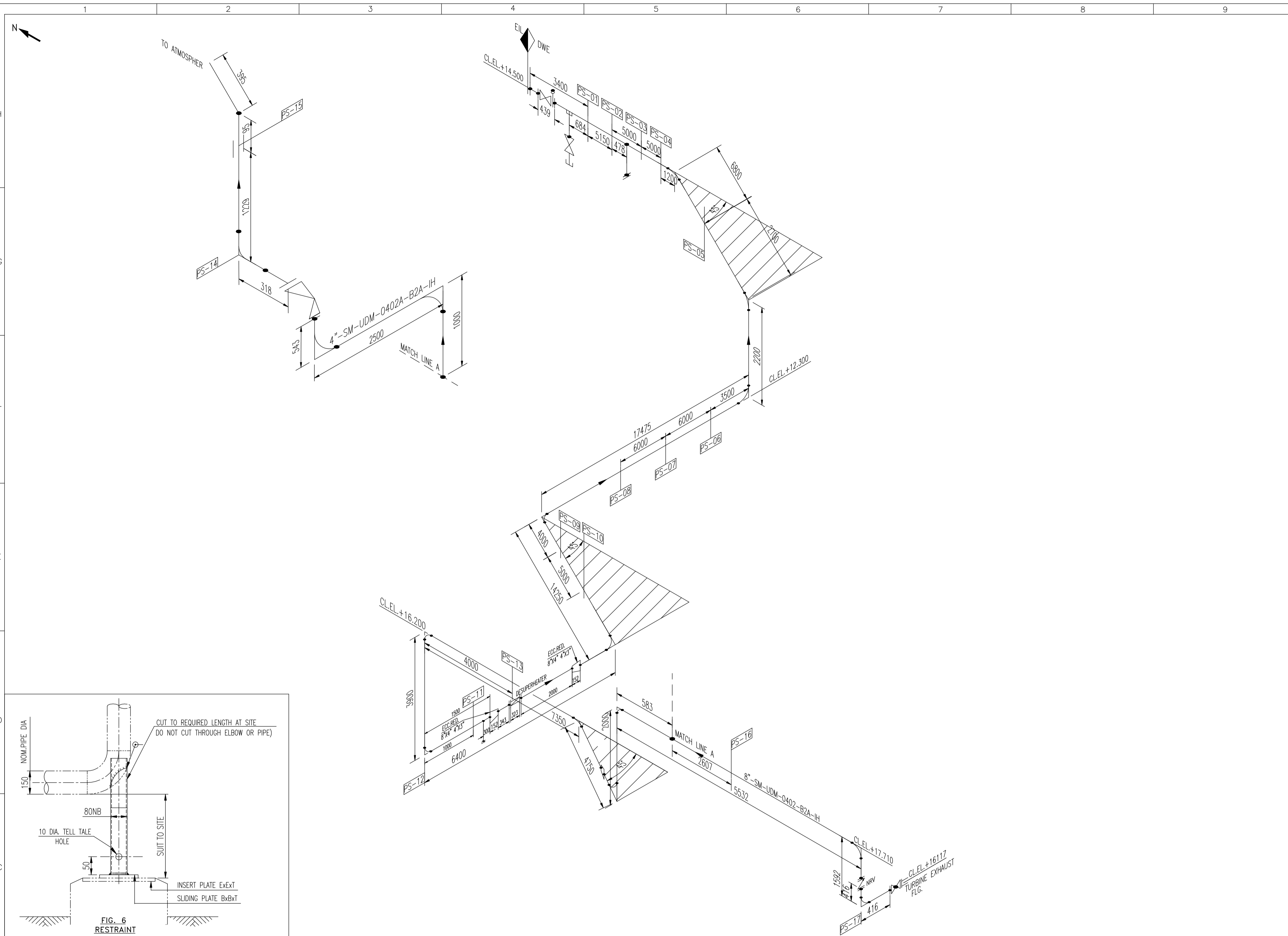


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DESIGN PARAMETERS:-

Design Code : ASME B31.1 / IBR 1950
 Working Pressure : 18.5 kg/cm2(g)
 Working Temperature : 380/250 Deg C
 Hydro Test Pressure : 28 kg/cm2(g)

BILL OF MATERIAL (PIPING)

Sr. No.	PIPE				BEND		REDUCER		TEE		FLANGE			SCOPE
	SIZE	SCH.	LENGTH	90°	45°	SIZE	QTY.	SIZE	QTY.	SIZE	QTY.	RATING	QTY.	
1	200 NB	40	102.0 M	8	4	8"x4"	2					WNRF 300 #	5	
2	150 NB	40	4.0 M	3								WNRF 300 #	1	
3	100 NB	40	6.0 M	3		4"x3"	2					WNRF 300 #	3	
4	80 NB	80	3.6 M									WNRF 300 #	2	
5	20 NB	160	25.0 M	9				20x20x20	3			SWRF 300 #	10	

BILL OF MATERIAL (FITTINGS)

Sr. No.	VALVE				CHECK VALVE		HALF CPLG.		END CAP		TRAPS		SCOPE
	TYPE	SIZE	RATING	QTY.	SIZE	RATING	QTY.	SIZE	QTY.	SIZE	QTY.		
1	GATE	200 NB	300 #	1	200 NB	300 #	1	20 NB	5		20 NB	3	
2	GLOBE	100 NB	300 #	1									
3	GATE	20 NB	800 #	4									
4	GLOBE	20 NB	800 #	3									

MATERIAL SPECIFICATIONS :- PIPING

80 NB AND ABOVE : ASTM A 106 GR. B, DIM. TO B36.1, SCH. 40 BE
 15 NB TO 20 NB : ASTM A 106 GR. B, DIM. TO B36.1, SCH. 160 PE

BENDS/ELBOWS

50 NB AND ABOVE : ASTM A 234 GR. WPB, DIM. TO B16.9, SCH. 40, BW, R=1.5 D
 25 NB TO 40 NB : ASTM A 105, DIM. TO B16.11, 3000#, SW
 15 NB TO 20 NB : ASTM A 105, DIM. TO B16.11, 6000#, SW

TEES AND REDUCERS

50 NB AND ABOVE : ASTM A 234 GR. WPB, DIM. TO B16.9, SCH. 40, BW
 20 NB AND BELOW : ASTM A 105, DIM. TO B16.11, 6000#, SW

HALF COUPLING

20 NB AND BELOW : ASTM A 105, DIM. TO B16.11, 6000#, SW
 40 NB TO 25 NB : ASTM A 105, DIM. TO B16.11, 3000#, SW

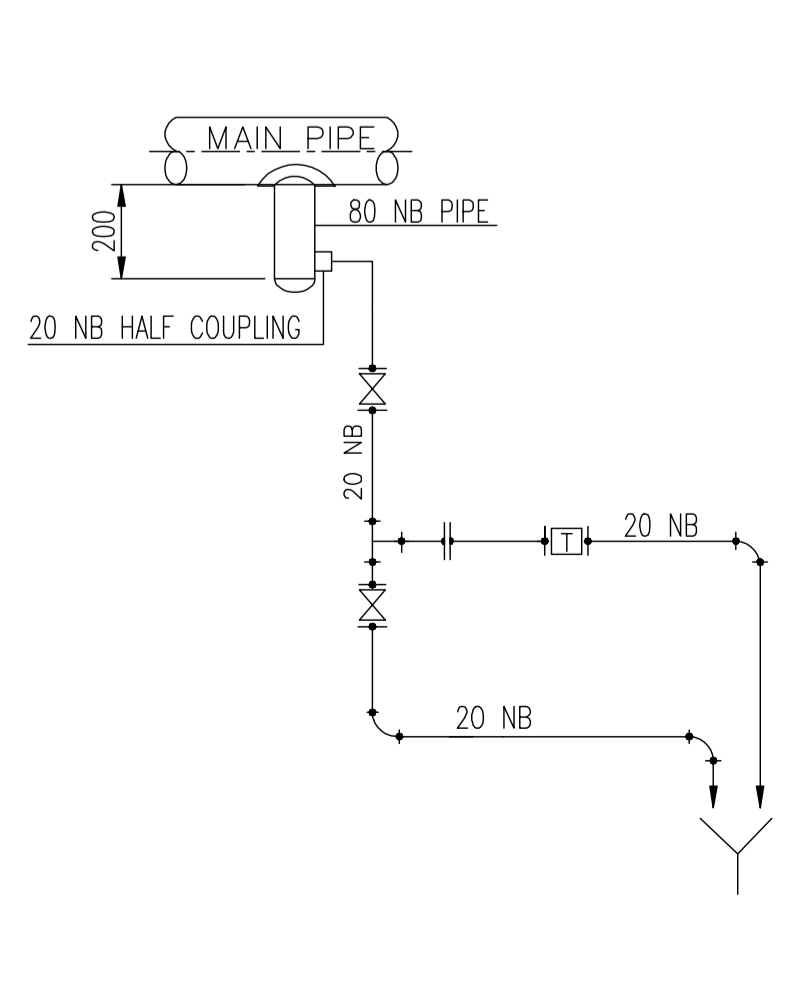
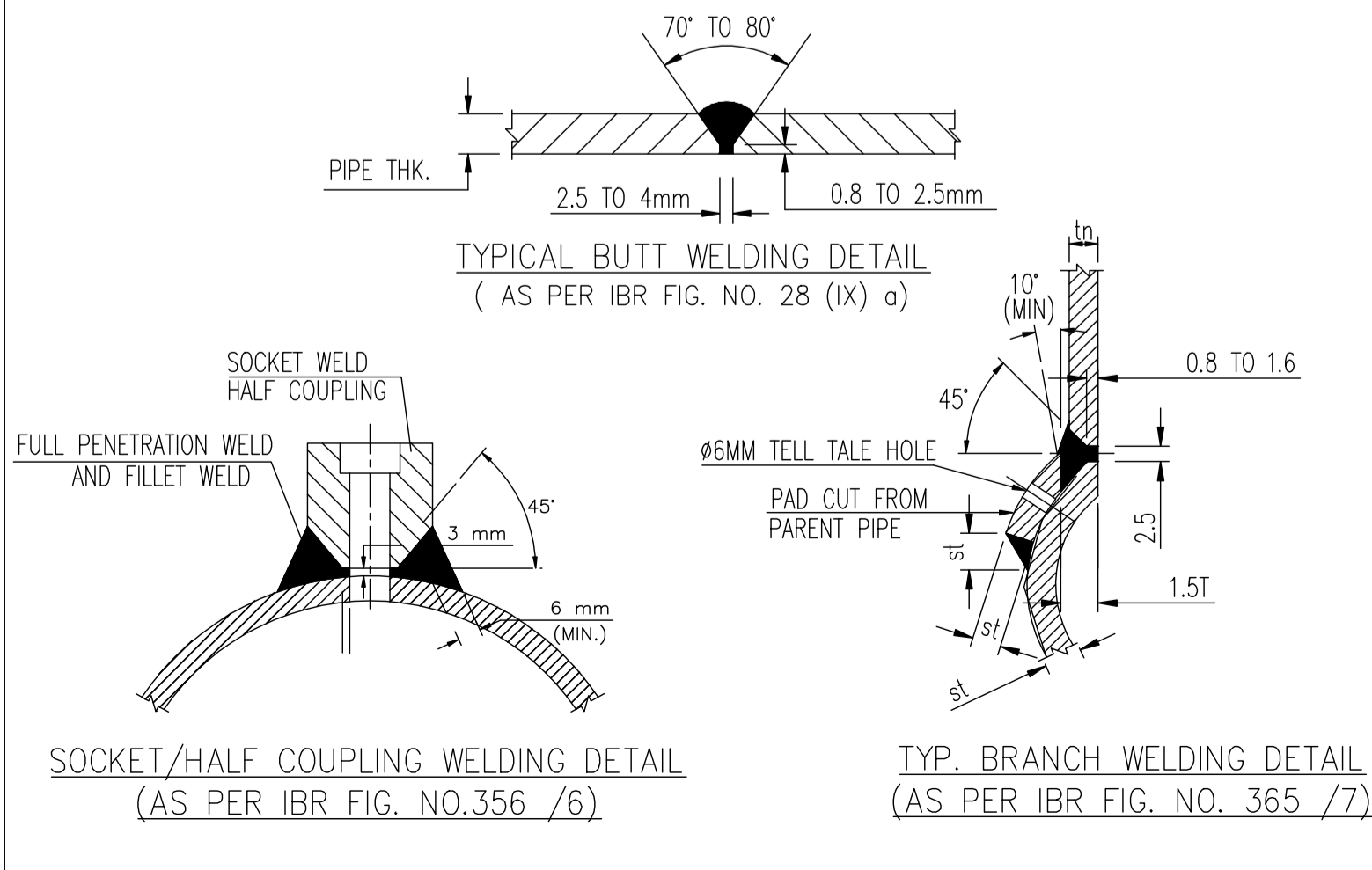
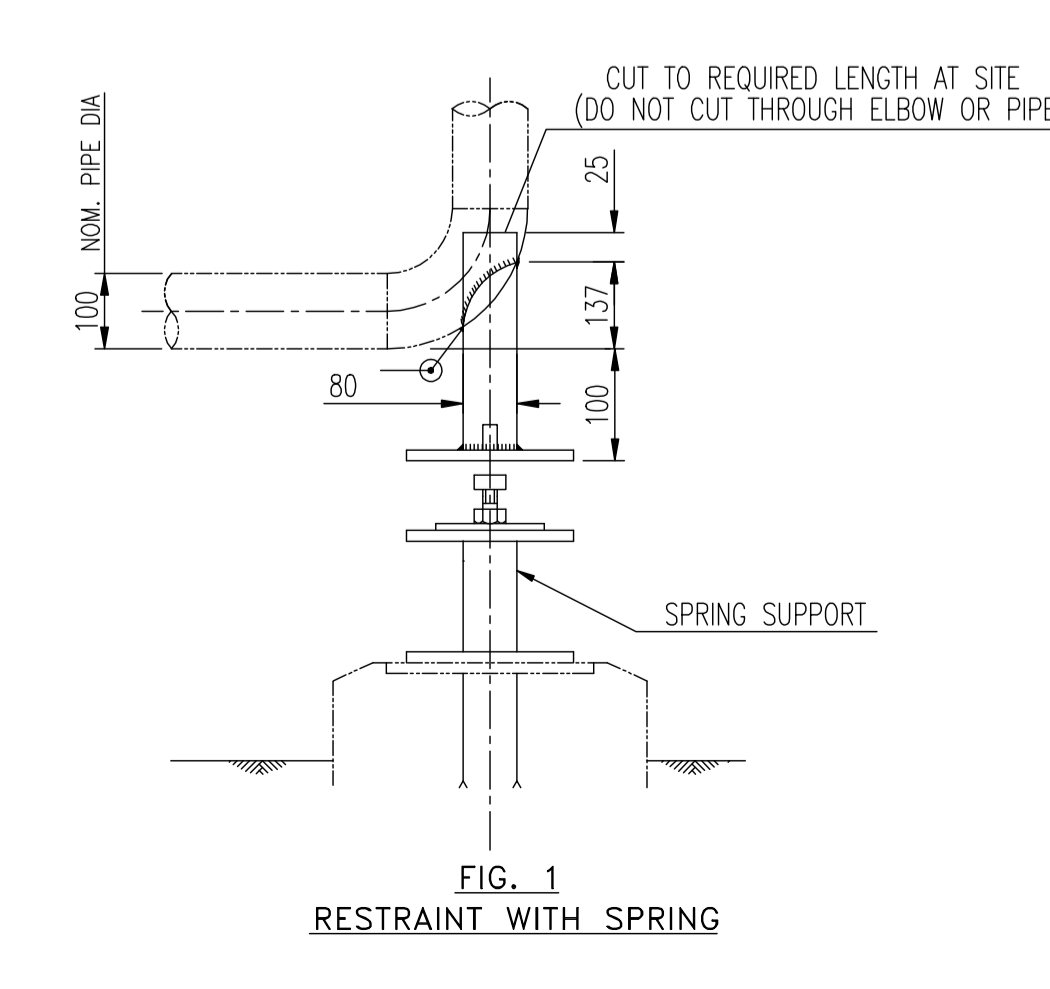
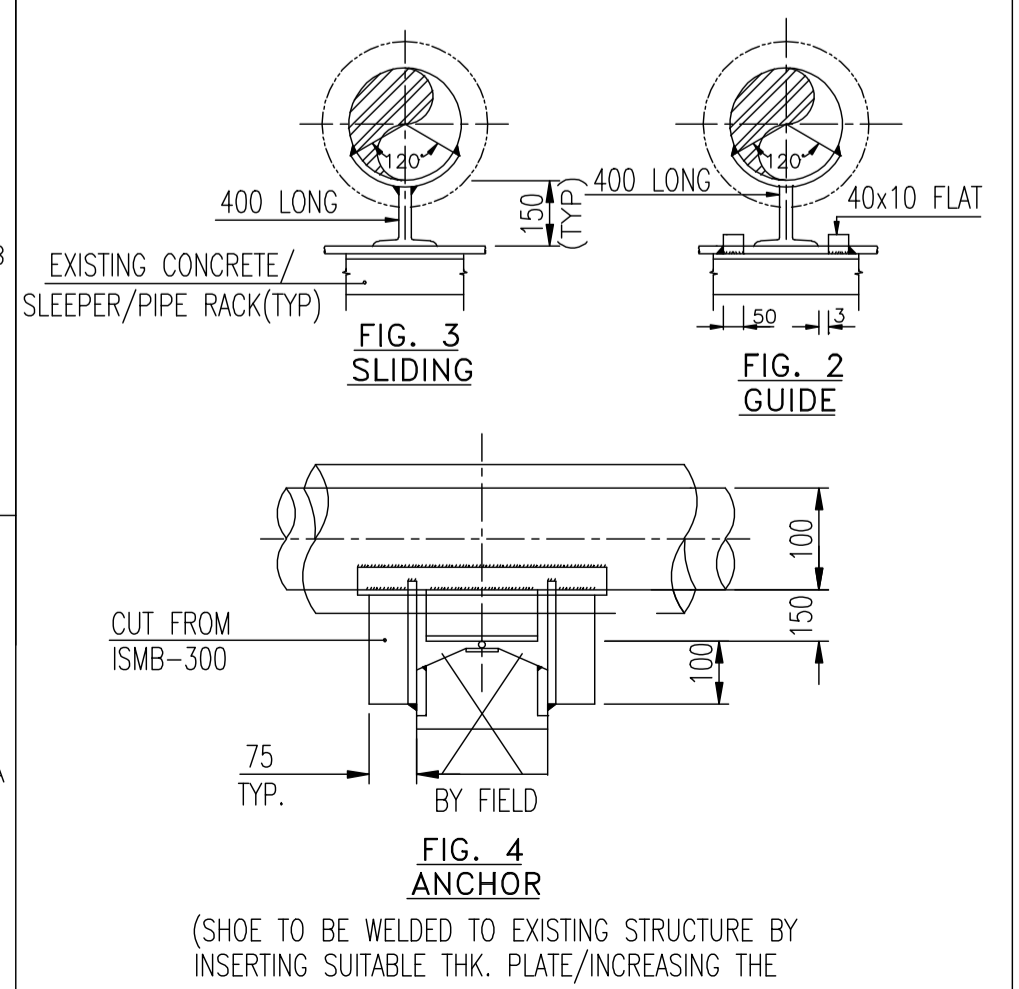
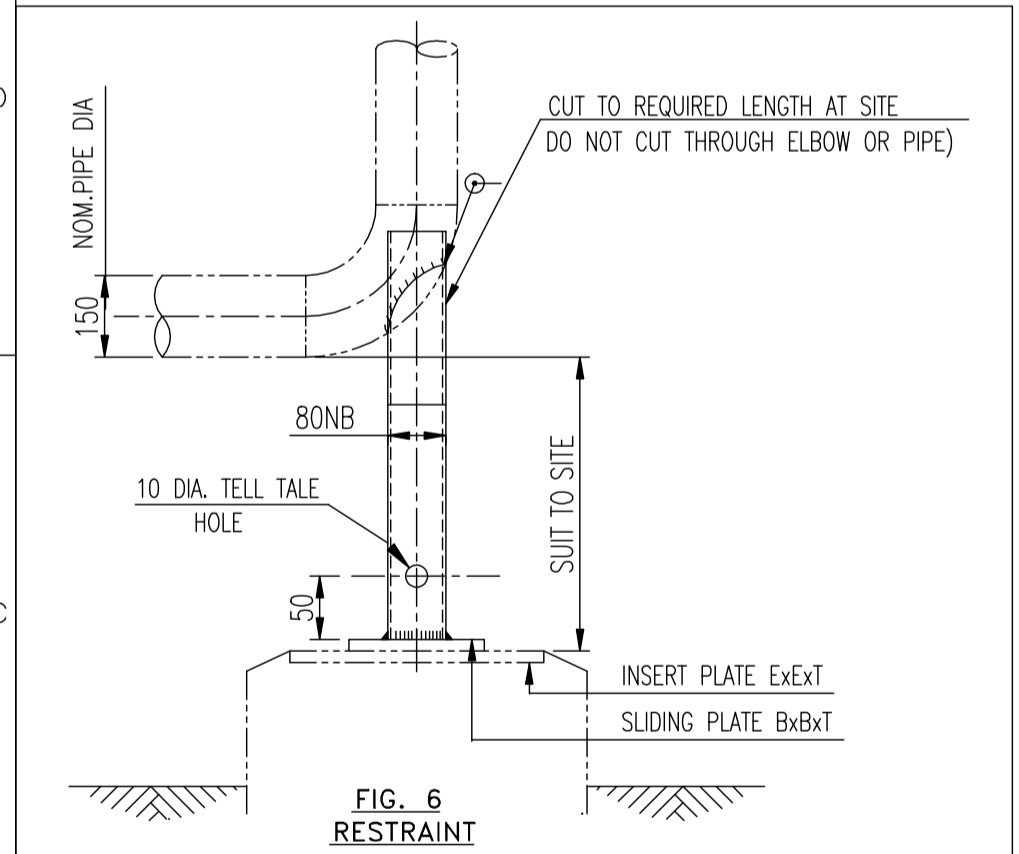
FLANGES

ALL SIZES : ASTM A 105, DIM. TO B16.5, # 300, WNRF/BFRF

- NOTES:-**
- ALL DIMENSIONS ARE IN MM & ELEVATIONS ARE IN METERS, UNLESS STATED OTHERWISE
 - ALL PIPING MATERIALS FOR STEAM LINES SHALL BE CONFIRM TO IBR 1950 AND ITS LATEST AMENDMENTS.
 - STEAM LINE SHOULD BE RUN WITH A FALLING SLOP OF 125mm FOR EVERY 30Mtrs. LENGTH IN THE DIRECTION OF FLOW.
 - ALL LOWEST POINTS SHOULD BE PROVIDED DRAIN WITH STEAM TRAP ASSEMBLY.
 - VENTS TO BE PROVIDED AT THE HIGHEST POINTS OF PIPE LINE.
 - ALL FLANGES SHALL BE DRILLED OFF-CENTERS, UNLESS STATED OTHERWISE
 - ALL WELDS TO BE DONE BY THE CERTIFIED WELDERS.
 - ARROW SHOWN ON LINE INDICATES THE DIRECTION OF FLOW.

REV.	DATE	PARTICULAR	JSP	S.G.	P.K.S.
0	05.05.10	ISSUED FOR IBR APPROVAL			
			DRN.	CHKD.	APPD.

REVISION



driplex WATER ENGG., NEW DELHI

PROJECT CEMP-PHASE II-KOCHI REFINERY DM WATER PLANT PACKAGE.

CLIENT: BHARAT PETROLIUM CORPORATION LTD. KOCHI REFINERY AMBALAMUGAL, KERALA, INDIA

CONSULTANT: इंडिया लिमिटेड ENGINEERS INDIA LIMITED (A Govt. of India Undertaking) EIL JOB NO.: 6767

TITLE ISO FOR STEAM LINE TO TURBINE

CLIENT'S DRG. NO.

N.T.S.	D03-D-213-82-ISO-0262-C001	1 OF 2	0
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SCALE DRAWING NUMBER SHT. NO. REV.