

Ashkelon Terminal

Installation Suction Arm for Distillate Tank No. 3

Project: 21-111

Specification for Tank Floating Suction

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P2	03/08/2021	For Approval	Zvi Schafer	Z. Sapoznikov	Z. Sapoznikov
P1	22/06/2021	For Approval	Zvi Schafer	Z. Sapoznikov	Z. Sapoznikov
P0	01/06/2021	For Comments	Zvi Schafer	Z. Sapoznikov	Z. Sapoznikov
Rev	Date	Description	Prepared by	Checked by	Approved by
			PAZ Engineering		

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1 General

This specification covers the requirements for the supply of one (1) floating suction to be installed in existing floating roof tanks.

The existing tanks have a common inlet/outlet nozzle in the tank bottom.

It is planned to add new floating suction to the tank. The outlet will be 16" flanged to ANSI B 16.5 150# RF, connecting to new 16" nozzle located in the tank shell.

2 Tank Details

- Tank Diameter 60,960 mm
- Tank Overall Height 20,338 mm
- Maximum Liquid Level 18,500 mm
- Minimum Liquid Level 1,450 mm 36" centerline above bottom.
- Floating roof – pontoon type – for details see attachment "B".
- For tank details see attachment "A".

3 Tank Service

- Stored product Distillate (gasoline, kerosene, diesel fuel)
- Fuel SG (minimum) 0.7-0.86 at 15.6°C
- Maximum product temperature 40°C
- Flow requirement 750 m³/h (3,745 USG/min)



4 Site Data

- Elevation Sea level
- Temperature 4°C Min
45°C Max
- Relative humidity 20% min to 90% max

5 Floating Suction

- The floating suction arm shall be 16" diameter or 750 m³/h flow.
- The vendor shall determine the arm lengths so as to enable a full tank capacity operation.
- The floating arm to be located so as to clear the floating roof legs, guide poles, anti-rotation fittings etc., and shall be located so that the tank discharge nozzle shall be fitted in a new 16" nozzle.
- Vendor to advise whether arm supports are required when arm at minimum level.
- Suction arm shall be installed through an opening 2.0 mX.2.0 m in floating roof.
- Arm material- aluminum.
- Floats, pivoted stainless steel floats, pressure tested with rated buoyancy at twice theoretic required floatation so that float is half submerged normally.
- Vendor to advise if arm to be fitted with
 - a) roller to provide smooth rolling under the internal floating roof or a different track system
 - b) Double arm floating suction unit (without track)
- A guide frame shall preferably not be required.
- Swivel – the swivel shall preferably be of aluminum with double row stainless steel ball bearings and Viton seals.



The swivel shall be lubricated and sealed for life.

Vent holes and floating ports shall be provided as per manufacturers standard.

The swivel to be hydro-tested to manufactures standard.

- Flanges – all flange shall be 150# RF as per ANSI B16.5.

6 Packing

- All machined surfaces to be coated with an anti-corrosion protective coating.
- All rotating elements to be factory lubricated and sealed.
- Any openings to be blanked with wood or plastic blind flanges or covers.
- All components to be packed in wooden crates suitable for ocean transport and protected against water.
- Each crate to include an itemized parts list.
- All materials, items and accessories shall be suitably marked for identification on site.
- All crates shall be suitably marked.

7 Supervision

The vendor shall provide supervision to oversee and assist with installation of the floating suction.

8 Documentation

The vendor shall provide documentation as specified in attachment "C".

9 Guarantee

The vendor shall guarantee the design, materials, workmanship and operation of the floating suction systems for 18 months from the date of installation but not later than 30 months from date of shipment.



Should any defect become apparent during the guarantee period the vendor shall make all necessary repairs or replacement of defective parts free of charge to the Purchaser.

10 Quotation

The quotation shall include:

- Drawings and documents as specified in attachment "C".
- Price CIF port of Ashdod. Price in US dollars or Euros.
- Cost of Supervision Services.
- Delivery time.
- Quotation shall be in English.



Attachment A

Tank Data Sheet



Attachment B

Pontoon Floating Roof Details



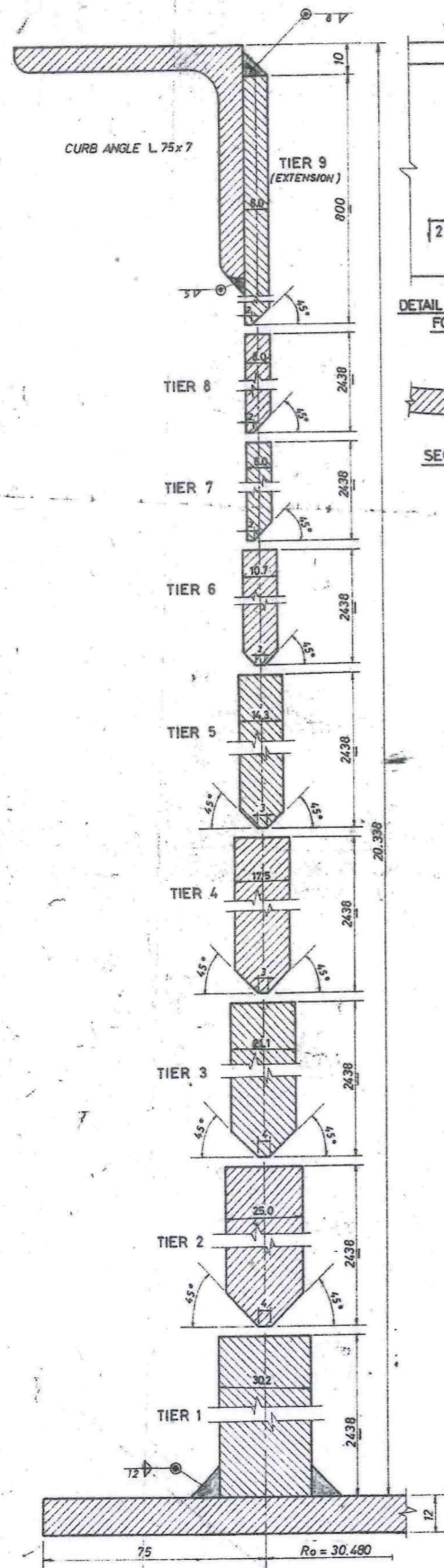
Attachment C – Documentation Requirements

ITEM	DESCRIPTION	No. COPIES	
		WITH BID	AFTER ORDER
1	General arrangement of floating suction in tank.	1	1
2	Plan showing proposed installation location including discharge nozzle in tank shell.	1	1
3	Details of swivels, including dimensions, materials of construction, details of bearings, seals etc.	3	4
4	Details of floats, including materials of construction and dimensions.	3	4
5	Details of roof contract slide (roller or track).	3	4
6	Details of recommended floor supports, limit chain and other accessories.	3	4
7	Reference of similar floating suction installations supplied.	3	-
8	Assembly and installation instructions.	-	4
9	Priced list of spare parts recommended for 3 years operation.	3	-

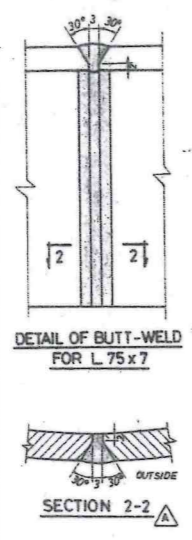
Notes:

- 1) All documentation to be in English.
- 2) Documents may be transmitted in hard copies or may be transmitted electronically.
- 3) Copies to be transmitted after order are to be transmitted within three weeks of order placement.

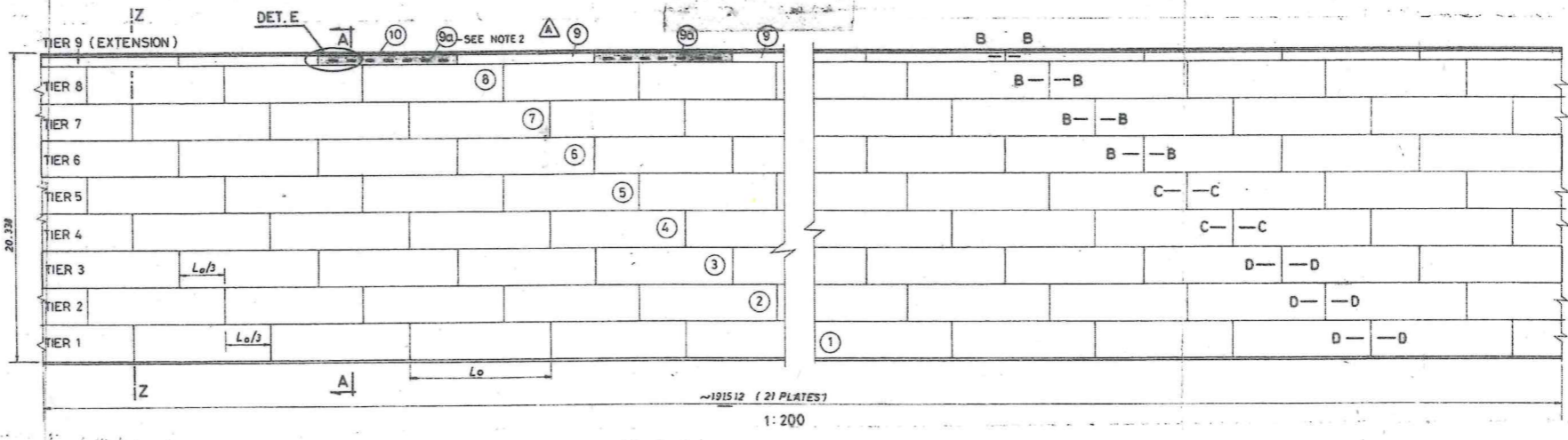




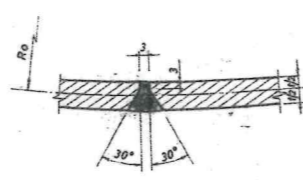
SECTION A-A
1:1



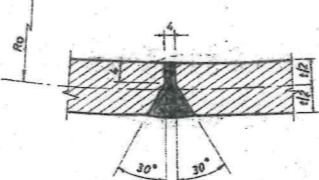
DETAIL OF BUTT-WELD
FOR L 75x7
SECTION 2-2



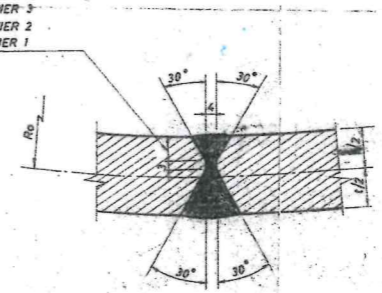
1:200



SECTION B-B
FOR TIERS: 6-7-8-9

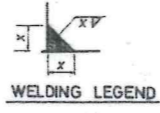


SECTION C-C
FOR TIERS: 4-5

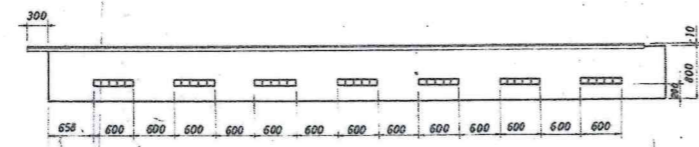


SECTION D-D
FOR TIERS: 1-2-3

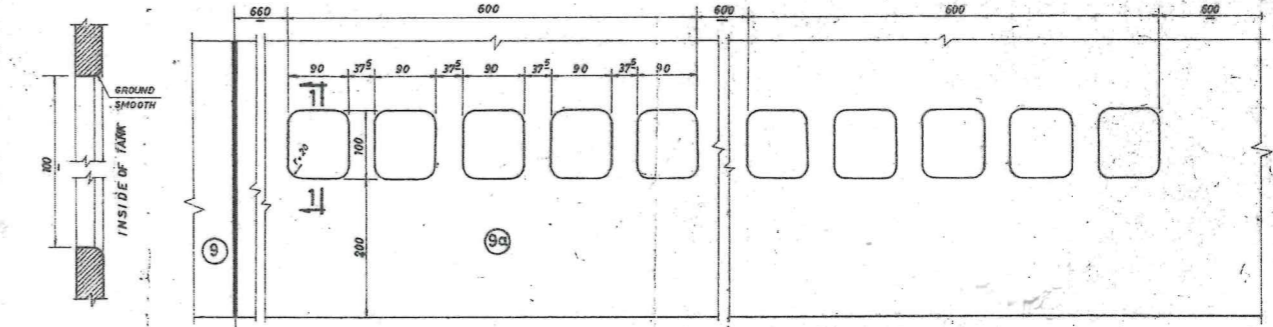
TYPICAL VERTICAL WELDING JOINTS ON TANK SHELL



WELDING LEGEND



DETAIL OF SHELL EXTENSION PLATE
1:50



DETAIL E (SEE NOTE 2)
1:5

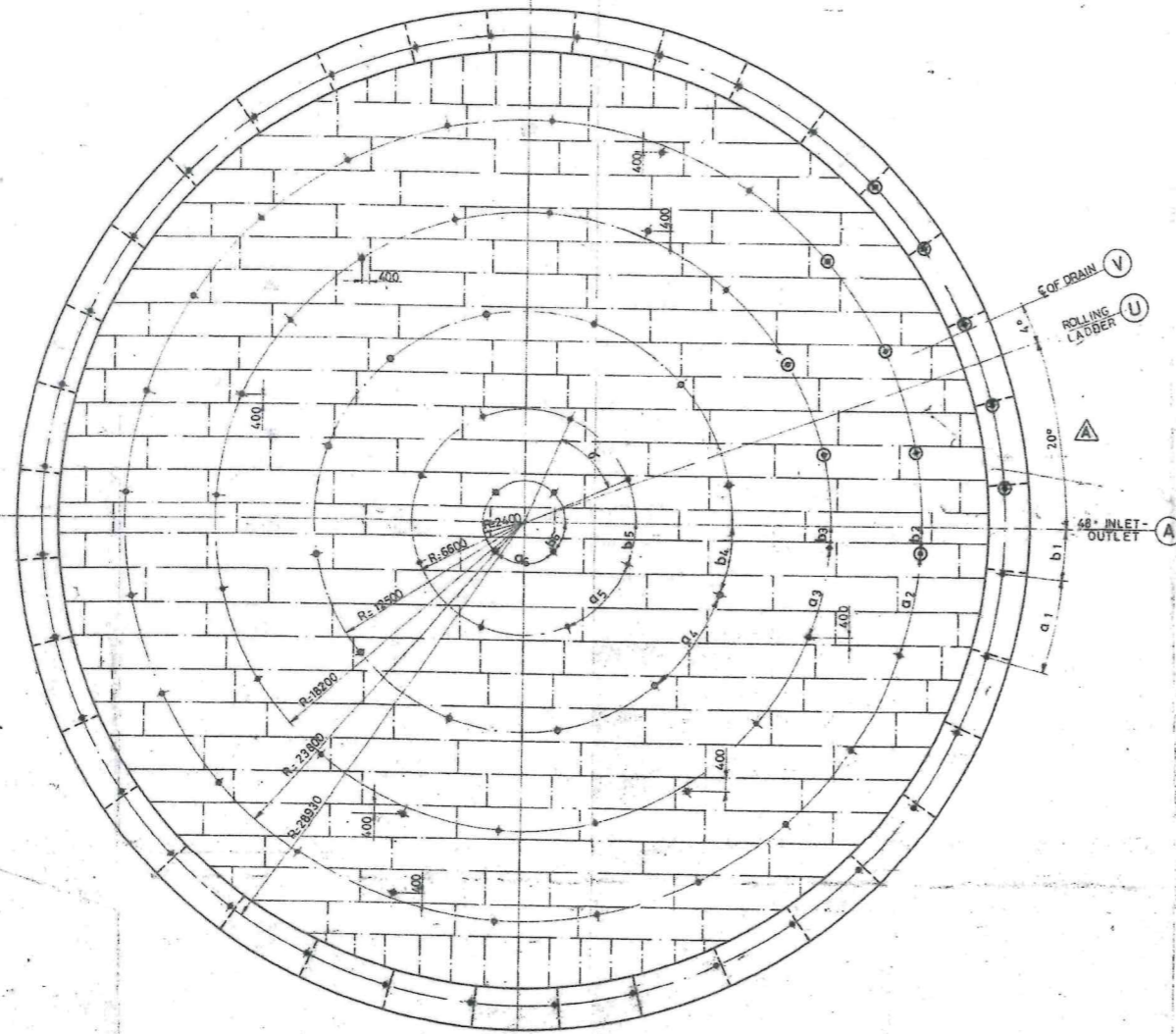
LIST OF MATERIALS

ITEM NO	QTY	DESCRIPTION	MATERIAL	WEIGHT Kg
1	21	30.2 x 2438 x 9116 - PLATES	HSS	110 646
2	21	25.0 x 2438 x 9116 - "	"	91 594
3	21	21.1 x 2438 x 9116 - "	"	77 305
4	21	17.5 x 2438 x 9116 - "	"	64 116
5	21	14.3 x 2438 x 9116 - "	"	52 382
6	21	10.7 x 2438 x 9117 - "	"	39 297
7	21	6.0 x 2438 x 9117 - "	"	29 313
8	21	6.0 x 2438 x 9117 - "	A 283 GRADE C	28 313
9	14	8.0 x 800 x 9117 - "	"	6 442
10	1	L 75 x 7 - 191512	SP 77 DIN 12 100	16 22
9a	7	8.0 x 800 x 9117 - PLATES	A 283 GRADE C	3 206

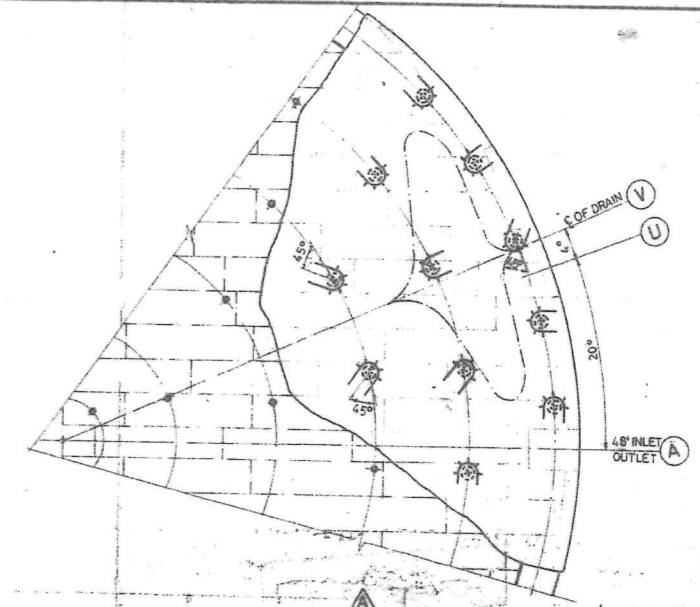
* HIGH STRENGTH STEEL
ASTM A 573 GRADE 70

- NOTE:
- BEVELS ARE SHOWN FOR INFORMATION ONLY. FINAL BEVELING SHALL BE DECIDED IN ACCORDANCE WITH THE WELDING PROCEDURE CHOSEN BY CONTRACTOR AND APPROVED BY ENGINEER.
 - FOR POSITION OF PLATES ITEM 9-a (INCLUDING HOLES 100 x 600) SEE DWG. NO 114935
 - RADIUS OF SHELL AXIS AFTER ERECTION $R_0 = 30,480$ mm.
 - TOP ANGLE SHALL BE JOINED BY BUTT WELDS HAVING COMPLETE PENETRATION, IN ACCORDANCE WITH DETAIL.

PLATE 9a-DETAIL E-SECTIONS-NOTE-LIST OF MATERIALS	30.4.74					
ISSUE	DESCRIPTION OF ALTERATION APPROV. DATE					
PREPARED FOR:	PETROLEUM SERVICES LTD					
TAHAL CONSULTING ENGINEERS LTD.						
PROJECT	SUBJECT					
57,000 cum. FL. ROOF TANK	SHELL DETAILS					
200 ft. DIA. x 64 ft. H.						
DWG. NO	DESCRIPTION					
114935	MOUNTING OF APPURTENANCES					
114916	BOT 40M - GENERAL ARRANGEMENT					
114918	REFERENCE DRAWINGS					
PREPARED	DRAWN	CHECKED	APPROVED	DATE	SCALE	ISSUED DWG. NO
				21.6.73	1:1 1:50	114918



PLAN
SCALE 1:200



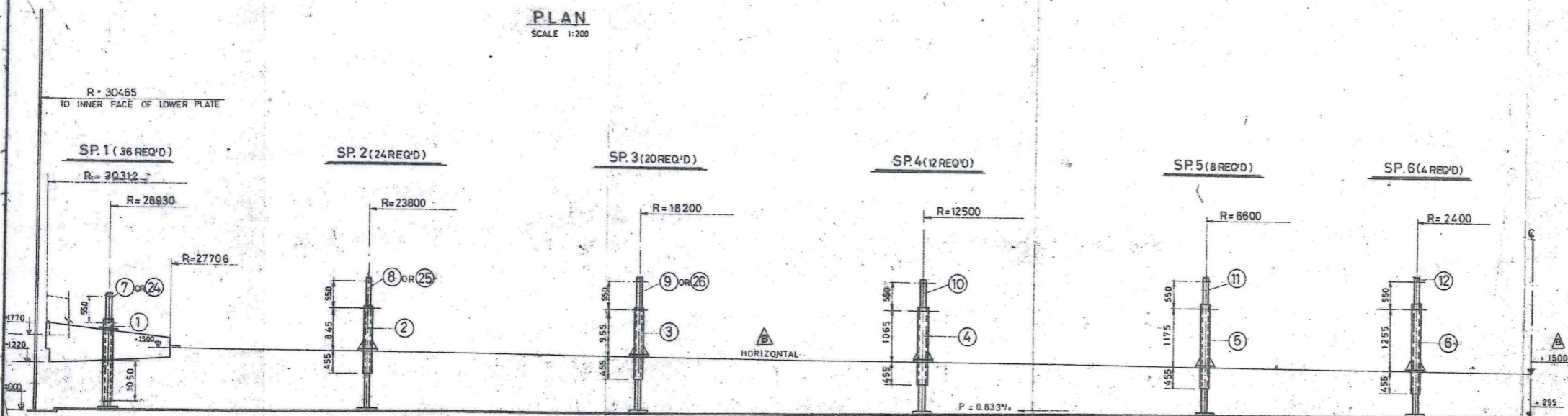
HOSE GUARD
LAYOUT ON BOTTOM
SCALE 1:200

ARRANGEMENT OF SUPPORTS

SUPPORT	R mm.	ARC DIMENSIONS.		ANGLE BETWEEN SUPPORTS α	QTY. NUMBER OF SUPPORTS
		a	b		
SP 1	28930	5049	2524 ³	10°	36
SP 2	23800	6231	1808	15°	24
SP 3	18200	5718	1460	18°	20
SP 4	12500	6545	4309	30°	12
SP 5	6600	5184	2592	45°	8
SP 6	2400	3770	1885	90°	4

NOTE:

- DIMENSIONS "a" ARE INDICATIVE. AXIS OF ANY SUPPORT SHALL NOT BE CLOSER THAN 400MM. TO PLATES LAP WELDS. SUPPORT SHALL BE MOVED TO COMPLY WITH ABOVE IF REQUIRED.
- ROOF SUPPORTS WITH BULLNOSE CAPS AND HOSE GUARDS ARE MARKED ⊕



SECTION
SCALE 1:50

DECK CONSTRUCTION SLOPE - CANCELED	APPROV. DATE	9.8.74
PLAN, HOSE GUARD LAYOUT AND SUPPORTS TABLE CHANGED	APPROV. DATE	12.4.1974
ISSUE DESCRIPTION OF ALTERATION	APPROV.	DATE

TAHAL CONSULTING ENGINEERS LTD.	
PROJECT 57000 cum. F.L. ROOF TANK 200 ft. DIA. x 64 ft. H	SUBJECT ROOF SUPPORTS GENERAL ARRANGEMENT
PREPARED BY R. COSTIN	DRAWN R. COSTIN
CHECKED [Signature]	APPROVED [Signature]
DATE	SCALE 1:200, 1:50
DWG. NO. 114941	ISSUE NO. B

111401	HOSE GUARD
114932	FLOATING ROOF, MOUNTING OF APPURTENANCES
114935	MOUNTING OF APPURTENANCES
114936	PONTOON DETAILS AND DECK STIFFENERS
114940	DECK PLATES
114942	ROOF SUPPORTS - DETAILS
DWG. NO.	REFERENCE DRAWINGS