Tabbaneh Ductile Iron BoQ

Item	Description	UNIT	QTY	Unit Price	Total Price US.$.
	General These Preliminaries are applicable to the whole of the works. If the Tenderer wishes to price any of the items contained herein, then each such item, clause, or sub-clause must be individual priced. Lump sums covering more than one item shall not be inserted. Preliminary prices shall not be adjusted in the event of any changes to the Contract Price due to variations. Where any item, clause or sub-clause has not been prices, the value of such shall be deemed to be included in the rates for measured items elsewhere in the Bills of Quantities. **As-Built Drawings** providing 'As-Built' drawing in accordance with the General Specification. **Workshop Drawings** providing workshop drawings as specified for the disciplines under the relevant Sections. **TO COLLECTION**	ITEM ITEM	1 1		
	Protection of Services and Cables protect or divert as necessary all service lines and cables on or adjacent to the site as required **Site Office** provide and maintain site office including connections, pumps, pipework and sanitation **Setting up the Site** provide, maintain and eventually remove site offices, huts, toilets, storage facilities and the like for his own workforce **Water and Electricity** make all necessary provisions for transporting water to the site including connections, pumps, pipework and storage facilities if necessary. **TO COLLECTION**	ITEM ITEM ITEM	1 1 1		
	Notice Boards providing and installation of substantial site notice board size 2.40 x 3.00 m as specified and to the approval of the Engineer. **Insurance** provide the insurance cover **TO COLLECTION**	ITEM ITEM	2 1		
	Plant provide and maintain all plant and equipment necessary for carrying out the Works and shall remove such plant and equipment on completion and make good disturbed areas to the Engineer's satisfaction. **Safety and Security** provide all necessary watching for the security of the Works and the protection of the public. Provide all warning signs, barricades, screens, lamps, etc. as necessary. **Equipment and tools** **Measuring tape:** The most common length of tape measures used for setting out are: Long tape 30-50m and short tape 5-7.5m. **String line** is used with pegs for setting out activity and quality control for road work and drainage structure works. The string line is commonly made of nylon string of diameter 3-4 mm **Hammer**: There are difference size and weight of hammers that are used for difference purposes. Big hammer is made of solid steel with wooden handle. Weight of the hammer between 3-5 kgs fixed with wooden handle of length between 50-70cm depends on weight of the hammer. This big hammer is commonly used for breaking stone. Small hammer is also made of solid steel with wooden handle. Weight of the hammer between 1-3 kgs. Length of the wooden handle between 30-40 depends on weight of the hammer. This small is commonly use for hammering pegs, metal spike for setting out activity. It is also used for carpentry work for structure works. **Peg**: is a locally made material for setting out. The peg is made from bamboo / wood stick. The length is required to be within 30 cm to 50 cm. The stick can be diameter between 3-5 cm and bamboo strip of 3-5 cm and has one shape pointed end. When setting out on a hard soil metal peg should be used. The metal peg can be a deformed bar of 12-14 mm diameter.	ITEM ITEM ITEM ITEM ITEM ITEM	1 1 10 6 5 20		

	Metal spike/pointed chisel: The metal spike / pointed chisel is usually manufactured either as round or octagonal section rods. For the setting out the diameter should be minimum 20mm. The length is required to be within 30 cm to 40 cm. The spike is made of carbon steel and should have one pointed end	ITEM	20		
	Side drain template is used for checking earth side drain of a road. The side drain template is made of timber frame of trapezium shape. Width of the timber frame between 5-7 cm and thickness 2-3 cm.	ITEM	6		
	Hoe is used for excavation of soil, spread gravel, mix concrete or mortar. It consists of a blade and a handle.	ITEM	20		
	Pickaxes and mattocks are used for excavating stony, hard soils which are difficult to penetrate with hoes. These tools have an oval eye so that the handle cannot turn in the eye. Weighs of the pickaxe is between 2.7 and 3.6kg and the mattock between 1.8 and 2.7kg. They have double edge striking tools and have straight handle with an elliptical rather than circular cross-section. The handle should be provided with a raised safety grip which prevents the handle slipping out of worker's hands	ITEM	20		
	Shovel is used for scooping up material and throwing it on to a truck, wheelbarrow or directly to where the material is needed and use for mixing concrete and mortar. The shovel has a rounded or pointed blade	ITEM	30		
	Spreader and rake Rake is used in road works for collecting vegetation from loose soil when grubbing, but can also be used for spreading if the soil is not stony. Rakes have 10 to 16 teeth, each about 75-100mm long, with an overall width of about 400-450mm. They require straight handles made of hard wood or metal tubes. Spreader is used for spreading out the soil on fills. A spreader can be a heavy-duty rake. The spreader is very useful when forming the camber and for spreading gravel. It is made of sheet metal (3-4mm thick) and have a ridge for crushing lumps of soil. Spreader can be pointed or flat, depending upon the nature of the gravel to be spread.	ITEM	nil		
	Saws are used to cut trees, branch of tree, bush and wood. There are difference type of saws are used for cutting difference size of tree, bush or wood	ITEM	12		
	Axe is used to cut bush, tree, branch and stripping branches of felled trees. The axe can be shaped as cutting edge (blade) while the head of the axe can be used instead of hammer	ITEM	10		
	Wheelbarrow: The wheelbarrow can be a useful piece of transportation equipment over short distance (up to 200 metres). Wheelbarrows are used at sites in earthworks and structure construction for transport the construction material such as soil, sand, aggregate, stone, concrete etc.	ITEM	nil		
	Basket is used for carrying soil or gravel for a short distance	ITEM	nil		
	Hand hammer is used for compacting soil and gravel and consists of a weight with a long handle. The weight can be made of various materials such as steel, concrete or solid wood	ITEM	nil		
	Sack Stretcher: A Sack Stretcher is a locally made for carrying soil and gravel. An empty rice sack is cut open. Two thick straight bamboo poles about 1.5 meters long are sewn along the length of either side of the cloth	ITEM	nil		
	Boots should be used when: • mixing concrete and mortar • working in wet or muddy places • working with sharp tools	ITEM	30		
	Gloves should be used when: • carrying heavy load and when using hand tools • working with concrete and masonry work (rubber gloves) • bending and fixing steel bars • breaking rocks	ITEM	30		
	Safety hat or helmet should be used when working in dangerous of falling objects like: • in deep drain or foundation excavation • under bridge • under tall tree	ITEM	20		
	wood panels (plywood,wod shoh maureen,panels ,clips ,taajah ,lieutenant, ….) **TO COLLECTION**	l.s	1		
	Care of the Site keep the Site in a clean and safe condition including the orderly and tidy storage of materials, regular and prompt removal of rubbish and debris as it appears and the immediate removal from the construction area and tidy stacking of scaffolding and shuttering after used.				

	protect works from the effects of the weather and subsequent operations by the provision of dust sheets, barriers, etc. to the satisfaction of the Engineer. clear away all temporary works at completion and shall make good all work disturbed, to the satisfaction of the Engineer. **Protection of Existing Adjoining Structures** take all necessary measures to protect existing adjoining structures from any damage resulting from the execution of the works. **Description Generally** The description included in the Bills of Quantities to describe the workmanship and materials necessary for each item are not necessarily complete. The Tenderer is referred to the Specifications, Conditions of Contract and other documents and the Drawings for further information concerning the works and no claim or variation will be considered on account of his failure to acquaint himself with such information.	ITEM ITEM	1 1					
	TO COLLECTION							
	SUB SUM							
	Pipeworks							
1	**Ductile Iron Pipes -** Ductile Iron Socket and Spigot Pipe, **Class K9,** Produced according to ISO2531, with Rubber GasketsExternally coated with 130g/m² of Zinc and followed by 70micron bituminous paint coating Internally lined with Ordinary Portland Cement Mortar DN500MM	lin m	260					
2	Ductile Iron Socket and Spigot Pipe, **Class K9,** Produced according to ISO2531, with Rubber GasketsExternally coated with 130g/m² of Zinc and followed by 70micron bituminous paint coating Internally lined with Ordinary Portland Cement Mortar DN600MM	lin m	30					
3	installation of air valves flangedPN16 DN 600MM	NB	2					
4	installation of air valves flangedPN16 DN 500MM	NB	2					
	Air Release Valves - Manufacturer GEMAK: Epoxy Coated from Inside and Outside							
5	installation of air release valves Anti-shock double air release valve including GV PN16, DN 100 mm	NB	2					
6	installation of washouts PN16, DN 300 mm	NB	2					
	Ductile Iron Flange Adaptors - Manufacturer: SANDSTEIN Universal Flange Adaptor with EPDM Gasket Epoxy coated from inside and outsid							
7	Large Tolerance Flange Adaptor DN300mm PN16	NB	4					
8	Large Tolerance Flange Adaptor DN600mm PN16	NB	4					
9	Large Tolerance Flange Adaptor DN500mm PN16,	NB	4					
	Ductile Iron TEEs - Manufacturer:SANDSTEIN BS4772/ISO 2531/EN545 Bitumen coated from inside and outside with flange Adaptor							
10	All Flanged TEE 500 x 200 x 500 PN16	NB	2					
11	All Flanged TEE500 x 150 x 500 PN16	NB	2					
12	All Flanged TEE 500 x 100 x 500 PN16	NB	2					
	Ductile Iron Bends - Manufacturer: SANDSTEIN To BS4772/ISO 2531/EN545 Double Socket with Tyton Rubber Joint Bitumen coated from inside and outside							
13	Double Socket Bends 11 ¼° DN 500mm	NB	6					
14	Double Socket Bends 22 ½° DN 500mm	NB	6					
15	Double Socket Bends 45° DN 500mm	NB	3					
16	Double Socket Bends 90° DN 500mm	NB	4					
17	Double Socket Bends 11 ¼° DN600mm	NB	4					
18	Double Socket Bends 22 ½° DN 600mm	NB	3					
19	Double Socket Bends45° DN 600mm	NB	2					
	Double Socket Bends 90° DN 600mm	NB	1					
	reducer socket bend s 600to 500mm	NB	1					
	Bolts, Nuts, Washers & Flat Rubber Joint Steel, Zinc Plated							
13	Set Of Bolts, Washers, Nuts and Rubber Joint For each DN 100mm PN16 Flange Connection	NB	6.00					
14	Set Of Bolts, Washers, Nuts and Rubber Joint For each DN 300mm PN16 Flange Connection	NB	6.00					
15	Set Of Bolts, Washers, Nuts and Rubber Joint For each DN 500mm PN16 Flange Connection	NB	15.00					
16	Valve chamber cover Grade A	nb	5.00					
	Surface box units for washouts and service connections							
17	supply of surface box unit	nb	30.00					
					SUB SUM			
1	Site topographic survey	KM	0.31					
2	Trial pit not exceeding 3m depth	NB	20.00					
3	Trial trench not exceeding 3m depth	lin m	20.00					
4	As-built drawings	KM	0.31					
5	Extra over for mobilization and site access to Tabbaneh area and to cover all extra expenses for transport of pipes and material, excavation, pipe laying, bedding, surrounds, backfilling, testing,	LS	1.00					

	Trench excavation including removal of existing pipe				
6	Trench excavation for 500 mm& 600mm DI pipes including removal of existing pipe and **transfer all material to official landfills**	m3	1,023.00		
	Pipeworks				
7	Sand bedding for 500 mm& 600mm DI pipes	m3	400.00		
	Laying of ductile iron pipes				
8	Laying of 500& 600mm pipes	lin.m	310.00		
9	Backfilling of trenches on paved roads including compaction and testing Backfilling of trenches for 500 mm & 600mm DI pipes with **new** suitable	m3	1,000.00		
	installation of air valves DN 600 MM	NB	2.00		
	installation of air valves DN 500 MM	NB	2.00		
	Accessories				
10	installation of air release valves Anti-shock double air release valve including GV PN16, DN 100 mm	nb	2		
11	installation of washouts PN16, DN 300 mm	nb	2		
12	installation of connections to existing pipes Connection to existing pipe including valve chamber interal size 200cm*200cm*cm	nb	2		
	Valve chambers and Surface box units Construction of pre-cast or cast in situ, concrete				
13	Valve chamber internal size 150 x 150 cm x cm	nb	2.00		
14	Valve chamber internal size 150 x 150 cm x cm	nb	2.00		
	Valve chamber cover				
15	Valve chamber cover Grade A	nb	10.00		
	Surface box units for washouts and service connections				
16	installation of surface box unit	nb	15.00		
	Concrete works				
17	Mass concrete - Class C20 for blinding	m3	10.00		
18	Mass concrete - Class C25 for pipe supports, thrust blocks,anchors, pipe bedding and surround at river crossings	m3	75.00		
19	Reinforced concrete - Class C25 for pipe anchors, supports,protection slabs, thrust blocks, drainage and irrigation channels	m3	25.00		
	Testing and commissioning of potable water pipes				
20	Testing and commissioning of 500 mm DI pipes	lin.m	310		
	Road Reinstatement				
21	Cutting of paved roads for water pipes	lin.m	290.00		
23	Reinstatement of paved roads including recutting works basecourse 20cm . asphalt 2layers 12cm	m2	500.00		
		SUM TOTAL			
1	Reinstatement tiles for walk way same the existing and slab grade concrete	m2	150.00		
2	Undertake large field investigation on the sewerworks include: provision of all necessary machinery, manpower and supplies, opening and inspection of sewer network manholes covers, identification of buried manholes covers, cleaning manholes, pumping from manholes where needed. Works include excavation and installation of inspection chamber wih ductile iron cover, laying pipes from inspection chamber to sewer manholes, backfilling and reinstatement of pavement road or stairs.	ls	1.00		
3	supply and install UPVC pipes and fittings to BS. 4514;				
4	Ø 200mm	l.m	50.00		
5	Ø 250mm	l.m	90.00		
6	Ø 300mm	l.m	40.00		
7	Ø 400mm	l.m	30.00		
8	supply and install precast concrete sewer manholes with heavy duty cover	nb	3.00		
9	Reinstatement water pipes house connection	nb	15.00		
10	supply and reinforcement concrete pipes				
11	Ø 500mm	l.m	5.00		
12	Ø 600mm	l.m	5.00		
13	Ø 700mm	l.m	5.00		
	Ø 900mm	l.m	5.00		
14	Supply and install precast concrete storm manholes with heavy duty cover	nb	3.00		
15	Rehabilitation and cleaning gully interceptor	l.s	8.00		
				SUM TOTAL	
				TOTAL	