

BILL OF QUANTITIES

Name of the work: **Construction of Sump & Pump House for Fire protection Work for Indoor Sports Complex at ITPS,OPGC LTD,Banharpali**

SI No	Item Description	Unit	Quantity	Rate	Amount
I.	CIVIL WORK				
1	Earth work in excavation in all kinds of soil including rock if any by manual means or Mechanical means in foundation , including dressing and levelling of bottom, sides and ramming of bottoms, getting out the excavated soil and disposal of surplus excavated soil away from site as directed within 5 Km lead and dewatering if required including all labour, mechinary, T&P, sundries etc.all complete as per the direction of Engineer-in-charge.				
	Upto 1.5 Mtr Depth	Cum	171.730		
	1.5 Mtr to 3.0 Mtr Depth	Cum	80.230		
2	Filling available excavated earth (excluding rock) in foundation & plinth etc. in layers not exceeding 20cm in depth,consolidating each deposited layer by ramming and watering including labour, mechinary, T&P, sundries etc.all complete as per the direction of Engineer-in-charge.	Cum	167.970		
3	Disposal of rubbish / malba /rock/ similar unserviceable, dismantled or waste materials by mechanical means, including loading, transporting, unloading within 5 Km lead, including all lifts involved including labour, mechinary, T&P, sundries etc all complete as per the direction of Engineer-in-charge.	Cum	83.990		
4	Filling in foundation and plinth with river sand, well watered and compacted in layers of 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. complete as per directions of the Engineer -in-charge.	Cum	16.990		
5	Providing and laying of Cement Concrete of grade 1: 4 :8 (1 cement : 4 sand : 8 graded stone aggregate of 40 mm hard granite crusher broken metal) in foundation, plinth or above level after mixing in concrete mixer 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. complete as per the directions of Engineer-in-charge.	Cum	18.36		
6	Providing and laying of Cement Concrete of grade 1: 3 :6 (1 cement : 3 sand : 6 graded stone aggregate of size 40 mm hard granite crusher broken metal) in foundation, plinth or above plinth level after mixing in concrete mixer 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. complete as per the directions of Engineer-in-charge.	Cum	4.77		
7	Providing and laying in position machine batched,/ machine mixed concrete of M-25 grade for reinforced cement concrete work at all level including laying of concrete using 12 mm 20 mm size crusher broken hard granite chips excluding the cost of centering, shuttering, and reinforcement but including admixture in recommended proportions to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer- In - Charge. including cost of all materials, conveyance , royalties, loading and unloading cost of all labour,sundries, T&P etc.complete per direction of Engineer-In-Charge.	Cum	90.290		
8	Providing, fixing in position TMT / Fe-500 reinforcement bars for RCC work of required diameter of approved quality at all levels 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 steel and binding wires of 16 to 20 gauge and labour required for the work for bending, binding and tying the grills in all heights including cost conveyance, royalty of all materials, labour charges, T&P, mechinaries etc all complete as per the specification & direction of Engineer -in-charge.	Qtl	115.380		

9	Providing strong, rigid, leveled and plumbed centering and shuttering to required shape and size for all kinds of R.C.C. works in the items mentioned below with wooden or steel centering materials with all necessary bracing, ties and supports for level centering covered with bituminous paper including provision of necessary holes and pockets, electrical conduit pipe, P.H. pipes, fan hooks or boxes, switch board insert plates, clamps and extension bars etc., dismantling and removing the shuttering after the required interval from the date of casting, including cost of all materials, cost of all labour, conveyance, taxes, loading, unloading, sundries, scaffolding, staging, T&P, etc, all complete in all respect as per the direction of the Engineer-in-charge.				
	(a) R.C.C. foundation and footing bases of columns mass concrete pre-cast slab etc.	Sqm	51.790		
	(b) R.C.C. Grade beams	Sqm	25.170		
	(c) R.C.C. Beams, columns, girder and bressmer etc.	Sqm	110.530		
	(d) R.C.C. Floor and Roof slab, landing, balconies, projecting, sun shades and chajjas up to all height.	Sqm	121.970		
	(d) R.C.C. walls	Sqm	158.760		
	(e) R.C.C. Chajjas and sunshade	Sqm	2.430		
	(f) R.C.C. Lintels.	Sqm	1.240		
10	Flyash brick masonry in cement mortar (1:6) using flyash bricks having crushing strength not less than 75kg/m ² ,immersing the bricks in water before use, splays cutting, circular moulding , corbelling etc.including cost of conveyance ,taxes & royalties, loading and unloading of all materials & cost of all labours ,materials, scaffolding ,watering & curing ,sundries, T & P etc. complete as per the direction of Engineer-in-charge .				
	In foundation & plinth	Cum	4.910		
11	Flyash brick masonry in superstructure with cement mortar (1:6) using flyash bricks having crushing strength not less than 75kg/m ² ,immersing the bricks in water before use, splays cutting, circular moulding , corbelling etc.including cost of conveyance ,taxes & royalties, loading and unloading of all materials & cost of all labours ,materials, scaffolding ,watering & curing ,sundries, T & P etc. complete as per the direction of Engineer-in-charge .	Cum	17.220		
12	Structural steel work in single section, fixed with or without connecting plate, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer including cost, conveyance of all materials, labour charges, mechinaries, T&P, sundries etc all complete as per direction of Engineer-In-Charge.	Kg	317.050		
13	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 the receiving surface and finishing the plastered surface smooth using wooden floats only to proper plumbs and level, making grooves and beads to give required ornamental finish 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	Sqm	324.880		

14	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 making grooves and beads to give required ornamental finish 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	Sqm	79.850			
15	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 making grooves and beads to give required ornamental finish 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	Sqm	145.830			
16	Providing & laying Kota stone slab flooring of 16mm (average) thick over a 20mm thick based of cement mortar 1:4 to a proper slope, line and level including cutting to required size and shape, fixing at corners and splays etc. including finishing the joints with epoxy based water proofing grout to match the colour and shade of the flooring complete as per the design and drawings. Including cost of all labour, materials, taxes, royalties, loading and unloading, conveyance, sundries, T & P etc. all complete as per drawing and direction of the Engineer -in-charge.	Sqm	47.700			
17	Providing & fixing Kota stone in skirting using 16mm thick Kota stone of approved quality, colour and size over 12mm thick cement mortar (1:3) jointed with neat cement slurry mixed and finishing the joint with epoxy based water proof grout to match the colour & shade of stone including cutting to a proper shape and size, Including cost of all labour, materials, taxes, royalties, loading and unloading, conveyance, sundries, watering and curing etc. All complete as per drawing and direction of the Engineer -in-charge.	Sqm	4.180			
18	Providing fitting, fixing of Aluminium door with Aluminium door section of 9202 as vertical member, 9201 as top, 9200 as bottom and middle member with frame section as 9221 with 12 mm thick Prelaminated particle board fixed on door frame by means of tapered clip No. 4660 and the frame to be completed by means of jointing angle No. 1855, including door stopper, handles, hydraulic door closer, 'U' rubber beading, 6 lever mortise lock, including the cost of all materials, cost of labour, conveyance, taxes, loading, unloading, hire and running charges of drilling machine, T&P, etc. all complete as per the direction of Engineer-in-Charge.	Sqm	3.780			
19	Supplying,fitting,fixing up window (sliding Type) made up Aluminium section 151-155,151-153 and 151-167 as shutter frame with 5mm thick Plain glass as panel fitted with rubber beading including handle, locking arrangement ,all fittings and the cost of all materials, cost of labour, conveyance, taxes, loading, unloading, hire and running charges of drilling machine, T&P, etc, all complete as per the direction of Engineer-in-Charge.	Sqm	6.070			
20	Providing, fitting & fixing of 16 mm thick MS Square bar to the window frame in 125mm c/c as per the detail drawing and design etc. including drilling of holes, cost of cutting ,bending ,straightening of MS Square bar, cost of all labours, materials, conveyance, loading and unloading, sundries and T&P etc all complete as per direction of the Engineer -in-charge.	Kg	180.000			

21	Providing and applying 2 coats plastic emulsion paint of approved quality and shade over a coat of wall primer after finishing wall surface of walls with Acrylic wall putty (water based) of approved quality to surfaces (interior) including thoroughly brushing the surface free from foreign materials, sand papering smooth the intermediate coats, providing necessary putty & primer including of all materials, labour, conveyance, taxes, royalties, scaffolding, watering, curing, sundries, tools and plants etc as per the direction of Engineer-in-charge. (colour & shade to be approved before procurment & use)	Sqm	453.096		
22	Providing and applying two coats of Weather Coat Paint of approved make, quality and shade to the external surface of the building over a coat of primer of approved make and finished smooth and even surface to receive painting of approved shade and quality after cleaning the plastered surface perfectly by watering and brushing including cost of material, primer, paint, brushes, all labour, taxes, loading, unloading, scaffolding, T&P etc. as required for the work as per the direction of Engineer-in-charge. (colour & shade to be approved before procurment & use)	Sqm	243.29		
23	Painting with synthetic enamel paint of approved colour, shade and brand on walls in two or more coats as required to give an even shade including an under coat of suitable primer of approved brand and manufacturer including cost of all materials with taxes and transportation, loading, unloading, scaffolding, all labour, sundries, T&P, etc. complete as per the direction of the Engineer-in-charge including filling gaps with putties, scrapping, sand papering and cleaning the surface to make free from rusts, dusts and oily substances before applying primer etc. complete.	Sqm	47.680		
II.	PUMP HOUSE ELCTRICAL WORKS				
	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) & 1.5 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 including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.				
a)	Group -A controlled by 6A 1-Way Switch.	point	5		
b)	Group -B controlled by 6A 1-Way Switch.	point	2		
c)	Group -C controlled by 6A 1-Way Switch.	point	3		
d)	Secondary Point(Only 3mtr wire of 2x1.5+1x1.5 from Light Point to Light Point)	point	2		
2	Supply and fixing of 6A modular switch & socket outlet complete with 1 no of 240 volt 6 amp 5 pin universal round/flat pin combined shuttered socket outlet & 1 no. of 240 volt 6 amp control switch mounted on modular grid plate, all housed in a 3 module recessed zinc chromate passivated flush metal box including mosaic white cover plate of approved make with all other accessories etc. etc and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	2		
3	Supply and fixing of 6/16A modular switch & socket outlet complete with 1 no of 240 volt 6/16 amp 5 pin universal round/flat pin combined shuttered socket outlet & 240 volt 16 amp control switch mounted on modular grid plate, all housed in a 4 module recessed zinc chromate passivated flush metal box including mosaic white cover plate of approved make with all other accessories etc. as required. including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	2		
4	Circuit or Sub-main wiring in 20/25/32mm dia. good quality ISI mark PVC Conduit with following sizes PVC insulated un-sheathed Single Core FRLS Cu. conductor wire with proper size of copper socket for termination of approved make with all other required necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.				
a)	(2 x 1.5 + 1 x 1.5) sq.mm copper wire for 6A Light plug Point,wall fan.	mtr	20		

b)	(2 x 2.5 + 1 x 1.5) sq.mm copper wire for 6/16A Plug , Lighting Switch Board,Computer Point	mtr	80		
c)	(2 x 4 + 1 x 2.5) sq.mm copper wire for	mtr	10		
d)	(2 x 6 + 1 x 4.0) sq.mm copper wire .	mtr	10		
5	Supply & fixing of 1 ph. 8 way, single pole and Neutral, sheet steel MCB double door distribution box complete with tinned copper busbar, neutral link, earth bar, din rail, detachable gland plate including commissioning, testing as per SLD etc and other necessary materials required including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	1		
6	Supply and fixing of 5 amp to 32 amp rating 240 V "B" series miniature circuit breaker suitable for lighting and other loads of SINGLE POLE in the existing MCB DB ISI marked complete with connections testing and commissioning etc. and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	6		
7	Supply and fixing of DP 25 amp rating 240 300mA,RCCB suitable for inductive loads in the existing MCB DB ISI marked complete with connections, testing and commissioning etc. as required including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	1		
8	Earthing with G.I earth plate electrode of 600 mm x 600 mm x 3 mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and 2mm thick 2.5 mtr. long 50 dia. 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. with charcole / coke and salt etc. as required and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	2		
9	Supplying and laying 25 mm x 5 mm G.I earth strip ISI marked on surface or recess as strip earth electrode including soldering etc. as required complete and other necessary materials etc complete including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	mtr.	40		
Cables MV					
10-a	Supply of one number PVC insulated and PVC sheathed / XLPE Al/Ar power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering, refilling the trench with cable route marker etc and other necessary materials as required including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.				
	3 core 10 sq.mm from External Light DB to External Lights.	mtr	100		
b	Laying and fixing of one number of PVC insulated and PVC seathed / XLPE power cable of 1.1 KV grade of size not exceeding 25 sq.mm on surface as required with necessary marking etc and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.				
	Up to 25 sqmm	mtr	100		
11	Supplying and making end termination with brass compression gland and aluminium lugs/copper for following size of PVC insulated and PVC sheathed / XLPE aluminium/copper conductor cable of 1.1 KV grade as required etc and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge..				
	3 core 10 sq.mm	nos	2		
12	Supply, Installation, testing and commissioning of pre-wired, fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube etc. directly on ceiling/ wall, including connection with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable and earthing etc. as required etc and other necessary materials (excluding light fitting and luminair to be paid separately) including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	6		

13	Supply, Installation, testing and commissioning of ceiling fan on down rod or wall fan on the existing ceiling /surface, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FR PVC insulated, copper conductor, single core cable as required and other necessary materials (excluding ceiling fan to be paid separately) etc complete including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	4		
14	Installation, testing and commissioning of exhaust fan with shutters/louvers in the wall with making the opening, including making good the damage, connection, testing, commissioning and other necessary materials as required (excluding cost of exhaust fan to be paid separately) including cost, conveyance of all materials, labour charges, T&P etc all complete as per the direction of Engineer-in-Charge.				
	Upto 450 mm sweep	No.	1		
15	Supply, Installation, Testing and Commissioning of resistance type ceiling fan regulator, in existing box including connection with 1.5 sq.mm FR PVC insulated single core multistrand copper conductor, earthing the regulator as required etc and other necessary materials (excluding cost of fan regulator) including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.	No.	4		
16	Supplying and fixing brass batten/ angle holder including connection etc. as required and other necessary materials (excluding luminair to be paid separately) including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge..	No.	1		
	FITTING & FIXTURE :-				
17	Supply of Exhaust fan 250 mm dia suitable to work on 230/250 volts, 50HZ complete with mounting FRLSame and louvers etc as per EIC of approved make including with all, materials & labour etc and other necessary materials including cost, conveyance of all materials, labour charges, T&P, testing etc all complete as per the direction of Engineer-in-Charge.(Make Usha-Crisp Air or Equiv -CG/Havells/Bajaj)	No.	1		
18	Supplying of 1200 mm energy efficient ceiling fan of approved make including cost, conveyance of all materials, labour charges etc all complete as per the direction of Engineer-in-Charge. (Make Usha-Striker or Equiv.-CG/Havells/Bajaj)	No.	4		
19	Supply of capacitor switching circuit which works at 120 to 280 volts, Heavy duty, Noiseless 100W step type Fan regulator complete including cost, conveyance of materials etc complete as per the direction of Engineer-in-Charge..	No.	4		
20	Supply of Surface or wall mounting 1 x 20W LED tube light fitting including 1 no. of 20watt LED luminair as per EIC of approved make including cost, conveyance of all materials, labour charges etc all complete as per the direction of Engineer-in-Charge. (Make WIPRO-Model-D532065/SS make Philips /CG/ Wipro/ HYBEC)	No.	6		
21	Supply of 1 no of 9/10 watt LED Lamp(White) as per EIC of approved make including cost, conveyance of all materials etc all complete as per the direction of Engineer-in-Charge.(Lamp Make : PhilipsCG/Havells/Wipro/Philips)	No.	1		
	Total				