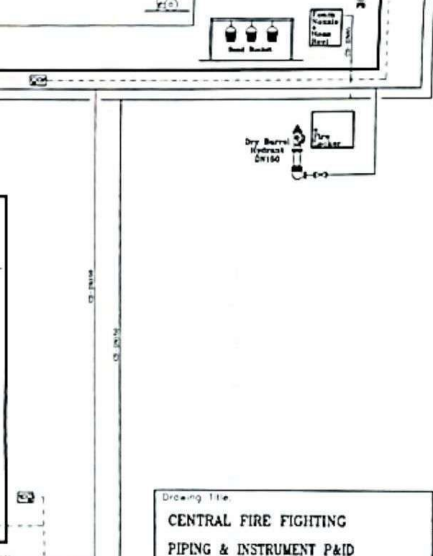
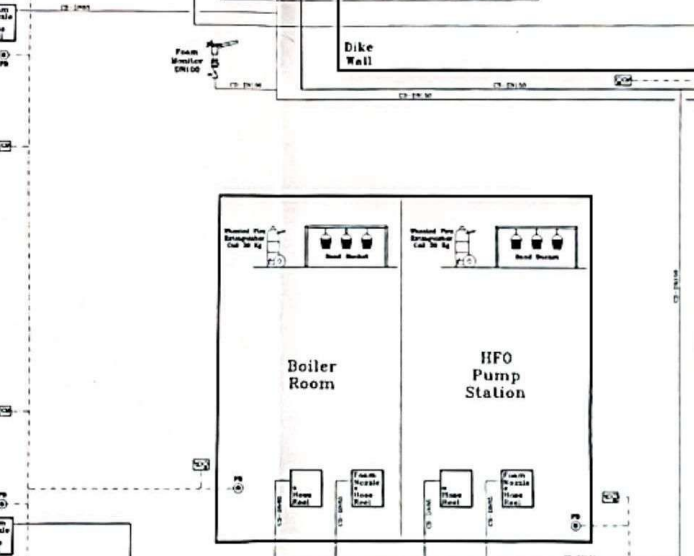
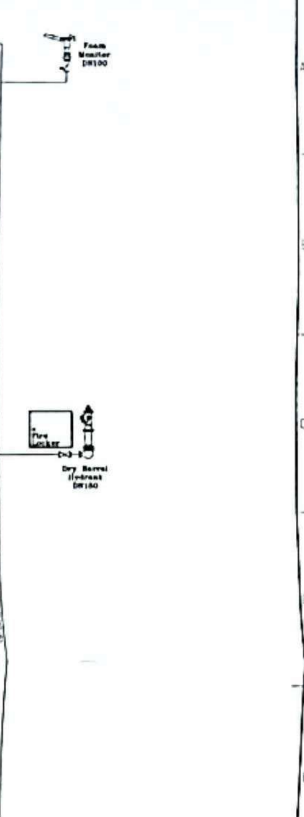
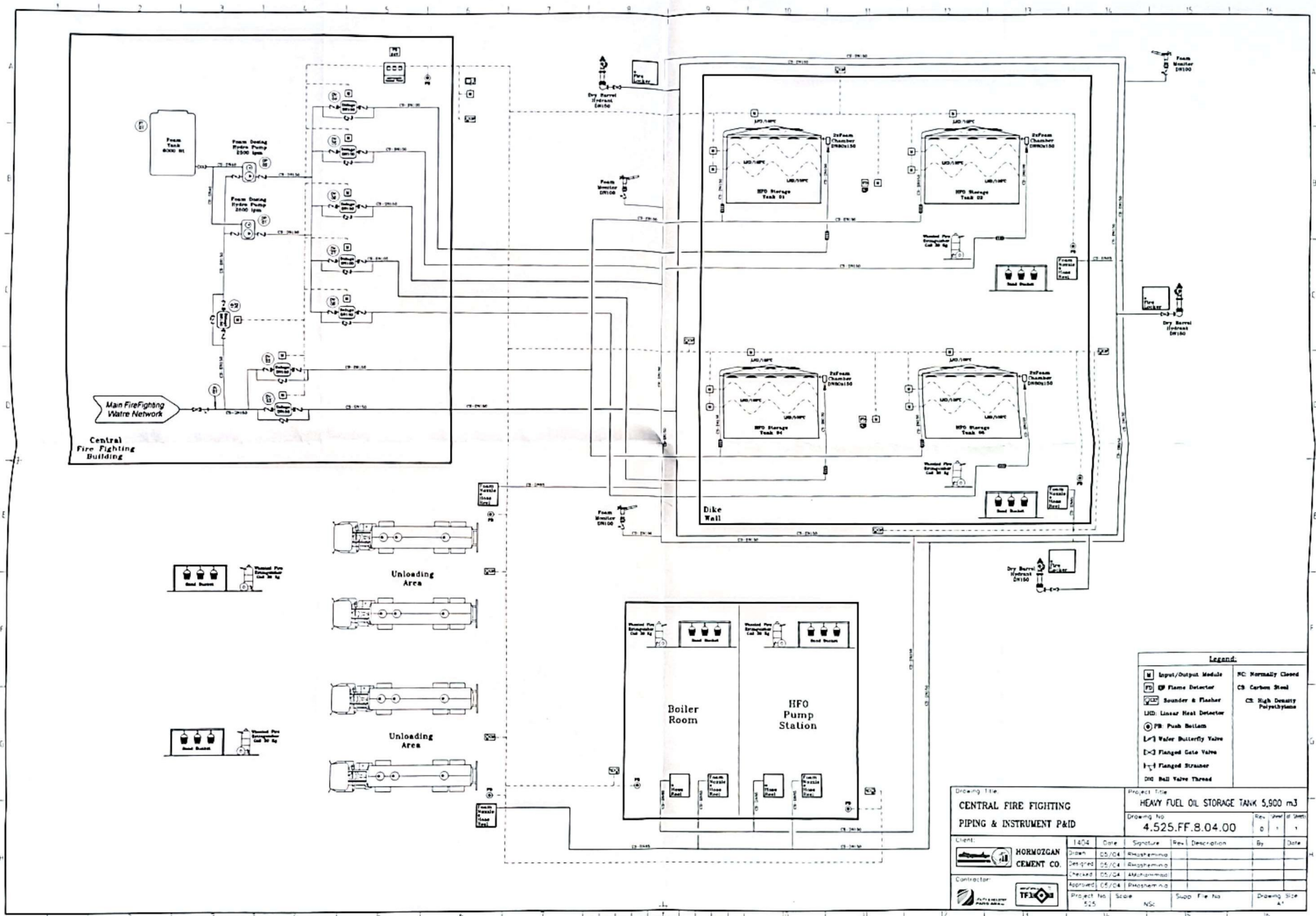




Drawing Title CENTRAL FIRE FIGHTING PIPING & INSTRUMENT P&ID		Project Title HEAVY FUEL OIL STORAGE TANK 5,900 m3	
		Drawing No. 4.525.FF.8.04.00	
Client  HORMOZGAN CEMENT CO.		Rev. sheet 0 1 1	
Contractor  TFC		By Date	
Project No. C-5		Scale N=1	
Sheet No. 1		Supp. File No.	
Drawing Date A1			



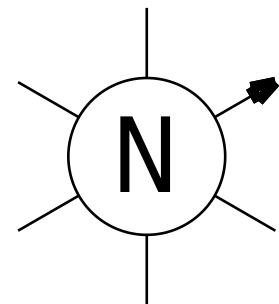
Legend

	Input/Output Module		NC Normally Closed
	Flame Detector		CS Carbon Steel
	Sounder & Flasher		HD High Density Polyethylene
	LHD Linear Heat Detector		
	PB Push Button		
	WV Water Butterfly Valve		
	FGV Flanged Gate Valve		
	FS Flanged Strainer		
	BVT Ball Valve Thread		

Drawing Title CENTRAL FIRE FIGHTING PIPING & INSTRUMENT P&ID		Project Title HEAVY FUEL OIL STORAGE TANK 5,900 m³ Drawing No 4.525.FF.8.04.00	
Client	HORMOZGAN CEMENT CO.	1404	Date
Contractor	TFI	05/04	Signature
Design	05/04	Signature	Rev
Check	05/04	Signature	Description
Approved	05/04	Signature	By
Project No	525	Scale	NSC
Sheet	NSC	Sheet No	1
Drawing Size	A1		

No	Description	Specification	Remarks	Rate	Standard	Unit	Qty
1	Foam Dosing Hydro Pump Skid	Flow Rate: min. 2500 lpm Working pressure: 12 bar Connections: Flanged ASME B16.5 Accessories: Pressure gauge	Mounted on Chassis	# 150	INSO* UL/CE/EN	Set	2
2	Foam Storage Tank	Capacity: 6000 Lit Material: HDPE	Horizontal Cubic Type	-	INSO	Pcs	1
3	Deluge Valve Skid	- Size: Flanged DN150 ASME B16.5 - Working Pressure: Max. 12bar - Operation: Elec. / Manual	Including: Drain, fire resistance cable & gland, junction box, pressure gauge	# 150	INSO UL/CE/EN	Set	4
4	Deluge Valve Skid	- Size: Flanged DN100 ASME B16.5 - Working Pressure: Max. 12bar - Operation: Elec. / Manual - Pressure gauge	Including: Drain, fire resistance cable & gland, junction box	# 150	INSO UL/CE/EN	Set	4
6	Dray Barrel Hydrant	- Inlet Connection: 6" - Max. Working pressure: 12bar - 2xHose Nozzle 2 1/2" - Pumper Connection 4"	Including: Drain	PN 12	INSO UL/CE/EN	Set	3
7	Fire Locker	Contained: - 2x1 1/2"x20m Flex. Fire hose (European made) - Both side male & female connection - 2x2 1/2" Water nozzle, flow rate 500 lpm - Hydrant wrench	Wall Mounted, Outdoor	-	INSO UL/CE/EN	Set	3
8	Fixed Type Foam Monitor	- Inlet: DN100 ASME B16.5 - Flow rate: 2500 lpm - Horizontal rot.: 360° - Vertical rot: -20° to +70°	Foam Nozzle Mat.: Stainless Steel	12 bar	INSO UL/CE/EN	Set	3
9	Foam Chamber	Size: DN80xDN150	Pourer included	# 150	INSO UL/CE/EN	Set	8
10	Foam Nozzle Hose Reel	- Carbon Steel Hose Reel - 2 1/2"x20m Flex. Fire hose (European made) - Both side male & female connection - 2x2 1/2" Foam nozzle, flow rate 500 lpm - Hydrant wrench	Wall Mounted	-	INSO UL/CE/EN	Set	6
11	Water Nozzle Hose Reel	- Carbon Steel Hose Reel - 2 1/2"x20m Flex. Fire hose (European made) - Both side male & female connection - 2x2 1/2" Water nozzle, flow rate 500 lpm - Hydrant wrench	Wall Mounted	-	INSO UL/CE/EN	Set	2
12	Wheeled Co2 Fire Extinguisher	- Capacity: 30 Kg - Self expelling - Agent type: Carbon dioxide	Outdoor type	-	INSO UL/CE/EN	Set	6
13	Water Spray Nozzle	- NPT 3/4" - Bronze Aluminum	Flat Cone Type	-	INSO UL/CE/EN	Pcs	240
14	Flexible Pipe	DN150, Two Head Flanges	500 mm Lng.	# 150	ASME Std.	Pcs	4
15	Flexible Pipe	DN100, Two Head Flanges	500 mm Lng.	# 150	ASME Std.	Pcs	4
16	Gate Valve OS&Y	DN150 ASME B16.5	Stem mat.: Stainless Steel	# 150	-	Pcs	1
17	Strainer	DN150, Flanged	GGG40	PN 16	DIN Std	Pcs	1
18	Advanced Addressable Fire Alarm Control Panel	- 6 Fully independent addressable loops - Monitor conventional inputs - Touchscreen display - Real time monitoring	- Intelligent, microprocessor-based - Battery backup - European Made	-	UL/CE/EN	Set	1

No	Description	Specification	Remarks	Rate	Standard	Unit	Qty
19	Flame Detector	- Multi Spectrum Detector - Sensor Type: 3 Channel Infrared - Housing.: Aluminum - Detection Sensitivities: Selectable - Detection Range: 60 m to 0.1 m2 heptane fire - Field of View: 90° Horizontal Cone of vision, ± 45° from on axis - Temperature Range: Operating: -40 to +85°C - Humidity Range: 5 to 98% relative humidity, non-condensing - Operating Voltage: 24 Vdc nominal (18-32 Vdc) - regulated - Analog Output: 0 - 20 mA stepped source or sink user selectable - Dual Microprocessors - ATEX & IECEx	Spectral Sensitivity: - Ultraviolet: 185-260 nanometres - Visible: 400-700 nanometres - Near Band IR: 0.7-1.1 microns - Wide Band IR: 1.1-3.5 microns	-	FM FMC/CSA	Pcs	2
20	Linear Heat Detector	LHD 105°C	European Made	-	UL/CE/EN	m	850
21	Fire Alarm Push Bottom	Addressable, Outdoor Type, Waterproof	European Made	-	UL/CE/EN	Pcs	7
22	Water Alarm Gong	- Activation flow rate: 10 gpm - Sound Output: >85 dB - Corrosion resistant alloy	Mechanical, Wall mounted	PN 16	UL/CE/EN	Pcs	3
23	Sounder with Flasher	Addressable, Outdoor Type	European Made	-	UL/CE/EN	Pcs	9
24	Input Module	- Intelligent addressable interface - Flame resistant housing - Operating temp.: -30°C to +50°C - Non-condensing Type	- Requires compatible fire alarm control panel - European Made	-	UL/CE/EN	Pcs	5
25	Input / Output Module	- Intelligent addressable interface - Flame resistant housing - Operating temp.: -30°C to +50°C - Non-condensing Type	- Requires compatible fire alarm control panel - European Made	-	UL/CE/EN	Pcs	18
26	Industrial Fire Alarm Motorized Siren	- Power: 220 V AC - Range: 1000 m (open area) - Sound output ≥120 dB - Operating temp.: -30°C to +60°C	Weatherproof Housing	-	UL/CE/EN	Pcs	1
27	Synthetic Fluoroprotein-Based Firefighting Foam	- AFFF 3% - Expansion Ratio: 1:5 to 1:10 - Operating temp.: -10°C to +60°C - Fire Calsses: Class B & Class A	Aqueous Film Forming	-	UL/CE/EN	lit	6,000



From Foam Supply Pump Station

Foam supply to boiler room

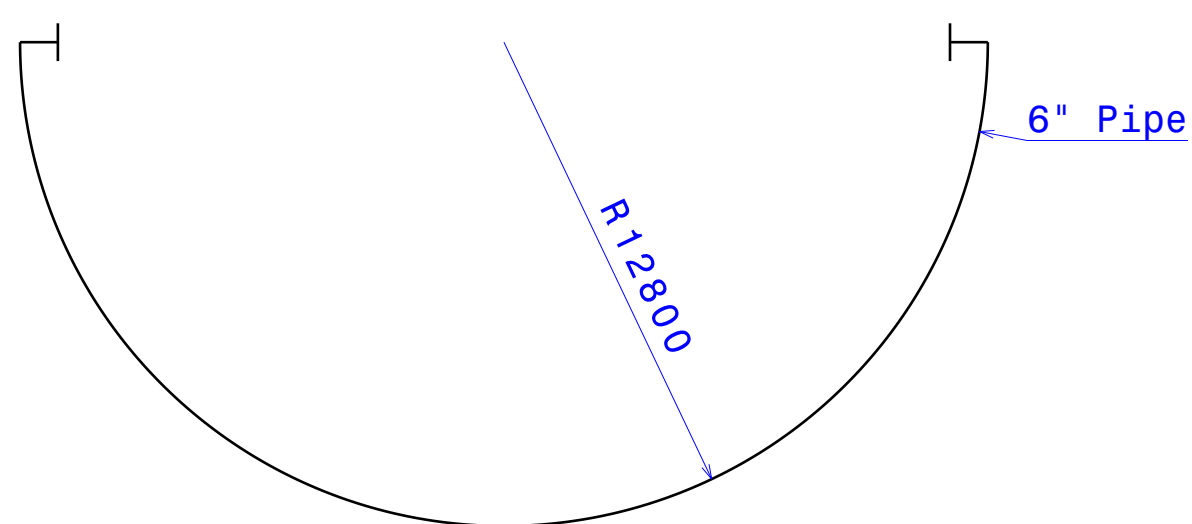
Should be install foam monitor

Foam supply for unloading station

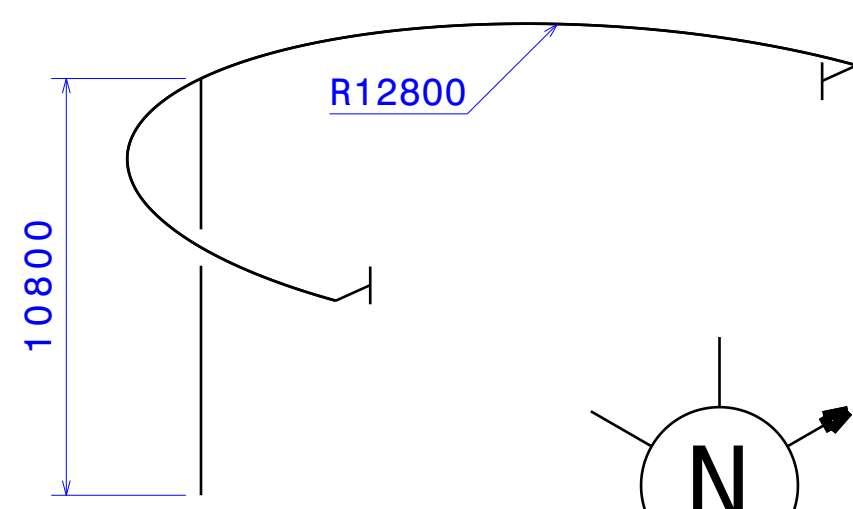
Should be install foam monitor

Should be install foam monitor

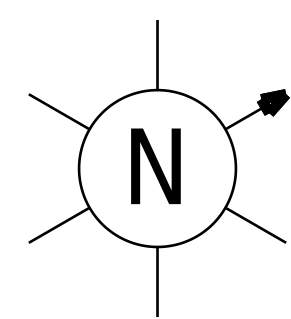
NOTE:
FOS:Faom Supply



View from Top

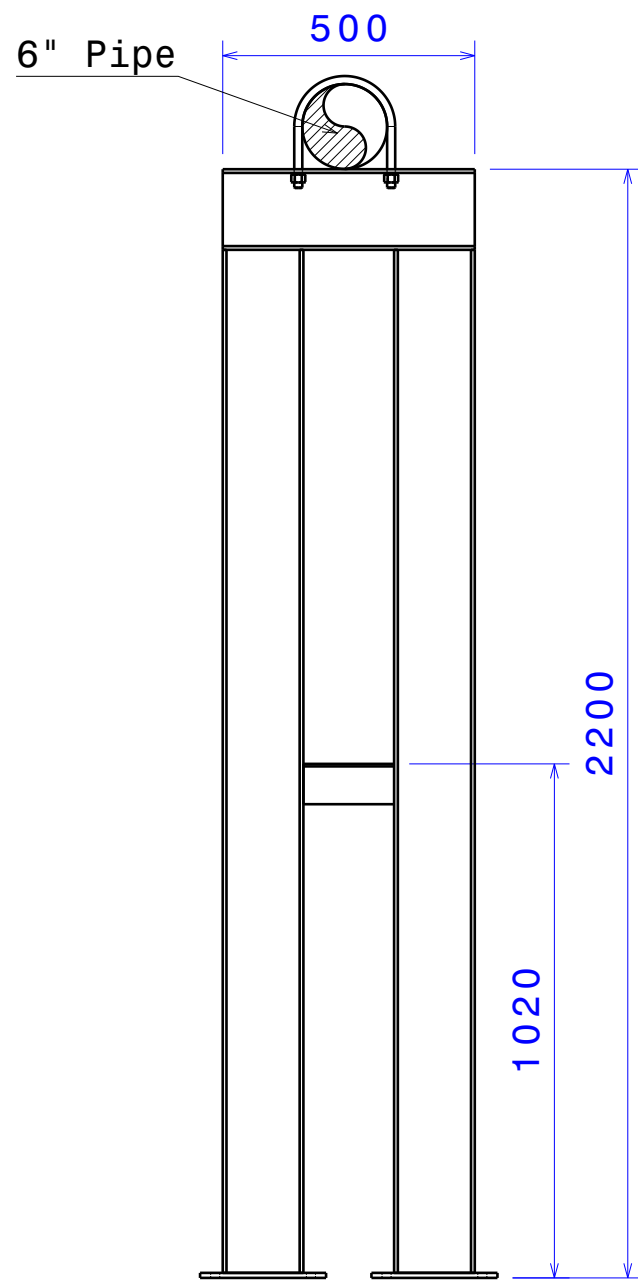


Isometric view
For Detail 1

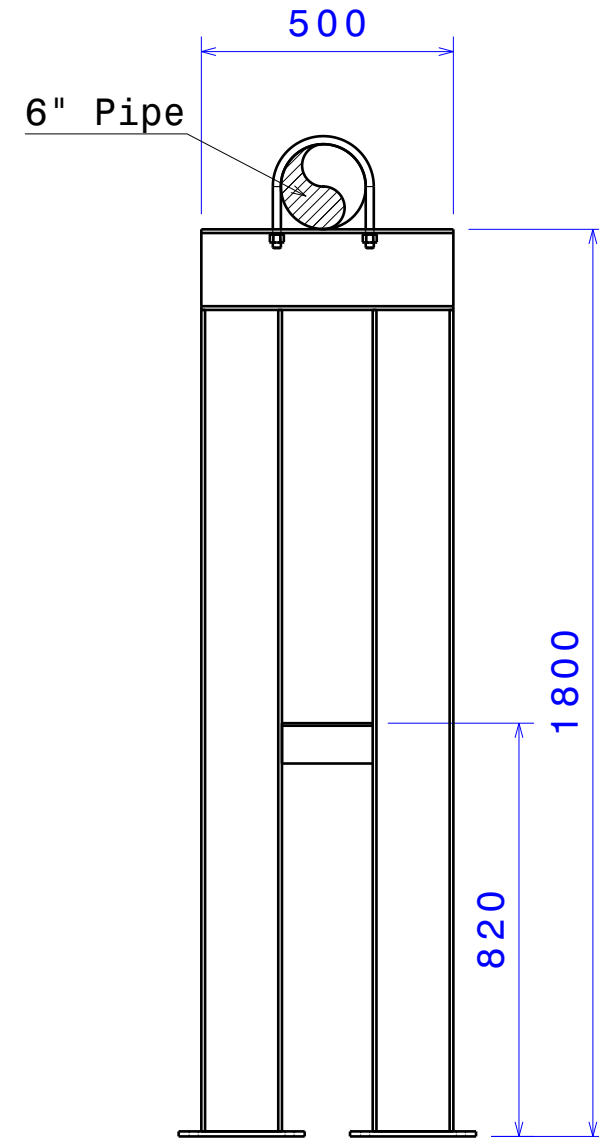


Bill of Material			
ITEM	DESCRIPTION	UN.	QTY
1	8" Pipe ASTM A106 GRB SCH40 SMLS	MT.	72
2	6" Pipe ASTM A106 GRB SCH40 SMLS	MT.	402
3	8" Elbow 90° SCH40 A234 WPB SMLS	NO.	6
4	6" Pipe ASTM A106 GRB SCH40 SMLS	NO.	8
5	6" Tee Straight SCH40 A234 WPB SMLS	NO.	6
6	8"x6" ECC. Reducer SCH40 A234 WPB	NO.	6
7	6" Tee Straight SCH40 A234 WPB	NO.	12
8	6"x4" ECC. Reducer SCH40 A234 WPB	NO.	12
9	6" Flange WN-RF Glass 150 A105	NO.	14
10	8" Flange WN-RF-Class 150 A105	NO.	4
11	Foam Chamber size 3"x6" (80x150)	NO.	8
12	6"x3" ECC.Reducer SCH40 A234 WPB	NO.	8
13	3" Flange WN-RF Glass 150 a105	NO.	8
14	6" Butterfly Valve Wafer Type Whith Actuator	NO.	4

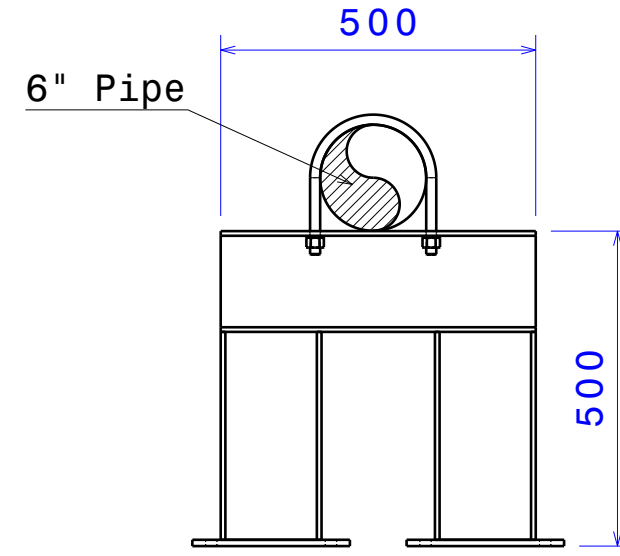
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		DRAWING NUMBER xxxxxxx		
DRAWN BY E.Tanasian	DATE 1404/06/16	WEIGHT xx kg	Ref. DRAWING xxxxxxx	REV 0
CHECK BY xxx	DATE 1404/06/16	QTY: xx		SHEET 1/1
APPROVED BY M.Chadiri	DATE 1404/06/16	MATERIAL: XXX		



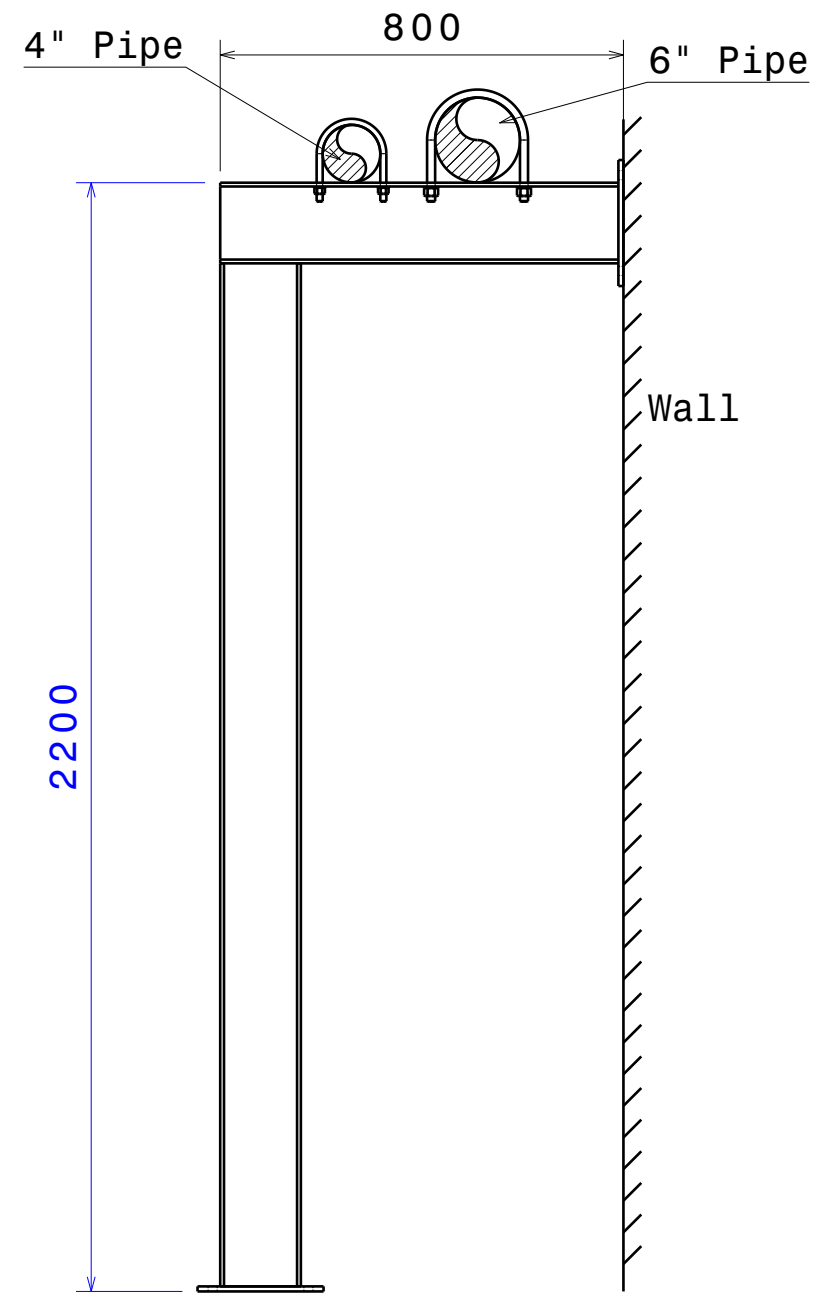
Front view
Detail 3



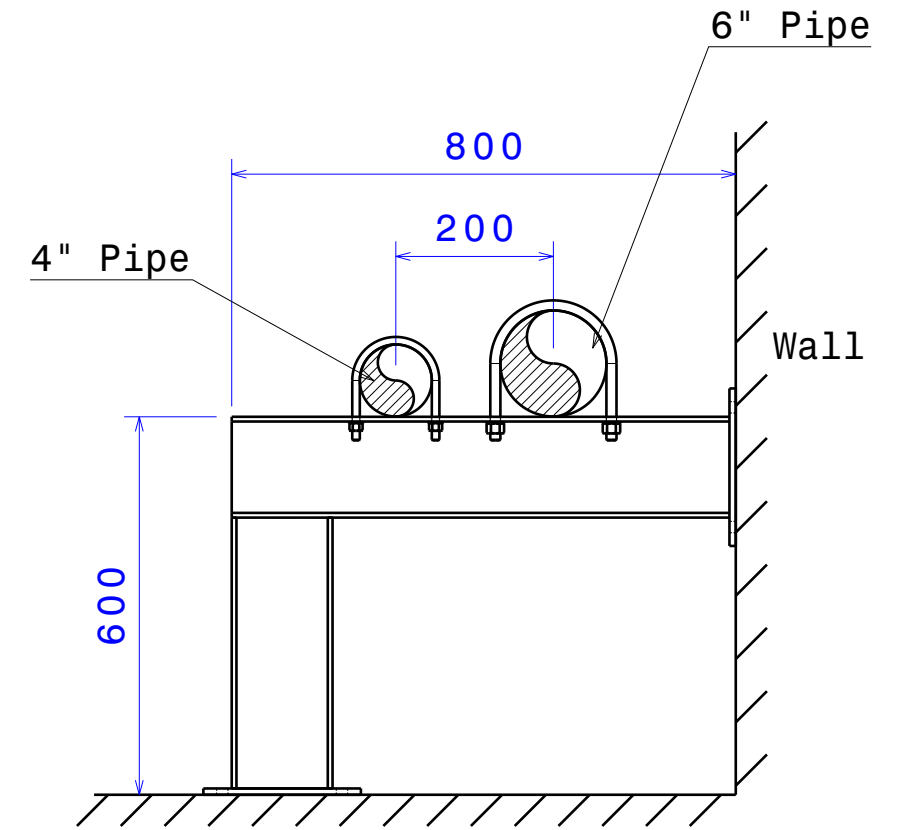
Front view
Detail 4



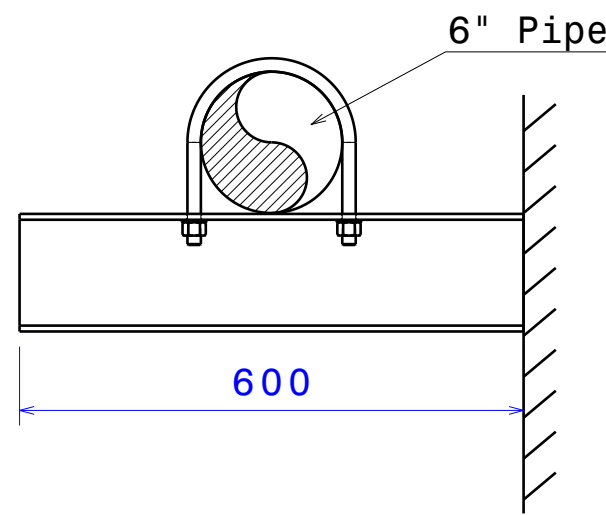
Front view
Detail 5



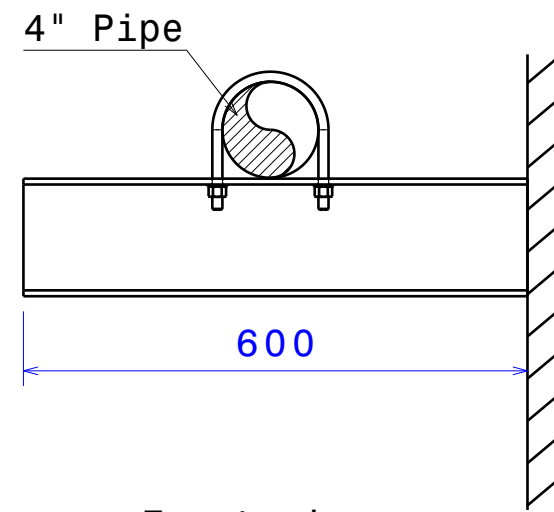
Front view
Detail 6



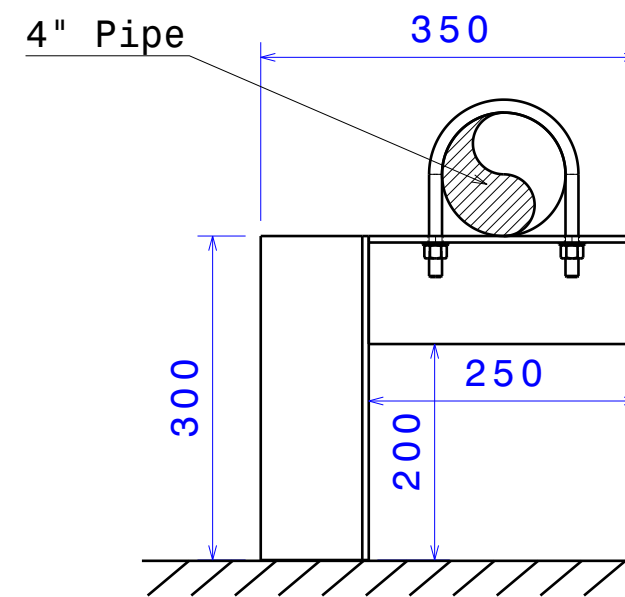
Front view
Detail 7



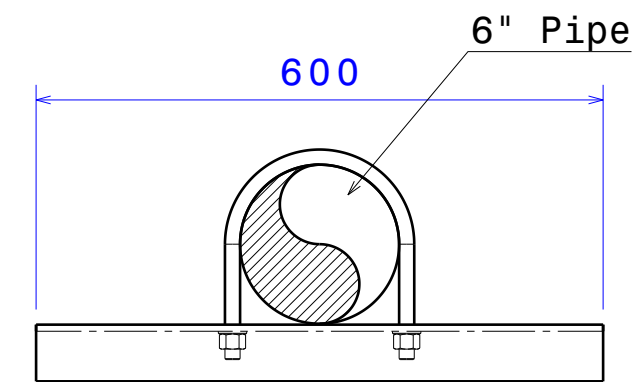
Front view
Detail 8



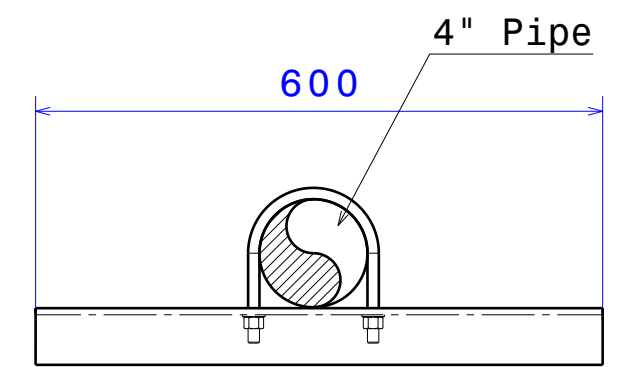
Front view
Detail 9



TOP view
Detail 10



TOP view
Detail 11



TOP view
Detail 12

		DRAWING TITLE		
		Support		
DRAWN BY		DRAWING NUMBER		
E. Tanasian		xxxxxxx		
CHECK BY		WEIGHT	Ref. DRAWING	REV
xxx		xx kg	xxxxxxx	0
APPROVED BY		QTY:	MATERIAL:	SHEET
M. Chadi ri		xx	xxx	1/1

