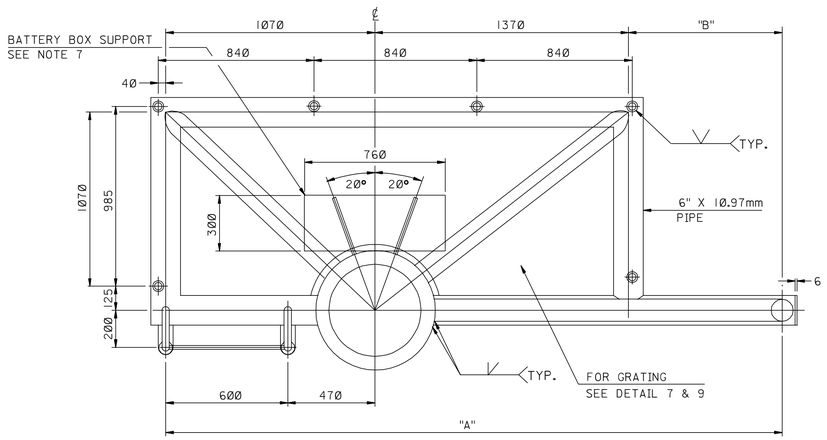
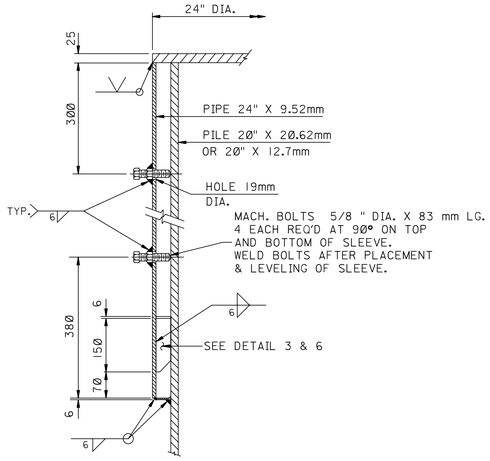
PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.
990	A	AA-036654	001	08

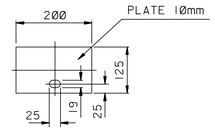
CALLED NORTH



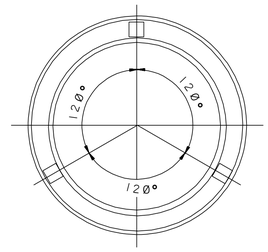
TOP VIEW



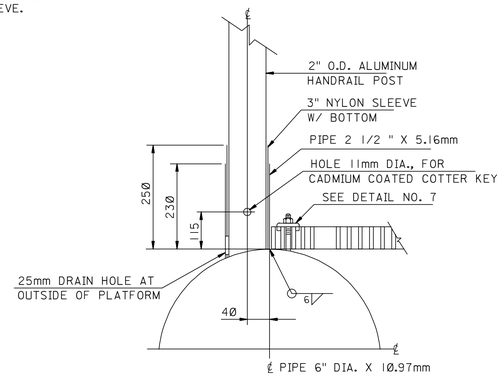
DETAIL NO. 1



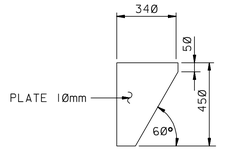
DETAIL NO. 2
REQ'D : 8 EA.



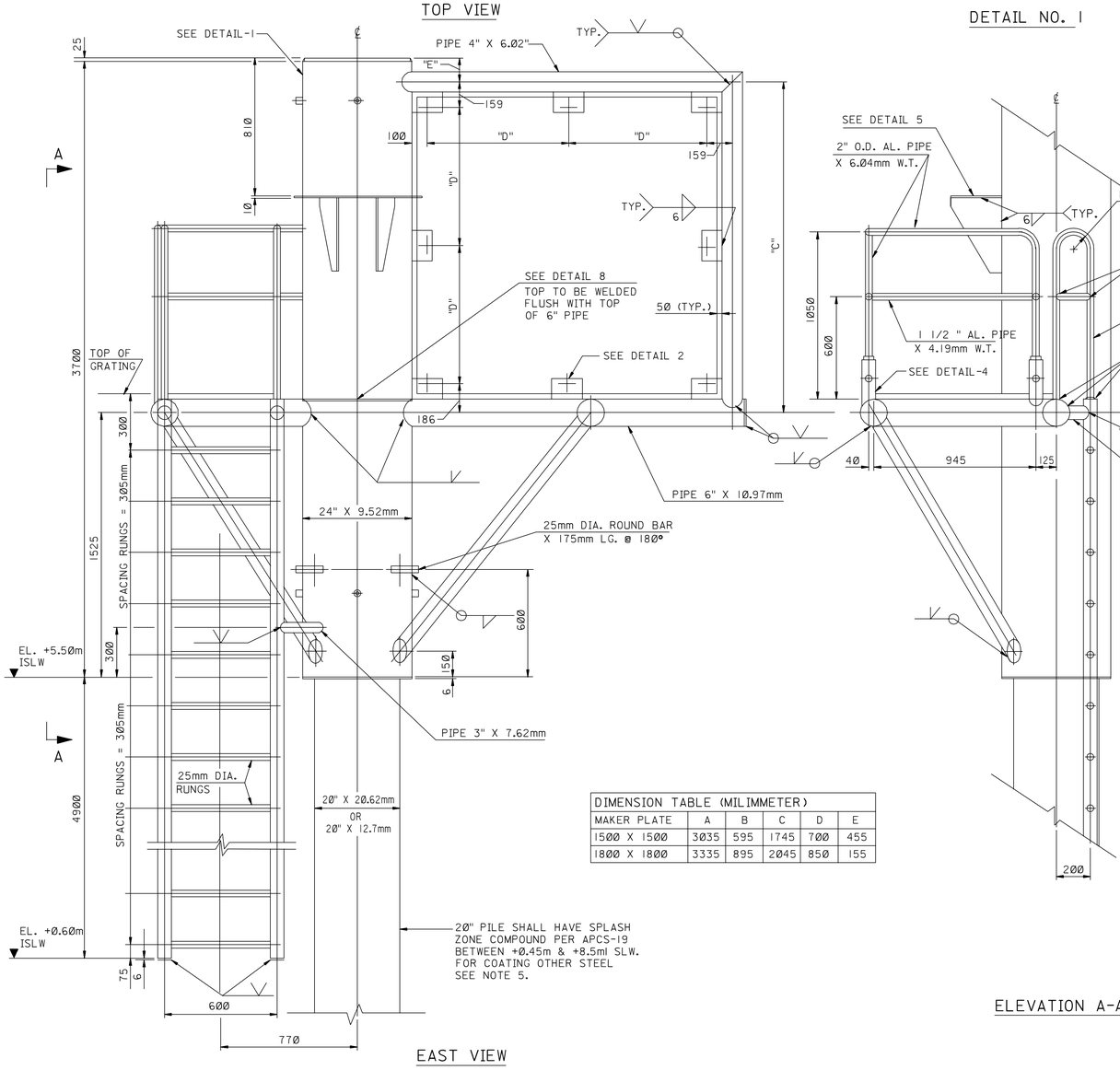
DETAIL NO. 3
TOP VIEW GUIDE PLATES



DETAIL NO. 4
HANDRAIL SOCKET
REQ'D : 6 EACH



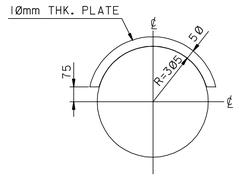
DETAIL NO. 5
SUPPORT BRACES
REQ'D : 2 EACH



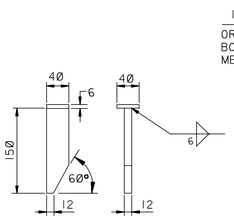
EAST VIEW

ELEVATION A-A

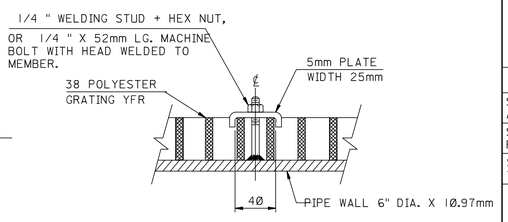
DIMENSION TABLE (MILIMMETER)					
MAKER PLATE	A	B	C	D	E
1500 X 1500	3035	595	1745	700	455
1800 X 1800	3335	895	2045	850	155



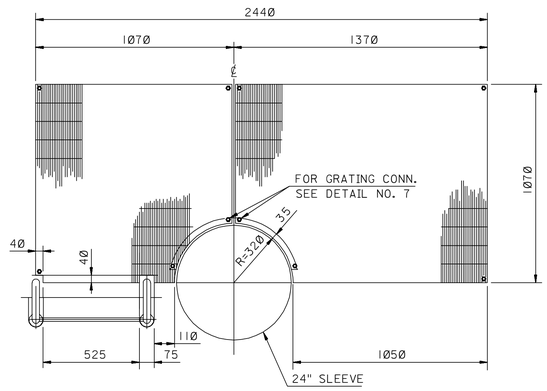
DETAIL NO. 8



DETAIL NO. 6
GUIDES
REQ'D : 3 EACH



DETAIL NO. 7
GRATING CONN.



DETAIL NO. 9
GRATING LAYOUT

NOTES:

1. STRUCTURAL STEEL SHALL BE FABRICATED IN ACCORDANCE WITH SAUDI ARAMCO MATERIAL SPECIFICATION 12-AMSS-018 OFFSHORE PLATFORM FABRICATION.
2. ALL WELDING SHALL BE IN ACCORDANCE WITH STANDARD A.W.S. CODE FOR ARC & GAS WELDING IN BUILDING CONSTRUCTION.
3. ALL WELDING TO BE 6mm FILLET EXCEPT AS OTHERWISE NOTED.
4. PILE DRIVING SPECIFICATION:
 - 4.1 PILES SHALL BE DRIVEN IN ACCORDANCE WITH SAUDI ARAMCO ENGINEERING STANDARD AES-O-004.
 - 4.2 FOR MARKERS IN WATER DEPTHS EXCEEDING 4.5 METERS A STRUCTURAL ANALYSIS IS REQUIRED TO DETERMINE THE REQUIRED PILE PENETRATION. WATER DEPTH IS BASED ON ISLW.
 - 4.3 FOR MARKERS IN WATER DEPTHS LESS THAN 4.5 METERS THE PILE PENETRATION SHALL BE DETERMINED BY MINIMUM PENETRATION CRITERIA IN PARA. 4.3.1 BELOW OR REFUSAL CRITERIA IN PARA. 4.3.2 BELOW, WHICHEVER IS DEEPER.
 - 4.3.1 MINIMUM PENETRATION CRITERIA IS 10 METERS BELOW DEPTH OF PILE RUN UNDER THE WEIGHT OF HAMMER.
 - 4.3.2 REFUSAL CRITERIA FOR TYPICAL HAMMERS IS GIVEN BELOW. TO SUBSTITUTE DIFFERENT HAMMERS SEE NOTE.

HAMMER	VULCAN 020	VULCAN 010	VULCAN 01
RATED ENERGY, Kn-m	81.38	44.08	20.35
REFUSAL IS DEFINED AS: 3 CONSECUTIVE METERS AT A BLOW COUNT EXCEEDING OR PENETRATION OF 300mm AT BLOW COUNT EXCEEDING	3 BLOW/300mm 200	6 BLOW/300mm 200	8 BLOW/300mm 200

NOTE: FOR HAMMERS WITH DIFFERENT RATED ENERGY, ESTIMATE BLOW COUNT BY PROPORTION TO RATED ENERGYIE. FOR 62.5 Kn-m HAMMER, BLOW=4.5 BLOW/300mm, ROUND UP TO 5 BLOW/300mm1

5. ALL EXPOSED STEEL ABOVE ELEV. 0.0m I.S.L.T. SHALL BE PAINTED IN ACCORDANCE WITH AES-H-1, APCS-1 WITH TOPCOAT RED.
6. GRATING SHALL BE MADE FROM GALVANIZED STEEL AS PER AES-M-005. USE CLAMPS WITH 1/4 " BOLT HOLD DOWN.
7. LANTERN TO BE MOUNTED ON BATTERY BOX.
8. LANTERN TO BE PROVIDED WITH AMBER LENS, BUT OTHERWISE IDENTICAL WITH AMS NO. 22-305-740 (TO BE FURNISED BY ARAMCO1
9. ALL DIMENSIONS IN MILLIMETERS UNLESS NOTED OTHERWISE.

REFERENCE DRAWINGS

SIGN, WARNING, SUBMARINE POWER CABLE FOR ATTACHMENT TO MARKER PILE	AA-036466
STD. DWG. OF WARNING SIGN FOR UNDERWATER PIPELINE MARKER PILES	AA-036658
STD. DWG. OF MARKERPILE NUMBER FOR ATTACHMENT TO UNDERWATER PIPELINE MARKER PILES	AA-036659

MANDATORY DRAWING

REV. NO.	DATE	BY	JO/EWO	DESCRIPTION	CHKD.	CERT.	APPD.
08	FEB92	ESSD MGM		REDRAWN, CONSOLIDATED SHT. 1 & 2 INTO SHT. 001 METRIC VERSION ONLY			

SAUDI ARABIAN OIL COMPANY

DRAWN BY BDH CHECKED BY ____ SCALE: NONE

DATE STARTED ____ DATE COMPLETED 05-21-70

OPR'G. DEPT. ____ ENG. DEPT. ____

APP'D. FOR CONST. ____

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

CERTIFIED BY ____ DATE ____

MARKER PILES AND MARINE LANTERN SUPPORTS FOR PIPELINES

STD. DWG. METRIC

PLANT NO.	INDEX	DRAWING NUMBER	SHT. NO.	REV. NO.
990	A	AA-036654	001	08

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Saudi Aramco 2615 ENG. (3/91)

CADD-02