

BILL OF QUANTITIES**Name of the work: Construction of Underground Sump and Provision of pumps for supplying water to buildings AT ITPS, Banharpali**

SI No	Item Description	Unit	Quantity	Rate	Amount
	A				
	UG Sumps				
1	Cleaning grass and removal of rubbish up to a distance of 5 Kms outside the periphery of the area including cost, conveyance, taxes, labour charges etc complete in all respect as per direction of Engineer-In-Charge	Sq.m	300.00		
2	Earthwork Excavation				
a	Earth work in excavation of all kinds of soil by mechanical means (Hydraulic excavator) / manual over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) protecting the edges with required shoring and shuttering as required at site including disposal of excavated earth, lead upto 5 Km and lift upto 1.5 m, disposed earth to be levelled and neatly dressed including dressing of sides and ramming of bottoms including cost, conveyance, taxes, labour charges , etc complete in all respect as per the direction of Engineer-in-Charge .	Cu.m	582		
b	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials for All kinds of soil including cost, conveyance, taxes, labour charges , etc complete in all respect as per the direction of Engineer-in-Charge .	Cu.m	276		

c	Disintegrated rock				
	Excavation in disintegrated /hard rock by mechanical means (Hydraulic excavator) / manual over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) protecting the edges with required shoring and shuttering as required at site including disposal of excavated earth, lead upto 5 Km and lift upto 1.5 m, disposed earth to be levelled and neatly dressed including dressing of sides and ramming of bottoms including cost, conveyance, taxes, labour charges , etc complete in all respect as per the direction of Engineer-in-Charge .	Cu.m	50		
3	Providing and laying of Cement Concrete of grade 1: 4 :8 (1cement : 4 sand : 8 graded hard granite crusher broken stone aggregate 40 mm nominal size) of approved quality from quarry mixing in concrete mixer ,lowering and compacting in proper thickness , watering & curing for the required period .including all cost of labour ,material,conveyance,royalties and taxes ,sundries ,T & P etc. but excluding the cost of centering and shuttering etc. all complete as per the directions of Engineer-in-charge.	Cu.m	19.00		
4	Filling available excavated earth (excluding rock) in trenches plinth sides of foundation,walls, etc. in layers not exceeding 20 cm in depth , consolidating each deposited layers by ramming and watering, with all lead & lift,etc. including cost of all labour, sundries T & P etc complete in all respect as per the direction of Engineer-In-Charge.	Cu.m	283.00		
5	Supplying and filling with river sand, with top surface dressed and leveled to proper gradient including cost of all materials, conveyance, all taxes and royalties, loading and unloading, including cost of all labour, sundries ,T & P etc. All complete as per directions of the Engineer -in-charge.	Cu.m	20		

6	Providing and laying in position machine mixed 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size) concrete for reinforced cement concrete work including cost of all materials, conveyance, royalties and taxes, loading and unloading, cost of all labour, sundries, T&P etc.complete excluding the cost of centering, shuttering, and reinforcement as per direction of Engineer- In - Charge	Cu.m	115		
7	Reinforcement				
	Providing, fixing in position TMT Fe-500D reinforcement bars for RCC work of required diameter of approved quality including straightening, cutting, bending, binding, welding and joining (if necessary) and tying the grills and placing in position as required for R.C.C. work and providing hoisting, lowering and laying including cost, conveyance and taxes of tor steel and binding wires of 18 to 20 gauge and labour required for the work for bending, binding and tying the grills in all heights as per the specification & direction of Engineer -in-charge. (Linear measurements will be taken & quantity will be calculated on standard weight. Weight of binding wire will not be considered for measurement.)	M.T	16		
8	Centering and Shuttering				
	Providing steel/ BWP ply centering and shuttering to required shape and size for all kinds of R.C.C. works at any height or depth with all necessary bracing, ties and supports with level centering covered with 50 micron polythene sheet/bituminous paper . as per the direction of the Engineer -in-charge and dismantling and removing the shuttering after the required interval from the date of casting, including cost of all materials with transportation, taxes, loading and unloading etc. and all labour, sundries, T&P scaffolding etc. complete.	Sq.m	525		

9	12 mm Plastering				
	Providing 12mm thick cement plaster to the surface of brick masonry/RCC wall with cement mortar (1:6) including racking out joints, scraping and cleaning the surface and finishing the plaster surface smooth using wooden floats only to proper plumbs and level as per drawings including cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing, sundries and T&P etc all complete as per direction of the Engineer -in-	Sq.m	240		
10	6 mm Plastering				
	Providing 6mm thick cement plaster with cement mortar of (1:4) to ceilings of roof slabs, stairs, landings, chajja, shelves, columns, beams and lofts etc. including roughening, scraping and cleaning and finishing the plastered surface smooth using wooden floats only to proper plumbs and level as per drawings including cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing, sundries and T&P etc all complete as	Sq.m	210		
11	Cement Punning				
	Providing neat cement punning with cement to ceilings, wall inside and outside etc. including roughening, scraping and cleaning and finishing the plastered surface smooth using wooden floats only to proper plumbs and level, including cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing, sundries and T&P etc	Sq.m	240		
12	Man Hole Cover				
	Providing and fixing in position C.I cover with frame (heavy duty). 560mm internal diameter, total weight of cover and frame to be not less than 208 Kg (weight of cover 108 Kg and weight of frame 100 Kg) including cost, conveyance, etc complete	No	2		

13	G.I vent Pipe				
	Providing, fitting and fixing of 80mm dia G.I vent pipe of approved quality and make. Including all cost of labour, material, conveyance, T&P etc. all complete as per the direction of Engineer-in-charge.	Metre	5		
14	Water proofing				
	Supplying and providing two or more coats of two component base acrylic polymer based water proofing system SIKA Top Seal 109 HI to floor and walls and other required areas as per manufacturer's specification, including all cost of all labour, material, conveyance, taxes, sundries and T&P etc. All complete as per the direction of Engineer-in-charge. Nozzle grouting with required chemical is also to be done	Sq.m	360		
15	PVC Rungs				
	Providing & fixing of propylene Plastic rungs with Cement concrete of 1:2:4 with all necessary arrangements. Including all cost of labour, material, conveyance, loading, unloading, T&P, etc. All complete as per the direction of Engineer-in-charge.	Nos	20		
	B-Pump House				
1	Providing and laying in position machine mixed 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size) concrete for reinforced cement concrete work including cost of all materials, conveyance, royalties and taxes, loading and unloading, cost of all labour, sundries, T&P etc. complete excluding the cost of centering, shuttering, and reinforcement as per direction of Engineer- In - Charge	Cu.m	5.5		

2	Reinforcement				
	Providing, fixing in position TMT Fe-500 reinforcement bars for RCC work of required diameter of approved quality including straightening, cutting, bending, binding, welding and joining (if necessary) and tying the grills and placing in position as required for R.C.C. work and providing hoisting, lowering and laying including cost, conveyance and taxes of tor steel and binding wires of 18 to 20 gauge and labour required for the work for bending, binding and tying the grills in all heights as per the specification & direction of Engineer -in-charge. (Linear measurements will be taken & quantity will be calculated on standard weight. Weight of binding wire will not be considered for measurement.)	M.T	0.75		
3	Centering and Shuttering				
	Providing steel centering and shuttering(steel/ ply) to required shape and size for all kinds of R.C.C. works centering materials with all necessary bracing, ties and supports with level centering covered with 50 micron polythene sheet/bituminous paper . as per the direction of the Engineer -in-charge and dismantling and removing the shuttering after the required interval from the date of casting, including cost of all materials with transportation, taxes, loading and unloading etc. and all labour, sundries, T&P scaffolding etc. complete.	Sq.m	40		
4	Fly Ash Brick Masonary (1:6)				
	Providing Flyash bricks masonry work using (230mmx110mmx75 mm size) fly ash bricks having crushing strength not less than 75Kg/Sqcm in cement mortar (1:6).immersing the bricks in water before use in all necessary projection splays cutting, circular moulding , corbelling etc.including cost of conveyance ,taxes & royalties,loading and unloading of all materials & cost of all labours , scaffolding ,watering & curing ,sundries, T & P etc. complete as per the direction of Engineer-in-	Cu.m	20		

5	Sal wood Choukath for Doors				
	Supplying, fitting and fixing in position well seasoned & dressed Sal wood choukhats of size 125mm x 75mm in doors free from defects such as dead knots, flows etc. in all floors including two coats of termite proof wood preservatives to Rear surface of frames which is in contact with concrete and masonry surface fitted with 6 nos. of W.I. Clamps and required screws of approved quality including cutting legs to sizes, cutting holes in walls, fixing in CC 1:2:4 including cost, conveyance, royalties and taxes of all materials and cost of all labour, sundries, T & P etc. required for the workall complete as	Cu.m	0.05		
6	12 mm Plastering				
	Providing 12mm thick cement plaster to the surface of brick masonry wall with cement mortar (1:6) including racking out joints, scraping and cleaning the surface and finishing the plaster surface smooth using wooden floats only to proper plumbs and level and as per drawings including wire-mesh wherever necessary, cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing, sundries and T&P etc all complete as per direction of the	Sq.m	66		
7	16 mm Plastering				
	Providing 16mm thick cement plaster to the surface of brick masonry wall with cement mortar (1:6) including racking out joints, scraping and cleaning the surface and finishing the plaster surface smooth using wooden floats only to proper plumbs and level and including wire-mesh wherever necessary, cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing, sundries and T&P etc all complete as per direction of the Engineer -in-charge	Sq.m	91		
8	6 mm Plastering				
	Providing 6mm thick cement plaster with cement mortar of (1:4) to ceilings of roof slabs, stairs, landings, chajja, shelves, columns, beams and lofts etc. including roughening, scraping and cleaning and finishing the plastered surface smooth using wooden floats only to proper plumbs and level and as per drawings including cost of all materials, conveyance, loading and unloading, all taxes and royalties, all labour, scaffolding, watering and curing , sundries and T&P etc all complete as per direction of the Engineer -in-charge	Sq.m	40		

9	Water Proofing				
	Supplying and providing two or more coats of two component base acrylic polymer based water proofing system SIKA Top Seal 109 HI to floor and walls and other required areas as per manufacturer's specification, including all cost of all labour, material, conveyance, taxes, sundries and T&P etc. All complete as per the direction of Engineer-in-charge. Nozzle grouting with required chemical is also to be done	Sq.m	60		
10	Solid Flush Door				
	Supplying fitting and fixing in position 32mm thick single leaf Grade-1 door conforming to IS:2202 (part 01/1991) with select seasoned timber and block board core framed with seasoned hard wood battens and bonded at high pressure with phenol formaldehyde resin under the cross banding process, termite resistant and moisture proof including cost, conveyance, taxes of all materials including ss hinges, anodised aluminium 200mm long handles, door stopper, door buffer and labour charges etc. complete as per direction of Engineer-in-charge.	Sq.m	2.2		
11	Aluminium 2-TRACK SLIDING WINDOWS				
	Supplying, fitting ,fixing up window (sliding type) made up aluminium section 151-154, 151-155, as windows frame section no 151-155,151-153 and 151-167 as shutter frame with 5mm thick black glass as panel fitted with rubber beading including all fitting including cost of materials all taxes labour, T & P etc complete as per direction of EIC	Sq.m	3.75		
12	Synthetic Enamel Paint to steel /wood work				
	Painting synthetic enamel paint of approved brand and manufacture of required colour to give an even shade with two or more coats on new work over a coat of suitable shade with primer of approved brand as per manufacturer's specification including cost of all materials with taxes and transportation, all labour, scaffolding, sundries, T&P etc. all complete as per the direction of the	Sq.m	8.25		

13	Water proofing cement Paint				
	Painting cement paint of approved brand and manufacture of required colour to give an even shade with two or more coats on new work over a coat of primer of approved brand as per manufacturer's specification including cost of all materials with taxes and transportation, all labour, scaffolding, sundries, T&P etc. all complete as per the direction of the Engineer -in-charge	Sq.m	170		
14	M. S. Fan Hooks				
	Providing and fixing circular/ Hexagonal cast iron or M.S Sheet box for ceiling fan clamp,of internal dia 140mm,73 mm height , top lid of 1.5mm thick M.S Sheet with its top surface hacked for proper bonding ,top lid shall be screwed into the cast iron/M.S Sheet box by means of 3.3mm dia round headed screws ,one lock at the corners .Clamp shall be made of 12mm dia M.S bar bent to shape as per standard drawing. Including all cost of labour, material, conveyance, royalties, loading, unloading, T&P etc. all complete as per the direction of	Each	2		
15	Grading concrete				
	Providing average 40mm thick grading Concrete with (1:2:2) using 6mm black hard granite chips using 2% water proofing cement compound of approved quality over top of Roof, Terrace, including cost of scaffolding, scraping and cleaning the roof surface, plastering and finishing smooth to proper slope and gradient including cost of all materials, conveyance, taxes and sundries, T&P etc. All complete in all respect as per direction of	Sq.m	45		
C	ELECTRIFICATION OF PUMP HOUSE				
I.	POINT WIRING :-				
1	Recessed Wiring to light/Fan/Exhaust Fan point in 5/8" or 3/4"dia. Good quality PVC pipe with 1.5 sq.mm PVC insulated Cu.wire (2 run) & 1.0 sq.mm PVC insulated Cu.wire (1 run) for running earth complete with 1 no .6Amp.1way plate type Modular switch, (Polycarbonate) and G.I box of adequate size including PVC bend, saddle, elbow, etc and other necessary materials & labour.Including cost all materials, conveyance, royalties and taxes, loading and unloading cost of				

	a) Primary Point controlled by 6A 1-Way Switch. (Group-A)	point	3		
	b) Secondary Point .	point	3		
2	Supply and fixing of 6A modular switch & socket outlet complete with 1 no of 240 volt 6A 4 pin universal round/flat pin combined shuttered socket outlet & 240 volt 16 amp control switch mounted on modular grid plate, all housed in a 2 module recessed zinc chromate passivated flush metal box including mosaic white cover plate of approved make with all other accessories etc. as required	No.	2		
3	Circuit or Sub-main wiring in 3/4" dia PVC conduit with following sizes PVC insulated un-sheathed Single Core FRLS Cu. conductor wire of approved make complete with with all other required				
	a) (2 x 1.5 + 1 x 1.0) sq.mm copper wire for 6A Light plug Point.	mtr	50		
	b) (2 x 2.5 + 1 x 1.5) sq.mm copper wire for 6/16A Plug & Lighting Switch Board .	mtr	50		
4	Supply & fixing of 3 ph. 4 way, triple pole and Neutral, sheet steel MCB double door vertical distribution box complete with tinned copper busbar, neutral link, earth bar, din rail, detachable gland plate complete with connections, testing and commissioning including all other materials etc. as	No.	1		
5	Supplying & fixing of following size MCB/MCCBs in existing MCB DB complete with connections , fitting and commissioning				
	a) 6A to 32A ratings 240V MCB	No.	8		
	b) 100A,16 kA, FP rating 440V MCCB	No.	1		
	c) 125A,16kA, FP rating 440V MCCB	no	1		
6	Earthing with G.I earth plate electrode of 600 mm x 600 mm x 6 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and 2mm thick 3 mtr. long 50dia. G.I pipe for watering, including 25 x 3 mm size G.I. flat, 2'-0' x 2'-0" chamber with 5" Brick wall etc. complete with charcole / coke and salt etc.	No.	2		
7	Supplying and laying 25 x 5 mm G.I earth strip ISI marked on surface or recess as strip earth electrode including soldering etc. as required	mtr.	50		

8	Supplying, fixing, 4.5Kg dry CO ₂ Fire extinguishers with wall mounting brackets first filling etc.	each	1		
9	Supplying and laying of 3.5c x 95sq.mm 1.1kv grade AYFY AL. cable under ground including excavation, supply of bricks, sand and balance material required for laying and completion	mtr	100		
10	Supplying & making End termination of 3.5c x 95sq.mm 1.1kv grade AYFY AL. cable	Set	2		
II.	FITTING & FIXTURE :-				
1	Supply, Installation, Testing, and commissioning of Exhaust fan 250mm dia sweep suitable to work on 230/250 volts, 50HZ complete with mounting frame and louvers including making the hole to suit the size of above fan, making good the damage, connections, with 1.5 sq.mm PVC insulated, copper conductor, single core cable etc as	No.	1		
2	Supply, Installation, Testing, and commissioning of ceiling fan 1200 mm sweep 230/250 volts, 50HZ complete with suitable, clamp, downrod (as per site requirement), blades, canopy, rubber, shackle, step type regulator, and connections with 1.5 sq.mm PVC insulated copper conductor cable	No.	2		
3	Supply, Installation, Testing & commissioning of Surface mounting 1 x 28W T5 fluorescent tube light fitting including 1 no. of 28watt T5 luminaires of approved make complete with all materials &	No.	2		
D	WATER SUPPLY				
1	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes of Sch-40, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints complete as per direction of Engineer in Charge, including cost, conveyance, royalty, taxes, labour-charge, etc				
a)	150 mm nominal inner dia Pipes	rmt	100		
b)	100 mm nominal inner dia Pipes	rmt	50		
c)	62.50 mm nominal inner dia Pipes	rmt	50		

2	Providing and fixing C.I. sluice valves (with cap) complete with bolts, nuts, rubber insertions etc. (the tail pieces if required will be paid separately) : Including all cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of Engineer-in-charge.				
	150 mm diameter	each	4		
	100 mm diameter	each	2		
3	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end) : Including all cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of Engineer-in-charge.				
	65 mm nominal bore	each	3		
4	Providing and fixing C.I. double acting air valve of approved quality with bolts, nuts, rubber insertions etc. complete (The tail pieces, tapers etc if required will be paid separately) : Including all cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of Engineer-in-				
	50 mm dia	each	3		
5	Providing flanged joints to double flanged C.I./ D.I. pipes and specials, including testing of joints : Including all cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of Engineer-in-charge.				
	100 mm diameter pipe	each	10		
	150 mm diameter pipe	each	6		

6	<p>Constructing masonry Chamber 90x90x100 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With Fly ash bricks of class designation 7.5 Including all cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of Engineer-in-charge.</p>	each	5		

7	<p>Constructing masonry Chamber 60x60x75 cm, inside in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for fire hydrants, with C.I. surface box 350x350 mm top and 165 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) , i/c necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand:10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design : With Fly ash bricks of class designation 7.5 Including all cost of labour, material, conveyance, taxes, T&P etc. all</p>		4		
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8	<p>Supplying, installation, testing & commissioning of centrifugal pumps including all foot-valves, suction and delivery pipes along with all fittings like reducers of required sizes, flange joints and all valves like NRVs, float valves and flow controlling meters, required cable from control panel to starter panels and pumps, sensor to auto stop the pump in dry condition of sump, etc. including the cost of labour, material, conveyance, taxes, T&P etc. all complete as per the direction of engineer in charge.</p> <p>The work will include the following : (One Working + One Standby) Centrifugal Split Case type Electrical Motor Driven Drinking water pump set of Discharge capacity 60 m³/hr, 40 mtr head, having MOC Cast Iron Body, bronze impeller & Mechanical Seal, coupled with 15 KW, 1450 rpm, IE2 motor in a common base frame with coupling & coupling guard etc. complete set, Make : KIRLOSKAR, Pump Model : iHT 10ED or equivalent along with Common Auto Manual Control Panel with Star Delta Starter.</p> <p>SCOPE OF SUPPLY: (PUMP + MOTOR + BASE PLATE + COUPLING + COUPLING GUARD) = 2 sets, AUTO MANUAL CONTROL PANEL WITH STAR DELTA STARTER = 2 Numbers with all protection</p>	Set of two pumps with accessories	1 Set		
Total					