REPUBLIC OF KENYA

MINISTRY OF AGRICULTURE AND LIVESTOCK DEVELOPMENT
STATE DEPARTMENT FOR AGRICULTURE

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Ref: No.: MOALD/ENG/CDS/002/VOL.I

Date: 7th June, 2025

ADDENDUM 2

DEVELOPMENT OF AGRICULTURE TECHNOLOGY INNOVATION CENTRES (DATIC)

TO: All Interested Bidders

SUBJECT: REVISED BILL OF QUANTITIES FOR SOLIAT AGRICULTURE WATER PROJECT PHASE 1 IN SIGOWET SOIN CONSTITUENCY, KERICHO COUNTY FOR TENDER No: MOALD/SDA/ENG/DATIC/45/2024-25

GRAND SUMMARY FOR SOLIAT AGRICULTURE WATER PROJECT PHASE 1 IN SIGOWET SOIN CONSTITUENCY, KERICHO COUNTY		
BILL No.	**DESCRIPTION**	**CONTRACT AMOUNT (KES)**
Bill No. 1	Preliminary and General Items	
Bill No. 2	Transmission Lines	
Bill No.3	500m3 Ground Masonry Tank	
Bill No.4	50m3 Ground Masonry Tanks	
Bill No. 5	100m3 Ground Masonry Tank	
	SUB-TOTAL 1	
	ADD 10% CONTINGENCIES	
	SUB-TOTAL 2	
	ADD 16% VAT	

TOTAL	

BILL No. 1.0 - PRELIMINARIES AND GENERAL ITEMS					
ITEM No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE (KES)**	**AMOUNT (KES)**
	-				
A120.1	Insurance for Works and Contractor's Equipment	Item	L.S		250,000.00
A120.2	Insurance against Injury to Third Party Persons and Damage to Property	Item	L.S		150,000.00
A120.3	Insurance for Contractor's Personnel	Item	L.S		150,000.00
A120.4	Mobilize and demobilize Plant and equipment including personnel to the site including setting up camp.	Item	L.S		
A120.5	Provide, fix and maintain the 2 No Project signboards as directed by the Project Manager	Item	PC SUM		
	The following provisional sums are to be measured on completion and priced in accordance with the rates contained in these bills of quantities or prorata thereto or deducted in whole if not required				
A	Allow a provisional sum of Kenya shillings three hundred thousand (300,000.00) only for compliance with N.C.A and N.E.M.A regulations	Item	PC SUM		300,000.00
B	Allow a provisional sum of Kenya shillings Two Million Five Hundred Thousand (2,500,000.00) for Project Supervision and Management to be utilized as per the Engineers instructions	Item	PC SUM		2,500,000.00
C	Allow a provisional sum of Kenya shillings One Hundred and Fifty Thousand (150,000.00) for use in water quality sampling and testing.	Item	PC SUM		150,000.00
D	Allow a provisional sum of Kenya shillings One Hundred Thousand (100,000.00) only for use in tie in	Item	PC SUM		100,000.00

	works between the existing and new works				
E	Provide provisional sum of KES One million and Five Hundred Thousands (Kshs 1,500,000) for design review as shall be directed by the Project Manager	Item	PC SUM		1,500,000.00
F	Allow a provisional sum of Kenya shillings One Million Five Hundred Thousand (1,500,000.00) only for use in Strengthening of Project Management Committees	Item	PC SUM		1,500,000.00
G	Provide provisional sum of KES (One million and Five Hundred Thousands) to allow for site accessibility as directed by the Project Manager	Item	PC SUM		1,500,000.00
H	Allow for attendance for items A to G	%			
TOTAL CARRIED FORWARD TO SUMMARY SHEET					
BILL No. 2.0 - MAIN TRANSMISSION LINE					
ITEM No.	**ITEM DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE_ KShs**	**AMOUNT_ KShs**
A	**TESTING OF WORKS**				
	Testing, Disinfection & Flushing of Pipelines and Fittings. Pressure Testing exc.16 bar but not exc.25 bar,				
A-1	Testing and Commissioning of pipes as specified. Pipe Size DN - 150mm	m	1220		
A-2	Flushing and disinfectionof the Pipes as specified. Pipe Size DN - 150mm	m	1220		
B	**PIPEWORK -PIPES & FITTINGS**				
	STEEL Pressure Pipes KS 150 PN 16 With ISO Certification. Bends and Fittings to be PN 20				
	Rate to include for pipes supply, supply of valves/fittings, transport and insurances, excavation and backfilling works, pipe laying, anchorage works and profits and overheads. The pipes and fittings are to be laid in				

	accordance with Drawings provided and to the engineers instructions				
B-1	Supply and installation of DN 150 PN 16 Steel pipeline from end of existing pipeline to the new proposed 500m^3 ground tank, depth range n.e 1.5 m	m	1220		
B-2	Allow a provisional sum for repair of DN 150 existing pipeline from intake to the start of new alignment pipeline, total length = 2140m	PC Sum	1	500,000	500,000.00
	Air Valves and Washout as specified				
B-4	Air Valve -Nominal bore 150mm Double orifice air valve. Rate should include all necessary pipes and fittings, chamber with covers etc and as directed by the Engineer	No.	2		
B-5	Washout-Nominal bore 150mm Double orifice air valve. Rate should include all necessary pipes and fittings, chambers with covers etc and as directed by the Engineer	No.	1		
	Marker Posts				
B-6	Marker posts for Air Valve inscribed 'AV'	No.	2		
B-7	-Ditto- but Water Main inscribed 'WM'	No.	1		
B-8	-Ditto- but Washout inscribed 'WO'	No.	1		
	Water Meter				
B-9	Provide and install DN150 Elster Type Mechanical Water Meter at the Intake. Rate should include all necessary fittings, chamber with cover and as directed by the Engineer	No.	1		
	Intake				
	Provide a provisional sum of 500,000 for rehabilitation of the existing water intake as shall be directed by the Engineer	PC Sum			500,000.00

	BILL NO. 2 CARRIED OVER TO SUMMARY SHEET				
BILL No. 3.0 - CONSTRUCTION OF 500M³ WATER STORAGE TANK AT KOIBARAK					
NO.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE(Kshs)**	**AMOUNT(Kshs)**
A	**GENERAL ITEMS**				
A2	**TESTING OF THE WORKS**				
	Testing, Disinfection & Flushing of Pipelines and Fittings associated with the tank and the tank itself. Pressure Testing exc.12 bar but not exc.25 bar. Testing to include for water tighteness as specified in the specifications				
A260	Testing and Commissioning of the tanks and pipes as specified or as directed by the Engineer. Include provision of all equipment, materials and works necessary for testing. Of the installed tanks and pipelines. Diameters ranging from DN 150-200	nr	1.00		
A290	Disinfection of the tanks and Pipes as specified or as directed by the Engineer. This includes supply of all necessary Equipment, Materials, Chemicals, Water, Measurement of Residual Chlorine, etc, and safe disposal of disinfecting water, Of the installed tanks and pipelines. Diameters ranging from DN 150-200	m	1.00		
D	**DEMOLITION & SITE CLEARANCE**				
D1	**GENERAL CLEARANCE**				
D100	Clear site within and around proposed storage tank for all rubbish, vegetation, bushes and grasses and artificial artucles above the original ground surface.	ha	0.15		
D210	Trees girth 0.5-1m	nr	5.00		
E	**EARTHWORKS**				
	EXCAVATIONS FOR FOUNDATIONS				
	-				

E32	**Excavate below stripped surface to formation level in common material. Retain approved material for back-filling / filling and cart away unsuitable material to tip as directed by Engineer**				
E322	Excavate to reduce levels in top soil for depth not exceeding 0.25m	m^3	38.00		
E323	Excavate for tank in material other than top soil, rock or artificial hard material depth range 0.5-1m	m^3	154.00		
E334	Excavation in rock	m^3	77.00		
E5	**Excavation Ancillaries**				
E53	**Disposal of Excavation Material**				
	Approved material shall be retained for filling/backfilling and unsuitable material shall shall be disposed to tips as directed by the Engineer				
E539	Top soil, normal soil, rock, artificial hard material and excavated material as directed by the engineer haulage distance exceeds 10km	m^3	269.00		
E6	**FILLING**				
	Filling to completed structures including compaction as specified				
E632	Selected excavated material other than topsoil, rock or artificial hard material	m^3	61.54		
E637	Provide and fill hard core with hard basaltic or equivalent stone, well compacted and blinded with crushed stone to a finished thickness of 250mm under the reservoir and valve chamber to stated depth or thickness	m^3	38.47		
F	**IN SITU CONCRETE**				
	Provision of concrete				
	Mass concrete; class 15/20				
F521	75mm thick lean concrete blinding with mix ratio (1:3:6) under the reservoir base slab, foundation and valve chamber	m^3	7.60		

F6	**Reinforced Concrete class 25**				
	To bases, footings, and ground slabs not less than 150mm thickness but n.e. 600mm				
	Rate to include for laying, curing and all the works pertaining to concreting. The concrete to be laid to a maximum height of 30m above ground and to ground/				
F622	Reinforced concrete; class 25/20: Footing	m^2	4.50		
F624	Reinforced concrete; class 25/20: Base slab,	m^3	48.99		
F632	Reinforced concrete; class 25/20: Topslab	m^3	38.47		
F643	Reinforced concrete; class 25/20: Walls	m^3	77.20		
F653	Reinforced concrete; class 25/20: Column, 300x300mm	m^3	1.60		
G	**<u>CONCRETE ANCILLARIES</u>**				
	Dimensions as per details on specific structural drawings.				
G2	**Formwork: Fair finish; concrete components of constant cross-section**				
G215.1	Slabs	m^2	205.66		
G215.2	Columns	m^3	10.20		
G215.3	Beams	m^2	43.36		
G255.1	External sides	m^2	560.40		
G255.2	Internal sides	m^2	30.80		
G5	**Reinforcement; deformed high yield steel bars to BS 4449, HT = 425 N/mm2**				

G529	Nominal size 8,10,12,16,25 mm	Ton	17.10		
G562	Steel fabric BS4483 ; A252 square mesh; nominal mass 3 - 4kg/m2	LS	1.00		
G6	**Joints**				
G611	Open surface plain;average width n.e. 0.5 m	m^2	120.00		
G621	Open surface with filler; average width n.e.0.5 m	m^2	62.00		
G652	Plastic water stops average width 150mm - 200 mm	m^2	32.00		
G662	Metal water stops ; average width 150 mm - 200 mm	m^2	62.00		
G670	Sealant 20 x 20 mm rebate with plysulphide joint sealant	m^2	55.00		
G8	**CONCRETE ACCESSORIES**				
G2.9.7.1	Provide and apply 50mm cement screed to the reservoir floor and roof slab	m^2	307.92		
G2.9.7.2	Provide and apply 3 coats of plaster to internal walls	m^2	167.15		
G2.9.7.3	Rendering external wall,top roof slab & bottom floor slab and supporting columns & beams	m^2	321.11		
G271.1	Form opening 600 x 600mm x 0.6m deep opening for washout sump	nr	1.00		
G271.2	Form opening 1020 x 1020mm opening for inlet pipe roof access	nr	1.00		
G271.3	Form access opening 1000 x 800mm opening for overflow/washout chamber	nr	1.00		
G271.4	Form 600 x 600mm opening for access manhole at tank roof slab	nr	1.00		

G2.9.7.5	Provide and apply two coats of bituminous asphalt over the plastered surface of the embedded part of the reservoir	m^2	34.10		
G2.9.7.6	Provide and place single brick layer cover to protect the asphalt coat from the backfill material	m^2	34.10		
J	**PIPEWORK – FITTINGS AND VALVES**				
	Supply and Install Steel Inlet and Outlet pipes and fittings and valves of PN10 with all required accessories, rubber sealing flat gaskets, bolts, nuts with washers				
	INLET PIPE WORKS				
	-				
J311.1	DN 300 ,90 degree bend	nr	1.00		
J312.1	DN 300, 90 degree Duck foot bend	nr	1.00		
J381.1	DN 300 Single flanged spigot	m	5.00		
J381.2	DN 300 Double flanged spigot with puddle flange	m	1.00		
J811.1	DN 300 Double flanged valve	nr	1.00		
J891.1	DN 300 ball valve with associated fitting	nr	1.00		
	OUTLET PIPE WORKS				
	-				
J811.2	DN 300 Double flanged valve	nr	1.00		
J381.3	DN 300 Single flanged spigot with puddle falnge	nr	1.00		
J393.1	DN 300 fine and course screen	m	2.00		
	OVERFLOW PIPE WORKS				
	-				
J311.2	DN 300 ,90 degree bend	nr	1.00		

J311.3	DN 300 30 degree medium double flanged bend	nr	1.00		
J372	DN 300 flanged bellmouth	m	1.00		
J381.2	DN 300 Double flanged spigot with puddle flange	m	1.00		
J381.4	DN 300 Single flanged spigot	m	1.00		
	SCOUR PIPE WORKS				
	-				
J811.3	DN 200 Flanged Gate Valve	nr	1.00		
J381.5	DN 200 double flange spigot L= 1.9m with puddle flange	nr	1.00		
N	**MISCELLANEOUS METAL WORK**				
	Rate to include supply, delivery, fixing and inclusive of foundation where applicable				
N130.1	Galvanized mild steel external ladders with stringers returned to form handrails as per international safety requirement. The Contractor shall Design, supply and install the ladder and the work shall include landing platform having sufficient space allowing more than three people to maneuver within the plate form	m	10.00		
N130.2	Provide and install access internal ladder constructed out of stainless steel of 25mm and hooked to the wall as per the drawing	No	1.00		
X	**MISCELLANEOUS WORKS**				
	Footpaths				
X199.1	Provide all materials and construct Footpaths made of Precast Concrete Paving slabs, 600 x 600 x 50mm thick, jointed with lime and sand (1:3)	m^2	100.00		
	Surface Water Drainage				
X341.1	Trapezoidal Earth Drain Type 'T1', cross sectional area n.e. 0.5m^2, including topping with 100mm top soil and grassing as per details on drawings	m	80.00		

TOTAL CARRIED FORWARD TO SUMMARY SHEET					
BILL No. 4.0 - CONSTRUCTION OF 50M³ WATER STORAGE TANKS					
ITEM No.	**DESCRIPTION**	**UNIT**	**QUANTITY**	**RATE (KES)**	**AMOUNT (KES)**
	A2 ; TESTING OF THE WORKS				
	Testing, Disinfection & Flushing of Pipelines and Fittings associated with the tank and the tank itself. Pressure Testing exc.12 bar but not exc.25 bar. Testing to include for water tightness as specified in the specifications				
A260.1	Testing and Commissioning of the installed tank as specified (50m³)	nr	1.00		
A260.2	Testing and Commissioning of pipes as specified.	m	75.00		
	E3 ; EXCAVATIONS FOR FOUNDATIONS				
	-				
	Excavate below stripped surface to formation level in common material. Retain approved material for back-filling / filling and cart away unsuitable material to tip as directed by Engineer				
E311	Excavation of topsoil depth not exceeding 0.25m	m³	6		
E322	Excavation of material other than top soil rock or artificial hard material depth 0.25 - 0.5m	m³	6		
E323	Excavation for material other than topsoil rock or any other artificial hard material; maximum depth 0.5 - 1.0 m	m³	3		
E33	Excavation of foundation in rock	m³	5		
	E5 ; Disposal of Excavation Material				
E512	Trimming of excavated surfaces; material other than topsoil, rock or artificial hard material	m²	10.7		
E524	Preparation of excavated surfaces to receive fill and permanent works; materials other than topsoil or rock	m²	10.7		
E525	Preparation of excavated surfaces to receive fill and permanent works; in rock	m²	10.7		
E531	Disposal of excavated topsoil	m³	6.49		

E532	Disposal of excavated material other than top soil rock or artificial hard material	m^3	9.09		
E532	Disposal of excavated rock	m^3	5.00		
	E6 ; FILLING				
E632	THICK RED SOIL COMPACTED TO 98% MDD in layers not exceeding 200mm as shown by RE	m^3	10.39		
E635	Provide and fill with imported 300mm gravel compacted to 98% MDD in layers not exceeding 150mm	m^3	3.90		
E637	Provide and fill hard core with hard basaltic or equivalent stone, well compacted and blinded with crushed stone to a finished thickness of 250mm under the reservoir and valve chamber to stated depth or thickness	m^3	9.09		
	F ; INSITU CONCRETE				
	<u>Provision of Concrete</u>				
F253	Designed mix; Grade C35A; Cement to BS12 and 20mm maximum aggregate size	m^3	10.34		
F400	Prescribed mix; Grade C15P; 20 mm aggregate; Cement to BS12	m^3	1.95		
	<u>Placing of Concrete</u>				
	Place, compact and cure concrete in the following elements of the structure as per details on Drawings				
	<u>Mass Concrete; Class 15/20</u>				
	F6 ; Mass concrete				
F611	75mm thick lean concrete blinding with mix ratio (1:3:6) under the reservoir base slab, foundation and valve chamber	m^3	1.95		
	F7 ; Reinforced Concrete class 30				
F723	Floor slab, bases and foundation footings	m^3	4.91		
F732	Suspended slabs (Top roof) thickness 200mm	m^3	3.93		

F785	For overflow chamber complete with the base opening	m^3	1.50		
	G ; CONCRETE ANCILLARIES				
	G2 ; Fair Finish Formwork				
G215	Plane vertical sides for both external and internal walls	m^2	81.22		
	G5 ; Reinforcement; deformed high yield steel bars to BS 4449, HT = 425 N/mm2				
G529	Nominal size 8,10,12,16,25 mm	Ton	1.03		
G562	Steel fabric BS4483 ; A252 square mesh; nominal mass 3 - 4kg/m2	LS			
	G6 ; Joints				
G611	Open surface plain;average width n.e. 0.5 m	m	19.64		
G621	Open surface with filler; average width n.e.0.5 m	m	4.00		
G652	Plastic water stops average width 150mm - 200 mm	m	4.00		
G654	Plastic or rubber water stop in floor/wall base joints; Average width 350mm	m	4.00		
G670	Sealant 20 x 20 mm rebate with plysulphide joint sealant	m	8.00		
	Inserts; Excluding supply of the fittings				
G832.1	Inlet, outlet, overflow and washout pipe inserts into concrete	Nr	4.00		
G832.2	Roof vents inserts in concrete	Nr	4.00		
G832.3	Roof drain inserts in concrete	Nr	4.00		
G831.1	Perforated Roof drain pipe inserts in concrete	m	22.00		
	SITE WORKS				
	J ; PIPEWORK – FITTINGS AND VALVES				
1299	Supply of Precast concrete pipes to be used as underground drainage. The rate to include for, supply instalation and backfilling of the pipes as per Engineers instruction	PC Sum	1.00		

1999	Supply of pipes and fittings to be used for The connection of the tank, inlet , outlet, overflow and scour as shown in the drawings. Rate to include for laying jointing and any other fittings used for connection	LS			
	PIPE WORK - MANHOLES AND PIPEWORK ANCILLARIES.				
K233.1	Reservoir Scour/Overflow chamber without roof cover slab as detailed; 200mm thick walls, depth 1.0 - 2.0m, 4m^2 plan area	No.	1.00		
K234.1	Reservoir Inlet Valve Chamber as detailed; 200mm thick walls, depth 1.0 - 2.0m, 4m^2 plan area	No.	1.00		
K234.2	Reservoir Outlet Valves Chamber detailed; 200mm thick walls, depth 1.0 - 2.0m, 4m^2 plan area	No.	1.00		
	Miscellaneous Metalwork				
	Rate to include supply, delivery, fixing and inclusive of foundation where applicable				
N130.1	Stainless Steel internal access ladder with safety loops, stringers and landing rail	m	4.00		
N130.2	Galvanised Mild Steel external access ladder with landing rails and stringers	m	4.00		
N190	Provide and fix 6 mm sheet metal access cover with 40x40 angle iron frame with latch and safety lock for valve chamber and reservoir	No	1.00		
N190	Galvanized mild steel air vents as shown on the drawings.	m	4.00		
	CLASS U: BRICKWORK, BLOCKWORK AND MASONARY				
U721	200mm thick ashlar masonry vertical straight walls; thickness 150 - 250 mm. To include mortar and fixing reinforcement at the joints	m^2	46.97		
	CLASS V: PAINTING				
V653	Two coats of cement paint on rendered external walls.	m^2	46.97		
	TOTAL FOR 1 NO. TANK				
	TOTAL FOR 4 TANKS CARRIED FORWARD TO SUMMARY SHEET				
BILL No 5: 100 m^3 KIPTUGUMO GROUND MASONRY TANK					

ITEM No.	DESCRIPTION	UNIT	QUANTITY	RATE (KES)	AMOUNT (KES)
	A2 ; TESTING OF THE WORKS				
	Testing, Disinfection & Flushing of Pipelines and Fittings associated with the tank and the tank itself. Pressure Testing exc.12 bar but not exc.25 bar. Testing to include for water tightness as specified in the specifications				
A260.1	Testing and Commissioning of the installed tank as specified (100m^3)	nr	1.00		
A260.2	Testing and Commissioning of pipes as specified.	m	200.00		
	E3 ; EXCAVATIONS FOR FOUNDATIONS				
	Excavate below stripped surface to formation level in common material. Retain approved material for back-filling / filling and cart away unsuitable material to tip as directed by Engineer				
E311	Excavation of topsoil depth not exceeding 0.25m	m^3	9		
E322	Excavation of material other than top soil rock or artificial hard material depth 0.25 - 0.5m	m^3	9		
E323	Excavation for material other than topsoil rock or any other artificial hard material; maximum depth 0.5 - 1.0 m	m^3	4		
E33	Excavation of foundation in rock	m^3	10		
	E5 ; Disposal of Excavation Material				
E512	Trimming of excavated surfaces; material other than topsoil, rock or artificial hard material	m^2	13.0		
E524	Preparation of excavated surfaces to receive fill and permanent works; materials other than topsoil or rock	m^2	13.0		
E525	Preparation of excavated surfaces to receive fill and permanent works; in rock	m^2	13.0		
E531	Disposal of excavated topsoil	m^3	9.35		
E532	Disposal of excavated material other than top soil rock or artificial hard material	m^3	13.09		
E532	Disposal of excavated rock	m^3	10.00		

	E6 ; FILLING				
E632	THICK RED SOIL COMPACTED TO 98% MDD in layers not exceeding 200mm as shown by RE	m^3	14.96		
E635	Provide and fill with imported 300mm gravel compacted to 98% MDD in layers not exceeding 150mm	m^3	5.61		
E637	Provide and fill hard core with hard basaltic or equivalent stone, well compacted and blinded with crushed stone to a finished thickness of 250mm under the reservoir and valve chamber to stated depth or thickness	m^3	13.09		
	F ; INSITU CONCRETE				
	Provision of Concrete				
F253	Designed mix; Grade C35A; Cement to BS12 and 20mm maximum aggregate size	m^3	16.32		
F400	Prescribed mix; Grade C15P; 20 mm aggregate; Cement to BS12	m^3	5.00		
	Placing of Concrete				
	Place, compact and cure concrete in the following elements of the structure as per details on Drawings				
	Mass Concrete; Class 15/20				
	F6 ; Mass concrete				
F611	75mm thick lean concrete blinding with mix ratio (1:3:6) under the reservoir base slab, foundation and valve chamber	m^3	3.00		
	F7 ; Reinforced Concrete class 30				
F723	Floor slab, bases and foundation footings	m^3	7.48		
F732	Suspended slabs (Top roof) thickness 200 - 250 mm	m^3	6.84		
F785	For overflow chamber complete with the base opening	m^3	2.00		
	G ; CONCRETE ANCILLARIES				
	G2 ; Fair Finish Formwork				
G215	Plane vertical sides for both external and internal walls	m^2	91.60		

	G5 ; Reinforcement; deformed high yield steel bars to BS 4449, HT = 425 N/mm2				
G529	Nominal size 8,10,12,16,25 mm	Ton	1.63		
G562	Steel fabric BS4483 ; A252 square mesh; nominal mass 3 - 4kg/m2	LS			
	G6 ; Joints				
G611	Open surface plain;average width n.e. 0.5 m	m	4.00		
G621	Open surface with filler; average width n.e.0.5 m	m	4.00		
G652	Plastic water stops average width 150mm - 200 mm	m	4.00		
G654	Plastic or rubber water stop in floor/wall base joints; Average width 350mm	m	4.00		
G670	Sealant 20 x 20 mm rebate with plysulphide joint sealant	m	8.00		
	Inserts; Excluding supply of the fittings				
G832.1	Inlet, outlet, overflow and washout pipe inserts into concrete	Nr	4.00		
G832.2	Roof vents inserts in concrete	Nr	4.00		
G832.3	Roof drain inserts in concrete	Nr	4.00		
G831.1	Perforated Roof drain pipe inserts in concrete	m	22.00		
	SITE WORKS				
	PIPEWORK – FITTINGS AND VALVES				
1999	Supply of pipes and fittings to be used for he connection of the tank, inlet , outlet, overflow and scour as shown in the drawings. Rate to include for laying jointing and any other fittingd used for connection				
	J ; PIPEWORK – FITTINGS AND VALVES				
	STEEL PIPE EPOXY COATED EXTERNAL SURFACES AND CEMENT LINED ON INTERNAL SURFACE WITH PRESSURE RATING OF PN 10.				
	The bends and fittings to be PN 10				
	The fittings are to be laid in accordance with Drawings provided and engineers instructions				

	INLET CONNECTION CHAMBER 1				
J323	DN 250 Equal Flanged Tee	nr	1.00		
J333	DN 350/250 Flanged Reducer	nr	1.00		
J352	DN 250 Flanged Adaptor	nr	2.00		
J383	DN 350 Flanged Spigot L = 0.5 m	nr	1.00		
J382	OD 250 Plain Spigot L = 0.5 m	nr	2.00		
J393	OD 350 Coupling	nr	1.00		
J392	OD 250 Coupling	nr	2.00		
J683	DN 250 HDPE pipe	m	10.00		
J812	DN 250 Flanged Gate Valve	nr	2.00		
J393	DN 250 Flanged Inlet Strainer	nr	2.00		
	INLET OPENING PIPE CONNECTION CHAMBER 2				
J383	DN 250 Double Flanged Spigot L = 0.5 m	nr	2.00		
J383	DN 250 Double Flanged Spigot L = 3.5 m	nr	4.00		
J611	DN 250 900 Bend	nr	2.00		
J611	DN 250 900 Duckfoot Bend	nr	4.00		
J812	DN 250 Flanged Ball Valve	nr	4.00		
	OUTLET CONNECTION				
J322	DN 300 Equal Flanged Tee	nr	1.00		
J333	DN 350/300 Flanged Reducer	nr	1.00		
J352	DN 300 Flanged Adaptor	nr	2.00		
J383	DN 350 Flanged Spigot With Puddle L = 1 m	nr	1.00		
J382	DN 300 Flanged Spigot L = 1 m	nr	1.00		
J382	DN 300 Flanged Spigot L = 2.6 m	nr	1.00		
J382	DN 300 Flanged Spigot L = 3.1 m	nr	1.00		
J393	OD 350 Coupling	nr	1.00		
J611	DN 300 90^0 Flanged Bend	nr	3.00		
J683	DN 350 HDPE pipe	m	20.00		
J812	DN 300 Flanged Gate Valve	nr	2.00		
J900	DN 350 Meter	nr	2.00		
	SCOUR & OVERFLOW PIPE WORKS				
J891	DN150 Flanged flap valve	nr	2.00		
J812	DN 150 Flanged Gate Valve	nr	2.00		
J381.1	DN 150 double flanged pipe L= 1.5m	nr	2.00		
J381.2	DN 150 double flanged pipe L= 3.3m	nr	2.00		
J382.1	DN 350 double flange pipe L= 0.75m	nr	1.00		
J613	DN 350 90^0 duck foot bend	nr	1.00		

J382.2	DN 350 double flange pipe L= 3.2m	nr	1.00		
J391	PN 10 DN 150 Coupling	nr	2.00		
I212	DN 150 PCC L = 10 m	nr	2.00		
	PIPE WORK - MANHOLES AND PIPEWORK ANCILLARIES.				
K233.1	Reservoir Scour/Overflow chamber without roof cover slab as detailed; 200mm thick walls, depth 1.0 - 2.0m, 4m^2 plan area	No.	1.00		
K234.1	Reservoir Inlet Valve Chamber as detailed; 200mm thick walls, depth 1.0 - 2.0m, 6m^2 plan area	No.	1.00		
K234.2	Reservoir Outlet Valves Chamber detailed; 200mm thick walls, depth 1.0 - 2.0m, 10m^2 plan area	No.	1.00		
	Miscellaneous Metalwork				
	Rate to include supply, delivery, fixing and inclusive of foundation where applicable				
N130.1	Stainless Steel internal access ladder with safety loops, stringers and landing rail	m	4.00		
N130.2	Galvanised Mild Steel external access ladder with landing rails and stringers	m	4.00		
N190	Provide and fix 6 mm sheet metal access cover with 40x40 angle iron frame with latch and safety lock for valve chamber and reservoir	No	1.00		
N190	Galvanized mild steel air vents as shown on the drawings.	m	4.00		
	CLASS U: BRICKWORK, BLOCKWORK AND MASONARY				
U721	200mm thick ashlar masonry vertical straight walls; thickness 150 - 250 mm. To include mortar and fixing reinforcement at the joints	m^2	85.00		
	CLASS V: PAINTING				
V653	Two coats of cement paint on rendered external walls.	m^2	85.00		
TOTAL CARRIED FORWARD TO SUMMARY SHEET					