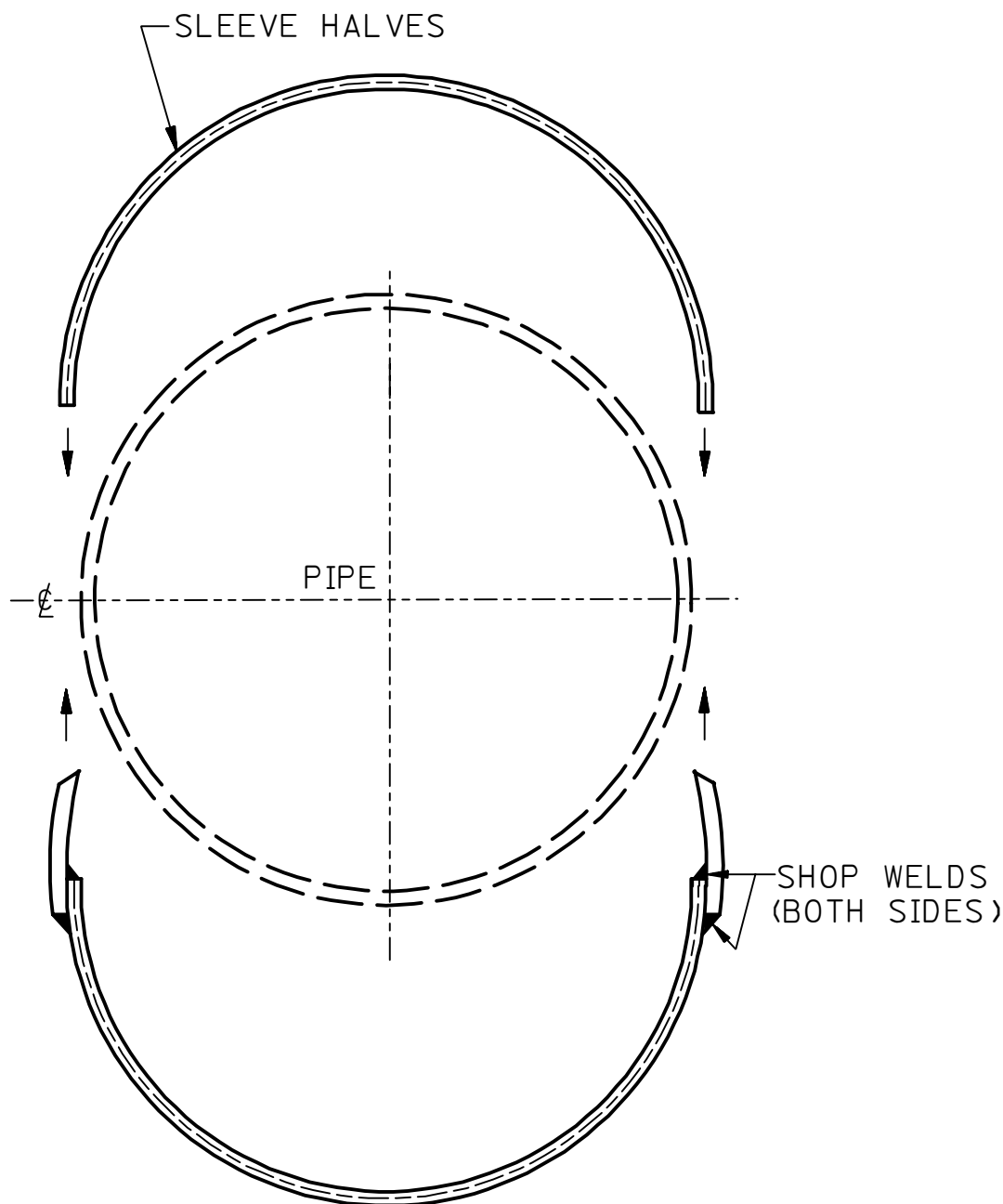
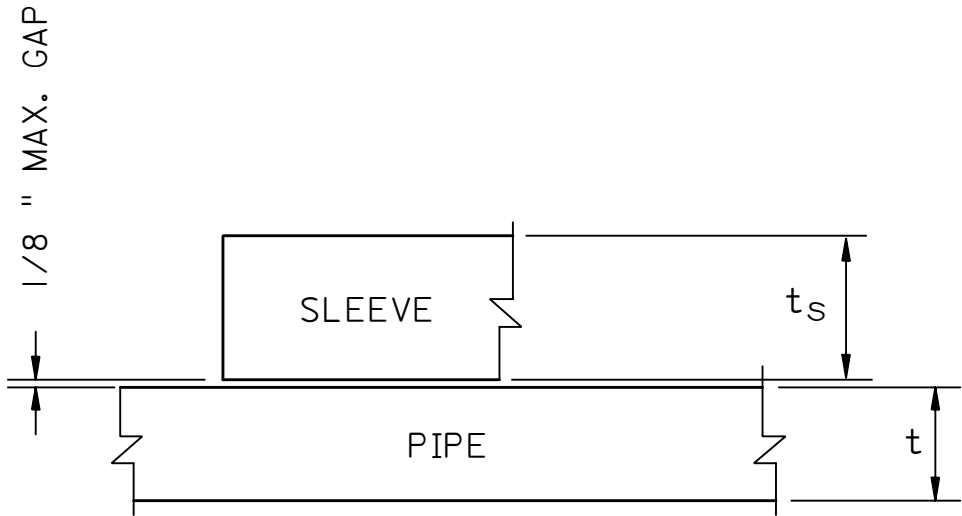


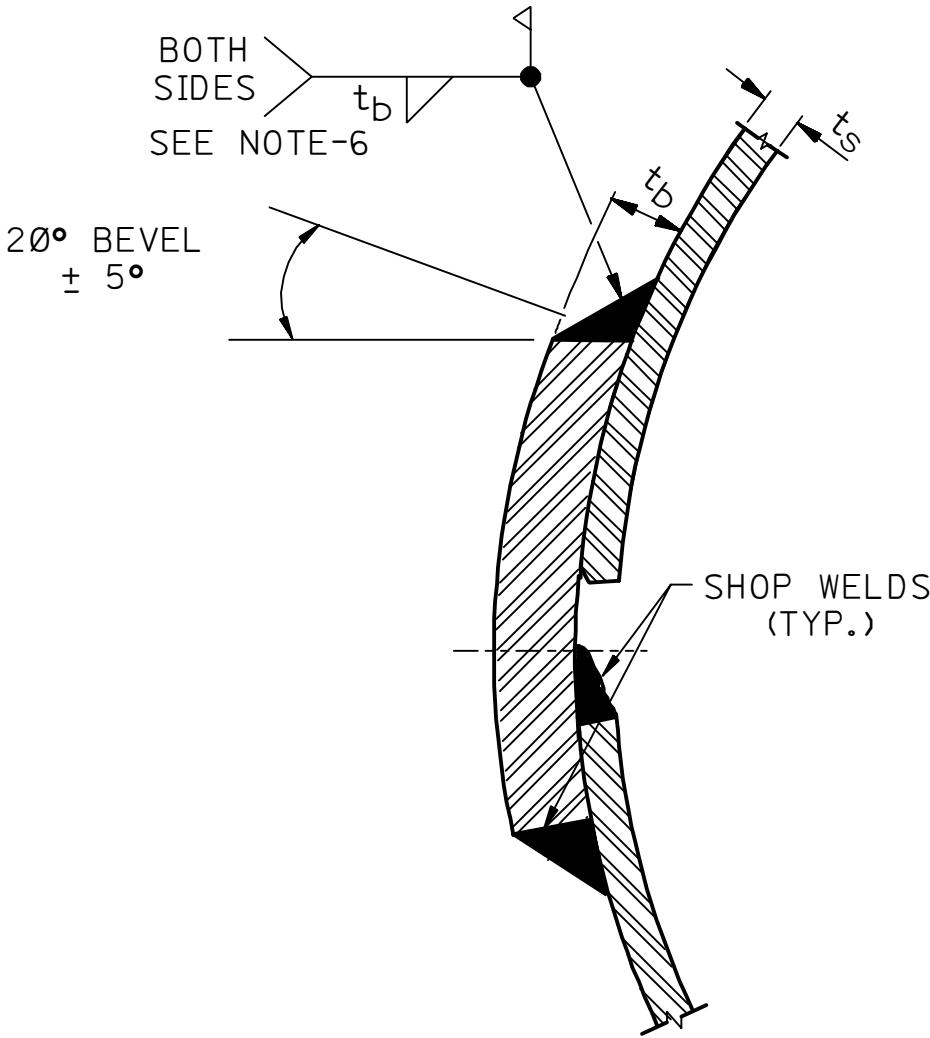
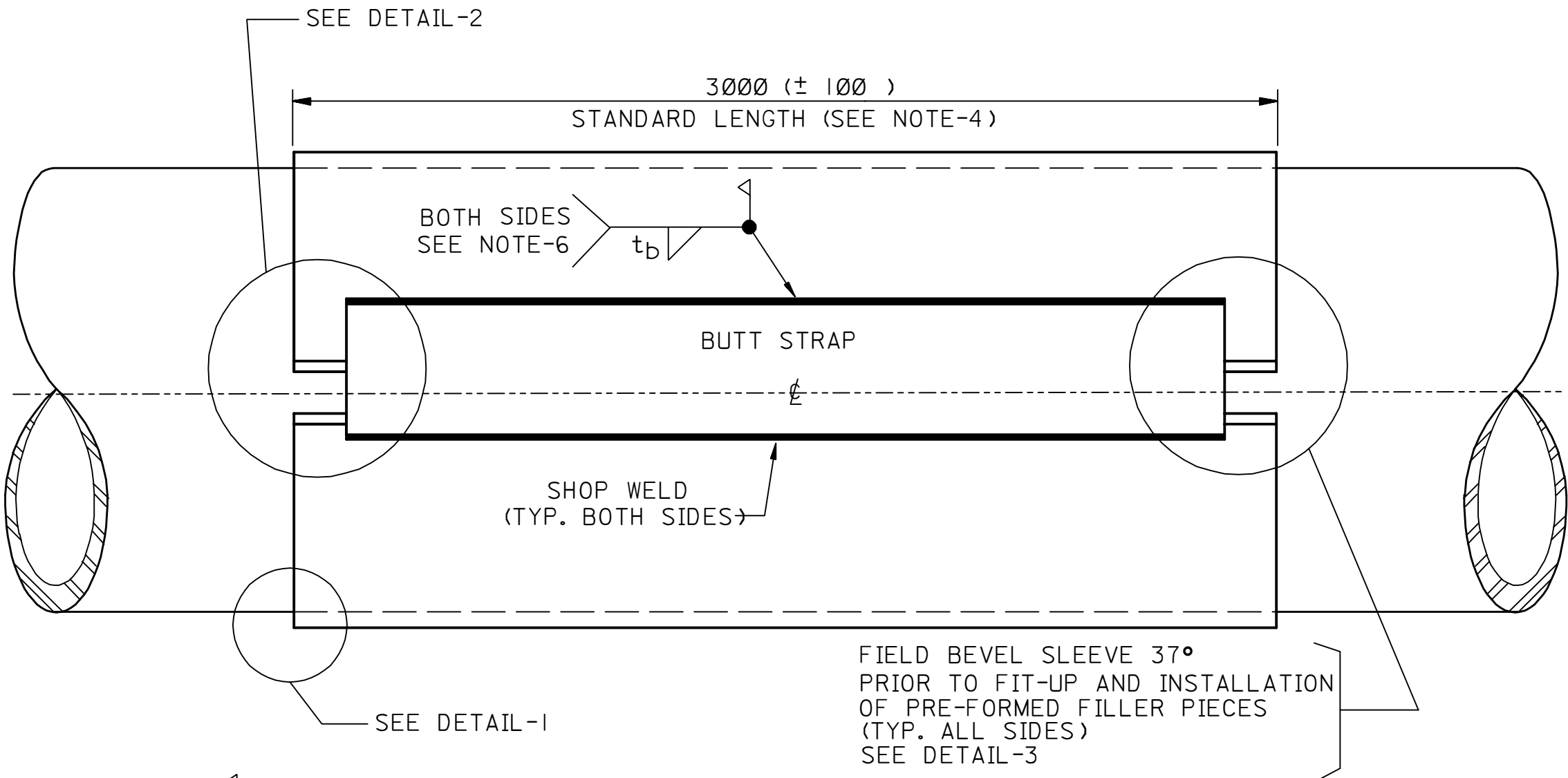
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PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.				



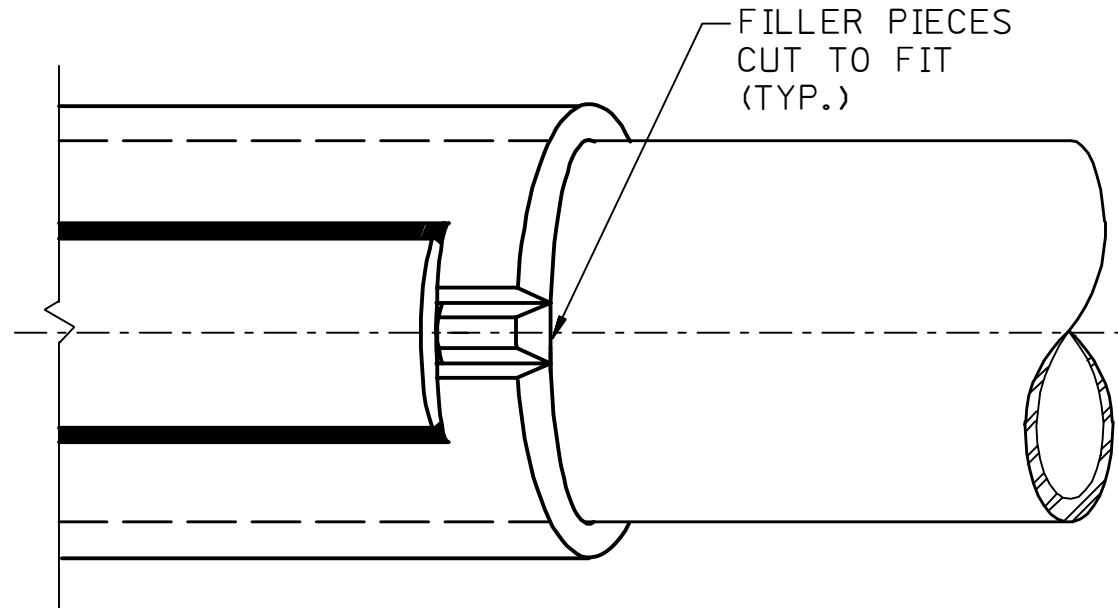
FIT-UP



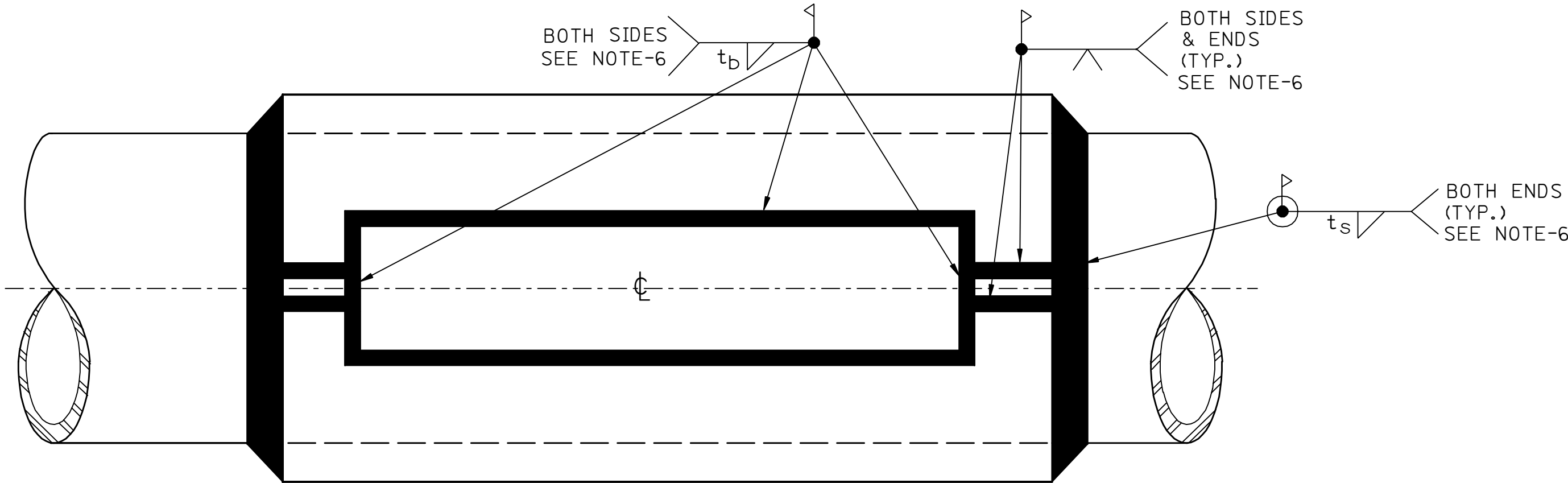
DETAIL-1
SEE NOTE-5



DETAIL-2
SEE NOTE-5



DETAIL-3



NOTES :

- NON-PRESSURE CONTAINING SLEEVES, FABRICATED WITH X-60 MAT'L., ARE AVAILABLE FROM SAMS S/N 02-579-XXX. SLEEVES, FABRICATED WITH X-52 MAT'L., ARE AVAILABLE FROM SAMS S/N 02-578-XXX. ALL SLEEVES SHOULD BE INSTALLED IN ACCORDANCE WITH THIS STD. DRAWING.
- THESE SLEEVES MAY BE USED FOR:
 - REINFORCING MINIMUM WALL THICKNESS VIOLATIONS DUE TO EXTERNAL CORROSION OR EXCESSIVE GRINDING.
 - REINFORCING DENTS WITHOUT GOUGES.
 - CORROSION BARRIERS.
- THESE SLEEVES SHALL NOT BE USED FOR :
 - REPAIRING LEAKS.
 - REPAIRING MINIMUM WALL THICKNESS VIOLATIONS DUE TO INTERNAL CORROSION.
 - COUPLING SECTIONS OF PIPE TOGETHER.
- DO NOT MODIFY THESE SLEEVES IN ANY MANNER WITHOUT THE APPROVAL OF CSD.
- REPAIR SLEEVE FIT-UP SHOULD BE AS TIGHT AS POSSIBLE. IN ANY CASE, THE MAXIMUM GAP BETWEEN THE SLEEVE AND PIPE SURFACE AT THE ENDS OF THE SLEEVE SHALL NOT EXCEED 3.2mm (1/8 ") TO PROVIDE THE BEST STRESS SHARING CAPABILITY OF THIS SLEEVE, IT IS RECOMMENDED TO FILL THE ANNULAR SPACE BETWEEN THE SLEEVE AND PIPE WALL WITH A HARDENABLE EPOXY MATERIAL. IF NECESSARY, USE CHAINS AND HYDRAULIC JACKS DURING THE FIT-UP. DO NOT REMOVE THESE RESTRAINTS UNTIL THE WELDERS HAVE DEPOSITED AT LEAST 9.6mm (3/8 ") OR 25% OF THE REQUIRED LONGITUDINAL FILLET WELD SIZE ON BOTH SIDES.
- WELDERS AND WELDING PROCEDURES SHALL BE QUALIFIED TO EITHER API 1104 OR ASME SECTION IX. ALL WELDS SHALL BE MADE WITH LOW HYDROGEN ELECTRODES. THE WELDING SEQUENCE FOR A STANDARD 3,000 mm (10 ft.) SLEEVE IS :
 - WELD BOTH LONGITUDINAL FILLET WELDS.
 - FIT-UP AND WELD ALL THE FILLER PIECES.
 - WELD BOTH CIRCUMFERENTIAL FILLET GIRTH WELDS ONE AT A TIME OR SIMULTANEOUSLY. NOTE: IF APPROVAL HAS BEEN GIVEN BY CSD TO SHORTEN THE SLEEVE LENGTH TO LESS THAN 1500mm (5 ft.), WELD ONE END OF THE SLEEVE AT A TIME, ALLOWING IT TO COOL TO AMBIENT TEMPERATURE BEFORE STARTING THE OTHER WELD.
- ALL FIELD WELDS, INCLUDING THE SHOP WELDS SHALL HAVE A FINAL MAGNETIC PARTICLE OR LIQUID PENETRANT (MT OR PT) EXAMINATION.
- REFER TO GI 434.000 FOR ADDITIONAL INFORMATION.

TYPICAL INSTALLATION DRAWING

04	OCT95	ESSD RLO		REVISED AND ADDED SHT. 003.			
03	DEC92	ESSD AVM		REVISED AS PER MARK UP			
02	11-16-91	JSM		REVISED NOTE 9 TO CHANGE REFERENCE DWG. NO.			
05	02-17-98	HRD		REVISED BUTT STRAP BEVEL ANGLE			
REV. NO.	DATE	BY	JO/EWO	DESCRIPTION	CHKD.	CERT.	APPD.

SAUDI ARABIAN OIL COMPANY

DRAWN BY RLO CHECKED BY SCALE NONE
 DATE STARTED 03-12-90 DATE COMPLETED 03-12-90
 OPR'G. DEPT. ENG. DEPT.
 APP'D FOR CONSTR.

THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR FOR ORDERING MATERIAL UNTIL CERTIFIED AND DATED
 CERTIFIED
 BY DATE

INSTALLATION OF PIPELINE

REPAIR SLEEVES

(NON-PRESSURE CONTAINING)

STD. DWG. METRIC

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990	L	AB-036029	1 of 3	05