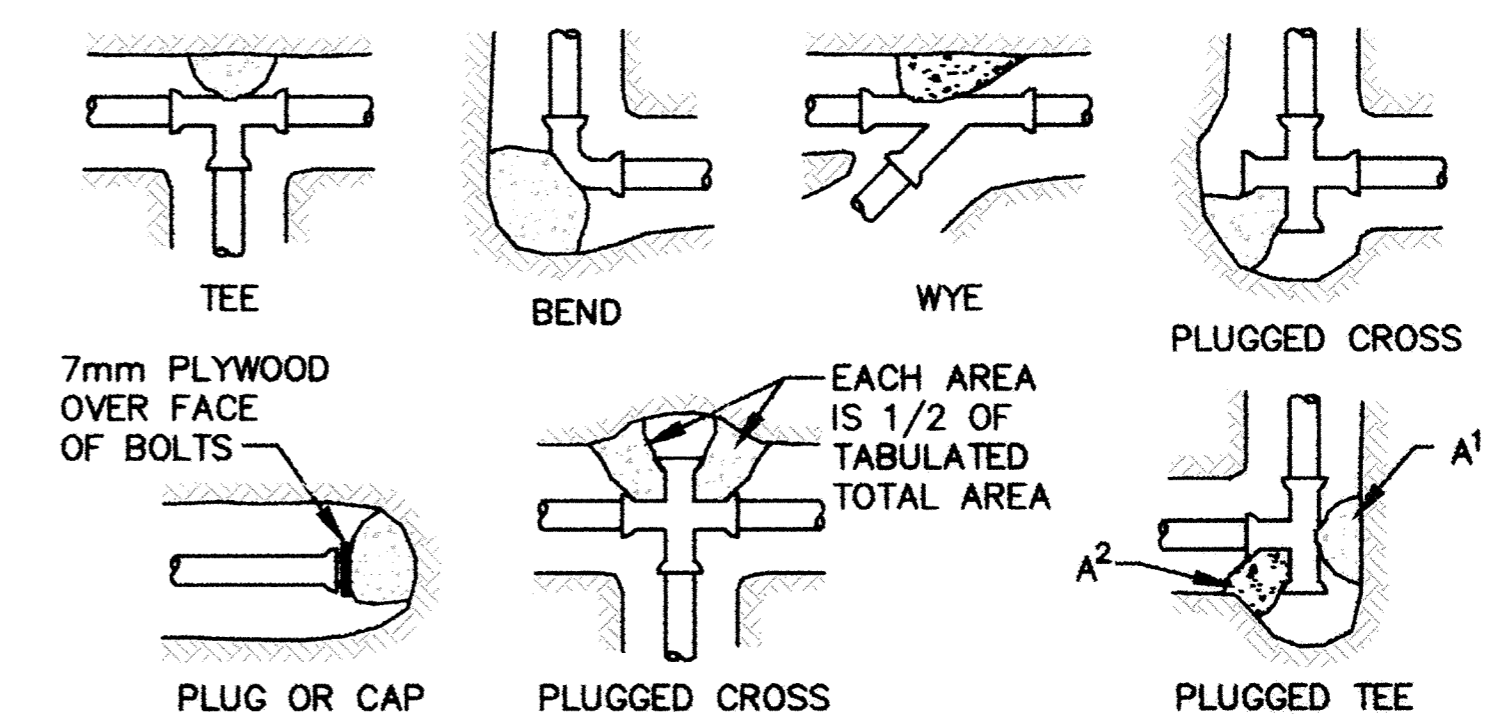
1 SLUICE GATE DETAIL
NO SCALE



NOTES:
 1. PROVIDE HALF ROUND RIGID INSULATION & INSULATION PROTECTION SHIELD, SIMILAR TO GRINNELL-FIG. 167 OR ELCEN FIG. 219, WHEN PIPING IS INSULATED
 2. PROVIDE NEOPRENE WAFFLE ISOLATION PAD SIMILAR TO MASON TYPE "W" OR KORFUND KORPAD 40, UNDER SUPPORT FOOT WHEN PIPING IS ISOLATED OR SUPPORT IS ADJACENT TO EQUIPMENT
 3. FOR BASE, HEIGHT, & FLANGE DIMENSIONS, SEE TABLE AT RIGHT.

PIPE SIZE (mm)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	
					MIN	MAX
100	75	105	229	65	235	356
150	75	140	229	65	267	387
200	75	175	229	65	300	419
250	75	210	229	65	343	464
300	75	250	229	65	381	502
350	100	275	280	75	413	527

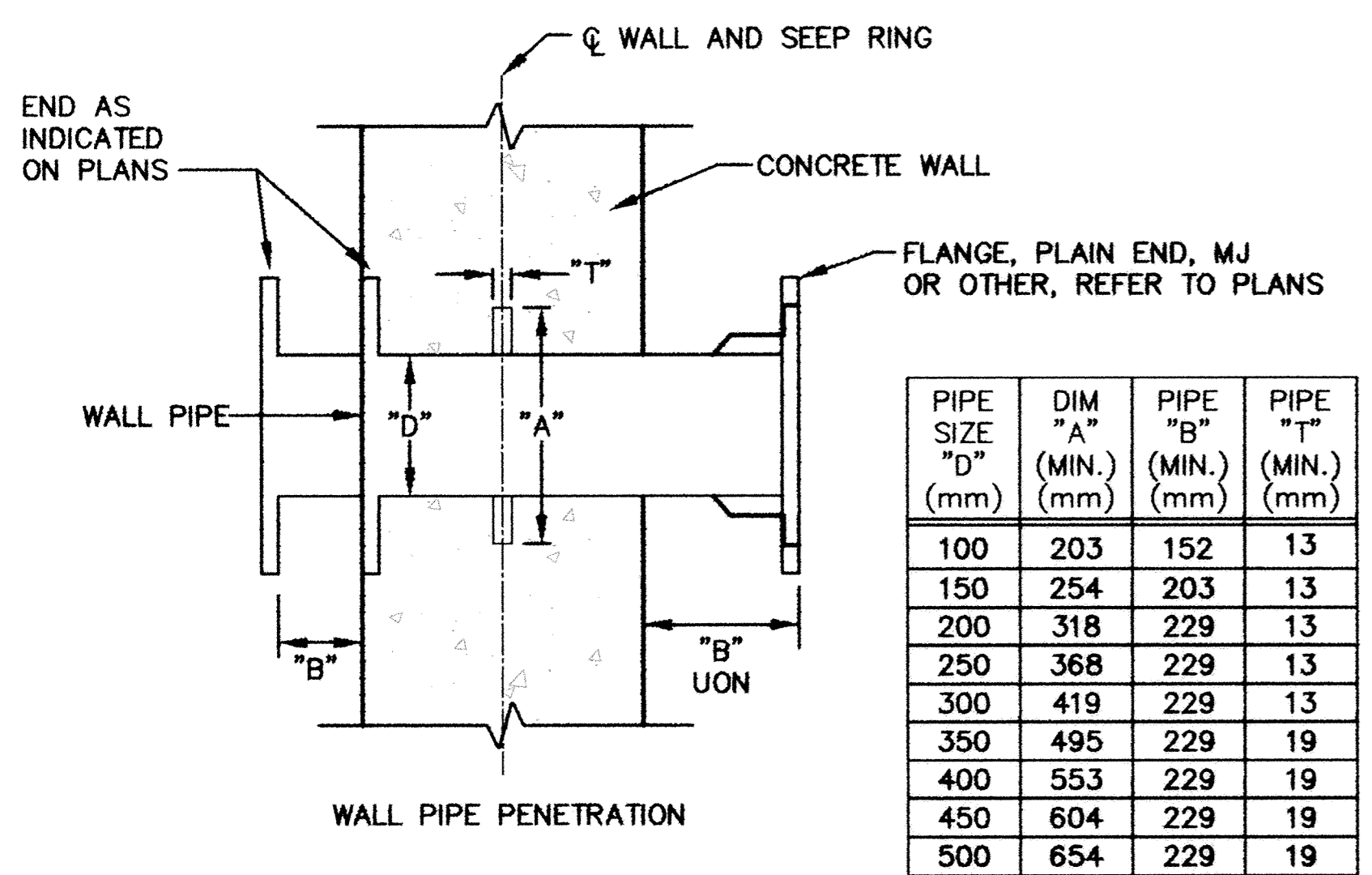
2 PIPE SUPPORT
NO SCALE



NOMINAL FITTING SIZE (INCHES)	TEE, WYE, PLUG OR CAP	90° BEND, PLUGGED CROSS	TEE PLUGGED ON RUN		45° BEND	22 1/2° BEND	11 1/4° BEND
			A1	A2			
100	1.0	1.4	1.9	1.4	1.0	---	---
150	2.1	3.0	4.3	3.0	1.6	1.0	---
200	3.8	5.3	7.6	5.4	2.9	1.5	1.0
250	5.9	8.4	11.8	8.4	4.6	2.6	1.2
300	8.5	12.0	17.0	12.0	6.6	3.4	1.7
350	11.5	16.3	23.0	16.3	8.9	4.6	2.3
400	15.0	21.3	30.0	21.3	11.6	6.0	3.0
450	19.0	27.0	38.0	27.0	14.6	7.6	3.8
500	23.5	33.3	47.0	33.3	18.1	9.4	4.7
600	34.0	48.0	68.0	48.0	26.2	13.6	6.8

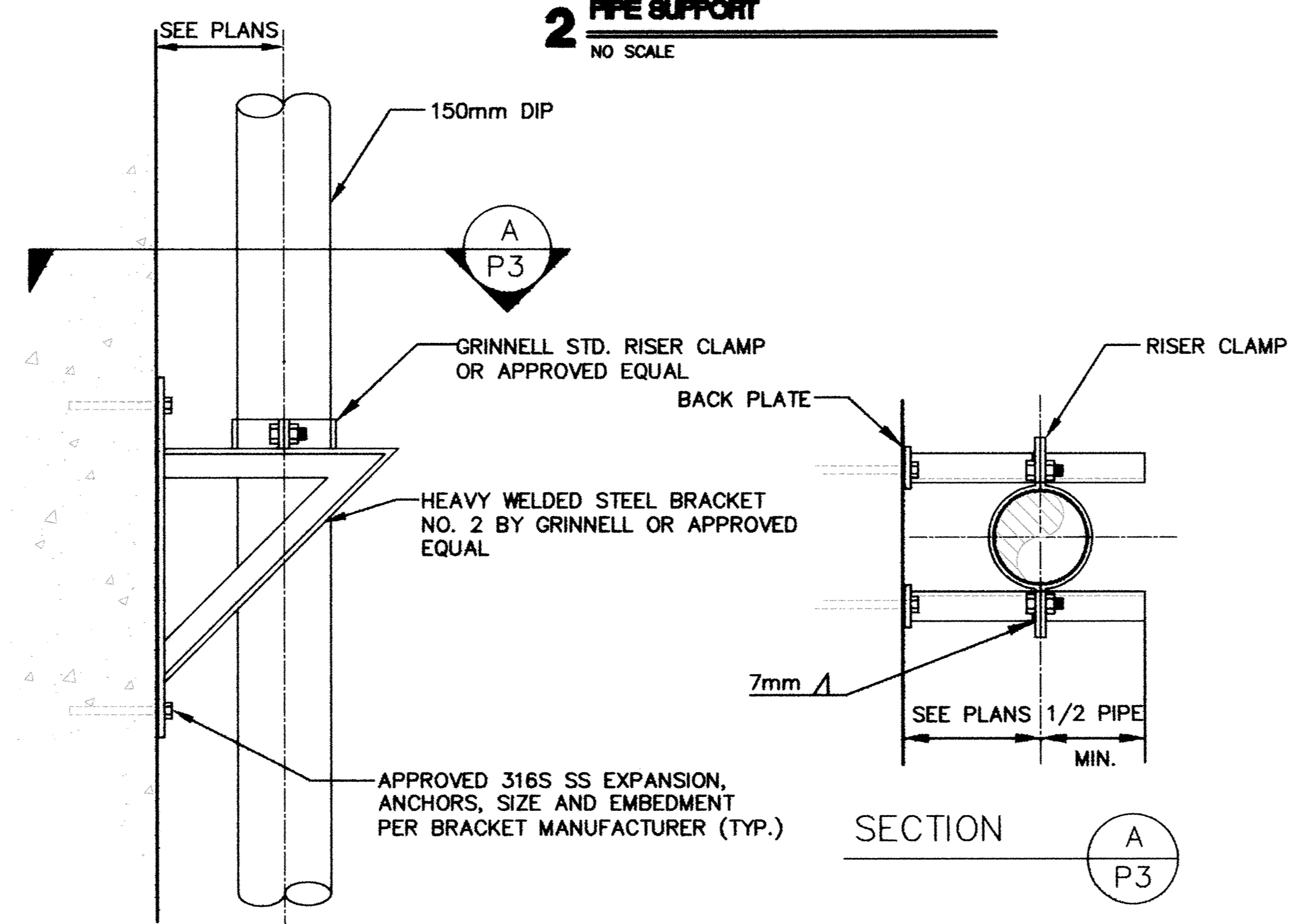
NOTE
 1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
 2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES.
 3. IF NOT SHOWN ON PLANS, REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED ABOVE, ADJUSTED IF NECESSARY, TO CONFORM TO THE TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES).
 4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN IN THIS STANDARD DETAIL.
 5. ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 1.04 MPa AND AN ALLOWABLE SOIL BEARING STRESS OF 828 Pa PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/150) X (908kg/SOIL BEARING STRESS) X (TABLE VALUE).

4 WALL PENETRATIONS
NO SCALE

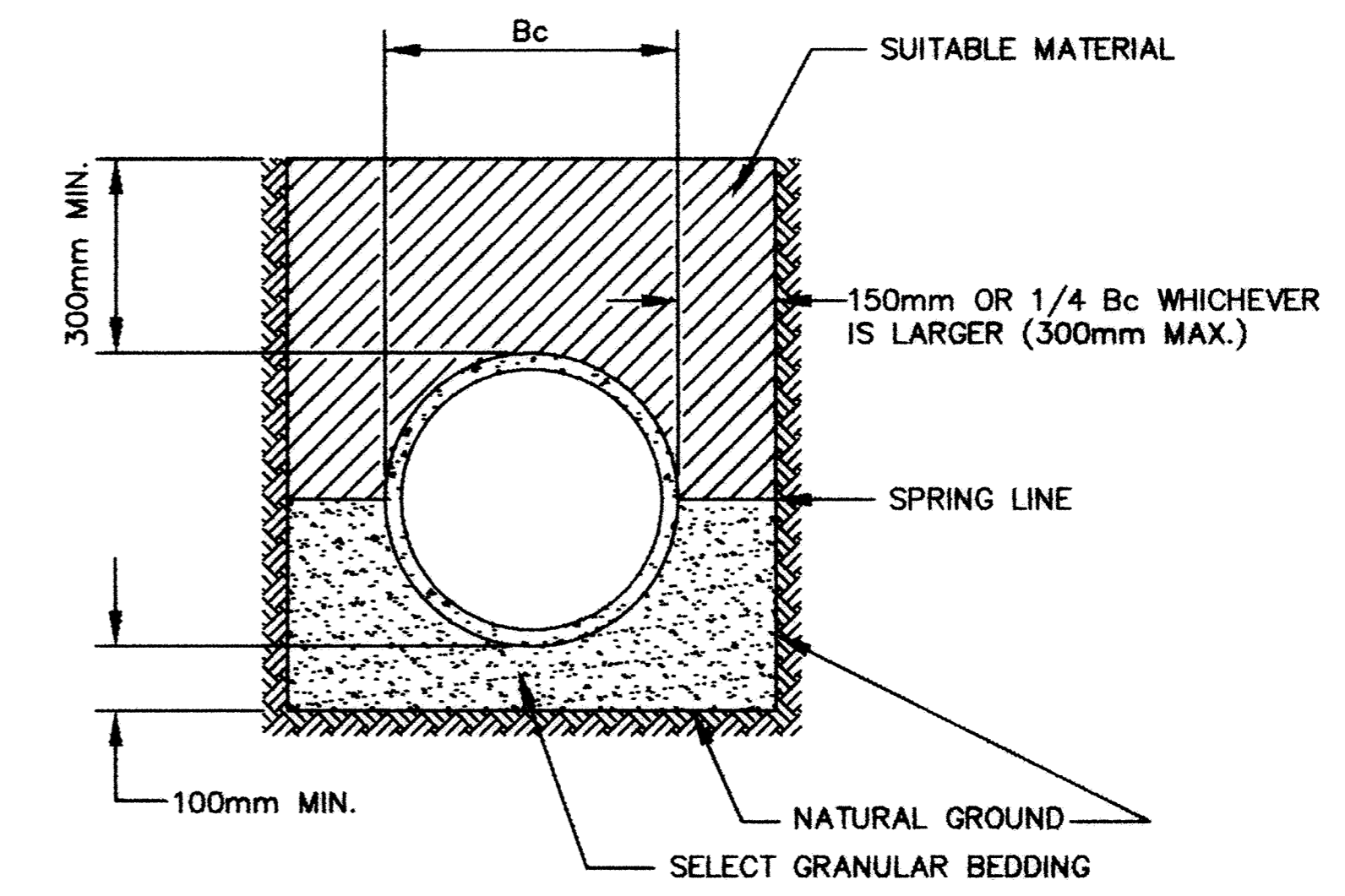


PIPE SIZE "D" (mm)	DIM "A" (MIN.) (mm)	PIPE "B" (MIN.) (mm)	PIPE "T" (MIN.) (mm)
100	203	152	13
150	254	203	13
200	318	229	13
250	368	229	13
300	419	229	13
350	495	229	19
400	553	229	19
450	604	229	19
500	654	229	19

3 WALL PENETRATIONS
NO SCALE



5 WALL PIPE SUPPORT
NO SCALE



NOTE: ALL COSTS OF EXCAVATION BELOW GRADE AND PLACEMENT OF GRANULAR BEDDING SHALL BE INCLUDED IN THE BID PRICES FOR PIPE ITEMS.

6 PIPE BEDDING
NO SCALE

DESIGNED BY: **KNR/BEL** JOB DATE: **8-11-98**
 DRAWN BY: **REL** JOB NUMBER: **800110J**
 AD DATE: **October 06, 1998 4:30:34 p.m.**
 AD FILE: **800110j\Drawgs\LIFT_STATION\S2.DWG**

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 DATE: **10/8/98** REG. NO.: **25189**

NO.	DATE	BY	REVISION DESCRIPTION

1326 ENERGY PARK DRIVE
 ST. PAUL, MINNESOTA 55108
 (612) 644-4389
Howard R. Green Company
 CONSULTING ENGINEERS

CITY OF ELK RIVER
LIFT STATION

DETAILS

SHEET NO.
LP3

DRAWING NUMBER EASTEL 98 170