

BILL OF QUANTITIES

PROJECT: JET A-1 STORAGE, PIPELINE AND SETUP
AT MADIFUSHI PRIVATE ISLAND, MEEMU ATOLL

NOVEMBER 2022

PROJECT: JET A-1 STORAGE, PIPELINE AND SETUP
MADIFUSHI PRIVATE ISLAND, MEEMU ATOLL
SUMMARY OF BILL OF QUANTITIES

SL.NO	BILL NAME	MATERIAL	LABOUR	TOTAL
1)	TOTAL OF BILL NO. 01 (PRELIMINARIES)	-	-	-
2)	TOTAL OF BILL NO. 02 (SUPPLY AND INSTALLATION OF TANK)	-	-	-
3)	TOTAL OF BILL NO. 03 (BUND WALL)	-	-	-
4)	TOTAL OF BILL NO. 04 (TANK SUPPORT)	-	-	-
5)	TOTAL OF BILL NO. 05 (CONCRETE DUCT)	-	-	-
6)	TOTAL OF BILL NO. 06 (PIPELINE)	-	-	-
7)	TOTAL OF BILL NO. 07 (PUMP SYSTEM)	-	-	-
8)	TOTAL OF BILL NO. 08 (FIRE SAFETY STANDARDS)	-	-	-
9)	TOTAL OF BILL NO. 09 (ADDITIONS)	-	-	-
10)	TOTAL OF BILL NO. 10 (OMISSIONS)	-	-	-
GRAND TOTAL		-	-	-

PROJECT: JET A-1 STORAGE, PIPELINE AND SETUP
BILL OF QUANTITIES

SL.NO	DESCRIPTION	QTY	UNIT	MATERIAL		LABOUR		TOTAL
				RATE	AMOUNT	RATE	AMOUNT	
	Bill No: 01 <u>PRELIMINARIES</u>							
1.1	<u>General Notes</u> <u>Abbreviations</u> m - meter Nos - numbers m3 - cubic meter m2 - square meter Lm - Linear meter t - tonnes incl - including mm - millimeter dia - diameter SS - Stainless Steel GI - Galvanized Iron							
1.2	<u>Site Management Costs</u>							
1)	Allow for all on and off site management cost including costs of foreman and assistants, temporary services, telephone,fax,hoardings and similar.	1.00	item		-		-	-
2)	Temporary scaffoldings, covers, frames, Temporary covers	1.00	item		-		-	-
1.3	<u>GROUND LEVELING</u> (a) Rates shall include for: levelling, grading, trimming, compacting and similar. (b) Ground Compaction	44.72	m ²		-		-	-
1.4	<u>DAMP PROOF MEMBRANE</u> (a) Rates shall include for: dressing around and sealing to all penetrations, laps and	44.72	m ²		-		-	-
1.5	<u>Clean - up</u> 1) Allow for clean - up of completed works and site upon completion.	1.00	item		-		-	-
TOTAL OF BILL NO. 01 (PRELIMINARIES) (CARRIED OVER TO THE GENERAL SUMMARY)					-		-	-
	Bill No: 02 <u>SUPPLY AND INSTALLATION OF STORAGE TANK</u>							
2.1	<u>GENERAL</u> (a) Rates shall include for: delivery, Fabrication/alterations, sandblast,painting and installation							
2.2	<u>Tank Supply and installation</u> <u>General Specifications</u> Normal internal volumn 31,800 Ltrs Minimum 6mm MS plate Sandblasted Epoxy Primer & Paint Sigma/Nippon Epoxy paint for Jet -A1 (airless spray application Paint shall be free from Metallic zinc, aluminum, lead, cadmium, copper or copper alloys Inlet Pipe: 50mm dia SS 316/304 schedule 40 pipe 12mm flanged Outlet pipe: 50mm dia SS 316/304 schedule 40pipe 12mm flanged Vent: 50mm dia SS 316/304 pipe flanged Standard MS/carbon steel Pressure release valve free from copper, aluminum (*galvanized steel or parts shall be replaced)	1.00	nos		-		-	-
	1 nos							
	1 nos							
	1 nos							
	1 nos							

SL.NO	DESCRIPTION		QTY	UNIT	RATE	AMOUNT	RATE	AMOUNT	TOTAL
	600mm dia manhole bolted (*galvanized bolts shall not be used) 25mm dia steel/carbon steel/Stainless steel for vertical ladder suspended inside the tank 6mm MS plate welded at base at sounding pipe/dipstick point 20mm dia stainless steel pipe with see-through line for glass gauge level guage both ends with Ball valve/Safety valve for fail safe Level markings with liquid quantity with a visible paint overflow chamber: L950mmxW950mmxH100mm(at highest point) minimum volume 90Ltrs sump drain valve 25mm dia steel/carbon steel pipe welded equipped with SS ball valve Service ladder Service platform (1m x 2.4m) with wire mesh grill	1 nos 1 nos 1 nos 1 nos 2 nos 1 nos 1 nos 1 nos 1 nos							
TOTAL OF BILL NO. 02 (SUPPLY AND INSTALLATION OF TANK) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
3.1	Bill No: 03 BUND WALL General a) Rate shall include for: placing in position; making good after removal of formwork and casting in all required items; additional concrete required to conform to structural and excavated tolerances.								
3.2	Bund Wall complete General Specifications Floor RC Y12@150CC concrete floor (mixing ratio 1:2:3) Walls 1 meter RC Y12@150CC concrete wall (mixing ratio 1:2:3) Over climb Hollow block steps with 1:5 cement sand mortar insulated with plaster finish. Drain Minimum slope Height 25mm at furthest point to drain point L:600mmxW:600mmxD:25mm pit at bund floor the lowest point Bund Drain valve 50mm dia Gate valve outside bund wall for drain. L:600mmxW:1000mmxD:600mm Concrete Chamber at drain point outside the bund Paint Epoxy primer & paint for concrete (Internal) Weather coat with sealer for (external)	44.72 sqm 3.264 m2 0.84 m3 1 nos 1 nos 1 nos 1 nos 71.4 sqm 72.88 sqm	1.00	item		-		-	-
TOTAL OF BILL NO. 03 (BUND WALL) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
4.1	Bill No: 04 TANK SUPPORT General a) Rates shall include for: all fabrication work, welding, marking, drilling for bolts incl. those securing timbers, steel plates, bolts, nuts and b) Rates shall include for fabrication and erection and temporary supports and fixing into position. c) Rates Shall include temporary supports d) Rates shall include applying red oxide/metal primer at welded joints and parts e) Rates shall include capping all exposed ends of any HSS with welds f) Bitumen sheet at tank/saddle contact point								

SL.NO	DESCRIPTION		QTY	UNIT	RATE	AMOUNT	RATE	AMOUNT	TOTAL
	g) Bitumen sheet at base/saddle contact point								
1)	100x50mm GI HSS support saddles (refer to drawings)		8.00	nos		-		-	-
2)	Concrete base RC Y12@100CC concrete base with J bolt to mount saddlesL:2756mmxW:300mmx175mm		1.16	m3		-		-	-
TOTAL OF BILL NO. 04 (TANK SUPPORT) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
5.1	Bill No: 05 CONCRETE DUCT General a) Rate shall include for: leveling, grading, compacting to faces of excavation, backfilling, consolidating and disposing surplus soil. b) Mix ratio for concrete shall be 1:2:3								
5.2	Concrete duct Reinforced concrete duct with cover Thickness: 50mm W:448mm x H:340mm		80.00	m		-		-	-
TOTAL OF BILL NO. 05 (CONCRETE DUCT) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
6.1	Bill No: 06 PIPELINE General a) Rates shall include for: all fabrication work, welding, marking, drilling for bolts incl. those securing timbers, steel plates, bolts, nuts and b) Rates shall include for fabrication and erection and temporary supports and fixing into position. c) Rates Shall include temporary supports d) Rates shall include applying metal primer at welded joints and parts e) Rates shall include capping all exposed ends of any HSS with welds f) Bitumen sheet at clipped supports								
1)	Tank inlet from pump50mm dia schedule 40 SS314 pipe		48.00	m		-		-	-
2)	Tank outlet to pump50mm dia schedule 40 SS314 pipe		48.00	m		-		-	-
3)	To pump from refueller 50mm dia schedule 40 SS314 pipe		80.00	Lm		-		-	-
4)	To pump from refueller 50mm dia yellow band hose		300.00	Lm		-		-	-
5)	To aircraft from Pump50mm dia schedule 40 SS314 pipe		80.00	Lm		-		-	-
6)	To aircraft from Pump50mm dia yellow band hose		260.00	Lm		-		-	-
7)	Pipe supportsVertical GI HSS 100x50 mounted to floor with anchore bolts inside bund wall		2.00	nos		-		-	-
	Other requirements Fasteners GI or SS U bolt. Contact pointsAll contact points at anchors and fasteners to be sandwiched with bitumen sheet ElbowsAll elbows shall be 90deg long radius elbows flangesMinimum 12mm thickness ValvesSS Gate valve free from copper/aluminum/zinc/galvanized parts JointsYellow band soft hose joints shall be of SS 314 with SS bolts and nuts SS pipe underground600mmx600mm inspection Duct/Junctions shall be made at bends SS pipe undergroundStraight line pipes shall be greased and sleeved with PVC high pressure pipe and seal off airtight at terminations.								

SL.NO	DESCRIPTION		QTY	UNIT	RATE	AMOUNT	RATE	AMOUNT	TOTAL
TOTAL OF BILL NO. 06 (PIPELINE) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
7.1	Bill No: 07 PUMP SYSTEM General a) Rates shall include for: all fabrication work, welding, marking, drilling for bolts incl. steel plates, bolts, nuts and any type of washer, b) Rates shall include Panel board c) Rates Shall include wiring and installation								
1) 1.1)	Blackmer XL2 (2" dia) Sliding vane pump General Specification Inlet/outlet dia 2" Pressure 50 PSI Maximum 150 LPM 2 way connection for both inlet & outlet 240V three phase motor		1.00	nos		-		-	-
TOTAL OF BILL NO. 07 (PUMP SYSTEM) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
8.1	Bill No: 08 FIRE SAFETY STANDARDS General a) Rates shall include for: all fabrication work, welding, marking, drilling for bolts incl. those securing timbers, steel plates, bolts, nuts and b) Rates shall include for fabrication and erection and temporary supports and fixing into position. c) Rates Shall include temporary supports d) Rates shall include applying red oxide/metal primer at welded joints and parts f) Rates shall include concrete base for the bladder tank								
1)	Foam Bladder tank for Foam pouring / drencher system with minimum storage volumn (as per MNDF regulation)		1.49	m3		-		-	-
2)	Foam water drencher system (as per MNDF regulation)		1.00	item		-		-	-
3)	Piping for sprinkler system		1.00	item		-		-	-
4)	Spray nozzlesHigh velocity open nozzles		1.00	item		-		-	-
5)	Smoke detector		1.00	nos		-		-	-
6)	Leak detector		1.00	nos		-		-	-
7)	Fire alarm system		1.00	nos		-		-	-
TOTAL OF BILL NO. 08 (FIRE SAFETY STANDARDS) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
Bill No: 01 Bill No: 02 Bill No: 03 Bill No: 04 Bill No: 05 Bill No: 06 Bill No: 07 Bill No: 08	Bill No: 9 ADDITIONS					- - - - - - - -		- - - - - - - -	- - - - - - - -
TOTAL OF BILL NO. 09 (ADDITIONS) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-
Bill No: 01 Bill No: 02 Bill No: 03 Bill No: 04 Bill No: 05 Bill No: 06 Bill No: 07 Bill No: 08	Bill No: 10 OMISSIONS					- - - - - - - -		- - - - - - - -	- - - - - - - -
TOTAL OF BILL NO. 10 (OMISSIONS) (CARRIED OVER TO THE GENERAL SUMMARY)						-		-	-