

Phase 1



**SECTION – 4**  
**BILL OF QUANTITIES**

<b>PROJECT</b>	<b><u>DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)</u></b>
<b>CLIENT</b>	<b><u>JABALPUR SMART CITY LIMITED</u></b>
<b>TITLE</b>	<b><u>CIVIL, PLUMBING, ELECTRICAL , FIREFIGHTING, HVAC, LIFTS &amp; ROAD WORKS COST SUMMARY</u></b>
<b><u>SUMMARY OF COST</u></b>	

SECTION	ITEMS	AMOUNT	REMARKS
A	CIVIL & ROAD WORKS		
1	SOR ITEMS	₹ 13,35,54,145.00	
2	NON SOR ITEMS	₹ 8,45,96,334.00	
B	WATER SUPPLY SEWERAGE, PLUMBING AND SANITATION WORK	₹ 1,03,38,195.00	
C	FIRE FIGHTING WORKS	₹ 54,36,734.00	
D	ELECTRICAL WORKS	₹ 9,83,84,136.00	
E	HVAC WORKS	₹ 1,35,47,448.00	
F	LIFT WORKS	₹ 56,54,902.00	
<b>TOTAL ESTIMATED COST OF WORK</b>		<b>₹ 35,15,11,894.00</b>	
	<b>SAY</b>	<b>₹ 35,16,00,000.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR CIVIL WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
<b>I</b>		<b>SOR ITEM</b>					
1	15.2	Demolishing cement concrete manually/by mechanical means including disposal of material within 50 meters lead as per direction of Engineer-in-charge.					
	15.2.1	1:3:6 or richer mix	Cum	70.49	₹ 427.50	₹ 30,136.44	
2	15.3	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 meters lead as per direction of Engineer-in-	Cum	242.39	₹ 624.60	₹ 1,51,399.85	
	15.6	Extra for scrapping, cleaning and straightening reinforcement from R.C.C. or R.B. work	Kgs	54538.85	₹ 1.80	₹ 98,169.93	
3	15.7	Demolishing brick work manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 meters lead as per direction of Engineer-in-					
	15.7.4	In cement mortar	Cum	122.28	₹ 360.90	₹ 44,129.92	
4	15.9	Demolishing stone rubble masonry manually/by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50meters lead as per direction of Engineer-in-charge:					
	15.9.2	In cement Mortar	Cum	1656.75	₹ 431.10	₹ 7,14,226.65	
5	15.11	Removing mortar from and cleaning stones and concrete articles (net quantity of stacks of cleaned materials will be measured) :					
	15.11.2	In cement Mortar	Cum	1656.75	₹ 120.60	₹ 1,99,804.53	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
6	15.12	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 meters lead.					
	15.12.1	Of area 3 sq. meters and below	Each	24.00	₹ 62.10	₹ 1,490.40	
	15.12.2	Of area beyond 3 sq. meters	Each	69.00	₹ 86.40	₹ 5,961.60	
7	15.18	Dismantling steel work in built up sections in angles, tees, flats and channels including all gusset plates,bolts,nuts,cutting rivets,welding etc. including dismembering and stacking within 50meters lead.	Kgs	13045.73	₹ 0.90	₹ 11,741.16	
8	15.28	Dismantling roofing including ridges, hips valleys and gutters etc., and stacking the material within 50 meters lead of:					
	15.28.1	GI Sheet	Sqmt	379.28	₹ 28.80	₹ 10,923.26	
	15.28.2	Asbestos sheet	Sqmt	643.17	₹ 13.50	₹ 8,682.80	
9	15.25	Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 meters lead.	Sqmt	6651.70	₹ 46.80	₹ 3,11,299.56	
10	15.34	Dismantling and stacking within 50meters lead,fencing posts or struts including all earth work and dismantling of concrete etc.in base of:					
	15.34.2	R.C.C.	Each	105.00	₹ 55.80	₹ 5,859.00	
11	15.36	Dismantling barbed wire or flexible wire rope in fencing including making rolls and stacking within 50 meters lead.	Kgs	24.96	₹ 6.30	₹ 157.24	
12	2.6	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.					
	a)	Earth work excavation upto 1.5m depth					
	2.6.1	All kinds of soil	CUM	1504.00	₹ 114.30	₹ 1,71,907.20	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
13	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.					
	2.26.1	All kinds of soil	CUM	10.00	₹ 21.60	₹ 216.00	
14	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each eposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	CUM	1015.00	₹ 53.10	₹ 53,896.50	
15	2.27	Supplying and filling in plinth under floors, including watering, ramming, consolidating and dressing complete.					
	2.27.3	Moorum/Hard Copra	CUM	604.00	₹ 513.00	₹ 3,09,852.00	
16	1.1.2	Loading and unloading of excavated earth. (Placing tipper at loading point, loading with front end loader, dumping, turning for return trip, excluding time for haulage and return trip) upto a lead upto 10 kms	CUM	489.00	₹ 148.50	₹ 72,616.50	
17	4.3(Road Works)	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tonnes in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density and as per relevant clauses of section-400.					
	(i)	Grading - I Using Screening Crushable Type	CUM	604.00	₹ 809.10	₹ 4,88,696.40	
18	2.34	Diluting and injecting chemical emulsion for POST- CONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion .					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
	2.34.3	Treatment of soil under existing floors using chemical emulsion @ one liter per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor :					
	2.34.3.1	With Chlorpyriphos/Lindane E.C. 20% with 1% concentration (will be supplied by departmentally)	SQM	1993.00	₹ 55.80	₹ 1,11,209.40	
19	2.34.2	Along the external wall below concrete or masonry apron using chemical emulsion @ 2.25 litres per linear meter including drilling and plugging holes etc.					
	2.34.2.1	With Chlorpyriphos/ Lindane E.C. 20% with 1% sqm concentration.	Rmt	2375.00	₹ 13.50	₹ 32,062.50	
20	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level :					
	4.1.2	Cement Concrete Grade M-15(Nominal Mix) with 40mm maximum size of stone aggregate					
a		For Foundation Concrete of Column Footings & under Masonry foundations and under flooring bed	CUM	227.00	₹ 3,738.60	₹ 8,48,662.20	
21	4.4	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand), cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3(1 Cement : 3 fine sand) on exposed surface complete					
	4.4.4	Cement Concrete Grade M-20(Nominal Mix) with 20mm maximum size of stone aggregate	CUM	11.00	₹ 5,794.20	₹ 63,736.20	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
22	16.6	Vertical load testing of piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per specification & the direction of Engineer in- charge.					
	16.6.2	Single pile above 50 tonne and upto 100 tonne capacity					
	16.6.2.1	Initial test.	Per Test	2.00	₹ 37,658.70	₹ 75,317.40	
	16.6.2.2	Routine test	Per Test	3.00	₹ 22,354.20	₹ 67,062.60	
23	16.7	Cyclic vertical load testing of pile in accordance with IS Code of practice IS: 2911(part IV) including preparation of pile head etc for.					
	16.7.1	Single pile.					
	16.7.1.2	Above 50 tonne and upto 100 tonne capacity pile.	Per Test	3.00	₹ 22,354.20	₹ 67,062.60	
24	16.8	Lateral load testing of single pile in accordance with IS Code of practice IS : 2911 (Part IV) for determining safe allowable lateral load on pile :					
	16.8.2	Above 50 tonne and upto 100 tonne capacity pile.	Per Test	3.00	₹ 28,631.70	₹ 85,895.10	
25	7.1	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with Cement mortar 1:6 (1 cement : 6 coarse sand)					
	7.1.1	Cement Mortar(1:6) (1Cement : 6coarse sand)	CUM	50.00	₹ 2,403.90	₹ 1,20,195.00	
26	7.40	Providing and fixing dry cladding upto 10 meter heights with 30mm thick gang saw cut stone with (machine cut edges) of uniform colour and size upto 1mx1m, fixed to structural steel frame work and/ or with the help of cramps, pins etc. and sealing the joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The steel frame work, stainless steel cramps and pins etc. shall be paid for separately.)					
	7.40.1	Red sand stone	SQM	537.00	₹ 1,444.50	₹ 7,75,696.50	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
27	7.41	Providing and fixing structural steel frame (for dry cladding with 30 mm thick gang saw cut with machine cut edges sand stone) on walls at all heights using M.S. square/ rectangular tube in the required pattern as per architectural drawing including cost of cutting, bending, welding etc. The frame work shall be supported in wall with the help of MS brackets/ lugs of angle iron/ flats etc. which shall be welded to the frame and embedded in brick wall with cement concrete block of CC grade M-15 stone aggregate 20mm nominal size of size 300x230x300mm including cost of necessary centring and shuttering and with approved expansion hold fasteners on CC/RCC surface including drilling necessary holes.	Kg	8458.00	₹ 93.60	₹ 7,91,668.80	
		Approved cramps/ pins etc. shall be welded to the frame work to support stone cladding the steel work will be given a priming coat of Zinc primer as approved by Engineer-in-charge and painted with two or more coats of epoxy paint (Shop drawings shall be submitted by the contractor to the Engineer-in- charge for approval before execution). The frame work shall be fixed in true horizontal & vertical lines/planes. (Only structural steel frame work shall be measured for the purpose of payment, stainless steel cramps shall be paid for separately and nothing extra shall be paid.)					
28	7.42	Providing and fixing adjustable stainless steel cramps of approved quality and of required shape and size adjustable with stainless steel nuts bolts and washer (total weight not less than 260 gms) for dry stone cladding fixed on frame work at suitable location including making necessary recesses in stone slab, drilling required holes etc complete as per direction of the Engineer-in-charge.	Each	2148.00	₹ 308.70	₹ 6,63,087.60	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
29	5.33	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement. including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-35 grade reinforced cement concrete by using 428 kg. of cement per cum of concrete. All work up to floor 2 level.					
		(Note :- Cement content considered in this item is @ 480 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).					
		All works Upto Level 2	CUM	1326.00	₹ 4,826.70	₹ 64,00,204.20	
30	5.34	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement. including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-40 grade reinforced cement concrete by using 435 kg. of cement per cum of concrete. All work up to floor 2 level.					
		(Note :- Cement content considered in this item is @ 435 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).					
		All works Upto Level 2	CUM	2579.00	₹ 4,868.10	₹ 1,25,54,829.90	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
31	5.36	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 410kg of cement per cum of concrete.All works up to floor IIInd level	CUM	314.00	₹ 4,751.10	₹ 14,91,845.40	
32	5.37	Add Extra in respective item for additional floor above floor two level.	CUM	1359.00	₹ 83.70	₹ 1,13,748.30	
33	5.20	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding including cost of binding wire upto floor two level including all wastage etc. complete.					
	5.20.6	Thermo Mechanically Treated Bars	kg	839630.00	₹ 54.00	₹ 4,53,40,020.00	
34	5.20.7	Add extra for providing reinforcement above Floor two level for every additional floor or part there of. - 3rd Floor	kg	77683.00	₹ 0.54	₹ 41,948.82	
		Fourth Floor	kg	70119.00	₹ 1.08	₹ 75,728.52	
		Fifth Floor	kg	43204.00	₹ 1.62	₹ 69,990.48	
	20.1	Centering and shuttering including strutting, propping etc. and removal of form for :					
35	20.1.1	Foundations, footings, bases of columns, etc. for mass concrete	SQM	604.00	₹ 124.20	₹ 75,016.80	
36	20.1.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc	SQM	912.00	₹ 194.40	₹ 1,77,292.80	
37	20.1.4	Shelves (Cast in situ)	SQM	200.00	₹ 204.30	₹ 40,860.00	
38	20.1.6	Columns, Pillars, Piers, Abutments, Posts and Struts.	SQM	4964.00	₹ 253.80	₹ 12,59,863.20	
39	20.1.7	Stairs, (excluding landings) except spiral-staircases.	SQM	1212.00	₹ 250.20	₹ 3,03,242.40	
40	20.1.14	Extra for shuttering in circular work 20% of respective	SQM				

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
41	20.1.20	Small surfaces such as cantilever ends, brackets and ends of steps, caps and bases to pilasters and columns and the like.	SQM	500.00	₹ 302.40	₹ 1,51,200.00	
42	20.1.21	Weather shade, Chajjas, corbels etc., including edges	SQM	73.26	₹ 316.80	₹ 23,208.77	
43	20.1.22	Suspended floors, roofs, landings, balconies and access platform. with water proof ply 12mm thick	SQM	6260.00	₹ 271.80	₹ 17,01,468.00	
44	20.1.23	Lintels, beams, plinth beams, girders, bressumers and cantilevers. with water proof ply 12mm thick	SQM	8212.00	₹ 357.30	₹ 29,34,147.60	
45	20.3	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc. including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 meter or part thereof.					
		(Plan area to be measured)					
	20.3.1	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	SQM	3130.00	₹ 115.20	₹ 3,60,576.00	
46	20.4	Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to seven story height made with 40mm dia. M.S. tube 1.5m centre to centre horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube challies, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc.and maintaining it in a serviceable condition for the required duration as approved and removing it there after. The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineer-in-charge. The lavational area of the scaffolding shall be measured for payment purpose. The payment will be made once irrespective of duration of scaffolding.					
		Vertical and horizontal fins individually or forming box louvers band, facias and eaves boards	KGS	2000.00	₹ 96.30	₹ 1,92,600.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
47	6.1	Brick work with well burnt chimney bricks in bulls patent trench kiln manufactured by ghol process, crushing strength not less than 40kg /sqcm and water absorption not more than 15% in foundation and plinth.					
	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	CUM	141.00	₹ 3,808.80	₹ 5,37,040.80	
48	6.3	Brick work with chimney brick of class designation 40 in superstructure above plinth level upto floor 2 level including the cost of scaffolding in :					
	6.3.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	CUM	2399.00	₹ 3,798.00	₹ 91,11,402.00	
	6.4	Extra for brick work in superstructure above floor 2 level for each floors or part there of .	CUM	986.00	₹ 366.30	₹ 3,61,171.80	
49	6.12	Extra for providing and placing in position 2 Nos. 6mm dia. M.S. bars at every third course of half brick masonry (with of class designation 40).	SQM	212.00	₹ 61.20	₹ 12,974.40	
50	6.31	Providing and laying autoclaved aerated cement blocks masonry with 100mm thick AAC blocks in super structure above plinth level up to floor II level in cement mortar 1:4 (1 cement : 4 coarse sand ) The rate includes providing and placing in position 2 Nos. 6 mm dia M.S. bars at every third course of masonry work.	Cum	26.00	₹ 5,319.00	₹ 1,38,294.00	
51	6.32	Extra for AAC block masonry in superstructure above floor II level for every floor or part there of.	Cum	11.00	₹ 122.40	₹ 1,346.40	
52	6.33	Providing and laying Gypsum panel partitions 100mm thick with water proof Gypsum panels of size 666x500x100mm, made of calcite phosphor Gypsum fixed with tongue and groove, jointed with bonding plaster as per manufacturers specifications in superstructure above plinth level up to floor 2 level. Gypsum blocks will have a minimum compressive strength of 9.3 kg/cm2	SQM.	1244.00	₹ 741.60	₹ 9,22,550.40	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
53	6.34	Extra for Gypsum panel Partitions in superstructure above floor II level for every floor or part thereof.	SQM.	1244.00	₹ 12.60	₹ 15,674.40	
54	13.16	6 mm cement plaster of mix to ceiling of mix					
	13.16.1	CM1:3 (1 cement : 3 fine sand)	SQM.	8666.00	₹ 74.70	₹ 6,47,350.20	
55	13.26	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.					
		Stilt to Fourth Floor	SQM	30078.00	₹ 57.60	₹ 17,32,492.80	
56	13.13	12 mm cement plaster 1:2 (1 cement : 2 stone dust). for internal walls	SQM.	21412.00	₹ 111.60	₹ 23,89,579.20	
57	13.12	18 mm cement plaster in two coats under layer 12 mm thick cement plaster 1:5 (1 cement: 5 coarse sand) and a top layer 6 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished rough with sponge.	SQM.	14763.00	₹ 144.00	₹ 21,25,872.00	
58	13.21	Extra for providing and mixing water proofing material in cement Per bag of plaster work in proportion recommended by the manufacturers.					
		For all Floors	Per bag of 50 kg cement used in the mix	14763.00	₹ 59.40	₹ 8,76,922.20	
59	13.22	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.					
		External Surfaces	SQM.	14763.00	₹ 18.00	₹ 2,65,734.00	
60	13.37	White washing with lime to give an even shade : for ceiling					
	13.37.1	New work (three or more coats)	SQM.	8666.00	₹ 7.20	₹ 62,395.20	
61	13.45	Finishing walls with textured exterior paint of required shade :					
	13.45.1	New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including base coat of water proofing cement paint applied @ 2.20kg/10 sqm.	SQM	14763.00	₹ 112.50	₹ 16,60,837.50	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
62	13.47	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade					
	13.47.1	New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including base coat of water proofing cement paint applied @ 2.20 kg/ 10 sqm).	SQM	100.00	₹ 68.40	₹ 6,840.00	
63	13.50	Applying priming coat :					
	13.50.3	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel galvanised iron/steel works	SQM	7661.00	₹ 14.40	₹ 1,10,318.40	
	13.50.4	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel work (second coat)	SQM	7661.00	₹ 8.10	₹ 62,054.10	
64	13.52	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete.					
	13.52.1	On steel work	SQM	7661.00	₹ 86.40	₹ 6,61,910.40	
	13.58	Providing and applying two coats of fire retardant paint unthinned on cleaned wood/ply surface @ 3.5 sqm per litre per coat including preparation of base surface as per recommendations of manufacturer to make the surface fire retardant.	SQM	135.00	₹ 252.00	₹ 34,020.00	
65	13.43	Applying one coat of cement primer of approved brand and manufacture on wall surface :					
	13.43.1	Cement primer.	SQM	53607.00	₹ 19.80	₹ 10,61,418.60	
66	MP PWD 13.52	Wall painting with premium acrylic emulsion paint of interior grade, having VOC(Volatile Organic Compound) less than 50 grams/litre of approved brand and manufacture, including applying additional coats to achieve even shade and colour					MP PWD

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
	MP PWD 13.52.2	Two Coats	SQM	30078.00	₹ 51.30	₹ 15,43,001.40	13.52.2
67	18.7	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, terraces etc consisting of following operations: a) Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment. b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) fter two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick					
		jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
	18.7.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.(Terrace Floor)	SQM.	483.00	₹ 684.00	₹ 3,30,372.00	
68	18.3	Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of :					
		Ist course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.					
		IInd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.					
		IIIrd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.					
		IVth course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).					
		For all Floors	SQM.	1417.00	₹ 335.70	₹ 4,75,686.90	
69	11.37	Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigment etc., complete.	SQM.	825.00	₹ 856.71	₹ 7,06,785.75	
		For All Floors					



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
70	11.39	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete.					
	11.39.2	Size of Tile 60x60 cm x 10 mm					
		For All Floors	SQM.	2509.00	₹ 998.10	₹ 25,04,232.90	
71	11.26	Kota stone slab 25mm thick flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar (1 cement : 4 coarse sand) 1 : 4 (minimum size of kota stone 0.25 sqm)	SQM.	26.00	₹ 737.10	₹ 19,164.60	
72	11.34	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (6 to 7mm thick) of approved make in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	SQM.	1790.00	₹ 617.40	₹ 11,05,146.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
73	8.2	Providing and fixing 16mm thick gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels.					
	8.2.8	Granite of any colour and shade					
	8.2.8.1	Area of slab upto 0.50 sqm	SQM.	23.00	₹ 2,154.60	₹ 49,555.80	
	8.2.8.2	Area of slab over 0.50 sqm	SQM.	2590.00	₹ 2,289.60	₹ 59,30,064.00	
74	8.3	Extra for providing full edge moulding to 16mm thick marble stone counters, Vanities etc. including machine polishing to edge to give high gloss finish etc. complete as per design approved by Engineer- in- Charge.					
	8.3.2	Granite work.	Meter	43.00	₹ 131.40	₹ 5,650.20	
75	8.4	Extra for fixing marble /granite stone over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive including cleaning etc. complete.	Meter	43.00	₹ 124.20	₹ 5,340.60	
76	8.5	Extra for providing opening of required size & shape for wash basins/ kitchen sink in kitchen platform, vanity counters and similar location in marble/Granite/stone work including necessary holes for pillar taps etc. including rubbing and polishing of cut edges etc. complete.	Each	12.00	₹ 179.10	₹ 2,149.20	
77	8.6	Mirror polishing on marble work/Granite work/stone work where ever required to give high gloss finish complete.	SQM	2613.00	₹ 100.80	₹ 2,63,390.40	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
78	10.14	Providing and fixing pressed steel frames for doors, windows & ventilators conforming to IS: 4351 manufactured from commercial mild steel sheet of 1.25 mm thickness including hinges jamb, lock jamb, bead and if required angle threshold of mild steel angle of section 50x25mm, or base ties of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike- plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer-in-charge:					
	10.14.2	Single rebate 100x50mm	Meter	1146.00	₹ 300.60	₹ 3,44,487.60	
79	10.18	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp of internal dia 140mm, 73mm 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.	Each	112.00	₹ 94.50	₹ 10,584.00	
80	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required					
	10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg	7038.00	₹ 60.30	₹ 4,24,391.40	
81	10.16	Steel work in built up tubular trusses including cutting, hoisting fixing in position and applying a priming coat of approved steel primer, welded and bolted including special shaped washers etc. complete.					
	10.16.2	Hot finished seamless type tubes.	Kg	147960.00	₹ 77.40	₹ 1,14,52,104.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
82	10.6	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete including the cost of providing and fixing necessary 27.5cm long wire springs grade No.2 and M.S. top cover of required thickness for rolling shutters.					
	10.6.1	80x1.25mm M.S. laths with 1.25 mm thick top cover.	Sqmt	9.00	₹ 1,727.10	₹ 15,543.90	
	10.7	Providing and fixing ball bearing for rolling shutters.	Each	1.00	₹ 535.50	₹ 535.50	
83	9.53	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete M-10 (Nominal Mix with 20 mm maximum size of stone aggregate) block 30x10x15 cm	Each	196.00	₹ 71.10	₹ 13,935.60	
84	12.41	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.					
	12.41.2	110 mm diameter	Meter	920.00	₹ 216.00	₹ 1,98,720.00	
85	12.42	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					
	12.42.1	110mm dia Coupler	Each	539.00	₹ 180.00	₹ 97,020.00	
	12.42.3	110x110x110 mm Single tee with door	Each	530.00	₹ 453.60	₹ 2,40,408.00	
	12.42.5.2	110 mm bend Bend 87.5°	Each	500.00	₹ 232.20	₹ 1,16,100.00	
	12.42.6.2	110 mm Shoe	Each	550.00	₹ 481.50	₹ 2,64,825.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
86	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length,including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.					
		110 mm dia	Each	1026.00	₹ 121.50	₹ 1,24,659.00	
87	12.44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.					
		110 mm dia	Each	1026.00	₹ 51.30	₹ 52,633.80	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
88	12.45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with					
	12.45.1	12.5 mm thick tapered edge gypsum board conforming to IS: 2095- Part I.	SQM.	3712.00	₹ 646.20	₹ 23,98,694.40	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
89	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete					
	9.48.2	Fixed to openings /wooden frames with rawl plugs screws etc					
		M.S.grill work for windows and ventilators weighing 21 kg/sqm using M.S. flats, or M.S. square rods,					
		For all sizes and floors	Kgs	340.00	₹ 78.30	₹ 26,622.00	
90	9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position :					
	9.1.1	Second class teak wood	Cum	4.00	₹ 74,823.30	₹ 2,99,293.20	
91	9.2	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters using following hinges.					
	9.20.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws.	SQM.	166.00	₹ 1,890.00	₹ 3,13,740.00	
92	9.23	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of door shutter to be measured)	SQM.	166.00	₹ 315.90	₹ 52,439.40	
93	9.24.1	Extra for providing vision panel not exceeding 0.1 sqm in all type of Rectangular or square.	SQM.	166.00	₹ 108.00	₹ 17,928.00	
94	9.25.1	Extra if louvers (not exceeding 0.2 sqm) are provided in flush door shutters (overall area of door shutters to be measured).Decorative type door.	SQM.	166.00	₹ 265.50	₹ 44,073.00	
95	9.26	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured)	SQM.	166.00	₹ 71.10	₹ 11,802.60	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
96	9.120	30mm thick factory made solid both side Pre-laminated panel PVC door shutter consisting of frame made out of M.S. tubes of 19 gauge thickness and size of 19mmx19mm for styles and 15x15mm for top & bottom rails. M.S. frame shall have a coat of steel primers of approved make and manufacture. M.S. frame covered with 5mm thick heat moulded Pre-laminated PVC 'C' channel of size 30mm thickness, 70mm width out of which 50mm shall be flat and 20mm shall be tapered in 45degree angle on either side forming styles; and 5mm thick, 95mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered in 45 degree on the inner side to form top and bottom rail and 115mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided either side of the panel. 10mm (5mmx2) thick, 20mm wide cross PVC sheet be provided as gap insert for top rail & bottom rail. paneling of 5mm thick both side Pre-laminated PVC sheet to be fitted in the M.S.					
	9.120.2	frame welded/ sealed to the styles & rails with 7mm (5mm+2mm) thick x 15mm wide PVC sheet beading on inner side, and joined together with solvent cement adhesive. An additional 5mm thick PVC strip of 20mm width is to be stuck on the interior side of the 'C' Channel using PVC solvent adhesive etc. complete as per direction of Engineer-in-charge. Manufacturer"s specification & drawing (for W.C. and bathroom door shutter).	SQM	99.00	₹ 2,915.10	₹ 2,88,594.90	
97	9.96	Providing and fixing aluminium sliding door bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete :					
	9.96.1	300x16 mm	Each	270.00	₹ 176.40	₹ 47,628.00	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
98	9.97	Providing and fixing aluminium tower bolts, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868 ) transparent or dyed to required colour or shade, with necessary screws etc. complete :					
	9.97.1	300x10 mm	Each	55.00	₹ 81.00	₹ 4,455.00	
99	9.101	Providing and fixing aluminium hanging floor door stopper, ISI marked, anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade, with necessary screws etc. complete.					
	9.101.1	Single rubber stopper	Each	45.00	₹ 21.60	₹ 972.00	
100	9.83	Providing and fixing IS : 3564 marked Aluminium die cast body tubular type universal hydraulic door closer with necessary accessories and screws etc. complete.	Each	183.00	₹ 715.50	₹ 1,30,936.50	
101	9.98	Providing and fixing aluminium pull bolt lock anodised ISI marked (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour and shade with necessary screws bolts, nut and washers etc. complete.	Each	15.00	₹ 74.70	₹ 1,120.50	
102	9.99	Providing and fixing 50cm long aluminium kicking plate 100x3.15 mm anodised (anodic coating not less than grade AC 10 as per IS :1868) transparent or dyed to required colour or shade with necessary screws etc. complete.	Each	30.00	₹ 126.00	₹ 3,780.00	
103	3.1	Excavation for roadway in soil including loading in truck for carrying of cut earth to embankment site with all lifts and lead upto 1000 meters and as per relevant clauses of section-300.	Cum	400.00	₹ 88.20	₹ 35,280.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
104	4.1	Construction of granular sub-base by providing coarse graded material, spreading in uniform layers with on prepared surface, mixing by mix in place method at OMC, and compacting with vibratory roller to achieve the desired density, complete in all respect and as per relevant clauses of section-400.	Cum	150.00	₹ 543.60	₹ 81,540.00	
105	4.3,4.3.1	Providing, laying, spreading and compacting stone aggregates of specific sizes to water bound macadam specification including spreading in uniform thickness, hand packing, rolling with vibratory roller 8-10 tonnes in stages to proper grade and camber, applying and brooming requisite type of screening/ binding materials to fill up the interstices of coarse aggregate, watering and compacting to the required density and as per relevant clauses of section-400.	Cum	150.00	₹ 809.10	₹ 1,21,365.00	
106	6.1	Construction of dry lean cement concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table of MORTH Specifications 600-1, cement content not to be less than 200 kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with paver with electronic sensor/mechanical paver, compacting with 8-10 tonnes vibratory roller, finishing and curing and as per relevant clauses of section-603	Cum	100.00	₹ 2,443.50	₹ 2,44,350.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
107	6.5	Construction of dowel jointed, plain cement concrete pavement in M-30 grade concrete over a prepared sub base with 43 grade cement maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver with spreading the concrete by shovels, rakes compacted using needle, screed and plate vibrator and finished in a continuous operation including provision of contraction, expansion, and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, placing of dowel bar,tie rod admixtures as approved, curing compound, finishing to lines and grades as per approved drawings as per IRC-15 2002 and as per relevant clauses of section-602 of specifications complete but excluding cost fo steel i	Cum	150.00	₹ 4,228.20	₹ 6,34,230.00	
		<b>SOR TOTAL COST</b>				<b>₹ 13,35,54,144.90</b>	
<b>II</b>		<b>NON SOR ITEM</b>					
108	DRS-20.2A	Boring, providing and installing bored cast-in-situ reinforced cement concrete pile of specified diameter and length below the pile cap M 40 in cement concrete, to carry a safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of boring with, bentonite solution and temporary casing of appropriate length for setting out and removal of same and the length of the pile to be embedded in the pile cap etc. by crawler mounted, telescopic boom hydraulic piling rig all complete, including removal of excavated earth with all lifts and leads (Length of pile for payment shall be measured upto bottom of pile cap).					
	MR-01	600 mm dia piles	Rmt	387.00	₹ 3,899.00	₹ 15,08,913.00	
	MR-02	800 mm dia piles	Rmt	2875.00	₹ 5,536.00	₹ 1,59,16,000.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
109	MR-03 (GSR-18108)	Providing and laying 20 mm thick (unfinished surface) CONNOR USA or Equivalent sports flooring, MFMA certified 3rd & better grade hard maple wood planks, minimum 57 mm width and of random length varying from 230 mm to 1800 mm, jointed together with the help of tongue and Groove on all the four sides. Substructure of maple wood flooring shall consist of sleeper of Spruce or Pine or Fir wood or plywood having length between 1200 mm(minimum) to 2400 mm, and cross section of 25 mm (minimum) and laid perpendicular to the main flooring planks at a spacing between 225 mm to 305mm centre to centre, including 12mm(minimum) thick resilient shock pads/cushions at the maximum spacing of 300mm centre to centre on each sleeper, 0.20mm (200µm) thick polyethylene membrane vapour barrier beneath the flooring system, machine sanding, one coat of oil modified Poly urethane Gym sealer and 2 coats of oil modified Poly urethane Gym sports finish in accordance with manufacturer specification, line marking in accordance with manufacturers specifications and project drawings , Aproved BY WBF, FIBA, WSF,etc complete to the entire satisfaction of Engineer-in-charge.	Sqm	799.00	₹ 7,070.00	₹ 56,48,930.00	
110	MR-04	<b>Sports Skirting:</b>					
		Factory supplied 75mm x 100mm rubber base molding to include air channeling in back of base to provide full ventilation of the sub-floor system. Fixed to the wall with a base molding adhesive as recommend by manufacturer.	Meter	120.00	₹ 1,743.00	₹ 2,09,160.00	
111	MR-05	<b>Aluminum Skirting</b>					
		Supply of 2.5 mm thick Aluminum Profile (Reducer) for periphery of sports flooring, Size of Aluminum profile not less than 100 mm wide and 1500 mm long with counter hole and Anodizing	Meter	5.00	₹ 2,091.00	₹ 10,455.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
112		<b>vinyle sports flooring for Table tennis, Gym and Badminton Warm up area</b>					
	MR-15 (GSR 18115)	Providing and laying International Table Tennis Federation Approved TARAFLEX Synthetic sports surface not less which consist of 100% pure vinyl wear layer not less than 1.5 mm thick, with protecsol and sanosol treated to reduce Skin burn with double fiber glass grid for sound stability on floor width of sheet not less than 1.5 M joined with seamless Hot welding. Laid with adhesive as per manufacturer's instruction over existing leveled surface including game lines marking with following specification. Shock absorption under EN 14808 standard not less than 25% Ball bounce under EN 12235 standards not less than 90% Abrasion resistance under EN ISO5470-1 < 350mg. <b>Approved by :- FIBA (Federation International Basketball Association) . WBF (World Badminton Federation) .</b>	SQM.	695.00	₹ 4,444.00	₹ 30,88,580.00	
		<b>SPIKE &amp; IMPACT RESISTANT EPDM FLOOR TILES</b>					
113	MR-16	Supply and installation spike resistance rubber flooring for Locker room it consist of Black rubber granules and 30% synthetic EPDM granules floor should be Environmental friendly, non-toxic, Recycled , non-polluted, anti-slip and anti-fatigue Laid with adhesive as per manufacturer's instruction over existing leveled surface with following Technical specification. Density (kg/m):1250/1400 Hardness (Shore a):65 Length (m):not less than 10 mtr Width (m):not less than 1 mtr Thickness (mm): 10mm (tolerance in thickness not less than ±0.3mm) Tensile Strength ASTM D41206A(2013) :- not less than 2MPa Tear strength ASTM D62400 (2012) :- not less than 10 kn/m Compression set ASTM D395-03(2008) Method B:-not less than 12%	SQM.	777.00	₹ 4,414.00	₹ 34,29,678.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
114	MR-17 (DSR 9.162)	Providing and fixing of fully insulated 55 mm thick wooden fire / smoke check door shutter using 31mm thick FR insulation with internal facia of 9mm thick calcium silicate board having density not less then 950 Kg/cum on both sides and faced with 4mm thick commercial ply facing including 15X55 mm size hardwood beading with fire and smoke seal of size 10 X4 mm fitted along vertical and horizontal edges of the shutter .The complete door system should be capable to achieve Two hour fire rating in accordance with BS:476 Part 20and IS:3614 part II.Rate to include 150x75mm Hardwood door frame duly embedded with Promseal Intumscent Smoke Strip as per manufacturer's specification all complete . The door shutter shall also have a vision panel 6mm thk, 200mm x 300mm / 300mm x 300mm fire rated glass ( to be paid saperately), surrounded with fire proof treated teakwood beading, all around complete in all respects as per manufactures specifications and direction of the Engineer-In-Charge.	SQM.	35.00	₹ 6,907.00	₹ 2,41,745.00	
		Providing & Fixing following fire rated fittings as per manufactures specifications and direction of the Engineer-In-Charge.					
115	MR-18	Guardian 1185 WC External locking arrangement ELA with lever handle complete with euro cylinder	Nos	12.00	₹ 2,904.00	₹ 34,848.00	
116	MR-19	Schott Fire Rated Clear Glass (6mm Thk) W 200 x H 800 mm	Nos	12.00	₹ 6,505.00	₹ 78,060.00	
117	MR-20	Surface door closer HDC003 with standard arm,silver finish - hormann	Nos	12.00	₹ 2,323.00	₹ 27,876.00	
118	MR-21	SS Pull Handle 250mm x 19 mm Dia.Stanley USA	Nos	12.00	₹ 1,336.00	₹ 16,032.00	
119	MR-22	Guardian Pushbar panic latch 1211, suitable for door width up to 1200mm, Silver finish	Nos	27.00	₹ 6,389.00	₹ 1,72,503.00	
120	MR-23	Self Adhesive Side Roll ( Ceramic Tape) Kerfai2000 Length-10mtrs/Roll. Product Code No.:400000	Nos	24.00	₹ 233.00	₹ 5,592.00	
121	MR-24	Fire Rated Anchor Fastner	Nos	96.00	₹ 30.00	₹ 2,880.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
122	MR-25 (GSR 18101)	<p>Supply and fixing of KALZIP 65/400 - Self SUPPORTED" SECRET FIX STANDING ROOFING SYSTEM IN 0.9mm THICK AA 3004 ALUMINIUM ALLOY, comprising of the following layers:</p> <p>i. Exterior Layer –</p> <p>Top layer –Kalzip 65/400 Straight profiled sheeting manufactured from Aluminum Alloy Almnmg1- as specified in BS EN 2007 (comparable AA 3004), minimum material thickness of 0.9 mm and Stucco Embossed finish.</p> <p>The material properties are as follows:- Ultimate tensile strength: minimum 200 N/mm<sup>2</sup> 0.2% Proof Stress: minimum 185 N/mm<sup>2</sup> Modulus of elasticity:70,000 N/mm<sup>2</sup></p> <p>Accessories,</p> <p>Aluminum ST clips – in grade 6061- T6 , of suitable height, with spacing as required for the wind loads. Detailed structural calculations shall be provided by the manufacturer for the Clip Pull out force. Each aluminum clip shall come with a 5mm height black polyamide thermal barrier pad. Other relevant accessories like, Ridge closures, gable end channels, tolerance clips, gable end clips, foam fillers etc to be included as appropriate and wherever necessary. Corrugation cavities shall be closed off from the outside and inside of the building to ensure a tight fit leaving no gaps</p> <p>Item includes Designing, Supplying, installation and fixing of profiled aluminium sheeting including Clips, stainless steel fasteners, thermal barrier pads, inner closure at ridge and eaves with rivets and also providing all machineries (Straight profile machine ) required for the project.</p>	Sqm	600.00	₹ 6,414.00	₹ 38,48,400.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
123	MR-26	Supply and fixing of PERFORATED KALZIP 65/400 – Panels manufactured from Aluminum Alloy Alnm1mg1- as specified in BS EN 2007 (comparable AA 3004), minimum material thickness of 0.9 mm and PVDF finish. The material properties are as follows:- Ultimate tensile strength: minimum 200 N/mm <sup>2</sup> 0.2% Proof Stress: minimum 185 N/mm <sup>2</sup> Modulus of elasticity:70,000 N/mm <sup>2</sup> The panels shall be finished with PVDF. The fluorocarbon coating (2-coat system) shall consist of:- First coat -Inhibitive primer, with a dry film thickness averaging 5-7µm Second coat -Fluorocarbon colour coat, with a minimum dry film thickness of 20 microns. The inner side of the panels shall be finished with primer coating of 5-7 microns	Sqm	300.00	₹ 4,792.00	₹ 14,37,600.00	
124	MR-27 (GSR 18104)	<b>Flashings (Stucco Embossed)</b> Supply and fixing of 0.9 mm thick Flashings up to 578mm Girth and in PVDF finish.	Meter	500.00	₹ 1,515.00	₹ 7,57,500.00	
125	MR-28	<b>Gutters</b> Supply and Fixing of 2 mm thick Aluminium Gutter up to 1000mm Girth along with Aluminium Expansion joints @ every 15 mtrs.	Meter	120.00	₹ 5,227.00	₹ 6,27,240.00	
		<b>External Façade for Badminton Hall</b>					



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
126	MR-30	<p>Supply and fixing of KALZIP TF 800 profiles IN 1 mm THICKNESS AA 3004 ALUMINIUM ALLOY, comprising of the following layers:</p> <p>1. Exterior Layer: Designing, providing and fixing Kalzip TF 800 R in 1.0 MM THICK AA3004 ALUMINUM ALLOY comprising of sheets in 800 Mm widths, and in lengths up to 5.8 mtrs or as per site requirements and finished in PVF2 colour – (Shade as approved by Architect). Each module shall,further comprise of three 267 modules and each module with two downward pointing triangular profile , of 67 mm widths , which shall have a radius bend of 3mm . The sheeting having a nominal value yield strength at 0.2% proof stress <math>R_{p0.2} = 185N/mm^2</math> .The sheets shall confirm to the Characteristics load bearing Capacity according to DIN 18807 ,part 6.The panels shall be mechanically fixed to suitable substructure of MS/ aluminum at every 2nd small lower Flange, at 120 mm from the panel ends and a maximum centre to centre distance of 1300 mm OR AS REQUIRED BY THE WIND LOAD at the specific site. The Sheeting shall be finished with PVF2 . Nominal organic coating thickness - 25um – EN13523 1</p> <p>2. Insulation layer – Rockwool Insulation of overall thickness 100 mm and density 64 kg/m<sup>3</sup>. K-value 0.038 W/mK as per standard ASTM C-518. Fire classification as per BS 476: Part 6&amp;7 / EN-1350-1 / UL-273.</p> <p>3. GI TOP Hats- 1.6 mm thick GI top hats battens spaced at 1200mm C/C or as per wind load calculations to accommodate insulation and also to support TF 800 Panels. 4. Vapour Barrier : 1 layer of vapor control barrier-up to 150 microns thickness double sided aluminium foil 5. GI Weldmesh: 75mmx 75 mm GI weldmesh made out of 1.6 mm thick GI wire rods.Item to include designing, supplying, installation and fixing profiled aluminum facades , including fasteners, rivets etc. The installation shall be carried out by a approved agency as approved by the architect. Note: Cost of GI Z</p>	Sqm	2140.00	₹ 6,331.00	₹ 1,35,48,340.00	
127		<b>Internal Façade for Badminton Hall</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Providing and fixing Kalzip Kalbau 35/200 profiles IN 1.0 MM THICK AA3004 ALUMINUM ALLOY comprising of sheets in 1000 Mm widths, and in lengths 5.8 mtrs maximum or as per site requirements. The profile shall have a depth of 35 mm and Pitch of 200mm The sheets shall confirm to the Characteristics load bearing Capacity values according to DIN 18807. The panels shall be mechanically fixed to suitable substructure of MS/ aluminum at every 400mm with the help of SS 304 grade fasteners . The Sheeting shall be finished with PVDF 2coat exterior coating Item to include designing ,supplying, installation and fixing profiled aluminum facades , including cost of accessories, Internal corner Extrusions, , screws, fixtures etc. The installation shall be carried out by a specialized agency as approved by the architect	Sqm	2140.00	₹ 3,775.00	₹ 80,78,500.00	
		<b>Aluminium Flashings for Badminton Hall</b>					
128	MR-27 (GSR 18104)	Supply & Fixing of Flashing in 1 mm thickness and same PVDF finish as of Panels up to 600mm Girth	Meter	500.00	₹ 1,515.00	₹ 7,57,500.00	
		<b>Fall Arrest System</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
129	MR-31 (GSR 18106)	Supply and installation of LATCHWAY Fall Arrest System suitable for Kalzip roof sheets using 4X Aluminium Clamps. The complete system must be tested and certified as per EN 795:2012 Class C and A2 & TS CEN 16415:2013. The system must be capable of supporting 3 simultaneous users at any point along 7X7/8mm dia SS 316L cable even in same area between 2 posts and shall demonstrate that every individual post is capable of absorbing a direct dynamic load of 300kg dropped through 1.5 meters (or 6000Joules) and limit the force to the roof to 10KN in shear without damage to the roof substrate. The system shall hold EC declaration of conformity. Each individual post shall have a unique traceable serial number and be manufactured from Aluminium 5083 and SS 316L. Evidence of Salt spray testing to 1000 hours for Aluminium and 6,000 hours for SS with no corrosion, shall also be provided inclusive of 2 no.s transfasteners & 2 number Full Body Harness, EA double lanyard and Anchorage line.	Meter	60.00	₹ 10,252.00	₹ 6,15,120.00	
130		<b>WALKSAFE SYSTEM</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
	MR-32	Supply and fixing of KALZIP WALKSAFE SYSTEM. The specification of the system is as mentioned below: FRP Pultruded Grating Manufactured From 'I' Section 25 mm Height with Bearing Bar C/c 40mm & Cross Bar of 12mm Dia Round Bar, C/C 150mm, Manufactured From Isophthalic Resin. Colour---Grey/Yellow Width of Walkway--- 490 mm Walk-Safe System Accessories: <ul style="list-style-type: none"> <li>• Kalzip Seam clip made of Aluminium Alloy 6063/T5 Temper mill finished and will be as per BSEN755-2 specifications</li> <li>• Aluminium L-Angle made of Aluminium Alloy 6063/T6 Temper mill finished and will be as per BS EN 755-2 specifications</li> <li>• Fasteners Stainless Steel Grade 304</li> </ul>	Meter	60.00	₹ 6,098.00	₹ 3,65,880.00	
131		<b>ROOF HATCH SYSTEM WITH RAILING</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
	MR-33	<p>Roof Hatch - Single Leaf (along with Galvanized Rail System and Powder coated Steel Safety Post- 1 No. Each)</p> <p>Ideal for applications requiring roof access</p> <ul style="list-style-type: none"> <li>• Make : Babcock-Davis</li> <li>• Size : 900mm x 900mm</li> <li>• Material : Shall have aluminium cover and frame of 11 gauge (2.3mm)</li> <li>• Cover: Shall have breakformed, hollow-metal design with 1" (25.4mm) concealed fiberglass insulation, 3" (76mm) beaded, overlapping flange, fully welded at corners, and internally reinforced for 40 psf (195 kg/m2) live load.</li> <li>• Curb: Shall be 12" (305mm) in height with integral capflashing, 1" (25.4mm) fiberboard insulation, fully welded at corners, and 3-1/2" (89mm) mounting flange with 7/16" holes (11mm) provided for securing frame to the roof deck.</li> <li>• Gasket: Shall have extruded EPDM rubber gasket permanently adhered to cover.</li> <li>• Hinges: Shall have heavy-duty pintle hinges with 3/8" (9mm) type 316 stainless steel hinge pins.</li> <li>• Latch: Single leaf: Shall have slam latch with interior and exterior turn handles and padlock hasps.</li> <li>• Lift Assistance: Compression spring operators shall be enclosed in telescopic tubes. Shall have automatic hold-open arm with grip handle release.</li> <li>• Hardware: Shall have Aluminium engineered composite compression spring tubes.</li> </ul> <p>Shall have steel compression springs with electro coated acrylic finish.</p> <p>Shall have type 316 Stainless steel hinges.All other hardware shall be zinc plated/chromate sealed.</p> <p>Finish: Shall have aluminium Mill Finish.</p>	NOS	1.00	₹ 4,64,600.00	₹ 4,64,600.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
132	MR-77	Providing and fixing false ceiling at all height including providing & fixing of special section, power pressed from MS sheets & galvanised with zinc coating of 120gms/sqm(both side inclusive) as per IS 277 and consisting of angle cleat of size 25mm wide x1.6mm thick with flanges of 27mm and 37mm, at 1200mm C/c one flange fixed to the ceiling with dash fastener 12.5mm dia x50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50mm of required length with nuts and bolts of required size and other end of angle hanger fixed with intermediate GI channels 45x15x0.9mm running at the spacing of 1200mm c/c, to which ceiling section 0.5mm thick bottom wedge of 80mm with tapered flanges of 26mm each having lips of 10.5mm, at 450mm c/c, shall be fixed in a direction perpendicular to GI intermediate channel with connection clip made out of 2.64mm dia x 230mm long GI wire at every junction, including fixing perimeter channels 0.5mm thick 27mm high having flanges of 20mm and 30mm long, the perimeter of ceiling fixed to wall / partitions with the help of rawl plugs at 450mm centre, with 25mm long dry wall screws@230mm interval, including fixing of calcium silicate board to ceiling section and perimeter channels with the help of dry wall screws of size 3.5x25mm at 230mm c/c, including jointing and finishing to	SQM.	1250.00	₹ 926.00	₹ 11,57,500.00	
133	MR-34 (DSR 10.28)	Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-in-charge, ( for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).					
		All Floors	Kgs	3871.00	₹ 478.00	₹ 18,50,338.00	DSR 10.28

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
134	MR-35 (DSR-25.6)	Providing and Fixing Structural Glazing fabricated from Roll formed sections made of Pre-painted Steel / Powder coated (Base steel as per IS 513 of 'D' quality, galvanized as per IS 277 with Zinc of 120 Gm/Sqm) with total coated thickness of 0.72mm. The glass holding section made of 304 grade stainless steel of 0.6mm thick as per the design requirement & calculations as given in IS: 875. Primer coat with epoxy primer of 5 – 7 microns thick, finish painted with a polyester paint of 12-16 microns thick and back coated with Alkyd backer of 5-7 microns or powder coated with pure polyester powder up to 50-60 microns thick. The vertical section should be of 50mm x100mm x 0.72mm, 33mm x 58mm x 0.72mm for frame horizontal section, stiffener section should be 48mm x 98mm x 1mm, cover profiles sections should be of 20mm x 58mm x 0.58mm, Glass holding section should be of 37mm x 37mm & 37mm x 18mm. Including 5mm thick Ocean Blue reflective glass. Brackets made of CRCA powder coated/Electroplated should be used to connect vertical to horizontal, vertical to slab, to fix verticals at top & bottom as per site Gasket made of Ethyl Propylene Diamine Monomer. Natural cure, with Good U.V. Resistance Silicon to be used. Wall fixing of sections to concrete/masonry wall should be with self-expanding cap & screws. The rate is inclusive of cost and conveyance of all materials to site, all labour charges, incidental charges, cost of all consumables etc. and scaffolding charges, form work , etc., complete for finished item of work in all floors.requirement.	SQM	408.00	₹ 2,826.00	₹ 11,53,008.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
135	MR-36 (DSR-25.2,25.3)	Providing, assembling, supplying and fixing vision glass panels comprising of hermetically sealed 6-12-6mm insulated glass(Double glazed) vision panel unit of size and shape as required and specified , comprising of an outer heat strengthened float glass 6mm thick of approved colour and shade with reflective soft coating on surface#2 of approved colour and shade, an inner heat strengthned clear float glass 6mm thk, spacer tube 12mm wide, dessicants, including primary seal and secondary seal etc complete for the required performances as per the Architectural drawing,as per the approved shop drawings as specified and as directed by the Engineer-in-charge. The IGUs shall be assembled in the factory /workshop of the glass processor.	SQM	441.00	₹ 6,201.00	₹ 27,34,641.00	
136	MR-37 (DSR-25.4)	Extra for openable side/top hung vision glass panels(IGUs) including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4-point cremone locking sets with stainless steel plates, handles. buffers etc. including necessary stainless steel screws/fasteners, nuts, bolts,washers etc.all comlete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Enginner-in Charge.	SQM	170.00	₹ 2,970.00	₹ 5,04,900.00	
137	MR-38 (GSR 8052)	Supply and installation of Aluminium Louvers. The frame should be made of Aluminium tubes of size 100x50X1.50 mm thk and 50X25x1.50 mm thk C channels. Aluminium Z shaped louvers of 100mm should be fixed to the supporting frame with aluminium cleats, GI screws, etc complete. The whole assembly is powder coated with pure polyester paint. (MS framing to be paid separately)	SQM	517.00	₹ 3,545.00	₹ 18,32,765.00	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
138	21.4	Providing and fixing double action hydraulic floor spring of approved brand and manufacture confirming to IS:6315 having brand logo embossed on the body/plate with double spring mechanism and door weight upto 125kg, for door, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and cover plates with brass pivot and single piece MS sheet outer box with slide plate etc. complete as per direction of Engineer-in charge					
	MR-42 (DSR 21.4.1)	With stainless steel cover plate minimum 1.25mm thickness	Each	31.00	₹ 2,075.00	₹ 64,325.00	
139	GSR 7166	Providing and fixing Stainless steel D type handles with necessary screws etc complete					
	MR-43	a) L 300mm/325mm x 22 to 25mm dia	Each	110.00	₹ 1,353.00	₹ 1,48,830.00	
140	GSR 7165	Providing & fixing Stainless Steel tubular lever D-Type mortise handles with round/Square nose,24mm Mortise/sash lock body & Strike plate (all SS Finish), Pin cylinder 60mm with one side key and other side knob/thumb turn with necessary screws etc. complete					
	MR-44	For all floors	Each	102.00	₹ 4,711.00	₹ 4,80,522.00	
141	MR-45 (GSR 1772)	Stainless Steel Cylindrical lock 60mm with pair of knob, keys etc. with necessary screws etc.	Each	71.00	₹ 918.00	₹ 65,178.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
142	21.1	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular and other sections of approved make conforming to IS: 733 and IS : 1285, fixing with dash fasteners of required dia and size , including necessary filling up the gaps at junctions, ie at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing/paneling CP brass/stainless steel , all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing and panelling to be paid for separately) :					
	21.1.1	For fixed portion					
	MR-39 (DSR 21.1.1.2)	Powder coated aluminium(minimum thickness of powder coating 50 microns)	Kgs	1112.00	₹ 389.00	₹ 4,32,568.00	
143	21.1.2	For shutter of doors, windows and ventilators including providing and fixing hinges /pivot and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required(Fittings shall be paid separately)					
	MR-40 (DSR 21.1.2.2)	Powder coated aluminium(minimum thickness of powder coating 50 microns)	Kgs	1390.00	₹ 450.00	₹ 6,25,500.00	
144	21.3	Providing and fixing glazing in aluminium door , window, ventilator shutters and partitions etc. with EPDM rubber/neoprene gasket etc. complete as per the architectural drawings and the the directions of Engineer-in-charge.					
	MR-41 (DSR 21.3.2)	with float glass panes at 5.50mm thickness	Sqm	139.00	₹ 1,014.00	₹ 1,40,946.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
145	MR-49	Providing and Grouting the foundation bolts/ pockets, base plates with ready mixed non shrink, free flow, self levelling, cementations grout making holes if necessary in concrete including shuttering, curing etc. as per the recommendations of the manufacturer, complete as directed.	Sqm	26.00	₹ 2,091.00	₹ 54,366.00	
146		Providing and fixing resin anchors (HILTI RE-500) by drilling holes in RCC member, of requisite diameter and length, cleaning it using water jet or compressed air and to make it dry before inserting the rebar of requisite diameter and length and fixing it using chemical of approved make and manufacturer.					
	MR-50	8mm bars	Each	250.00	₹ 93.00	₹ 23,250.00	
147	MR-51	10mm bars	Each	250.00	₹ 117.00	₹ 29,250.00	
148	MR-52	12mm bars	Each	250.00	₹ 140.00	₹ 35,000.00	
149	MR-53	16mm bars	Each	250.00	₹ 233.00	₹ 58,250.00	
150	MR-54	Providing, fabricating and erecting signage boards with 6mm white acrylic sheet with opaque self adhesive PVC film (vinyl) or reflective sheeting. The boards shall be side mounted/roof hung. If the sign board side will be fixed with SS fittings and roof hung will be done with SS chain.	Sqm	100.00	₹ 6,389.00	₹ 6,38,900.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
151	MR-55	Providing and fixing signage made of 1.5mm thick stainless steel plate of grade 304, with CNC Laser cut letters. This shall be fixed on 8mm thick Teakwood/pre laminated/marine plywood with veneer/ laminated and melamine polished base with 12 mm dia S S studs of grade 304 with brass buttons and screws complete. The signage shall be fixed to the wall/ceiling/doors etc by SS screws or hanged from the ceiling by means of SS chain of 8mm dia with anchor fasteners complete. as per drawing as directed by engineer. All material shall be of approved make. All works shall be completed as per the drawing, specification and direction of the Engineer.	Sqm	20.00	₹ 11,035.00	₹ 2,20,700.00	
152	MR-56	Providing and fixing signage made of 1.5mm thick stainless steel plate of grade 304 with CNC Laser cut letters. This shall be fixed on 8mm thick transparent/coloured Acrylic board. The SS plate shall be fixed on the acrylic board with 12mm dia SS studs of grade 304 with brass buttons and screws. The signage shall be fixed to the wall/ceiling/doors etc by SS screws or hanged from the ceiling by means of SS chain of 8mm dia with anchor fasteners complete. as per drawing as directed by Engineer etc Complete as per drawing .All material shall be of approved make. All works shall be completed as per the drawing, specification and direction of the Engineer.	Sqm	20.00	₹ 11,035.00	₹ 2,20,700.00	
153	MR-57	Providing and fixing signage made up of base material of 6mm thick transparent/coloured acrylic sheet. The graphic is of computer cut self adhesive vinyl covered with clear vinyl to protect from peeling. The signage shall be fixed with 12mm dia SS studs or ss mirror screws.All material shall be of approved make. All works shall be completed as per the drawing, specification and direction of the Engineer.	Sqm	100.00	₹ 7,260.00	₹ 7,26,000.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
154	MR-58	Providing and fixing signage made of base material of 4mm thick Aluminum composite panel with computer cut self adhesive vinyl graphic covered with clear vinyl to protect from peeling. The signage shall be fixed with 12mm dia SS studs or ss mirror screws.All material shall be of approved make. All works shall be completed as per the drawing, specification and direction of the Engineer.	Sqm	100.00	₹ 3,137.00	₹ 3,13,700.00	
155	MR-59	Providing, fabricating and erecting 3 dimensional Stainless Steel letters/ alphabets of 304 grade 1.5 mm thk.as per given matter, font Arial, at all heights including fixing the alphabets with anchor fasteners etc. including scaffolding etc.complete.	Per Inch ht	1000.00	₹ 291.00	₹ 2,91,000.00	
156	MR-60	Providing,installing testing & commision aquaguard 80 SS lit storage cooler cum purifier of approved brand /make having following technical specifications: Dimension(wxd&h)= 640*450*1350mm, storage tank & body material of S.S 304, Power in watts (max) 625 +/- 10%, cooling capacity = 60 LPH, water storage tank capacity=80 ltrs, no. of water faucets=2, no of cold water faucets=1, no of stages for filter cum purifier=3, no of purifier circuits=2, with visual controls, with water flow switch, Refrigerant= Freon 22, max water flow rate through the faucets= 1.5LPM etc complete as directed by Engineer.	Each	6.00	₹ 91,759.00	₹ 5,50,554.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
157	MR-61 (GSR-18127)	Supply & Installation of pre-fabricated modular toilet /shower cubicals of approved brand /make with overall minimum dimensions ranging between 900mm to 1100mm (Width), 1500mm to 1600mm (Depth) & 1950mm to 2003 mm (Height) ( including a gap ranging from 100mm to 150 mm from finished floor level), having door size not less than 600mm (width) & 1750mm (height) made up from 12 mm thick HP Compact water resistant Laminate boards of single approved shade including standard approved colour anodized in S.S finish aluminium sections such as Aluminium “U” Channel, Aluminium “F” channel, Aluminium Door Stopper Channel & Aluminium Top Rail including standard approved SS 304 M hardware such as SS Coat Hook , SS Lock Set c/w Occupancy Indicator, SS Hinges with Cover, SS Adjustable Foot 316 Grade, Rubber Door Stopper Lining, SS door knob, S.S.Screws 304 G & P.V.C Wall Plugs etc as per approved manufactures specification & direction of Engineer.	Each	69.00	₹ 26,513.00	₹ 18,29,397.00	
		<b>Table Tennis</b>					
158	MR-62	Supply of International Table Tennis Fedration (IITF) aproved of 19 mm table top Table tennis Table including approved quality net with 2 set of necessary accessories & with weight of Table not less than 70 kg etc complete & as directed by the Engineer.	Each	4.00	₹ 53,234.00	₹ 2,12,936.00	
		<b>Squash</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
159	MR-63	Providing and applying through approved applicator 10-12mm (1/2") thick hard plaster (Cement Plaster) as per world squash federation standards for Squash court with Sidewalls sloping up from 2.13 m to 4.57 m including sub base preparation , 2-3 mm thick two-layer cement-rich render containing imported white Portland cement hard plaster system is applied with material build-up of 1/3 proportions .The system shall be applied in two layers with material build-up of 2/3 – 1/3 proportions respectively chemically formulated to optimize workability under the trowel so as to achieve off-white finished play wall surface with painted Game Line marking as approved by World squash federation etc complete & as directed by the Engineer	Sqm	99.00	₹ 3,794.00	₹ 3,75,606.00	
160	MR-64	Supply and installation of 21 ft x 7.8 ft squash Court Glass Back wall as per WSF specifications using fully tempered ½" (12 mm) thick safety toughened glass of approved brand manufactured by a horizontal process with Glass wall consisting of 4 panel of approved size each with the thickness of 12 mm including a glass door of approved size, 12 mm thick with Indian make lock including four fins of approved size each with thickness 12 mm with Imported Hardware as per world squash federation specification with Indian made glass panels included with the glass wall with all necessary fitting like SS patch fittings, SS handle, lock etc complete and as directed by the Engineer.	per Court	1.00	₹ 3,97,721.00	₹ 3,97,721.00	
161	GSR-18110	Movable badminton post					
	MR-65 (GSR-18110)	Stylish Design, Made from 40X40 mm steel square tube with 60kg. of ballast weight. Roller wheels are provided to facilitate easy transport and storage. This is designed for strength and stability, to support heavy net. with a large base maintain the stability.	Set	4.00	₹ 30,300.00	₹ 1,21,200.00	
162	MR-68	Supply and Install - Billiard Table	Each	2.00	₹ 1,71,326.00	₹ 3,42,652.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
163	MR-69	Supply & Install - Pool Table	Each	2.00	₹ 1,71,326.00	₹ 3,42,652.00	
164	MR-72 (GSR-18129)	<b>General Spectator Seating - Model Plaza</b> The Seat shall be a one piece stadium seat, injection molded in polypropylene co-polymer and mounted on a corrosion resistat galvanized steel beam, supported by galvanized steel mounting brackets. The Seat shall have a full plain front surface with no criss-cross profile to avoid dust collection on front surface of seat. General dimensions Width 450 mm X Depth 425 mm X Height 350 mm. The Seat will have definite structural ribbing on the rear to withstand the rigors of tough stadium use. It will comply to all international standards like Durability-EN 12727 level 4 for furniture, Fire safety-BS 5852 Source 0,1.	Each	864.00	₹ 3,985.00	₹ 34,43,040.00	
165	MR-73 (GSR-18130)	<b>VIP Sepectator Seat - Model Alpha Bare</b> The VIP Seat shall be an individual (not Connected to each other) Tip Up type Seat, injection molded in polypropylene co-polymer with UV additives, mounted on galvanized steel brackets. The seat shall have concealed internal ribbing for structural stability. The Seat shall have no visible fasteners on any surface. The Tip up mechanism will be factory assembled and sealed to ensure no clothing or finger entrapment, requiring no adjustment or lubrication for the life of the installation. General dimensions Width 490 mm X Depth 555 mm X Height 815 mm. It will comply to all international standards like Durability-EN 12727 level 4 for furniture, Fire safety-BS 5852 Source 0,1. The Seat will be capable of accepting armrests, Seat and back padding at a later stage on site.	Each	82.00	₹ 7,117.00	₹ 5,83,594.00	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
166	MR-74 (GSR-9086)	Application of Tremix charges for vibration with skid vibrator, leveling, vacuum dewatering treatment, float the surface with power trowel and finish the same Application of Tremix charges for vibration with skid vibrator, leveling, vacuum dewatering treatment, float the surface with power trowel and finish the same	Cum	1993.00	₹ 755.00	₹ 15,04,715.00	
167	MR-75	Labour Charges for Stamping Work. The rate is inclusive of rubber Moulds of required stamping pattern & releasing agent all labours, tools and tackles required for this work.	Sqm	1001.00	₹ 198.00	₹ 1,98,198.00	
		<b>NON SOR TOTAL COST</b>				<b>₹ 8,45,96,334.00</b>	
		<b>TOTAL COST</b>				<b>₹ 21,81,50,478.90</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR PLUMBING WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	DSR 2015-16 PAGE NO. 128 ITEM NO. 13 Bd/V-20 P-561	Providing and fixing European type white glazed earthenware 580mm Water Closet pan with mahogany seat and lid with chromium plated brass hinges and rubber buffers including cast iron soil and vent pipes upto the outside face of wall and 100 mm diameter cast iron plug bend, 10 litres white H.D.P. flushing cistern with fittings, pipes and stop tap, 32 mm dia galvanised iron heavy type flush pipe with fittings and clamps, painting in gray oil paint to exposed pipes and cutting and making good wall and floors.	No.	49	8,049.00	3,94,401.00	
2	DSR 2015-16 PAGE NO. 131 ITEM NO. 23 Bd/V-30P-565	Providing and fixing ..... size including one cold water pillar tap, brackets, rubber plugs and brass chain, stop tap and necessary pipe connection including bottle trap and polyethylene waste water pipe upto the out side face of the wall, making good the damaged surface, testing etc. complete.					
2.01		white glazed earthenware wash hand basin of 55 cm x 40 cm	No.	45	4,345.00	1,95,525.00	
3	DSR 2015-16 PAGE NO. 131 ITEM NO. 24 Bd/V-30P-566	Providing and fixing ..... size including one cold water pillar tap, brackets, rubber plugs and brass chain, stop tap and necessary pipe connection including bottle trap and polyethylene waste water pipe upto the out side face of the wall, making good the damaged surface, testing etc. complete.					
3.01		white glazed earthenware sink 600 mm x 200 mm x 450 mm	No.	2	4,873.00	9,746.00	
4	FMR	Providing & fixing grab bar jaquar make AHS - 1507 600 mm long	No.	8	2,316.66	18,533.27	
5	DSR 2015-16 PAGE NO. 134 ITEM NO. 35 Bd/V-35P-570	Providing and fixing 10 cm P.V.C. Nahani Trap fixed with P.V.C. grating, P.V.C. plug bend and piece of P.V.C. pipe up to plug bend, scaffolding etc. complete.	No.	115	386.00	44,390.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
6	DSR 2015-16 PAGE NO. 134 ITEM NO. 35 Bd/V-35P-570	Providing and fixing White glazed earthenware ..... type urinal with white H.D.P.E. flushing cistern of 5 litres capacity with fittings, inlet pipe and stop tap, brackets for fixing the cistern, 32 mm diameter galvanised iron heavy type flush pipe with fittings and flushing spreader arrangement etc. complete.					
6.01		full stall	No.	28	7,744.00	2,16,832.00	
7	DSR 2015-16 PAGE NO. 127 ITEM NO. 10 Bd/V-12 P-556	Providing and fixing 10 cm dia. chromium plated brass shower rose to 15 mm dia. supply pipe including necessary G.I. bend and socket complete.	No.	40	234.00	9,360.00	
8	FMR	Providing & fixing Shower arm JAQUAR make SHA-479L600	No.	40	2,190.30	87,611.83	
9	DSR 2015-16 PAGE NO. 143 ITEM NO. 83 Bd/V	Providing and fixing stealth faucet jet spray of approved Jaguar or equivalent make including necessary socket/union etc. complete as directed.	No.	49	3,282.00	1,60,818.00	
10	DSR 2015-16 PAGE NO. 142 ITEM NO. 75 Bd/V	Providing and fixing 15 mm diameter Angle cock with flange P.V.C. polymer scratch resistant, anti-static with guarantee against any manufacturing defect including socket, union nuts etc. complete.	No.	77	339.00	26,103.00	
11	DSR 2015-16 PAGE NO. 143 ITEM NO. 82 Bd/V	Providing and fixing single lever high flow concealed diverter decorative stealth series ivory gold or chromium plated with flange and revolving joint with hot and cold water arrangement of approved Jaguar or equivalent make including necessary washer taplon tape etc. complete.	No.	40	5,947.00	2,37,880.00	
12	DSR 2015-16 PAGE NO. 150 ITEM NO. 98 Bd/V	Providing, laying, cutting, jointing, fixing and testing of CTS SDR 11 CPVC (CHLORINATED POLYVINYL CLORIDE) pipes with Astral Ploytechnik Ltd. make (Pressure rating 28Kg/Cm2 at 23oC and 7Kg/Cm2 at 82oC) marked with IS:15778, UV resistant, suitable for cold and hot water supply in concealed with all plugs, clamps including all CPVC plain and brass threaded fittings complete in all respects to the satisfaction to the Engineer-in-charge. This includes jointing of pipes & fittings with one step CPVC solvent cement and by teflon tape on threaded ends including cutting chases and making good the walls and properly clamped. All termination points for installation of faucets shall have brass terminal fittings.					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
12.01		For 15 mm outer diameter pipe	Rmt.	0	177.00	-	
12.02		For 20 mm Outer diameter pipe	Rmt.	437	252.00	1,10,124.00	
12.03		For 25 mm Outer diameter pipe	Rmt.	0	363.00	-	
13	DSR 2015-16 PAGE NO. 150 ITEM NO. 99 Bd/V	Providing, laying, cutting, jointing, fixing and testing of CTS SDR 11 CPVC (CHLORINATED POLYVINYL CLORIDE) pipes with Astral Polytechnik Ltd. make (Pressure rating 28Kg/Cm2 at 23oC and 7Kg/Cm2 at 82oC) marked with IS:15778, UV resistant, suitable for cold and hot water supply exposed on walls complete with all plugs, clamps including all CPVC plain and brass threaded fittings complete in all respects to the satisfaction to the Engineerin-charge. This includes jointing of pipes & fittings with one step CPVC solvent cement and by Teflon tape on threaded ends including cutting chases and making good the walls and properly clamped. All termination points for installation of faucets shall have brass terminal fittings. (As directed by Engineer in Charge)					
13.01		For 15 mm outer diameter pipe	Rmt.	0	108.00	-	
13.02		For 20 mm outer diameter pipe	Rmt.	458	156.00	71,448.00	
13.03		For 25 mm outer diameter pipe	Rmt.	130	224.00	29,120.00	
13.04		For 32 mm outer diameter pipe	Rmt.	105	323.00	33,915.00	
13.05		For 40 mm outer diameter pipe	Rmt.	35	437.00	15,295.00	
13.06		For 50 mm outer diameter pipe	Rmt.	50	711.00	35,550.00	
14	DSR 2015-16 PAGE NO. 141 ITEM NO. 68 Bd/V	Providing and laying in trenches ..... RIGID PVC ASTM Threaded heavy pressure pipes (Blue) Schedule 80 as per I.S. 4985-2000 and name of manufacturer with G.I. Screwed sockets, joints and necessary G.I. fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs etc. and testing with a hydraulic pump for a pressure of 7 kg./sq. cm. or as mentioned in M.C.G.M. Bye-Laws including necessary excavation and back filling complete including removing existing pipes, if necessary and conveying and stacking in P.W.D. chowky etc. complete.					
14.01		a) 63 mm outer diameter having wall thickness 5.54 mm to 6.20 mm	Rmt.	144	736.00	1,05,984.00	
14.02		b) 90 mm outer diameter having wall thickness 7.62 mm to 8.53 mm	Rmt.	44	996.00	43,824.00	
14.03		c) 110 mm outer diameter having wall thickness 8.56 mm to 9.58 mm	Rmt.	100	1,386.00	1,38,600.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
15	DSR 2015-16 PAGE NO. 135 ITEM NO. 34 Bd/V-35 P-570	Providing and fixing P.V.C. Soil/Waste water Pipes ..... and having wall thickness of 3.2 to 3.8 mm conforming to I.S. 13592-1992 including P.V.C. plug bend, necessary fittings such as bend, tees, single junction, double junction, slotted vent offsets on walls or in the ground including fixing the pipe on wall using approved wooden cleats projecting 25 mm to 40 mm from face of wall and fixing with clips of approved quality and number, filling the joints using rubber gasket with solvent cement including necessary scaffolding, screwing, cleaning the surface and applying two coats of oil paint of approved shade and maintenance for 3 years for any leakages or dislocation of pipes. All the PVC fittings and additional two piece socket clips and screws shall be got approved from Engineer in charge etc. complete.					
15.01		110 mm outer dia.	Rmt.	209.3	628.00	1,31,440.40	
15.02		75 mm outer dia.	Rmt.	385.1	458.00	1,76,375.80	
16	DSR 2015-16 PAGE NO. 144 ITEM NO. 84 Bd/V	Providing and laying in trenches 160 mm nominal outer diameter UPVC water pipe including all necessary fittings such as bends, tee, single/double junction, slotted vents, offsets on wall, volve including necessary scaffolding etc. complete.	Rmt.	100	987.00	98,700.00	
17	DSR 2015-16 PAGE NO. 134 ITEM NO. 36 Bd/V-38 P-572	Providing and fixing 15 cm x 10 cm Salt Glazed Stoneware Gully Trap in cement concrete 1:4:8 outside the building including connecting to salt glazed stoneware pipe, brick masonry chamber with cast iron lid grating for the gully trap etc. complete as directed.	No.	7	2,256.00	15,792.00	
18	DSR 2015-16 PAGE NO. 135 ITEM NO. 37 Bd/V-38 P-573	Providing and laying ..... Salt Glazed Stoneware pipe including fittings such as bends, tees, single junctions, double junctions, laying, jointing (excluding excavation and refilling the trenches) etc. complete as directed.					
18.01		150 mm dia.	Rmt.	46	343.00	15,778.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
19	DSR 2015-16 PAGE NO. 136 ITEM NO. 39 Bd/V-38 P-573	Providing and constructing Brick Masonry Intercepting Trap Chamber (sewer trap) of 90 cm x 45 cm including necessary excavation, cement concrete 1:4:8 foundation, cement concrete 1:2:4 channels/ half round glazed stoneware pipe channel, salt glazed stoneware intercepting trap with rodding pipe set in cement concrete 1:4:8, brick masonry, plastering inside and outside as required, cast iron heavy type lid (1.5 CWT weight) with frame fixed in cement concrete 1:2:4 etc. complete as directed.	No.	8	10,827.00	86,616.00	
20	DSR 2015-16 PAGE NO. 143 ITEM NO. 84 Bd/V	Providing and laying in trenches 160 mm nominal outer diameter UPVC water pipe including all necessary fittings such as bends, tee, single/double junction, slotted vents, offsets on wall, valve including necessary scaffolding etc. complete.	Rmt.	63	987.00	62,181.00	
21	FMR	Providing and fixing leak proof and frost proof ASTMD (UPVC) Pipes of ..... having a wall thickness ..... SWR pipes for drain etc. complete.					
21.01		40 mm dia	Rmt.	99	288.00	28,512.00	
21.02		50 mm dia	Rmt.	100.12	345.00	34,541.40	
22	DSR 2015-16 PAGE NO. 127 ITEM NO. 8 Bd/V-9P-555	Providing and fixing screw down ..... Wheeled stop tap of gun metal bearing I.S.I mark including sockets, union nut complete.					
22.01		15 mm dia.	No.	0	413.00	-	
22.02		20 mm dia.	No.	51	485.00	24,735.00	
22.03		25 mm dia.	No.	0	585.00	-	
22.04		32 mm dia.	No.	0	755.00	-	
22.05		40 mm dia.	No.	2	1,073.00	2,146.00	
22.06		50 mm dia.	No.	2	1,393.00	2,786.00	
23	EDSR-2013-14 ITEM NO.13-7-13	Supplying & Installing cast iron double flange butterfly valve of size 75/80 mm dia. as per specification No. FF-VL/BFV	No.	2	2,809.00	5,618.00	
24	EDSR-2013-14 ITEM NO.13-7-14	Supplying & Installing cast iron double flange butterfly valve of size 100 mm dia. as per specification No. FF-VL/BFV	No.	2	3,692.00	7,384.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
25	DSR 2015-16 PAGE NO. 136 ITEM NO. 41 Bd/V	Providing and constructing Surface Drain 300 mm (12") wide and 450 mm (18") depth(average) with 230 mm (9") burnt brick masonry plastered on both sides with 20 mm (3/4") thick in cement mortar 1:3 including 300 mm (12") dia. Glazed stoneware channel at bottom fixed in cement concrete 1:4:8 bedding 900 mm x 150 mm (3'-0" x 0'-6") giving required slope, curing, necessary excavation, refilling the sides etc. complete.	Rmt.	0	1,024.00	-	
26	DSR 2015-16 PAGE NO. 86 ITEM NO. 7 Bd/R-10 P-455	Providing and fixing valley gutter of 0.80 mm thickness (22 B.W.G.) plain galvanised iron sheets ..... with country teak wood planking 20 mm thick including two coats of coal tarring the upper surface of plank (excluding painting to under side of plank)					
26.01		120 cm wide	Rmt.	0	3,682.00	-	
27	FMR	Supply, installation, testing and commissioning of Hydropneumatic system for water supply comprising: a) FRP Vessel with replaceable bladder as per data sheet and specification. b) 3 Nos pumps as per Data Sheet with valves on suction & delivery and non-return valve on delivery. All three pumps shall be provided with individual variable frequency drive. c) Control Panel d) All accessories required for the control of system as per control scheme. e) All interconnection piping as shown on drawing. f) Electrical connection to pumps from panel using suitable conductors and earthing of equipment.					
27.01		Domestic Water Supply HEAD: 45 METER FLOW: 2220 LPM	No.	2	13,79,105.86	27,58,211.72	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
28	FMR	Supply, installation, testing and commissioning of Hydropneumatic system for water supply comprising: a) FRP Vessel with replaceable bladder as per data sheet and specification. b) 3Nos pumps as per Data Sheet with valves on suction & ' delivery and non-return valve on delivery. All three pumps shall be provided with individual variable frequency drive. c) Control Panel d) All accessories required for the control of system as per control scheme. e) All interconnection piping as shown on drawing. f) Electrical connection to pumps from panel using suitable conductors and earthing of equipment.					
28.01		Flushing Water Supply HEAD: 45 METER FLOW: 3204 LPM	No.	2	21,55,217.62	43,10,435.24	
29	EDSR -2013-14 ITEM CODE.12-4-6	Supplying and erecting 1 phase, 230 V, 50 Hz, submersible pump set suitable for erection on open well, pump having discharge 130 / 475 L.P.M., head 21 / 9 m & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Rmt.	2	16,190.00	32,380.00	
30	EDSR -2013-14 ITEM CODE.7-1-5	Supplying, erecting & terminating PVC armoured cable 3 core 2.5 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Rmt.	25	111.00	2,775.00	
31	EDSR -2013-14 CHAPTER 1 ITEM CODE. 7-1-17	Supplying, erecting & terminating PVC armoured cable 3½ core 25 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Rmt.	75	230.00	17,250.00	
32	EDSR -2013-14 CHAPTER 1 ITEM CODE. 7-1-19	Supplying, erecting & terminating PVC armoured cable 3½ core 50 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	Rmt.	75	482.00	36,150.00	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
33	EDSR -2013-14 CHAPTER 1 ITEM CODE. 7-4-9	Providing & erecting epoxy outdoor/indoor end termination kit for LT PVC armoured cable 25 to 50 sq mm. cable, with necessary material as per specification No. CB-JT/LT	No.	8	1,379.00	11,032.00	
		<b>TOTAL</b>				<b>98,45,899.65</b>	
		CONTINGENCIES		5%		4,92,294.98	
						103,38,194.64	
		<b>NON SOR TOTAL COST</b>				<b>₹ 1 0,3,38,195.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR FIRE FIGHTING WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	Supply Installation , testing & comissioning of Diesel engine driven Fire Hydrant pump 2850 LPM @ 70 M head complete with diesel prime mover, Back pullout endsuction Pump coupled with Diesel engine on base frame with protection of coupling guard & 12 Volt Battery + leads + 100 liter fuel tank.	NOS	1	5,43,430.60	5,43,430.60	
2	FMR	Supply Installation testing & comissioning of Fire Hydrant pump 2850 LPM @ 70 M head complete with Back Pullout End Suction Pump coupled with 75 hp motor on base frame with protection of coupling guard.	NOS	2	2,44,893.41	4,89,786.82	
3	FMR	Supply Installation testing & comissioning of Fire Sprinkler Pump 2850 LPM @ 53 M head complete with Back Pullout End Suction Pump coupled with 60 hp motor on base frame with protection of coupling guard.	NOS	2	1,93,279.06	3,86,558.12	
4	FMR	Supply Installation testing & comissioning of Fire Hydrant Jockey Pump 180 LPM @ 70 M Head complete with Back Pullout End Suction Pump coupled with 10 hp motor on base frame with protection of coupling guard.	NOS	2	66,621.12	1,33,242.24	
5	FMR	Supply Installation testing & comissioning of Fire Sprinkler Jockey Pump 180 LPM @ 53 M Head complete with Back Pullout End Suction Pump coupled with 10 hp motor on base frame with protection of coupling guard.	NOS	2	46,274.93	92,549.87	
6	EDSR-2013-14 ITEM NO. 13 5-4	Booster Pump of 900 LPM at average 40 m Head, 12.5 HP either Monoblock or of suitable HP with suitable Stages.	NOS	2	45,609.00	91,218.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
7	DSR-2015-16 ITEM NO. 1 PAGE 123 Bd/V-5 P-551	Providing and laying G.I. pipe in trenches ..... and having embossed at every metre as ISI mark and name of the manufacturer with screwed sockets, joints, and necessary galvanised iron fittings such as backnuts, elbows, bends, tees, reducers, enlargers, plugs, etc. including providing and applying two coats of white oil paint with one coat of primer and necessary excavation and backfilling complete including removing existing pipe if necessary and conveying and stacking in P.W.D. chowky or as directed.					
7.01		25 mm diameter heavy type having 33.7 mm outer dia. and 3.058 Kg. per meter weight	RMT	1753.5	296.00	5,19,036.00	
7.02		32 mm diameter heavy type having 42.4 mm outer dia. and 3.937 Kg. per meter weight	RMT	300	320.00	96,000.00	
7.03		40 mm diameter heavy type galvanised iron pipe having 48.3 mm outer dia. and 4.545 Kg. per meter weight	RMT	665	449.00	2,98,585.00	
7.04		50 mm diameter heavy type having 60.3 mm outer dia. and 6.329 Kg. per meter weight	RMT	560.5	618.00	3,46,389.00	
7.05		65 mm diameter heavy type having embossed at every metre as ISI mark having 76.1 mm outer dia. and 8.065 Kg. per meter weight	RMT	269	763.00	2,05,247.00	
7.06		80 mm diameter heavy type galvanised iron pipe having embossed at every metre as ISI mark having 88.90mm outer dia. and 10.309 Kg. per meter weight	RMT	204.9	1,052.00	2,15,554.80	
7.07		100 mm diameter heavy type having embossed at every metre as ISI mark having 114.3mm outer dia. and 15.152 Kg. per meter weight	RMT	334	1,417.00	4,73,278.00	
7.08	EDSR-2013-14 ITEM NO. 13 6-6	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 150 mm dia with necessary fittings as per specification no. FF-PP	RMT	155	1,606.00	2,48,930.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
8	EDSR-2013-14 ITEM NO. 13 8-3	Supplying and installing wall mounting swinging Hose reel drum fitted with 19 mm dia. 30m high pressure polypropylene (Polyhose) long fitted with necessary accessories complete as per specification No. FF-FFA/HV	NOS	11	6,928.00	76,208.00	
9	EDSR-2013-14 ITEM NO. 13 8-6	Supplying fire fighting R.R.L. Hose pipe, 63mm dia,15m inlength, fitted with necessary ccessories complete as per specification no. FF-FFA/RRL	NOS	11	5,381.00	59,191.00	
10	EDSR-2013-14 ITEM NO. 13 7-26	Supplying & installing gun metal gate valve of size 50mm dia as per specification No. FF-VL/GV	NOS	13	936.00	12,168.00	
11	EDSR-2013-14 ITEM NO. 13 7-13	Supplying & Installing cast iron double flange butterfly valve of size 75/80 mm dia. as per specification No. FF-VL/BFV	NOS	2	2,809.00	5,618.00	
12	EDSR-2013-14 ITEM NO. 13 7-14	Supplying & Installing cast iron double flange butterfly valve of size 100 mm dia. as per specification No. FF-VL/BFV	NOS	4	3,692.00	14,768.00	
13	EDSR-2013-14 ITEM NO. 13 7-15	Supplying & Installing cast iron double flange butterfly valve of size 150 mm dia. as per specification No. FF-VL/BFV	NOS	6	5,689.00	34,134.00	
14	EDSR-2013-14 ITEM NO. 13 12-1	Supplying and erecting 15 mm (½") dia. NBCM Body chrome finished quartzoid bulb sprinkler having 68° C fixed temperature rating with deflector disc of conventional construction as per specification No. FF-SPR	NOS	551	408.00	2,24,808.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
15	EDSR-2013-14 ITEM NO. 13 12-3	Supplying & erecting vane type water flow detector suitable for detecting flow of water in wet sprinkler pipe of main line or branch lines of 100 mm dia having following features 1) Visual Switch Activation 2) Rugged Switch Assembly 3) Heavy Duty Alluminium pipe Saddles 4) Durable Metal Encloser 5) Steel U Bolts For Secure Mounting 6) Two SPDT ( Single Pole Double Track ) Synchronised Switches 7) Serviceable Without Draining Pipes.	NOS	10	7,732.00	77,320.00	
16	EDSR-2013-14 ITEM NO. 13 8-10	Supplying G.M. branch pipe of 63 mm Ø fitted with 20 mm Ø detachable hexagonal nozzle as per specification No. FFFFA/NZ	NOS	11	2,553.00	28,083.00	
17	EDSR-2013-14 ITEM NO. 13 8-13	Supplying and installing fire brigade Header of 150 mm Ø, for supplying water in fire tank as per specification No. FF-FA/FBC	NOS	2	9,024.00	18,048.00	
18	EDSR-2013-14 ITEM NO. 13 7-27	Supplying and installing gun metal single outlet hydrant valve fitted with necessary accessories complete as per specification No. FF-VL/HV	NOS	11	6,757.00	74,327.00	
19	EDSR-2013-14 ITEM NO. 13 7-9	Supplying and installing cast iron double flange sluice valve 75/80 mm dia.as per specification No. FF-VL/SV	NOS	11	4,756.00	52,316.00	
20	EDSR-2013-14 ITEM NO. 13 8-14	Supplying and installing fire brigade Header (Siamese Connection) of 150 mm Ø for supplying water to wet riser system as per specification No. FF-FFA/SMC	NOS	2	10,782.00	21,564.00	
21	EDSR-2013-14 ITEM NO. 13 8-17	Supplying and installing pressure gauge of 100 mm Ø., 0-300 PSI or 0-14 kg per cm square fitted with 12/15 mm Ø. pad cock valve, and G.I. pipe, elbow etc. as per requirement in an approved manner as per specification No. FF-FFA/PG	NOS	20	685.00	13,700.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
22	EDSR-2013-14 ITEM NO. 13 8-23	Supplying and erecting M.S./CRCA cabinet for housing Floor Hydrant valve, hose pipe, hose reel and branch pipe (size 1000 mm x 736mm x 736 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	NOS	11	13,996.00	1,53,956.00	
23	EDSR-2013-14 ITEM NO. 13 8-15	Supplying and installing Air Vessel of 300 mm Ø 1.5m in height M.S. tank installed inside Pump house as perspecification No. FF-FFA/ACT	NOS	1	11,321.00	11,321.00	
24	EDSR-2013-14 ITEM NO. 13 8-16	Supplying and erecting 20/25mm Ø G.M.air release cock, with necessary G.I. coupling to be fitted on top of Air vessel or on wet riser as per specification No. FF-FFA/ARV	NOS	2	719.00	1,438.00	
25	FMR	Supplying and erecting fully Automatic star / delta starter suitable for above 70 H. P. squirrel cage motor totally enclosed with overload and no volt relay complete erected on provided angle iron frame. (similar to L & T make MN 32 FASD model .)	NOS	1	25,000.00	25,000.00	
25	FMR	Supplying and erecting fully Automatic star / delta starter suitable for above 60 H. P. squirrel cage motor totally enclosed with overload and no volt relay complete erected on provided angle iron frame. (similar to L & T make MN 32 FASD model .)	NOS	1	20,000.00	20,000.00	
26	EDSR-2013-14 ITEM NO. 12 5-4	Supplying and erecting fully Automatic star/delta starter suitable for 12.5 H.P. to 15 H.P. for 3 phase squirrel cage motor totally enclosed with overload and no volt relay complete erected on provided angle iron frame. (similar to L & T make MK-1 FASD model.)	NOS	2	7,080.00	14,160.00	
27	EDSR-2013-14 ITEM NO. 12 5-3	Supplying and erecting D.O.L. Starter 400V. 3 phase, 50 cycles with no volt coil and overload element with necessary materials and connected to supply for 10 H.P. (Similar to L & T make N16 DOL Model)	NOS	4	2,994.00	11,976.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
28	EDSR-2013-14 ITEM NO. 7-1-20	Supplying, erecting & terminating PVC armoured cable 3½ core 70 sq mm aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	NOS	40	482.00	19,280.00	
29	EDSR-2013-14 ITEM NO. 7-1-15	Supplying, erecting & terminating PVC armoured cable 3½ core 50 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	RMT	40	357.00	14,280.00	
30	EDSR-2013-14 ITEM NO. 7-1-14	Supplying, erecting & terminating PVC armoured cable 4 core 6 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	RMT	100	150.00	15,000.00	
31	EDSR-2013-14 ITEM NO. 7-1-13	Supplying, erecting & terminating PVC armoured cable 4 core 4 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	RMT	80	135.00	10,800.00	
32	EDSR-2013-14 ITEM NO. 7-4-1	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 2.5 to 16 sq mm. cable, with necessary material as per specification No. CBJT/LT	NOS	12	1,225.00	14,700.00	
33	EDSR-2013-14 ITEM NO. 7-4-2	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 25 to 50 sq mm. cable, with necessary material as per specification No. CBJT/LT	NOS	4	1,413.00	5,652.00	
34	EDSR-2013-14 ITEM NO. 7-4-3	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 70 to 95 sq mm cable, with necessary material as per specification No. CBJT/LT	NOS	4	2,055.00	8,220.00	
		<b>TOTAL</b>				<b>51,77,841.45</b>	
		CONTINGENCIES		5%		2,58,892.07	
						54,36,733.53	
		<b>NON SOR TOTAL COST</b>				<b>₹ 54,36,734.00</b>	

**ELECTRICAL WORKS - SUMMARY OF COST**

SECTION	ITEMS	AMOUNT	REMARKS
A	ELECTRICAL WORKS		
1	Panel and DB	₹ 2,65,16,682.00	
2	Cables and Accessories	₹ 4,19,57,449.00	
3	light fittings	₹ 79,04,456.00	
4	CCTV	₹ 19,08,700.00	
5	Access control	₹ 14,36,567.00	
6	Fire alarm	₹ 57,18,250.00	
7	PA system	₹ 39,32,000.00	
8	Rodent system	₹ 7,70,000.00	
9	Data and voice system	₹ 3,44,284.00	
10	UPS system	₹ 11,83,333.33	
11	DG system	₹ 67,12,414.67	
TOTAL- NON SOR ITEM		₹ 9,83,84,136.00	
<b>TOTAL ESTIMATED COST OF WORK</b>		<b>₹ 9,83,84,136.00</b>	



**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR DB & PANELS WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		NON SOR ITEM					
A		PANEL & DBs					
1		Supply, Installation, Testing & Commissioning of Following Panels as per below specs.					
		<b>HT works</b>					
1.1	FMR	Supply, Installation, testing and commissioning of 11 KV indoor, 630A, 26.3KA 1 sec, load drawout type HT VCB panel with 1 nos breakers including loose items for the ckt. Bkr. with all metering and protection as per the specification/ Dat sheets and SLD/ Drawings. Rate shall also include provision of minimum 200 AH 30/24 volt SMF VRLA Battery including Float cum Boost Thyrister/IGBT controlled battery charger with one no. as Hot standby suitable for operation at 240 volt AC 50 Hz supply, DCDB with 63A DP MCB as incomer and 16 nos SP MCB as outgoing complete as per specifications and as required All necessary interlocking arrangements to be provided as per standards and as indicated in the drawings. This should also cover the necessary BMS requirements.	Nos	1	14,16,666.67	14,16,666.67	
1.2	FMR	11KV HT Metering cubical with CT and PT units as per requirments and approved by local electricity dept.	Nos	1	7,38,333.33	7,38,333.33	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.3	FMR	Supply, Installation, testing and commissioning of 11 KV indoor, 630A, 26.3KA 1 sec, load drawout type HT VCB panel with 2 incoming breakers (interlocked) and 2 outgoing breakers (1 nos 2000KVA each & 1 nos 750 KVA each) including loose items for the ckt. Bkr. with all metering and protection as per the specification/ Dat sheets and SLD/ Drawings. Rate shall also include provision of minimum 200 AH 30/24 volt SMF VRLA Battery including Float cum Boost Thyrister/IGBT controlled battery charger with one no. as Hot standby suitable for operation at 240 volt AC 50 Hz supply, DCDB with 63A DP MCB as incomer and 16 nos SP MCB as outgoing complete as per specifications and as required All necessary interlocking arrangements to be provided as per standards and as indicated in the drawings. This should also cover the necessary BMS requirements.	Nos	1	35,98,333.33	35,98,333.33	
	FMR				-	-	
1.4	FMR	Design, fabrication, assembling, wiring, supply, testing at works, packaging, forwarding to site and supervising the testing & commissioning of <b>2000 kVA</b> 3 phase, 11/ 0.433 kV no-load, indoor resin cast dry type Transformer copper wound with vector connection Dyn 11 and neutral brought out for earthing. The transformer shall be provided with (-) 5% and (+) 15% On load tap changer on HT side in step of 1.25% each. HT side cable termination box shall be suitable for 11 KV, 3 C x 240 mm <sup>2</sup> XLPE cable and LT side terminal box shall be suitable for termination of 3200 amps Aluminium bus duct. The transformer shall be supplied with all standard fitting viz thermistors for Alarm and Trip, winding temperature relay unit with Alarm and trip, lifting lugs, earthing studs and marshalling box, etc. complete in all respect as required as per specification.	Nos	1	52,72,333.33	52,72,333.33	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.5	FMR	Design, fabrication, assembling, wiring, supply, testing at works, packaging, forwarding to site and supervising the testing & commissioning of <b>750 kVA</b> 3 phase, 11/ 0.433 kV noload, indoor resin cast dry type Transformer copper wound with vector connection Dyn 11 and neutral brought out for earthing. The transformer shall be provided with (–) 5% and (+) 15% On load tap changer on HT side in step of 1.25% each. HT side cable termination box shall be suitable for 11 KV, 3 C x 240 mm <sup>2</sup> XLPE cable and LT side terminal box shall be suitable for termination of 3200 amps Aluminium bus duct. The transformer shall be supplied with all standard fitting viz thermistors for Alarm and Trip, winding temperature relay unit with Alarm and trip, lifting lugs, earthing studs and marshlling box, etc. complete in all respect as required as per specification.	Nos	0	32,33,000.00	-	
1.6	FMR	Supply, Installation, testing and connection of 3200 A FP internally earthed Al. Bus duct with all necessary fabrication of supports and other accessories works complete as per specification. All joints / tees / bends / phase change over boxes etc are deemed to be included in the supply. - Sandwich type - IP 55 unless otherwise specified in item. Minimum fault level of Bus duct shall be as per panel but bot less then 35 kA. Arrangement for tapping earth as per requirement & approved shop drawings. Include cost of all supporting structure	Mtrs	50	51,166.67	25,58,333.33	
1.7	FMR	Supply, Installation, testing and connection of 2000 A FP internally earthed Al. Bus duct with all necessary fabrication of supports and other accessories works complete as per specification. All joints / tees / bends / phase change over boxes etc are deemed to be included in the supply. - Sandwich type - IP 55 unless otherwise specified in item. Minimum fault level of Bus duct shall be as per panel but bot less then 35 kA. Arrangement for tapping earth as per requirement & approved shop drawings. Include cost of all supporting structure	Mtrs	100	30,333.33	30,33,333.33	
					-	-	
1.8	FMR	LT metering panel for shops, 2000 4P ACB drawout type incomming.	Nos	0	14,05,000.00	-	
		Outgoing			-	-	
		100A 4P MCCB- 30 nos			-	-	
		200A 4P MCCB-10 nos			-	-	
		2000A ALU busbar			-	-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Provison for 40 nos LT meters			-	-	
					-	-	
		Floor/wall mounted cubicle type panel, Fabricated from 14/16G CRCA sheet steel ,Totally compartmentalized, 7 tank powder coating treatment for rust proofing, with separate busbar chamber & cable chambers ,Front /Back access for switchgears, connectors etc.Suitable for 430 V, 3 phase / 4 Wire System , 50 Hz supply,50 Deg Celcius ambient temp,Class 1 Type with 15VA burden, Provisionn for control wiring diagram, 3 MM openable gland plate on top and bottom of panel, 75 MM height channel base frame to panel. Proper labeling shall be done all chambers of panel showing feeder rating and location			-	-	
1.1	FMR	MAIN LT panel	No	1.00	28,00,000.00	28,00,000.00	
1.2	FMR	DG Sync panel	No	1.00	26,43,333.33	26,43,333.33	
1.3	FMR	400 KVAR APFC panel	No	1.00	5,41,666.67	5,41,666.67	
1.4	FMR	Main Ventilation panel for car park area	No	-	3,78,333.33	-	
1.5	FMR	Main Ventilation panel for internal area	No	-	82,333.33	-	
1.6	FMR	Lift panel	No	1.00	66,500.00	66,500.00	
1.7	FMR	2nd floor power panel	No	1.00	1,02,833.33	1,02,833.33	
1.8	FMR	Emergency power panel	No	1.00	1,45,000.00	1,45,000.00	
1.9	FMR	MAIN HVAC power panel	No	1.00	4,21,666.67	4,21,666.67	
1.10	FMR	HVAC power panel Gr. Floor	No	1.00	1,69,166.67	1,69,166.67	
1.11	FMR	HVAC power panel 1st Floor	No	1.00	64,333.33	64,333.33	
1.12	FMR	HVAC power panel 2nd. Floor	No	1.00	64,333.33	64,333.33	
1.13	FMR	HVAC power panel 3rd. Floor	No	1.00	72,333.33	72,333.33	
1.14	FMR	HVAC power panel 4th Floor	No	1.00	72,333.33	72,333.33	
1.15	FMR	HVAC power panel 5th Floor	No	1.00	45,000.00	45,000.00	
1.16	FMR	Main flood lights panel	No	-	8,78,333.33	-	
1.17	FMR	2nd floor flood light outdoor type panel	No	-	65,500.00	-	
1.18	FMR	Main lighting panel	No	1.00	1,64,333.33	1,64,333.33	
1.19	FMR	Gr floor lighting panel	No	1.00	1,61,000.00	1,61,000.00	
1.20	FMR	1st floor lighting panel	No	1.00	49,166.67	49,166.67	
1.21	FMR	2nd floor lighting panel	No	1.00	49,166.67	49,166.67	
1.22	FMR	3rd floor lighting panel	No	1.00	49,166.67	49,166.67	
1.23	FMR	4th floor lighting panel	No	1.00	49,166.67	49,166.67	
1.24	FMR	5th floor lighting panel	No	1.00	49,166.67	49,166.67	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.25	FMR	Main Raw power panel	No	1.00	1,61,000.00	1,61,000.00	
1.26	FMR	Gr floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.27	FMR	1st floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.28	FMR	2nd floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.29	FMR	3rd floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.30	FMR	4th floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.31	FMR	5th floor Raw power panel	No	1.00	49,166.67	49,166.67	
1.32	FMR	OUTDOOR LIGHT PANEL	No	1.00	84,833.33	84,833.33	
1.33	FMR	OUTDOOR FEEDER PILLERS	No	-	56,500.00	-	
1.34	FMR	60 UPS O/P Panel	No	-	70,333.33	-	
1.35	FMR	30 KVA Emergency UPS panel	No	1.00	59,666.67	59,666.67	
1.36	FMR	200A MCCB - 4pole, 35KA with eclosure and rotary handle	No	2.00	21,000.00	42,000.00	
1.37	FMR	100A MCCB -4pole, 25KA with eclosure and rotary handle	Nos	8.00	13,833.33	1,10,666.67	
2	MSR ITEMS	Supply of below mentioned items					
2.1	8.12.2.8	63A 4P RCCB 300 ma for AC CAFETERIA	Nos	40.00	5,268.00	2,10,720.00	
2.2	8.12.2.6	32A 4P RCCB 300 ma for AC UPS and conf room	Nos	40.00	4,487.00	1,79,480.00	
2.3	8.5.6.2	63A 4P MCB for pumps, lifts, Ex fans, kitchen	Nos	20.00	1,204.00	24,080.00	
2.4	8.12.2.6	32A 4P RCCB 100 ma for pumps, lifts, Ex fans, kitchen	Nos	20.00	4,487.00	89,740.00	
2.5	8.5.3.2	32A DP MCB for IP 65 AC , lift, Kitchen etc	Nos	60.00	559.00	33,540.00	
						-	
3		Supply of below mentioned items				-	
3.1	8.5.b.1	2way single door box	Nos	60.00	197.00	11,820.00	
3.2	8.5.b.3	4way single door box	Nos	20.00	829.00	16,580.00	
3.3	8.5.b.5	8way single door box	Nos	100.00	1,118.00	1,11,800.00	
						-	
4.1	8.16.1	Fixing of MCB /MCCB Isolator TP /TPN/FP in sheet steel enclosure as required as per accepted practice, including mounting on busbar and cable connection etc. complete.	Nos	180.00	20.00	3,600.00	
4.2	8.17.1	Labour charges for fixing sheet steel enclosure, MCB DB surface mounting type, as per accepted practice on 25x5mm flat iron clamps duly embedded in wall,cable connection etc. complete.- SPN	Nos	180.00	94	16,920.00	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
5	2	Supply, of Distribution Boards complete with MCBs/Isolators/ Bus bars and interconnections. No fabricated DBs shall be allowed. Only DBs of specified makes as per list of materials shall be used all MCB 10 kA. (All DB will have MCB numbering, DB chart, DB number), DB should be fixed with Anchor fastner to wall with proper GI L angle fixed to wall. Proper earthing should be provided to DB body at 2 places.Cable tray , raceway used for DB drop,shall be earthed to DB earthing with 12 SWG CU wire and lugs				-	
5.1.1	8.6.6.	<b>TPN as follows (LDB)</b> - Wall mounted MCB double door DBs,fabricated from 16/18 G CRCA sheet steel with powder coated, and all fixing hardware. DB size should be suitable for Below mentioned MCB combination	Nos	15.00	3,487.00	52,305.00	
5.1.2	8.5.5.2	Incomer 32A 4P MCB- 1 No. C Curve	Nos	15.00	1085	16,275.00	
5.1.3	8.12.1.2	Sub Incomer for each phase 32Amp DP RCCB, 30mA- 3 nos	Nos	45.00	2283	1,02,735.00	
5.1.4	8.5.1.2	Outgoing 10/ 16A SP MCBs -18 Nos.	Nos	300.00	166	49,800.00	
						-	
5.2.1	8.6.6.	<b>TPN as follows (RDB)</b> - Wall mounted MCB double door DBs,fabricated from 16/18 G CRCA sheet steel with powder coated, and all fixing hardware. DB size should be suitable for Below mentioned MCB combination	Nos	15.00	3,487.00	52,305.00	
5.2.2	8.5.5.2	Incomer 32A 4P MCB- 1 No. C Curve	Nos	15.00	1085	16,275.00	
5.2.3	8.12.1.2	Sub Incomer for each phase 32 Amp DP RCCB, 300mA	Nos	45.00	2283	1,02,735.00	
5.2.4	8.5.1.2	Outgoing 16/20A SP MCBs -18 Nos.	Nos	300.00	166	49,800.00	
						-	
5.3.1	8.6.6.	<b>TPN as follows (UDB)</b> - Wall mounted MCB double door DBs,fabricated from 16/18 G CRCA sheet steel with powder coated, and all fixing hardware. DB size should be suitable for Below mentioned MCB combination	Nos	10.00	3,487.00	34,870.00	
5.3.2	8.5.5.2	Incomer 32A 4P MCB- 1 No. D Curve	Nos	10.00	1085	10,850.00	
5.3.3	8.5.3.2	Sub Incomer for each phase 32Amp DP MCB, D Curve	Nos	30.00	559	16,770.00	
5.3.4	8.5.1.2	Outgoing 10/16A SP MCBs -30 Nos.D Curve	Nos	300.00	166	49,800.00	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
5.4.1	8.5.b.5	<b>SPN as follows (ELDB)-</b> Wall mounted MCB double door DBs,fabricated from 16/18 G CRCA sheet steel with powder coated, and all fixing hardware. DB size should be suitable for Below mentioned MCB combination	Nos	15.00	1,118.00	16,770.00	
5.4.2	8.12.1.2	Incomer 20A DP RCCB- 1 No. 30ma	Nos	15.00	2283	34,245.00	
5.4.3	8.5.1.2	Outgoing 10/16A SP MCBs -6 Nos.C Curve	Nos	100.00	166	16,600.00	
						-	
5.5.1	8.5.b.5	<b>TPN as follows UDB-(for Server room)</b> Wall mounted MCB double door DBs,fabricated from 16/18 G CRCA sheet steel with powder coated, and all fixing hardware. DB size should be suitable for Below mentioned MCB combination	Nos	5.00	1,118.00	5,590.00	
5.5.2	8.5.3.4	Incomer 63A DP MCB, D Curve	Nos	5.00	914	4,570.00	
5.5.3	8.5.3.2	Outgoing 32 A DP MCBs -6 Nos.D Curve	Nos	30.00	559	16,770.00	
						-	
6.1	8.16.1	Fixing of MCB / Isolator SP/DP in sheet steel enclosure as required as per accepted practice, including mounting on busbar and cable connection etc. complete (Labour only )	Nos	1,170.00	10	11,700.00	
6.2	8.16.2	Fixing of MCB /MCCB Isolator TP /TPN/FP in sheet steel enclosure as required as per accepted practice, including mounting on busbar and cable connection etc. complete.	Nos	40.00	20	800.00	
6.3	8.17.1	Labour charges for fixing sheet steel enclosure, MCB DB surface mounting type, as per accepted practice on 25x5mm flat iron clamps duly embedded in wall,cable connection etc. complete.- SPN	Nos	25.00	94	2,350.00	
6.4	8.17.3	Labour charges for fixing sheet steel enclosure, MCB DB surface mounting type, as per accepted practice on 25x5mm flat iron clamps duly embedded in wall,cable connection etc. complete.- TPN	Nos	40.00	108	4,320.00	
						-	
		<b>NON SOR TOTAL COST</b>				<b>2,65,16,682.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR CABLE & WIRING WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1		SITC of Aluminum / Copper armoured XLPE , <b>FRLS Grade</b> PVC Insulated cables as per IS 1554 to be fixed to walls, ceilings, on trays with suitable GI clamp, cable tie at every 450 mm or to be laid in ready-made trench . Cable tagging shall be done at both the ends of cable. Arrow marking shall be done at panel end to show flow direction of current.					
a	14.1.6.10	3.5 Core 300 sq. mm. AYFY.	mtr	1,850.00	2,097.00	38,79,450.00	
b	14.1.6.9	3.5 Core 240 sq. mm. AYFY.	mtr	2,160.00	1,716.00	37,06,560.00	
c	14.1.6.5	3.5 Core 95 sq. mm. AYFY.	mtr	1,550.00	740.00	11,47,000.00	
d	14.1.6.3	3.5 Core 50 sq. mm. AYFY.	mtr	1,985.00	452.00	8,97,220.00	
e	14.1.6.2.	3.5 Core 35 sq. mm. AYFY.	mtr	-	345.00	-	
f	14.1.8.3	4 Core 16sq. Mm. AYFY	mtr	2,880.00	229.00	6,59,520.00	
g	FMR	4 Core 16 sq. mm Cu YWY	mtr	800.00	510.00	4,08,000.00	
h	FMR	4 Core 10 sq. mm Cu YWY	mtr	5,370.00	483.33	25,95,500.00	
i	FMR	3 Core 6 sq. mm Cu YWY	mtr	750.00	425.00	3,18,750.00	
g	FMR	3 Core 4 sq. mm Cu YWY	mtr	3,000.00	273.33	8,20,000.00	
k	FMR	3 Core 2.5 sq. mm Cu YWY	mtr	800.00	208.33	1,66,666.67	
l	FMR	12c x 2.5 sqmm Cu. YWY	mtr	800.00	751.67	6,01,333.33	
		Laying of cables					
	14.10.1	Upto 25 Sqmm	mtr	22,600.00	247.00	57,63,000.00	
	14.10.2	Upto 120 Sqmm	mtr	3,535.00	255.00	9,50,915.00	
	14.10.3	Upto 300 Sqmm	mtr	4,010.00	269.00	10,78,690.00	
2		SITC of CU conductor , <b>FRLS Grade</b> PVC insulated flexible cable (Y or YY) in PVC conduit as per site requirements. All End termination lugs to be included in cable cost.				-	
a	FMR	One no of 35sqmm for 60 KVA UPS incoming	mtr	200.00	327.67	65,533.33	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
b	FMR	One no of 16 sqmm for 30 KVA UPS OUTGOING	mtr	200.00	190.67	38,133.33	
c	FMR	One no of 6 sqmm floor UPS earthing	mtr	100.00	116.00	11,600.00	
d	FMR	One no of 4 sqmm for UPS earthing	mtr	100.00	66.33	6,633.33	
						-	
3		SITC of cables with Heavy duty Alu/ Cu. Lugs & Brass cable glands. All Cable should be Double compression gland for 16 Sqmm and Above cables. The glands should be earthed along with brass clips for Earthing. Bimetallic washers shall be utilise for Aluminium cables for terminations with cu busbar.				-	
a	14.5.1	3.5 Core 300 sq. mm. AYFY.	nos	30.00	1,167.00	35,010.00	
b	14.5.1	3.5 Core 240 sq. mm. AYFY.	nos	42.00	1,167.00	49,014.00	
c	14.5.1	3.5 Core 95 sq. mm. AYFY.	nos	36.00	702.00	25,272.00	
d	14.5.1	3.5 Core 50 sq. mm. AYFY.	nos	48.00	524.00	25,152.00	
e	14.5.1	3.5 Core 35 sq. mm. AYFY.	nos	-	524.00	-	
f	14.5.1	4 Core 16sq. Mm. AYFY	nos	94.00	524.00	49,256.00	
g	14.5.1	4 Core 16 sq. mm Cu YWY	nos	8.00	524.00	4,192.00	
h	14.5.1	4 Core 10 sq. mm Cu YWY	nos	130.00	524.00	68,120.00	
i	14.5.1	3 Core 6 sq. mm Cu YWY	nos	30.00	524.00	15,720.00	
g	14.5.1	3 Core 4 sq. mm Cu YWY	nos	500.00	524.00	2,62,000.00	
k	14.5.1	3 Core 2.5 sq. mm Cu YWY	nos	80.00	524.00	41,920.00	
l	14.5.1	12c x 2.5 sqmm Cu. YWY	nos	20.00	524.00	10,480.00	
4		SITC of 2mm thick GI Perforated type cable Trays of Asian /Profab / Equivalent make The cable tray shall be fixed to the ceiling/ wall with suitable size of GI clamp, appropriate dia threaded rod & 35mmx2mm thick GI slotted 'C' channel Patti OR suitable size of MS angle support (MS support to be painted with two coats of red oxide & two coats of enamelled paint ). Supports to be provided at an interval of 800mm or lesser depending upon the location. <b>The rate shall include the cost of Gripe Supports/ GI rods and MS angle support .</b>				-	
a	FMR	Cable Tray=150 mm wide x50 mm height. IBMS works, DATA works, Electrical works in passage	mtr	500.00	543.33	2,71,666.67	
b	FMR	Cable Tray=300 mm wide x50 mm height. Electrical works, IBMS , data inside shaft works	mtr	500.00	836.67	4,18,333.33	
c	FMR	Cable Tray=450 mm wide x50 mm height. Electrical works	mtr	300.00	1,033.33	3,10,000.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
d	FMR	Cable Tray=600 mm wide x75mm height. Electrical works	mtr	300.00	1,383.33	4,15,000.00	
						-	
5	FMR	SITC of Powder coated 100mmx 75mm GI Trunking 2mm thick with cover to be used for running the wires/cables <b>near Db and DB drop</b> . Trunking to be fixed on Wall or flooring with suitable size of GI clamp, appropriate dia threaded rod & 35mmx2mm thick GI slotted 'C' channel Patti OR suitable size of MS angle support (MS support to be painted with two coats of red oxide & two coats of enamelled paint ). The rate shall include the cost of Supports . Trunking should have knock outs on both side at each 600mm distance as per site requires.	mtr	500.00	800.00	4,00,000.00	
						-	
6	FMR	Fabrication in MS .The rate shall include the cost for painting with 3 Coats of enameled / metal applied after rust treatment of two coats of red oxide. The colour of the paint & cable trays shall be as approved by Architect.	Kgs	2,000.00	80.00	1,60,000.00	
						-	
7		SITC of Light Point wiring through 20/25 mm <b>GI CONDUIT</b> with all required accessories with 2 Nos of 1.5 sqmm & 1 no of 1.5 sqmm ( for earth) PVC insulated Copper <b>FRLS wires</b> with Modular type switches complete with all accessories as detailed in the specifications. The switch boxes shall be flush mounted with partition /walls works or as directed by the consultants and shall be done in co-ordination with furniture works.Conduit shall be fixed on wall / trays or ceiling with spacers & saddles. The wires will be terminated in a separate connector before fixtures. All phase neutral and earthing wire shall be terminated in SB level. No direct looping of Neutral and earthing shall be done. All circuit/ Looping circuits shall have ferrule on both ends and shall have lugs on both end. Circuit and point wire shall have same colour code. Switch board have proper stickering showing DB and circuit number. wall chasing and back filling will be in scope of electrical contractor wherever required				-	
a	2.4.1.c	Primary light points (Switch control) <b>3 x 1.5 Sqmm Cu FRLS PVC insulated wires- Long points up to 9 mtrs</b>	Nos	500.00	1,636.00	8,18,000.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
b	2.4.1.b	Secondary light points with <b>3 x 1.5 Sqmm FRLS wires PVC insulated wires</b> (Loop points after primary points) <b>medium points upto 6 mtrs</b>	Nos	1,500.00	1,064.00	15,96,000.00	
f	2.4.1.c	Primary light points (Switch control) <b>3 x 1.5 Sqmm Cu FRLS PVC insulated wires for emergency lights- Extra large point 3- above 20 mtrs- 2points</b>	Nos	50.00	3,272.00	1,63,600.00	
g	2.4.1.b	Secondary light points with <b>3 x 1.5 Sqmm Cu FRLS PVC insulated wires .for emergency lights- Extra large -1 points 15 mtrs-2 points</b>	Nos	200.00	2,128.00	4,25,600.00	
	5.2.2.1	3 WIRE SUB MAIN in GI conduit- 3R x 2.5 Sqmm cu flex FRSL wires from DB to lighting SB	Mtrs	9,000.00	227.00	20,43,000.00	
<b>C</b>		<b>POWER OUTLETS</b>				-	
						-	
1		Supply, Installation , Testing & Commissioning of following Power Sockets mounted with specified switchgear inside the specified enclosure confirming to .The rate to include termination of incoming wires/cables with appropriate size of lugs & applicable PVC/Brass cable glands				-	
a	FMR	20Amps two Pin & Earth ,Single phase IP 44 PLUG and socket with MCB and box for NW rack (IEC 60309-1/60309-2)	set	20.00	2,000.00	40,000.00	
b	FMR	32Amps two Pin & Earth ,Single phase IP 44 PLUG and socket with MCB and box for server rack(IEC 60309-1/60309-2)	set	80.00	2,600.00	2,08,000.00	
c	FMR	32Amps two Pin & Earth ,Single phase IP 44 socket with MCB (BCH Type) with box Heavy duty Cat no 2425B and 215B with inclined handle for kitchen	set	50.00	3,200.00	1,60,000.00	
d	FMR	63 Amps three Pin + Neutral+Earth ,three phase IP 44v socket with with MCB with box ( (BCH Type) Heavy duty cat -DS6A7A1 and DS6B7A1 for kitchen	set	10.00	4,000.00	40,000.00	
d	FMR	Supply & Fixing of 6way Splitter for TV system	Nos	10.00	500.00	5,000.00	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2		SITC of modular type shuttered power sockets, data-outlets, telephone sockets complete with chrome-plated mounting box. The switch box shall be fixed in partition works. The rate shall be inclusive of connecting of switches / sockets. . Proper care to be taken while passing wires from bends, wire entry from floor JB to modular, bends in module. Contractor shall use PVC Sleeves to avoid damage of wire. All sockets shall have label with DB and circuit number. All main circuits shall have numbered ferrules. All circuit and looping wire color code shall be same.				-	
a	FMR	3 Nos of sockets 6A/13A installed below table and controlled by 1nos 15A switch below table -- Installation charges	set	300.00	90.00	27,000.00	
	2.9.4	8 M back box with modular faceplate		100.00	202.00	20,200.00	
	19.62	5A 3 pin sockets		300.00	50.00	15,000.00	
	19.61	15A Switch		300.00	102.00	30,600.00	
	FMR	dummy plate		100.00	20.00	2,000.00	
b		2 Nos of Universal sockets 5A controlled by 5A switch (for UPS Power) for workstations / BMS. This combination shall be measure as one single point for wiring. PVC box shall be provided to socket	set			-	
c.1	FMR	1No. of 6A Switch & socket combine for without back box for workstation raw power. Installation charges	Set	100.00	60.00	6,000.00	
	2.9.3	6 M Back box with modular face plate		100.00	176.00	17,600.00	
	19.62	5A 3 pin sockets		100.00	50.00	5,000.00	
	19.59	5A Switch		100.00	32.00	3,200.00	
c.2		1No. of 6A Switch & socket combine for with back box VAV / WIFI/ ACCESS/ CCTV/ FIRE	set			-	
d	FMR	1 Nos of sockets 16A 3pin controlled by 16A switch Power Switch Socket combine with indicator complete with G.I. mounting box for Convenience sockets. -Installation charges	set	500.00	40.00	20,000.00	
	2.9.2	3 M Back box with modular faceplate		500.00	173.00	86,500.00	
	19.63	15A 3 pin sockets		500.00	174.00	87,000.00	
	19.61	15A Switch		500.00	102.00	51,000.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
e	FMR	1 Nos of sockets 6A 3pin controlled by 6A switch Power Switch Socket combine with indicator Complete with G.I. mounting box for VAV Boxes, FCU , AV points, Low voltage equipments.	set	-		-	
f		2 way switch wiring wiring for executive cabins with wiring	Nos	-		-	
						-	
3	2.9.2	Back boxes required for data voice outlets boxes on wall or partitions	Nos	100.00	173.00	17,300.00	
						-	
4	FMR	SITC of modular type Under floor modular boxes of 300mm x 300mm x 65mm with double door. Top cover will be hinged cover with minimum depth of 70 mm with 2nos 15 Amp Swith Socket 2 nos Data Point 2nos Voice Point	Nos	10.00	8,000.00	80,000.00	
						-	
5	19.14	Co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with FR PVC sheath	Mtrs	1,000.00	24.00	24,000.00	
5.1	2.7.2	GI conduit 25 MM	Mtrs	500.00	126.00	63,000.00	
						-	
6		SITC of Circuit Mains wiring for work station and cabins Power sockets direct from DB and then looped with nearest socket .				-	
a.1	5.2.2.1	Circuit wiring - 3R x 2.5 sq.mm. Cu conductor PVC insulated FRLS wires for UPS points on table , workstaion, cabin furniture -	Mtrs	6,000.00	227.00	13,62,000.00	
<b>D</b>		<b>MISCELLENOUS WORK</b>				-	
						-	
1	FMR	50 MM, 3M long dia GI Rod, Chemical earting system with Chamber cover with civil brick works, test link with 4 nos SS nutbolts , and proper marking on earthing cover shall be provided for body earthing	Nos	4.00	18,000.00	72,000.00	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2	11.3	SITC of main earth stations comprising of 600 * 600 * 6 mm GI plate buried 4.0 meters below ground with adequate coal & salt covering as per IS standards 3043, Including 10 mtrs long GI pipe with funnel, Chamber cover with civil brick works, test link with 4 nos SS nutbolts , and proper marking on earthing cover shall be provided for body earthing	Nos	30.00	2,540.00	76,200.00	
						-	
2.1	11.4	SITC of main earth stations comprising of 600 * 600 * 3 mm cu plate buried 4.0 meters below ground with adequate coal & salt covering as per IS standards 3043, Including 10 mtrs long GI pipe with funnel, Chamber cover with civil brick works, test link with 4 nos SS nutbolts , and proper marking on earthing cover shall be provided for body earthing	Nos	16.00	7,618.00	1,21,888.00	
2.2	11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Nos	46.00	520.00	23,920.00	
3.1	FMR	SITC of of <b>50mm x 10 mm thick G.I.</b> earthing strip from earthing chamber to the main power panel and it's termination. The portion of the strip under ground shall be laid to a depth of at least 75cms. The portion on building wall upto the main panel shall be laid on cable trays or to be saddled to the wall as per the site conditions. GI flats to be painted with two coats of enamelled paint	Mtrs	500.00	300.00	1,50,000.00	
3.2	FMR	SITC of of <b>50mm x 6mm thick G.I.</b> earthing strip from earthing chamber to the main power panel and it's termination. The portion of the strip under ground shall be laid to a depth of at least 75cms. The portion on building wall upto the main panel shall be laid on cable trays or to be saddled to the wall as per the site conditions. GI flats to be painted with two coats of enamelled paint	mtrs	500.00	160.00	80,000.00	
						-	
4	11.9	SITC of <b>25 mm x 6mm thick G.I.</b> earthing strip from the GI earthing grid inside the panel room to the body earth connections of the individual panels. GI flats to be painted with two coats of enamelled paint	mtr	800.00	77.00	61,600.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
						-	
5	FMR	SITC of <b>25mm x 3 mm thick G.I.</b> earthing strip from the GI earthing grid inside the panel room to the body earth connections of the individual panels.GI flats to be painted with two coats of enamelled paint	mtrs	500.00	45.00	22,500.00	
						-	
6.1	FMR	SITC of 50 mm x 10 mm thick Copper earthing strip for interconnecting the earth pits. The portion of the strip under ground shall be laid to a depth of at least 600mm with PVC Sleeve. All joints shall have 2 nos nutbolts .	mtr	300.00	3,500.00	10,50,000.00	
						-	
6.2	11.4	SITC of 25 mm x 5 mm thick Copper earthing strip for interconnecting the earth pits. The portion of the strip under ground shall be laid to a depth of at least 600mm with PVC Sleeve. All joints shall have 2 nos nutbolts .	mtr	300.00	833.00	2,49,900.00	
6.3	11.6	8 SWG Cu wire		5,000.00	83.00	4,15,000.00	
6.4	11.7	6 swg GI wire		5,000.00	15.00	75,000.00	
7	FMR	This item is inclusive of making necessary temporary arrangement lighting with fixtures to attain a minimum 100 Lux lighting level for area of 600000 Sqft Floor & provision of substantial number of power points for welders ,carpenters, electricians & others . The supply should be routed through MCB DB having ELCB of suitable rating. Cost of energy meter at main incoming to be considered (if required by client).Contractor to provide multiple DBs & services being multiple services. This item includes cost of supply & installations of main DB with energy meter,Small DBs at each levels, Its cabling,Temp wiring for Lighting fixtures & Power sockets. Lighting Fixtures, Power sockets ,required hardware & associated material.Also vendor shall maintain the same till completion of project. All temp light material shall be removed and taken back by electrical contractor.	Job	1.00	5,00,000.00	5,00,000.00	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
8	FMR	Department charges to approve entire Electrical installation of Building HT LT and DG works for 600000 SqFt .The job involves submission of application, test report & other relevant documents as may be required to EI & EB, follow up with EI & EB, collection of FQ, making necessary application payment to EI & EB (DD for the same shall be given by client), coordination with EI & EB project team & getting the relevant work done from EI & EB at site for obtaining power supply. This being a time bound job, the meter connection work should be carried out within the time frame mentioned in tender.(This is to be noted that this work include liasoning with EI & EB) & Electrical Inspector charges to approve entire Electrical installation Work .The job involves submission of drawings ,test report, arranging visit of electrical Inspector at site , Approval of Electrical Inspector on drawing Layout. This being a time bound job, Vendor should ensure that they should get permission of Electrical Inspector in time .This is to be noted that this work excludes liasoning with EI & EB.All official charges will be reimbursed by client.	Job	1.00	20,00,000.00	20,00,000.00	
						-	
9	FMR	SITC of 1Cx 70 sq mm COPPER flexible cable for earth in GI Conduit inside the building premises PDU.	mtrs	100.00	750.00	75,000.00	
						-	
10	FMR	SITC of 1Cx 25 sq mm COPPER flexible cable for earth in GI Conduit inside the building premises.	mtrs	200.00	400.00	80,000.00	
						-	
11	FMR	SITC of 1Cx 16 sq mm COPPER flexible cable for earth in GI Conduit inside the building premises.	mtrs	300.00	300.00	90,000.00	
						-	
12	FMR	SITC of 1Cx 10 sq mm COPPER flexible cable for earth in GIConduit for UPS BODY EARTH	mtrs	300.00	300.00	90,000.00	
						-	
13	FMR	SITC of 1Cx 6 sq mm COPPER flexible cable for earth along with the supply cable in GIConduit .The rate shall include GI Conduit	mtrs	500.00	200.00	1,00,000.00	
						-	
14	FMR	SITC of 1C x 2.5 sq mm COPPER flexible cable with for earth along with brass clips for termination on	mtrs	500.00	55.00	27,500.00	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
						-	
		<b>Item no.8 to 14 The rate shall inclusive of Termination at Both Ends.</b>				-	
						-	
15	FMR	Supply,installation,testing & commissioning of GI earth bus of size 50 mm x6mmx 600 mm ( WxBxL) mounted on insulators , Driectly on wall or channel or flooring as directed . Bus should have 10 nos of holes with GI nut bolts of suitable size	No	30.00	1,000.00	30,000.00	
						-	
16	FMR	Supply,installation,testing & commissioning of copper earth bus of size 25 mm x 3 mmx 600 mm ( WxBxL) mounted on insulators ,in suitable size MS Powder Coated box ( Acrylic to be provided on front cover to view termination ). Bus should have 10 nos of holes with brass nut bolts of suitable size	No	10.00	3,000.00	30,000.00	
						-	
17	19.82	200 mm X 150 mm M.V. danger notice plate				-	
		a. 415 V	No	20.00	26.00	520.00	
						-	
		Supply & Installation of rubber mats of 1000 mm. width & thickness of 10mm				-	
18	FMR	1.1 KV Voltage grade.	Mtrs	50.00	2,500.00	1,25,000.00	
						-	
19	FMR	Supply & Installation of shock treatment chart in English & local language. Shock treatment chart to be printed & framed.	No	10.00	1,000.00	10,000.00	
						-	
20	FMR	Supply & Installation of first aid kit with wall mounting wooden stand.	No	10.00	1,000.00	10,000.00	
						-	
21	15.5.3	Supply & Installation of portable CO2 fire Extinguisher of 4.5 Kg. Capacity of Fire extinguisher for Electrical rooms	No	50.00	8,010.00	4,00,500.00	
						-	
23	15.5.2	SITC of portable ABC type environment friendly fire Extinguisher of 2 Kg. Capacity of Fire extungusher. <b>MAKE- SAFEX</b>	No	50.00	5,113.00	2,55,650.00	
23.1	15.5.1	Dry chemical powder (DCP) type- 5kg duly refilled and ready to use	Nos	10.00	2,658.00	26,580.00	
						-	
						-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
						-	
E		<b>RACEWAYS &amp; WIRING</b>				-	
						-	
1		Floor preparation for raceway laying-Raceways / conduits shall be fixed to the flooring with GI clamps for finished levels as per the site conditions or through partitions with all accessories. The rate shall include preparation of trenches upto 450 mm wide by carefully removing the floor tiles / IPS & malwa below the tiles for laying Raceways/conduits . The depth of the trenches shall be at least 2 inches from the finished floor level or upto RCC of the slab. The rate shall also include the activity of clearing the debris generated at designated area by PM . <b>(Breaking and back Filling the same with PCC 1:2:3 with metal wiremesh not part of electrical contractor scope. Contractor shall take prior permission before execution of this work wherever required)</b>	RMT	-		-	
						-	
1.1.		Supply and laying Raceways / Conduits Raceways / conduits shall be fixed to the flooring with GI clamps for finished levels as per the site conditions or through partitions with all accessories. Raceway and JB shall be closed properly with plastic bags to avoid entering of cement mortar. All JB and raceway to be earthed at each contact point and at DB level with 16 SWG cu wire.				-	
a	FMR	100mm x 40mm Aluminium raceways, 1.6 mm thick	mtr	1,000.00	350.00	3,50,000.00	
b	2.7.2	25mm GI conduits of wall thickness of 2 mm thick	mtr	500.00	126.00	63,000.00	
c	2.7.4	40mm GI conduits of wall thickness of 2 mm thick	mtr	-	154.00	-	
d	2.7.5	50mm GI conduits of wall thickness of 2 mm thick	mtr	-	225.00	-	
e	FMR	25mm Flexible GI conduits of wall thickness of 1.6 mm with Gland	mtr	200.00	212.00	42,400.00	
						-	
2		<b>Junction Boxes</b>				-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
a	FMR	Supplying and fixing <b>350 mm x 350 mm x55mm deep GI finish</b> . The junction boxes shall have knock-outs on all sides suitable for Raceways/conduits. With stainless steel Plate. The knock out shall be removed at site as per requirements. Junction boxes shall be leveled at the time of installation. Junctions boxes shall be earthed with raceway with 18 Swg cu wire. Junction boxes and raceway shall be covered with plastic bags during back filling of concrete work.	Nos	50.00	855.00	42,750.00	
						-	
b	FMR	Supplying and fixing <b>250 mm x 250 mm x55mm deep GI finish</b> . The junction boxes shall have knock-outs on all sides suitable for Raceways/conduits. With stainless steel Plate. The knock out shall be removed at site as per requirements. Junction boxes shall be leveled at the time of installation. Junctions boxes shall be earthed with raceway with 18 Swg cu wire. Junction boxes and raceway shall be covered with plastic bags during back filling of concrete work.	Nos	20.00	700.00	14,000.00	
						-	
c	FMR	Supplying and fixing <b>150 mm x 150 mm x55mm deep GI finish</b> . The junction boxes shall have knock-outs on all sides suitable for Raceways/conduits. With stainless steel Plate. The knock out shall be removed at site as per requirements. Junction boxes shall be leveled at the time of installation. Junctions boxes shall be earthed with raceway with 18 Swg cu wire. Junction boxes and raceway shall be covered with plastic bags during back filling of concrete work.	Nos	70.00	600.00	42,000.00	
						-	
3	FMR	Supply & installations of MS Powder coated sheet steel, Raceways in red or blue in colour made of 2.0mm thk, with removable top cover & knock outs of 25dia mm at every 300mm for entry/exits of cables , complete with couplers, bends etc. The raceway shall be fixed to the flooring with 40 x 40 mm x 4mm GI angle bracket with required hardware such as anchor fasteners threaded rods, clamps etc. This management should be sufficient enough to cater the fixing & removal force of 32amps IP 44 socket. Additional support for each socket to be considered in the rate.. The brackets/Straps shall be spaced at 500mm apart & on either sides of bends.(TO BE USED ONLY FOR THE NETWORK ROOM & HUB Room & Server room)				-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
a	FMR	300mm wide x 40 mm ht 2 MM Thick with cover	mtr	200.00	1,250.00	2,50,000.00	
b	FMR	200mm wide x 40 mm ht 2 MM Thick with cover	mtr	200.00	950.00	1,90,000.00	
c	FMR	100mm wide x 50mm ht 2 MM Thick with cover	mtr	200.00	700.00	1,40,000.00	
d	FMR	300 x 75 MM GI perforated tray for data cable below false floor	Mtrs	50.00	1,550.00	77,500.00	
4		Supply & installations of Stainless steel Basket Type open Cable trays 400 mm x100 mm, in LAB/NER Room, made of 6.0mm dia stainless steel rods , with 100mm grid , bends, SS welding , Fixing Supports , all installation accessories etc. The rate to include fixing MS PAINTED SUPPORT bracket of 50 mm x 6.0mm <b>Make : LEGRAND CABLOFIL</b>	mtr	-		-	
						-	
5	FMR	SITC of High end touch panel Switch sockets for lighting SB and 5/15A Raw points in directors cabin and conf room, basic cost taken for plate switch sockets combine taken rs. 4000 per room	Set	20.00	4,000.00	80,000.00	
F		<b>Lightning arrestor</b>					
1	FMR	Early steamer lighting arrestor system with all connectors and 3 mtrs rod	Nos	6.00	1,35,000.00	8,10,000.00	
2	11.3	25 x 6 MM cu earth strip in PVC sleeve	Nos	600.00	833.00	4,99,800.00	
3	FMR	Lightining strike counter	Nos	6.00	2,500.00	15,000.00	
						-	
		<b>NON SOR TOTAL COST</b>				<b>4,19,57,449.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR LIGHT FITTINGS WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		NON SOR ITEM					
		LIGHT FITTINGS & FIXTURES					
A		Supply, Installation, Testing & Commissioning of the following fixtures complete with all tubes, lamps, HF electronic ballast with THD less than 10%, , fixing arrangements ball and sockets and suspension conduits connections, earthing complete with all lamps, balast, MS supports, stands, hardware, clamps, etc as per specification & as per architects approved colour temperature.					
1	FMR	1 x 40W IP 65 outdoor type light with acrylic cover	Nos	138.00	4,417	6,09,500.00	
				-			
2	FMR	2 x 2, 34W LED light	Nos	313.00	3,800	11,89,400.00	
				-		-	
3	FMR	15W LED down light	Nos	1,335.00	1,400	18,69,000.00	
				-		-	
4	FMR	20 W led tube light - 4 feet	Nos	127.00	2,650	3,36,550.00	
				-		-	
5	FMR	9W LED down light	Nos	242.00	1,120	2,71,040.00	
				-		-	
6	FMR	30W LED hangging light	Nos	75.00	5,400	4,05,000.00	
				-		-	
7	FMR	5W mirror light	Nos	208.00	1,000	2,08,000.00	
				-		-	
8	FMR	Supply Installation of EXIT Signage's with LED lamp with 90 minutes battery backup type & LED lamps as per NFPA standard. These signages may be mounted on wall OR can be fixed on ceiling with gear wire /recessed.	Nos	36.00	3,750	1,35,000.00	
				-		-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
9	FMR	Supply, Installation, Testing & Commissioning of PIR occupancy Sensors with contact rating of 10 Amps inductive, covering area of 200 Sqft at mounting height of 3 meter, occupancy LRM1070 of Philips or equivalent.	Nos	52.00	1,900	98,800.00	
				-		-	
10	FMR	Façade lighting- 100W outdoor type	Nos	-	9,250	-	
				-		-	
11	FMR	Outdoor lights-20W outdoor types	Nos	-	7,000	-	
				-		-	
12	FMR	2 x 11 W LED down light for reception and lobby as directed by architect	No	49.00	2,250	1,10,250.00	
				-		-	
13	FMR	3 W LED spot light with driver as directed by architect	Nos	59.00	1,100	64,900.00	
				-		-	
14	FMR	Lift pit 9W led light with cover	Nos	24.00	2,000	48,000.00	
						-	
15	FMR	Street lights 40W with 9 Mtrs pole	Nos	-	24,500	-	
16	FMR	50W outdoor type lights on bowl exit	Nos	42.00	5,600	2,35,200.00	
17	FMR	2000W outdoor type flood light on roof	Nos	-	74,000	-	
18	FMR	300W Led light for badminton	Nos	20.00	65,000	13,00,000.00	
19	FMR	450W led lights for badminton	Nos	10.00	78,000	7,80,000.00	
20	9.32.2	Supplying, erection and testing of approved make electric Ceiling fan of double ball bearing complete with standard down rod, canopy, hanging shackle, Aluminium blades, without regulator, A.C. 230-250 volts including connections with all necessary material complete as required confirming to IS :374/1979 with upto date ammendments. Ceiling Fan (Energy Saver 60 W)-1400 mm Sweep	Nos	112.00	1,998	2,23,776.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
21	11.35	Providing and fixing earthing arrangement with 38.1mm dia 2.5 meter long galvanized iron pipe electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Nos	20.00	1,002	20,040.00	
		<b>NON SOR TOTAL COST</b>				<b>79,04,456.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR CCTV WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		NON SOR ITEM					
1	FMR	SITC of IP mini dome camera equipped with a 1/3" 3 MP progressive scan CMOS imager to capture 2304×1296 (20 fps)/Full HD 1080p (25/30 fps) images; a 3.6mm mm fixed lens; and a waterproof (IP66) enclosure, true day/night solution, camera shall use Smart IR technology and provide up to 100 ft (30 m) of IR illumination,shall accept PoE (802.3af) or 12 V DC power input. <b>Approved Makes:-Honeywell Performance/PELCO/Axis</b>	20.00	Nos.	7,166.67	1,43,333.33	
2	FMR	SITC of IP Bullet camera equipped with a 1/3" 3 MP progressive scan CMOS imager to capture 2304×1296 (20 fps)/Full HD 1080p (25/30 fps) images; a 3.6mm mm fixed lens; and a waterproof (IP66) enclosure, true day/night solution, camera shall use Smart IR technology and provide up to 100 ft (30 m) of IR illumination,shall accept PoE (802.3af) or 12 V DC power input. <b>Approved Makes:-Honeywell Performance/PELCO/Axis</b>	10.00	Nos.	8,400.00	84,000.00	
					-		
3	FMR	SITC of IP PTZ equipped with a 1/3" 3 MP progressive scan CMOS imager to capture 2304×1296 (20 fps)/Full HD 1080p (25/30 fps) images; a 3.6mm mm fixed lens; and a waterproof (IP66) enclosure, true day/night solution, camera shall use Smart IR technology and provide up to 100 ft (30 m) of IR illumination,shall accept PoE (802.3af) or 12 V DC power input. <b>Approved Makes:-Honeywell Performance/PELCO/Axis</b>	2.00	Nos	57,666.67	1,15,333.33	
					-	-	
2.1	FMR	Armoured cat 6 cable	1,500.00	Mtrs	142.67	2,14,000.00	
2.2	FMR	3cx 1.5 Sqmm cu arm cable	500.00	Mtrs	133.33	66,666.67	
3	FMR	8C x 1.5 Sqmm cu arm cable	500.00	Mtrs	345.00	1,72,500.00	
3	FMR	SITC Flat screen TFT 32" high resolution Monitor with power supply complete with key board & mouse.	3.00	No.	31,666.67	95,000.00	
					-		



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
4	FMR	SITC of Layer 2 networking switch, 8 # 10/100/1000 BT ports, 8ports providing PoE+ as per 802.3a/f each delivering minimum 15Watts per port, min. 2 shared mini-GBIC/SFP ports suitable for single mode fiber optics based ring topology configuration, supporting transceivers upto 2000mtrs. <b>Approved Makes:- CISCO/D-Link/NetGear</b>	3.00	Nos.	28,500.00	85,500.00	
					-		
5	FMR	SITC of 32 CH NVR, 8 SATA HDD Slot (Max 32TB), ATX Power,Realtime Recording Resolution (32 Channels @ 720P,24 Channels @1080P),Realtime Local Playback( 8 Channels @ 720P,4 Channels @1080P),Multiplex Operation,H.264 High profile,BNC/VGA/HDMI output, main profile, baseline,HDD Redundancy,Free DDNS,Network backup, USB HDD, USB writer, SATA writer,1 RS485, support 18 kinds of PTZ protocols,ONVIF 2.0,1 channel Audio Input and Output,16 Ch Alarm Input and 8 Ch Alarm Output- Free software supply and installation for 5 nos. system shall be included in scope. <b>Approved Makes:-Honeywell Performance/PELCO/Axis</b>	1.00	No.	64,566.67	64,566.67	
					-		
6	FMR	4TB HDD drive with cables	6.00	Nos	6,243.33	37,460.00	
					-		
7	FMR	15 MTRS HDMI cable	4.00	Nos.	2,666.67	10,666.67	
					-		
8	FMR	1/4 HDMI splitter	1.00	Nos	2,733.33	2,733.33	
					-		
9	FMR	3 feet cat 6 patch cords, IO and box with faceplate	32.00	nos	420.00	13,440.00	
					-		
10	FMR	Supply, installation, testing and commissioning of NAS including accessories, suitable power socket, DC power converters, connectors, cables, etc. complete as per spec. Contractor to decide on the NAS size depending on the Pixel resolution and recording rate in frames per second as specified in the tender. Contractor shall size the NAS for <b>25 FPS / 4 CIF resolution 7 days of continous recording</b> and submit data sheet of their storage calculation for both MPEG 4 and H.264 recording formats.	1.00	Nos	6,46,666.67	6,46,666.67	
					-		
11	FMR	Supply, installation, testing and commissioning of user Client control software complete as per spec with valid licenses. The software should enable the user to view multiple cameras in any combination available on the network (maximum 16 Nos)	1.00	Nos	67,666.67	67,666.67	
					-		

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
12	FMR	Supply, installation, testing and commissioning of Optic Fibre Communication Cable 6 core, SMF, 9/125, 1000 mbps on surface /recess/conduit including clamps, etc. The Cost should include the all necessary accessories like connectors, adaptors, patch cords, Light integration units etc.	500.00	Mtrs	178.33	89,166.67	
		NON SOR TOTAL COST				19,08,700.00	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR ACCESS CONTROL & DOOR INTERLOCK SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	Supply, installation, testing & commissioning of Bio metric-Fingure print + card readers as per specification suitable for mounting on Gypsum/metal surface/metal frames or wooden frames/ wall or as required based on site conditions including all accessories and civil works. <b>Make- Spectra , Solus, Honeywell</b>	10.00	Nos	27,000.00	2,70,000.00	
					-	-	
2	FMR	Supply, installation, testing & commissioning of Proximity card readers as per specification suitable for mounting on Gypsum/metal surface/metal frames or wooden frames/ wall or as required based on site conditions including all accessories and civil works. <b>Make- Spectra , Solus, Honeywell</b>	-	Nos	3,316.67	-	
					-	-	
3	FMR	Supply, installation, testing and commissioning of electromagnetic Lock (fail safe type) of 600lb holding force, with Door Feedback & door ajar alarm buzzer for the following type doors : Locks shall be suitable for Glass door with 11 clamps			-	-	
a		Double leaf Door	-	Nos	-	-	
b		Single leaf Door <b>Make-Capture or equivalent</b>	10.00	Nos	4,316.67	43,166.67	
c		magnetic contacts	10.00	nos	286.67	2,866.67	
					-	-	
4	FMR	SITC of 2 door controller with TCP/IP connectivity, & power supply unit with battery back up	-	Nos	-	-	
5	FMR	SITC of 4 door controller with TCP/IP connectivity, & power supply unit <b>Make- Spectra , Solus, Honeywell Note- Access door shall open during fire alarm. Panel shall give door open alarm</b>	3.00	Nos	30,333.33	91,000.00	
6	FMR	<b>SITC of Access PC Hardware &amp; Software</b>			-	-	

6a		I5 Processor with mobo,4GB dd3 kingston RAM ,Keyboard & Mouse,Cabinet circule,CD Drive with Dell screen 18.5"	1.00	Nos	65,333.33	65,333.33	
6b		BASIC Multiple User licensed time attendance soft ware	1.00	Nos	65,000.00	65,000.00	
		Capability to map multiple companies within the Enterprise, and Various departments within a Company. Vendor to understand the exisiting software and provide the simmlar of higher version.			-	-	
		Should have capablity for generating extensive customised reports.			-	-	
					-	-	
7	FMR	SITC of Armored Copper flexible Cable,PVC insulated, shielded PVC Sheathed cable.The cable shall be laid on surface with GI saddle-spacers every 0.3 meters. Complete with GI Junction Box, lugs, cable compression glands, cable tags and Ferruling. <b>Make Polycab of Equivalent</b>			-	-	
a		8 c x 0.75 Sq.mm for readers only	1,000.00	Mtrs	310.00	3,10,000.00	
b		4c x 0.75 Sq.mm for locks and exit switch	2,000.00	Mtrs	245.00	4,90,000.00	
c		Cat 6 Cable in MS pipe for connecting all controller with Access server with terminations	500.00	Mts	128.33	64,166.67	
					-	-	
8	FMR	Supply, installation, testing and commissioning of Proximity cards as per specification. <b>Make- Spectra , Solus, Honeywell</b>	100.00	Nos	170.00	17,000.00	
					-	-	
9	FMR	Supply , installation, testing and commissioning of Push Button for Exit- SS plate type	10.00	Nos	1,116.67	11,166.67	
					-	-	
10	FMR	Supply installation, testing, commissioning of Green ABS plastic Emergency Break Glass ( Resetable type) Units.	10.00	Nos	686.67	6,866.67	
						-	
11	FMR	Panic bar with battery operated alarm	-	Nos		-	
		<b>NON SOR TOTAL COST</b>				<b>14,36,567.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR INTEGRATED ADDRESSABLE FIRE DETECTION SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	Supply of 4 Loop Micro processor based 2 wire fault tolerant loop, required loop networkable type (each loop accessing total 250 devices 99 detectors and 99 modules ) fire alarm/detection control panel. The panel shall be able to give location of all fire/fault conditions of addressable units via the address codes. Further, the panel must be able to automatically switch ON /OFF respective control module when ever any alarm is triggered. The panel shall have rectifier, Loop cards, 80 character L C D unit to indicate Fire/Fault Signal with address and analog output, external/inbuilt printer to log all fire or fault events complete in all respects. The Panel Shall be Sheet Steel Painted, selaed to IP30. The Panel Shall have 20 Zones with Individual LED Indicators, expandable to 80 LED Indicators. The Panel Shall have 3 Serial Ports.The panel shall have provision to integrate with PA System and shall have provision to connect to Building Management system through Modbus Card. The panel shall have a built in power supply and battery charger along with maintenance free 24 AH, 2 x 12 volt SMF Lead acid batteries capable of running for a minimum of 24 hours with battery charger complete as required. and conforming to BS5839 Standards and Duly Approved by EN54/LPCB as per specifications. <b>Approved Makes:- Honeywell Morley/Notifier/Siemens</b> - Note- Fire panel shall be integrated to Elect panel, Acceess control, Builder fire panel, Auto dialer, PA system. Vendor shall include scope for supply and and installation for the same.	No	1.00	5,06,666.67	5,06,666.67	
				-	-	-	
2	FMR	Addressable fire alarm Active Repeater Panel which consists of display board which will have 160 Character Display with Touch key pad, Mother board <b>UL Listed</b> , <b>Make: Notifire</b>	Nos	1.00	95,000.00	95,000.00	
				-	-	-	
3	FMR	SITC of Addressable Smoke detector with base with Binary coded address setting. Dual LED's for 360° visibility. Sleek low-profile housing design. Regular 100mm (Below false ceiling) base. IP Rating : IP - 42. Approval: <b>UL Listed</b> , <b>MakeHoneywell Morley/Notifier/Siemens</b>	Nos	341.00	3,033.33	10,34,366.67	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
4	FMR	SITC Addressable Smoke detector with base with Binary coded address setting. Dual LED's for 360° visibility. Polarity free, Sleek low-profile housing design. Regular 100mm base( Above False ceiling with MS back box) . IP Rating : IP - 42. Approval: <b>UL Listed, Make: Notifire</b>	Nos	199.00	3,333.33	6,63,333.33	
				-	-	-	
5	FMR	SITC of Analogue Addressable Heat + Rate of Rise temp detector with base with Binary coded address setting. Dual LED's for 360° visibility. Sleek low-profile housing design. Regular 100mm base. IP Rating : IP - 42. Approval: (Below False Floor.) <b>UL Listed, Make: Honeywell Morley/Notifier/Siemens</b>	Nos	20.00	3,333.33	66,666.67	
				-	-	-	
5.1	FMR	SITC of Analogue Addressable Heat + smoke detector, Rate of Rise Cum Fixed Supply of Addressable Heat detector with base with Binary coded address setting. Dual LED's for 360° visibility. Sleek low-profile housing design. Regular 100mm base. IP Rating : IP - 42. Approval: (Below False Floor.) <b>UL Listed, Make: Honeywell Morley/Notifier/Siemens</b>	Nos	41.00	3,333.33	1,36,666.67	
				-	-	-	
6	FMR	SITC Addressable Manual Pull Station - Single Action - <b>UL Listed, Honeywell Morley/Notifier/Siemens</b>	Nos	46.00	4,316.67	1,98,566.67	
				-	-	-	
7	FMR	SITC of Addressable Monitor Module/ control module- Approval: <b>UL Listed, Make:Honeywell Morley/Notifier/Siemens</b>	Nos	20.00	4,316.67	86,333.33	
				-	-	-	
8	FMR	SITC Addressable Relay Module. Approval: <b>UL Listed, Make Honeywell Morley/Notifier/Siemens</b>	Nos	20.00	4,316.67	86,333.33	
				-	-	-	
9	FMR	SITC Sounder Cum Strobe with minimum Db level of 90db at 10 feet height <b>Honeywell Morley/Notifier/Siemens</b>	Nos	72.00	4,316.67	3,10,800.00	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
10	FMR	SITC of Addressable Control Module for conventional sounder . Binary Coding Setting - Approval: UL Listed, Make-Honeywell Morley/Notifier/Siemens	Nos	72.00	4,316.67	3,10,800.00	
11	FMR	Supply of Fault Isolator with base <b>Honeywell Morley/Notifier/Siemens</b>	Nos	26.00	4,316.67	3,000.00	
				-	-	-	
12	FMR	SITC of Response Indicator indicator having twin LED flush mounted on false ceiling/wall	Nos	81.00	230.00	18,630.00	
				-	-	-	
13	FMR	SITC of 2 Core x 1.5 mm <sup>2</sup> , Multistranded AT Copper, FRLS Armoured cable, <b>RED in Colour</b> . The cable shall be laid on surface with GI saddle-spacers every 0.3 meters. Complete with GI Junction Box, lugs, cable glands, cable tags and Ferruling as required. <b>Make polycab or Equivallent</b>	Mtr.	15,920.00	126.00	20,05,920.00	
				-	-	-	
14	FMR	SITC of GSM Auto dialler system, shall be capable of sending SMS and call alert to max 10 peoples Note: GSM sim Card in customer scope	Nos	1.00	12,166.67	12,166.67	
					-		
15	FMR	Loop beam detector	Nos	3.00	61,000.00	1,83,000.00	
		<b>NON SOR TOTAL COST</b>				<b>57,18,250.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR PUBLIC ADDRESS SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	SITC of Dual Tone Ceiling mounted speaker with all requisite mouting accessories to mount the speaker on False Ceiling / True Ceiling.					
1.a		SITC of EN approved Firedome 6W Ceiling Speaker IP 52 Moisture proof with max SPL1M/1W 96dB . Frequency response of 110Hz-20KHz with a dispersion angle of 184/90 deg. The speaker should have tappings at 6W/3W/1.5W. Suitable for mounting on ceiling and walls	Nos	80.00	10,000.00	8,00,000.00	
1.b		SITC of 6W Wall mount with max SPL1M/1W 94dB . Frequency response of 130Hz-20KHz having dispersion angle of 120deg. The speaker should have tappings at 6W/3W	Nos	20.00	3,800.00	76,000.00	
1.c		SITC of 40W Sound Projector Cabinet (IP65) with max SPL1M/1W 84dB . Frequency response of 100Hz-20KHz. The speaker should have tappings at 40/20/10W	Nos	-	8,500.00	-	
1.d		SITC of EN Approved unidirectional 20W Sound Projector (IP65) with max SPL1M/1W 89dB . Frequency response of 150Hz-20KHz. The speaker should have tappings at 20/10/5W	Nos	-	13,500.00	-	
1.e		SITC of 8 zone IP based, digital Voice Alarm controller expandable upto 128 zones. The voice alarm controller should be able to connect directly over Ethernet. It should have functions like the audio playing, zone control, fault monitoring, log recording, volume control and amplifier switchover. The Voice alarm controller should also have the following functions: . 255 Priorities . Time schedule broadcasts . Capable of amplifier redundancy . 8 trigger inputs/outputs	Nos	1.00	4,00,000.00	4,00,000.00	
						-	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2	FMR	SITC of IP based Networkable touch screen paging station for selection of zones, supervision of system status, setting of scheduled broadcasts with the following functions: . <i>Built-in monitoring loudspeaker</i> . <i>Detachable goose-neck microphone</i> . <i>LCD touchscreen display</i> . <i>Audio input</i>	Nos	1.00	1,25,000.00	1,25,000.00	
						-	
3	FMR	SITC of EN approved 1 x 500W Class-D Amplifier with 1 independent channels and can provide automatic re-settable overcurrent, overload, overheating, overvoltage, under-voltage and DC protection	Nos	5.00	1,25,000.00	6,25,000.00	
						-	
4	FMR	SITC of Background music source CD/DVD/ AM-FM Tuner (BGM Source) . <b>Sony/ Phillips</b>	Nos	1.00	6,000.00	6,000.00	
						-	
						-	
6	FMR	SITC of 6W Volume Control, with ON/OFF with auto over ride option <b>Make-Honeywell/ Bosch</b>	Nos	100.00	4,000.00	4,00,000.00	
						-	
7	FMR	SITC of ISI Marked FRLS Armoured 2 core x 1.5 mm <sup>2</sup> , Multistandard Copper Conductor, PVC sheathed Cable with The cable shall be laid on surface with GI saddle-spacers every 0.3 meters. Complete with GI Junction Box, lugs, cable glands, cable tags and Ferruling. Make <b>Polycab or Equivallent</b>	Mtrs	12,000.00	125.00	15,00,000.00	
						-	
		<b>NON SOR TOTAL COST</b>				<b>39,32,000.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR RODENT REPELANT SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	SITC of Microprocessor based Master Controller Console with 32 characters <b>LCD DISPLAY</b> , with on board controls generating frequencies from 20Khz to 60 Khz, complete with all related mounting accessories such as racks etc. The Master Console shall be able to connected to <b>12 Satellites</b>	Nos	15	26,500.00	3,97,500.00	
2	FMR	SITC of Transducer Satellite Stations capable of Emitting Ultrasonic sound of frequencies 20 Khz and higher, with blinking LED Indication & shall capable to covering area of <b>500 Sq ft in all voids.</b>	Nos	150	1,216.67	1,82,500.00	
					-		
3	FMR	SITC of 1 pair flexible 14/40 SWG Specially coated wire, PVC sheathed Cable in 20mm <b>LHSFT</b> PVC Conduits with GI Saddels and speacers at evry 0.3 meter.	Mtrs	2000	95.00	1,90,000.00	
		<b>NON SOR TOTAL COST</b>				<b>7,70,000.00</b>	

**DEVELOPMENT OF MULTI SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR DATA AND VOICE SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		NON SOR ITEM					
1	FMR	Cat-6 UTP Cable	Boxes	15	6,616.67	99250	
2	FMR	Cat-6 Information Outlet	Nos	60	428.33	25700	
3	FMR	1 port face plate	Nos	30	256.67	7700	
4	FMR	2 port face plate	Nos	30	256.67	7700	
5	FMR	4 port face plate	Nos	10	256.67	2567	
6	FMR	Server side installation work	Job	1	25,666.67	25667	
7	FMR	24 port jack panel with IO	Nos	3	8,566.67	25700	
8	FMR	42 U rack with power strips and assesories	Nos	2	45,000.00	90000	
9	FMR	Testing and certification	Job	1	26,666.67	26667	
10	FMR	15 U rack for CCTV PA system	Nos	2	16,666.67	33333	
		<b>NON SOR TOTAL COST</b>				<b>3,44,284.00</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR UPS SYSTEM**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		<b>NON SOR ITEM</b>					
1	FMR	SITC 60 KVA online UPS with 15 min battery back up on full load , 3ph input and 3ph output. Including battery rack, battery links , battery isolators, ups to battery cables and terminations etc.	Each	1	7,51,666.67	7,51,666.67	
2	FMR	SITC 30 KVA online UPS with 15 min battery back up on full load , 3ph input and 3ph output. Including battery rack, battery links , battery isolators, ups to battery cables and terminations etc.	Each	1	4,31,666.67	4,31,666.67	
		<b>NON SOR TOTAL COST</b>				<b>11,83,333.33</b>	

**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR DIESEL GENERATOR SET**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
I		NON SOR ITEM					
1	FMR	<b>1250 KVA</b>					
		Supply, Installation, testing and commissioning of 1250 KVA Diesel Generator Set complete with Diesel Engine suitable for Generator application, developing 1500RPM with an overloading capacity of 10% for one hour in any 12 continuous hours operation Generally confirms to BS:5514, directly coupled to <b>1250 KVA</b> at 0.8 Power factor, 415V, 3 Phase , 4 wires, 50 cycles per second self excited, self regulated , with brushless excitation, Alternator generally confirms to BS:5000/IS:4722 . DG set shall be complete with radiator, residential type silencer, electronic governor, cable termination box , MS mounting frame, fuel piping, diesel day tank 2nos , 24VDC Battery, Battery mounting frame, oil level indicator with guage board, and all other accessories as per specifications and schedule. Diesel Generator set shall be mounted on cushy foot or similar type of vibration Isolators. The cost of Exhaust pipe shall be excluded in this item. The DG Set shall be suitable for auto-mains failure start, auto synchronisation, auto load sharing and auto / manual operations. The cost shall include fuel .oil. filters .	Set	1	48,43,333.33	48,43,333.33	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2	FMR	<b>Accoustic enclosure</b>			-	-	
		Supplying and providing Acoustic enclosure for 1250 KVA Diesel Generator set complete with enclosure fabricated out of 1.6 mm thick CRCA sheet. The canopy and enclosure shall be suitable for outdoor installation and constructed out of removable panels, fixed on the skeleton frame work. All frame structures shall be of sheet form frames. Sliding / swing type doors shall be provided for both sides of the enclosure, the door shall be open fully for the length of DG set. All doors shall be of robust construction. The location and size of the doors interior surface of the enclosure shall be laid with acoustic insulation of 100 / 150 mm thickness with 2 layers of 50 mm thick of 64 kg density resin bounded mineral wool. The insulation shall be covered with 0.5 mm thick perforated CRCA sheet. The complete enclosure shall be of dust and vermin proof construction. The enclosure shall consist of two chambers viz., Generator Set Chamber and exhaust chamber. Both chambers shall be with acoustic louver box. Necessary flexible ducting (canvas) shall be provided between DG set radiator and Exhaust chambers. All steel material shall be hot dip phosphated with 2 coats of primer and 2 coats of epoxy paint of approved colour. Each chamber shall be wired with light points and bulk - head light fixtures shall be provided. The cost shall also include providing 4 Nos. bulk - head fixtures in DG set chamber and 1 No. in Exhaust chamber. The temperature inside the enclosure shall not be more than 3 Deg C above ambient. The noise level shall not be more than 70 db at '1 m distance from the enclosures. Air intake for DG set shall be provided from rear side of the DG set and shall suck in by engine fan. Suitable louvers shall be provided at adequate height for hot air exhaust inside the accoustic enclosure, so as to maintain a differential of 5-6 degree	Set	1	7,62,333.33	7,62,333.33	
3	FMR	<b>Exhaust System</b>			-	-	
		Supply and providing exhaust piping complete with exhaust pipe, fibre glass insulation with aluminium cladding, pipe accessories like flanges, bends, elbows, rain protection hoods, etc.. The exhaust piping shall be fixed from floor with MS angle supports, using necessary clamps, anchorbolts, vibration isolation pads, etc., as shown in the drawing. Pipe size shall be suitable for 380 KVA Diesel generator sets			-	-	
					-	-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
3.1		Exhaust pipe 200 mm dia 5 mm thick Ms pipe with all necessary fittings	Mtrs	30	7,113.33	2,13,400.00	
					-	-	
3.2		Mineral wool / glass wool lagging for exhaust pipe system including aluminium cladding for item no. 4.1	Mtrs	30	5,800.00	1,74,000.00	
					-	-	
4	FMR	<b>Control cabling system</b>			-	-	
		Control cabling using 1100V grade 1.5 sqmm multi core copper conductor, PVC insulated armour cable between DG set, Control panel, DG auxiliary MCC and fuel starters / PLC / SCADA	LS	1	21,833.33	21,833.33	
					-	-	
5	FMR	Supply & Installation of Required 'I' Beam/ 'C' Channel for installation of 2tier (2500Kg)	Job	1	55,666.67	55,666.67	
		DG including working space alaround 1m with chakkar plate, ladder with epoxy painting & two coating of primer with black colour and all accessories.			-	-	
					-	-	
6	FMR	<b>Communication cabling system</b>			-	-	
		Supply, laying, testing of 1100V grade 2.5 sqmm copper conductor, PVC insulated, sheathed and armoured multicore FRLS cables for various control requirements including GI spacers, saddles for supports end terminations with cable gland etc. complete as specified.			-	-	
6.1		4C x 2.5 YRY	Rmt	40	167.00	6,680.00	
					-	-	
6.2		12Cx 2.5 YRY	Rmt	60	435.00	26,100.00	
					-	-	
7	FMR	<b>Earthing system</b>			-	-	
7.1		Supply, Installation, Testing and commissioning of UL Certified CPRI Tested <b>Maintenance Free Earthing</b> comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250 micron Molecular Copper Bonded Earthing Rod of 3m along with 25 kg Carbon Based environment friendly back fill Ground Enhancing compound required to fill up the excavatedLength earth with required quantity as per specification no EA-MOBI	Nos	4	167.00	668.00	
					-	-	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
7.2		Supply and providing of 'Lightning Protection for the Exhaust pipe support , including Air Terminal rod 'Earthing strip, Earth Pit and required all other accessories	Set	1	11,833.33	11,833.33	
					-	-	
7.3		Supply and running of below listed sizes of electrolytic copper / GS earth conductor tapes / wires and laid along with cable or clamped to brick wall, etc., as required.			-	-	
					-	-	
7.4		25 x 6 mm Copper flat	Mtrs	100	701.67	70,166.67	
					-	-	
7.5		25 x 6 mm GI flat	Mtrs	100	209.00	20,900.00	
					-	-	
8	FMR	<b>Supporting MS items.</b>			-	-	
		Supply and erection of 'Exhaust pipe supporting system with ISMC, ISAs 'complete including redoxide and black enamel painting and RCC foundation	Kgs	500	111.00	55,500.00	
					-	-	
9	FMR	Liasoning Work	Job	1	4,50,000.00	4,50,000.00	
		The vendor will be responsible for preparation of drawings & the statutory clearances / approval from the Electrical inspector, State Electricity board, State regulatory agency, factory inspector, pollution control board, regulatory authority, Chief controller of explosives- Fire brigade and any other statutory agency or otherwise appointed for the purpose by the state / central / municipal bodies. The clearances / approvals shall be obtained by the vendor for the complete system comprising of DG sets, Accoustic enclousures, fuel and exhaust systems, earthing stations etc. The documents / drawings. testing equipments etc required for obtaining the approval shall be prepared arranged by the contractor at their cost. The client shall reasonably assist by providing all official documents, receipts etc. Any official charges to be paid for the approvals shall be paid by the client for which the contractor shall produce estimates / receipts in original.			-	-	
		<b>NON SOR TOTAL COST</b>				<b>67,12,414.67</b>	



**DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)****ABSTRACT - BILL OF QUANTITIES FOR HVAC WORKS**

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
<b>I</b>		<b>NON SOR ITEM</b>					
<b>A</b>		<b>SUPPLY INSTALLATION TESTING &amp; COMMISSIONING OF DX TYPE AIR HANDLING UNITS WITH PANEL &amp; CABLING Make : Edgetech, Zeco, Nutech, VTS TF Air systems.</b>					
<b>1.0</b>		Double-skin sand-witch panel- 45 mm thick with Puff density 42 kg/cub.Mtr. construction Air-Handling Units in sectionalized construction, with RTV sealant at joint and having Thermal- Break, comprising following sections.					
		Primary Filters in Aluminium frame in synthetic non-woven fibre having efficiency of 90% down to 10 micron dust particles.					
		DX cooling coil with cross-sectional area not more than 2.5 meters/second air velocity & minimum 6 Rows deep, thermostatic expansion valve, thermostat.					
		Centrifugal fan section with DIDW forward curved centrifugal fan with Common base frame outlet damper with canvass connection, vibration isolators, TEFC motor. Blower make shall be Krugger / Systemair make.					
		Motor shall be suitable for 415±10% volts, 50 cycles, 3 phase AC supply. Fan motor assembly (as whole) shall be statically and dynamically balanced to grade G 6.3 as per ISO-1940/AMCA 204-3					
		Fan sections shall have internally additional insulation of 25 mm thick "Armasound " Armacell make nitrile rubber insulation.					
		Supply, Installation, testing, commissioning, including lifting, shifting of following AHU. Fabrication installation of MS base platform for AHU units complete with epoxy painting, vibration isolation pads, support hangars, railing, brackets etc. Canvass connections on AHU mouth with zip as approved by consultants. Quoted price shall be inclusive of AHU Panel with controller , sensors, power / control cabling.					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.1		Floor mounted AHU of 10000 cfm, 50 mmwg total static & 5.5 Kw approx fan motor connected to 2 no 5.5 TR & 1 no 8.5 TR single circuit single Condensing units.	Nos.	2	396750	793500	
1.2		Ceiling Suspended AHU of 7500 cfm, 50 mmwg total static & 5.5 Kw approx fan motor connected to 2 nos 8.5 TR single circuit single Condensing units	Nos.	0	276000	0	
1.3		Ceiling Suspended AHU of 5000 cfm, 45 mmwg total static & 3.7 Kw approx fan motor connected to 2 nos 5.5 TR single circuit single Condensing units	Nos.	2	189750	379500	
2.0		<b>AIR COOLED CONDENSING UNITS Make : Carrier / Blue Star / Midea / Hitachi.</b>					
		Supply, Insallation, testing & commissioning of following air cooled condensing units. The Condensing unit shall be complete with hermatically sealed rotary/ scroll compressor/s, with aluminium fins, thermostatic expansion valve and air cooled condenser with fan. The condensing unit enclosure shall be factory painted to a smooth finish. The quoted price shall be inclusive of full charge of refrigerant gas. and also Provision of ms base platform for condensing units with isolators pads					
2.2		8.5 TR Single circuit single Air Cooled condensing units	Nos.	2	102005	204010	
2.3		5.5 TR Single circuit single Air Cooled condensing units	Nos.	8	73830	590640	
		<b>REFRIGERANT PIPING &amp; CABLING FOR CONDENSING UNITS</b>					
		Supply, Installation, Testing and Commissioning of hard drawn 20 gauge copper refrigerant piping complete with fittings between indoor units and remote condensers. Refrigerant piping complete for all circuits with suction line insulation of min. 9 mm thick Armaflex make & electrical cabling & conduiting with proper supporting arrangement @ every 4 feet.					
2.3		For 8.5 TR single circuit single Air Cooled condensing units					
2.3.1		Refrigerant piping of make : Mandev / Nissan / Rajco	Rmt.	40	1035	41400	
2.3.2		FRLS Power cabling (From ODU to control panel) of make : Polycab / CCI	Rmt.	50	219	10925	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2.3.3		FRLS Control cabling (From ODU to control panel) of make : Polycab / CCI	Rmt.	50	161	8050	
2.3.4		Isolator switch of IP-55 construction near outdoor/indoor unit of make : L&T / Seimens	Nos.	2	3680	7360	
2.3		For 5.5 TR single circuit single Air Cooled condensing units					
2.3.1		Refrigerant piping of make : Mandev / Nissan / Rajco	Rmt.	160	863	138000	
2.3.2		FRLS Power cabling (From ODU to control panel) of make : Polycab / CCI	Rmt.	200	219	43700	
2.3.3		FRLS Control cabling (From ODU to control panel) of make : Polycab / CCI	Rmt.	200	161	32200	
2.3.4		Isolator switch of IP-55 construction near outdoor/indoor unit of make : L&T / Seimens	Nos.	8	3220	25760	
3.0		Provision of oil separator & accumulator for each circuit to cater additional refrigerant piping length. (applicable for more than 25 mtr running ref. piping)	Nos.	U.R.			
B		CONVENTIONAL SYSTEM					
1.0		Supply, Installation Testing & Commissioning of Air cooled conventional Ductable split units, make : Carrier / Blue Star / Midea / Hitachi / LG.					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Ductable split type conditioning units, each comprising of an outdoor and a single/double indoor unit/s. Condensing unit shall be complete with hermetically sealed rotary / scroll compressor/s, with aluminium fins, thermostatic expansion valve and air cooled condenser with fan. Evaporating unit shall consist of a fan section with dynamically balanced centrifugal fan/s driven by FHP/TEFC squirrel cage induction motor, multirows deep cooling coil of copper tubes and aluminium fins etc. Enclosures shall be fabricated as specified. The evaporating unit shall be equipped with synthetic fibre filters, insulated drain pan, safety controls, thermostat all complete in a unit. The outdoor unit enclosure shall be factory painted to a smooth finish. Ductable three phase units shall be complete with phase reversal kit and motor protection device. Including lifting, shifting, fabrication, installation of MS base platform for indoor/outdoor unit complete with epoxy painting, vibration isolation pads, support hangars, railth flr, warmup area - 0.5 sq.mtr + 4th flr, squash court - 0.5 sq.mtr + 4th flr, warmup area - 3 sq.mtr + 4th flr gents & ladies toilet - 1 sq.mtr + 4th flr, squash court - 2 sq.mtr The quoted price shall be inclusive of full charge of refrigerant gas. charge of					
	SSR2 Section 2	<b>Three phase ductable split units :</b>					
1.1	22022	17.0 TR Ceiling suspended Ductable split units	Nos.	0	526700	0	
1.2	22022	11.0 TR Ceiling suspended Ductable split units	Nos.	2	369600	739200	
1.3	22022	8.5 TR Ceiling suspended Ductable split units with single circuit	Nos.	6	319990	1919940	
1.4	22022	5.5 TR Ceiling suspended Ductable split units with single circuit	Nos.	5	214980	1074900	
1.5		3 TR Ceiling suspended Ductable split units with single circuit	Nos.	4	69230	276920	
2.0		<b>Copper Refrigerant Piping &amp; Cabling for Air cooled ducable split units.</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Supply, Installation, Testing and Commissioning of hard/soft copper refrigerant piping complete with fittings between indoor units and remote condensers. Refrigerant piping complete for all circuits with suction line insulation of min. 9 mm thick Armaflex make & electrical cabling & conduiting with proper supporting arrangement @ every 4 feet..					
2.1		17 TR Ceiling suspended Ductable split units (2 nos. 8.5 TR single circuit)					
2.1.1		Refrigerant piping	Rmt.	0	1898	0	
2.1.2		FRLS Power cabling	Rmt.	0	920	0	
2.1.3		FRLS Control cabling	Rmt.	0	460	0	
2.1.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	0	9200	0	
2.2		11 TR Ceiling suspended Ductable split units(2 nos. 5.5 TR single circuit)					
2.2.1		Refrigerant piping	Rmt.	60	1495	89700	
2.2.2		FRLS Power cabling	Rmt.	80	207	16560	
2.2.3		FRLS Control cabling	Rmt.	80	161	12880	
2.2.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	4	3680	14720	
2.3		8.5 TR Ceiling suspended Ductable split units with single circuit					
2.3.1		Refrigerant piping	Rmt.	100	1035	103500	
2.3.2		FRLS Power cabling	Rmt.	150	207	31050	
2.3.3		FRLS Control cabling	Rmt.	150	161	24150	
2.3.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	6	3680	22080	
2.4		5.5 TR Ceiling suspended Ductable split units with single circuit					
2.4.1		Refrigerant piping	Rmt.	75	748	56063	
2.4.2		FRLS Power cabling	Rmt.	100	207	20700	
2.4.3		FRLS Control cabling	Rmt.	100	161	16100	
2.4.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	5	3220	16100	
2.5		3.0 TR Ceiling suspended Ductable split units with single circuit					
2.5.1		Refrigerant piping	Rmt.	62	748	46345	
2.5.2		FRLS Power cabling	Rmt.	82	184	15088	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2.5.3		FRLS Control cabling	Rmt.	82	138	11316	
2.5.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	4	2760	11040	
2.6		Provision of oil separator & accumulator for each circuit to cater additional refrigerant piping length. (applicable for more than 25 mtr running ref. piping)	Nos.	0			
<b>3.0</b>		<b>AIR COOLED CONVENTIONAL TYPE HI-WALL UNITS</b>					
		Supply, installation, testing & Commissioning of split type airconditioning units, each comprising of an outdoor and single/double indoor unit. Condensing unit shall be complete with compressor/s & air cooled condenser with fan. Evaporating unit shall consist of a fan section with dynamically balanced centrifugal fans driven by FHP motor, multirows deep cooling coil of Copper tubes and aluminium fins, thermostatic expansion valves etc. Enclosures shall be fabricated as specified. The evaporating unit shall be equipped with synthetic fibre filters, insulated drain pan, safety controls, thermostat all complete in a unit. The enclosure shall be factory painted to a smooth finish. The quoted price shall be inclusive of full charge of refrigerant gas, vibration isolation pads. Quoted price shall be inclusive of MS base frame duly painted with the black enamel paint for mounting of condensing units.					
		<b>Make : Carrier / Blue Star / Midea / Hitachi / Mitsubishi.</b>					
<b>3.1</b>		<b>Hi-wall Split Units</b>					
3.1.1	RUIDP 2013 66.4.4.3	2.0 TR High-wall mounted Split.	Nos.	4	45700	182800	
3.1.2	RUIDP 2013 66.4.4.2	1.5 TR High-wall mounted Split.	Nos.	4	36500	146000	
3.1.2	RUIDP 2013 66.4.4.1	1.0 TR High-wall mounted Split.	Nos.	0	34200	0	
		<b>REFRIGERANT PIPING &amp; CABLING FOR HI WALL SPLIT UNITS</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Supply, Installation, Testing and Commissioning of hard/soft copper refrigerant piping complete with fittings between indoor units and remote condensers. Refrigerant piping complete for all circuits with suction & liquid line insulation of min. 9 mm thick Armaflex make & electrical cabling & conduiting with proper supporting arrangement @ every 4 feet..					
3.2		2.0 TR High-wall					
3.2.1		Refrigerant piping	Rmt.	80	546	43700	
3.2.2		FRLS Power cabling	Rmt.	100	161	16100	
3.2.3		FRLS Control cabling	Rmt.	100	138	13800	
3.2.4		Isolator switch of IP-55 construction near indoor/outdoor unit	Nos.	4	2760	11040	
3.2		1.5 TR High-wall					
3.2.1		Refrigerant piping	Rmt.	60	546	32775	
3.2.2		FRLS Power cabling	Rmt.	80	161	12880	
3.2.3		FRLS Control cabling	Rmt.	80	138	11040	
3.2.4		Isolator switch of IP-55 construction near indoor/outdoor unit	Nos.	4	2530	10120	
3.3		1.0 TR High-wall					
3.3.1		Refrigerant piping	Rmt.	0	546	0	
3.3.2		FRLS Power cabling	Rmt.	0	196	0	
3.3.3		FRLS Control cabling	Rmt.	0	173	0	
3.3.1		Isolator switch of IP-55 construction near indoor/outdoor unit	Nos.	0	3450	0	
4		Epson Drain Pumps for above Hi-wall Units (if slope not available at site)	Nos.	8	5175	41400	
C		<b>INVERTER SYSTEM</b>					
1.0		<b>Supply, Installation Testing &amp; Commissioning of Air cooled Inverter Ductable split units, make : Carrier / Blue Star / Midea / Hitachi / Mitsubishi.</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Ductable split type conditioning units, each comprising of an outdoor and a single/double indoor unit/s. Condensing unit shall be complete with Inverter compressor/s, with aluminium fins, thermostatic expansion valve and air cooled condenser with fan. Evaporating unit shall consist of a fan section with dynamically balanced centrifugal fan/s driven by FHP/TEFC squirrel cage induction motor, multirows deep cooling coil of copper tubes and aluminium fins etc. Enclosures shall be fabricated as specified. The evaporating unit shall be equipped with synthetic fibre filters, insulated drain pan, safety controls, thermostat all complete in a unit. The outdoor unit enclosure shall be factory painted to a smooth finish. Ductable three phase units shall be complete with phase reversal kit and motor protection device. Including lifting, shifting, fabrication, installation of MS base platform for indoor/outdoor unit complete with epoxy painting, vibration isolation pads, support hangars, railing, brackets etc. Canvass th flr, warmup area - 0.5 sq.mtr + 4th flr, squash court - 0.5 sq.mtr + 4th flr, warmup area - 3 sq.mtr + 4th flr gents & ladies toilet - 1 sq.mtr + 4th flr, squash court - 2 sq.mtr The quoted price shall be inclusive of full charge of refrigerant gas.					
		<b>Three phase ductable split units :</b>					
1.1		3.0 TR Ceiling suspended Ductable split units	Nos.	3	123050	369150	
2.0		<b>Copper Refrigerant Piping &amp; Cabling for Air cooled ducable split units.</b>					
		Supply, Installation, Testing and Commissioning of hard/soft copper refrigerant piping complete with fittings between indoor units and remote condensers. Refrigerant piping complete for all circuits with suction line insulation of min. 9 mm thick Armaflex make & electrical cabling & conduiting with proper supporting arrangement @ every 4 feet..					
2.1		3.0 TR Ceiling suspended Ductable split units with single circuit					
2.1.1		Refrigerant piping	Rmt.	105	546	57356	
2.1.2		FRLS Power cabling	Rmt.	120	196	23460	
2.1.3		FRLS Control cabling	Rmt.	120	161	19320	



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2.1.4		Isolator switch of IP-55 construction near outdoor/indoor unit	Nos.	3	2990	8970	
<b>3.0</b>		<b>AIR COOLED INVERTER TYPE CASSETTE UNITS</b>					
		Supply, Installation, Testing & Commissioning of split type airconditioning units, each comprising of an outdoor and single/double indoor unit. Condensing unit shall be complete with Inverter compressor/s & air cooled condenser with fan. Evaporating unit shall consist of a fan section with dynamically balanced centrifugal fans driven by FHP motor, multirows deep cooling coil of Copper tubes and aluminium fins, thermostatic expansion valves etc. Enclosures shall be fabricated as specified. The evaporating unit shall be equipped with synthetic fibre filters, insulated drain pan, safety controls, Inbuilt drain pump, Cassette ceiling panle, thermostat all complete in a unit. The enclosure shall be factory painted to a smooth finish. The quoted price shall be inclusive of full charge of refrigerant gas, vibration isolation pads. Quoted price shall be inclusive of MS base frame duly painted with the black enamel paint for mounting of condensing units.					
		<b>Make : Carrier / Blue Star / Midea / Hitachi / Mitsubishi .</b>					
<b>3.1</b>		<b>Cassette Split Units</b>					
3.1.1		2.6 TR / 950 CFM Ceiling suspended Cassette Split.	Nos.	2	109250	218500	
		<b>REFRIGERANT PIPING &amp; CABLING FOR HI WALL SPLIT UNITS</b>					
		Supply, Installation, Testing and Commissioning of hard/soft copper refrigerant piping complete with fittings between indoor units and remote condensers. Refrigerant piping complete for all circuits with suction & liquid line insulation of min. 9 mm thick Armaflex make & electrical cabling & conduiting with proper supporting arrangement @ every 4 feet..					
3.1		2.6 TR Ceiling suspended Cassette					
3.1.1		Refrigerant piping	Rmt.	80	546	43700	
3.1.2		FRLS Power cabling	Rmt.	90	196	17595	
3.1.3		FRLS Control cabling	Rmt.	90	161	14490	
3.1.4		Isolator switch of IP-55 construction near indoor/outdoor unit	Nos.	2	2530	5060	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
<b>D</b>		<b>Drain Piping</b>					
1	MSR15-16, 1-1-9	Drain Piping shall be Hard PVC. type 25mm dia for single unit, 40mm dia for two units and 50mm dia for 3 units. Drain Piping shall be insulated with 13mm thick Armaflex. Make : Supreme / Prince	Rmt.	700	195	136500	
<b>E</b>		<b>CAR PARK VENTILATION Make - KRUGER / NICOTRA/ GREENHECK.</b>					
<b>1.0</b>		Car park Ductless Ventilation / Jet fans for Car Parking as per attached specifications for normal ventilation suitable for Normal ventilation and Smoke Extraction application. The complete fan assembly with its Casing, impeller & motor (not only the motor or one of the item) shall be imported from manufacturer and certified as tested for 250 Deg C for 2 hours operation. The jet fans as shown in the drawing*. Each fan shall be complete with dual speed motor. Casing shall be made of Hot Dipped Galvanized Steel.					
<b>1.1</b>		Car Park dual speed jet fans	Nos.	0	69000	0	
<b>2.0</b>		<b>Smoke exhaust Axial fans (AMCA Certified)</b>					
		Supply erection testing and commissioning & handing over of Axial type smoke exhaust air fans of below mentioned capacities along with suitable size motor.The capacities and other details of the EAU'S required are all given in the following order :					
<b>2.1</b>		25800 CFM @ 18 mm External Static Pressure each certified as tested for 250 Deg C for 2 hours fire operation. (12 Nos. shall operate on normal mode & all fans shall be operated in case of fire / smoke)	Nos.	0	156400	0	
<b>3.0</b>		CFD (Computational Fluid Dynamics ) analysis	Set	0	86250	0	
<b>4.0</b>		CO detection sensor	Nos.	0	11500	0	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
5.0		POWER DISTRIBUTION PANEL . (STARTERS ,NO/NC Contacts , AUTO MAN switch , Included in panel quote.) - LOGIC to be inbuilt in panel to ensure that fan comes on during fire upon receipt of <b>FIRE SIGNAL</b> , and also to ZONE the fans with respect to the carbon sensing levels. <b>(PLC LOGIC should be INBUILT.) In case of Power Shutdown only Axial Fans should Operate with help of PLC Command and in case of Fire Mode all the Fans should Operate).</b>	Set	0	172500	0	
		MAKE TITANIX / ELECTROGEAR					
		MAKE of PLC - Seimens / ABB.					
6.0		POWER PVCA FRLS Armoured Wire FOR IMPULSE JET FANS DUAL SPEED -3C x 1.5sqmm copper cable	Rmt	0	144	0	
7.0		POWER AL Conductor FRLS CABLING FOR Axial Fans					
		Supply & laying of 1100 V, medium voltage, PVC insulated aluminium conductor armored cables.Two runs of Cable shall be laid from the electrical Panel to the fan motor with a loop to the push button for each fan, using necessary fixing accessories like termination ,lugs,etc.. Cables shall be fire rated. End terminals also included					
7.1		4 C x 6 sqmm	Rmt	U.R.	345		
7.2		4 C x 10 sqmm (11 kw to 22 kw)	Rmt	0	460	0	
7.3		4 C x 16 sqmm (above 22 kw)	Rmt	U.R.	920		
		POLYCAB / RAJNIGANDHA					
8.0		Control FRLS cable from FIRE panel to power panel -2C X 1 Sqmm in 19 mm PVC conduit OR EQUIVALENT	Rmt	0	98	0	
F		VENTILATION SYSTEM					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.0		Supply, Installing, testing and commissioning of Electrical Panel / MCB, control / power cabling along with following cabinet type centrifugal fans with backward / forward curved inclined type DWDI/SWSI centrifugal fans with 3 Phase TEFC with IP 55 protection and class F insulation, vibration spring isolators, filters, canvas connection both side of fan with zip, Electrical panel with necessary cabling shall be included in quoted price.					
		The fan shall have low sound level exceeding not more than 45 DBA at one metre distance.					
		Make : Greenheck, , Kruger, Nicotra.					
1.1		Cabinet Type Fresh Air Fans with cowl & bird screen					
1.1.1		Fresh Air Cabinet Type fan of 20900 CFM @ 20 mm SP.	Nos,	0	218500	0	
1.1.2		Fresh Air Cabinet Type fan of 5950 CFM @ 20 mm SP.	Nos,	0	80500	0	
1.1.3		Fresh Air Cabinet Type fan of 5250 CFM @ 20 mm SP.	Nos,	0	80500	0	
1.1.4		Fresh Air Cabinet Type fan of 4800 CFM @ 20 mm SP.	Nos,	0	69000	0	
1.1.5		Fresh Air Cabinet Type fan of 3200 CFM @ 20 mm SP.	Nos,	0	43700	0	
1.1.6		Fresh Air Cabinet Type fan of 3000 CFM @ 20 mm SP.	Nos,	0	41400	0	
1.1.7		Fresh Air Cabinet Type fan of 2500 CFM @ 20 mm SP.	Nos,	0	32200	0	
1.1.8		Fresh Air Cabinet Type fan of 2450 CFM @ 20 mm SP.	Nos,	0	32200	0	
1.1.9		Fresh Air Cabinet Type fan of 2300 CFM @ 20 mm SP.	Nos,	0	32200	0	
1.1.10		Fresh Air Cabinet Type fan of 2250 CFM @ 20 mm SP.	Nos,	0	27600	0	
1.1.11		Fresh Air Cabinet Type fan of 1800 CFM @ 20 mm SP.	Nos,	0	27600	0	
1.2		Cabinet Type Exhaust Air Fans with cowl & bird screen					
1.2.1		Exhaust Air Cabinet Type fan of 4760 CFM @ 15 mm SP.	Nos,	0	67850	0	
1.2.2		Exhaust Air Cabinet Type fan of 4200 CFM @ 15 mm SP.	Nos,	0	64400	0	
1.2.3		Exhaust Air Cabinet Type fan of 3850 CFM @ 15 mm SP.	Nos,	0	57500	0	
1.2.4		Exhaust Air Cabinet Type fan of 2750 CFM @ 15 mm SP.	Nos,	0	32200	0	
1.2.5		Exhaust Air Cabinet Type fan of 2200 CFM @ 20 mm SP.	Nos,	2	32200	64400	
1.2.6		Exhaust Air Cabinet Type fan of 1950 CFM @ 15 mm SP.	Nos,	0	29900	0	
1.2.7		Exhaust Air Cabinet Type fan of 1900 CFM @ 15 mm SP.	Nos,	0	29900	0	
1.2.8		Exhaust Air Cabinet Type fan of 1800 CFM @ 15 mm SP.	Nos,	0	29900	0	
1.2.9		Exhaust Air Cabinet Type fan of 1600 CFM @ 20 mm SP.	Nos,	2	27600	55200	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
2.0		Supply, Installation, Testing & Commissioning of circular / rectangular inline fans as shown on drawings, complete with sheet metal casing, direct driven centrifugal fan, motor with proper protection & flexible connection. In addition all Fresh Air fans shall be provided with prefilter etc. as per the specifications. Fan should be suitable for operation on 230 volts, 50Hz, supply as required. Fan shall be suitable for installation in shaft or as shown on drawings and shall be of following capacities.					
		The fan shall have low sound level exceeding not more than 40 DB at three metre distance.					
2.1		Fresh Air Fans with cowl & bird screen					
2.1.1		Fresh Air In-line Type fan of 950 CFM @ 20 mm SP.	Nos,	2	17825	35650	
2.1.2		Fresh Air In-line Type fan of 600 CFM @ 20 mm SP.	Nos,	0	14375	0	
2.2		Exhaust Air Fans with cowl & bird screen					
2.2.1		Exhaust Air In-line Type fan of 1100 CFM @ 20 mm SP.	Nos,	2	27600	55200	
2.2.2		Exhaust Air In-line Type fan of 950 CFM @ 20 mm SP.	Nos,	1	25300	25300	
2.2.3		Exhaust Air In-line Type fan of 600 CFM @ 20 mm SP.	Nos,	2	21850	43700	
2.2.4		Exhaust Air In-line Type fan of 500 CFM @ 15 mm SP.	Nos,	1	14375	14375	
2.2.5		Exhaust Air In-line Type fan of 650 CFM @ 20 mm SP.	Nos,	1	16100	16100	
3.0		Kitchen Exhaust air fan (For Kitchen) with cowl & bird screen					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Supply, Installation, Testing and Commissioning of approved make fan section for extract air complete with floor standing / Ceiling suspended forward / backward curved DIDW centrifugal fan, MS base frame, TEFC squirrel cage induction motor, drive package and vibration isolation arrangement including spring isolators, rubber grommets etc. Fan section casing shall be fabricated out of minimum 16 G GS sheet as specified. Fan shall be suitable for operation on 415/230 $\pm$ 10% volts, 50 Hz, 3/1 phase AC power supply. Fan motor for kitchen fan shall be enclosed in GI sheet enclosure in hot air stream free area. Fan outlet velocity shall not exceed 2000 FPM(10.1 MPS). Extract fan section shall be suitable for floor installation as shown in the design drawings. Fan sections shall be provided with canopy. The extract fan section shall include necessary electrical panel with starter (if required) and power cabling along with earthing upto 10 RMT. It shall be included necessary power cabling (Approx 3 mtr each) & DOL / SD starter as per HP ratings. The fan characteristics shall be as follows :					
3.1		<b>Kitchen Exhaust fan of 23800 CFM @ 25 mm SP.</b>	Nos,	0	445870	0	
<b>4.0</b>		<b>Dry Scrubber (Make : RydAir)</b>					
		Supply, Installation, Testing and Commissioning of Scrubber each comprising of extract air intake section, electrostatic precipitation technology, dry type air cleaner to remove oil, smoke and fumes from exhaust air, as per the Specifications. It also include require co-ordination and connecting pieces to installation the scrubber along with respective exhaust air fans:					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
		Electrostatic section shall be made of 16 gauge galvanised sheet, high bake epoxy powder coated, washable type aluminium mesh filters, stainless steel spiked ionizers to create high voltage DC field, aluminum collector plates which should be alternatively charged positive and negative with large collecting area with 14" deep cell, to work as magnet for charged smoke and oil particles. Average efficiency of 90-95% in single pass as per ASHRAE test method. Electrostatic Precipitator should be able to charge particles from 0.01 micron to 10 microns through solid state power supply. Collector cell should be of permanent type and incorporate slide out facility for easy removal for cleaning. Power supplies shall be 100% solid state UL Listed, Module of capacity above 3000 CFM shall be equipped with Pulse width modulating (PWM)The system should be fitted with interlock switch for safety . The system should allow connection to a fan section to achieve 500 FPM velocity across the air cleaner.Necessary electrical cabling from power supply to unit to be included in quoted price.					
		Operating Voltage : 220V, 50 Hz					
		Ionizing Voltage : 12.5 to 13 KVDC					
		Collector Cell Voltage : 6 to 6.5 KVDC					
		Power Consumption : Not more than 50W per cell.					
		Air Moving Capacities shall be as follows:					
4.1		4400 CFM	Nos.	0	730250	0	
5.0		Supply, Installation,Testing of wall mounted propeller type exhaust fans with motor , wall cowl, bird screen and with necessary mounting arrangement for following Dia. – Free Air Delivery. Power will be provided 2 M away from fan & necessary wiring with plug will be mountred by AC contractor including louvers & bird screen.					
5.1		200 mm Dia (Aprox 200-150 CFM)	Nos.	8	2300	18400	
5.2		150 mm Dia (Aprox 150-100 CFM)	Nos.	2	1725	3450	
G		<b>DUCTING &amp; INSULATION WORKS</b>					
1.0		<b>Sheet Metal Ducting Make : Factory fabricated / Equivalent.</b>					

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
1.1		Rectangular ducting – Factory Fabricated complete with splitter dampers, turning vanes, access doors, supports, air tight joints with dual insulation to avoid leakage, applied with sealant etc. as per drawings. The duct supporting shall be as per SMACNA standards.					
1.1.1	DSR 2016-16.12.1.1	24 G	sq.m	1790	739	1322810	
1.1.2	DSR 2016-16.12.1.2	22 G	sq.m	350	905	316750	
1.1.3	DSR 2016-16.12.1.3	20 G	sq.m	75	1014	76050	
1.1.4	DSR 2016-16.12.1.4	18 G	sq.m	75	1278	95850	
1.2		Elleptical Ducting – Exposed with Enamel painting as per IS standards . (Supply and Installation of Factory Fabricated GI sheet metal duct, supports, adjustable volume control splitter dampers, guide vanes with necessary supports, flexible connections etc.)					
1.2.1		Thickness 0.63 mm sheet (24 G)	sq.m	0	1035	0	
1.2.2		Thickness 0.80 mm sheet (22 G)	sq.m	275	1380	379500	
1.2.3		Thickness 1.00 mm sheet (20 G)	sq.m	0	1610	0	
1.3		Supply & installation of Insulated flexible duct with Jubilee clips & aluminum foil tapes Make : Super flex / Seven Star / Karthila / Equivalent.					
1.3.1		150 mm dia	Rmt.	0	460	0	
1.3.2		125 mm dia	Rmt.	128	109	13984	
<b>2.0</b>		<b>DUCT ACOUSTIC INSULATION</b>					
2.1		Acoustic Insulation with self adhesive 12 mm thick "Armasound" Armacell make nitrile rubber insulation.	sq.m	250	1323	330625	
<b>3.0</b>		<b>DUCT THERMAL INSULATION</b>					



SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
3.1		Thermal Insulation with self adhesive 13 mm thick nitrile rubber & all joints of the insulation shall be further covered with 50mm wide 3mm thick self-adhesive tape made of similar material of ( Armacell / K flex / Equivalent.make.)	sq.m	1850	472	872275	
3.2		Thermal Insulation with self adhesive 13 mm thick nitrile rubber & all joints of the insulation shall be further covered with 50mm wide 3mm thick self-adhesive tape made of similar material of ( Armacell / K flex / Equivalent.make.) Elliptical Internal Insulation.	sq.m	275	587	161288	
4.0		<b>Ceiling suspended AHU / Ductable Trap door / boxing insulation &amp; AHU Room.</b>					
4.1		Acoustic Insulation with self adhesive 25mm thick "Armasound " Armacell / K flex make nitrile rubber insulation ( Class O ). Installation of insulation shall be manufacturer standards.	sq.m	130	2185	284050	
H		<b>AIR DISTRIBUTION OUTLET</b>					
1.0	DSR 2016-16.16	Supply & Installation of Supply air / Return air Aluminium extruded Powder Coated linear bar Grille 0 /15/45deg deflection of size 100/150/200/ mm or square grille of 600x600 and as per approved drawing with dsquare grille shall be with damper & end flanges ( Make : Sachin Impex / Dynacraft / Komalco Systems / Air Product )	sq.m	70	4065	284550	
2.0		Supply & Installation of Supply / Return air Aluminium extruded Powder Coated 600x600 size core type modular ceiling diffusers. Supply air diffusers shall be with / without plenum as mentioned in drawing & butterfly dampers of required sizes shall be included in quoted price as per following neck sizes. ( Make : Cosmos / Dynacraft / System Air / Air Product / Equivalent.)					
2.1		225x225 with damper	Nos.	0			
2.2		300x300 with damper	Nos.	102			
2.3		375x375 with damper	Nos.	52			
2.4		450x450 with damper	Nos.	4			
	DSR 2016-16.17	Total of Above	Sq. Mtr	58	8686	503788	

SL NO	CODE NO	DESCRIPTION OF WORK	UNIT	QTY	RATE	AMOUNT	REMARKS
3.0		Supply & instalation of Disc Valve for Constant Air Flow as per below capacities. Regulator of Plastic Body, fire resistance as per class-1 & shall have air tight connection with duct. Range between 50 CFM TO 120 CFM as per approved shop drawing. (For Toilets)	Nos.	128	633	80960	
4.0	DSR 2016 (16.15- 16.16)	Opposed blade dampers black powder coated vertical blade type for supply air collar. The damper should be gear operated type. ( Make : Sachin Impex / Dynacraft / Komalco Systems / Air Product )	sq.m	20	3067	61340	
5.0	DSR 2016- 16.13	Volume Control Dampers made out of 100 x 40 x 1.55 mm thick galvanized steel frame and with opposed blades of 1.55 mm galvanized sheet steel. ( Make : Sachin Impex / Dynacraft / Komalco Systems / Air Product )	sq.m	25	5463	136575	
6.0		Motorized combined smoke & fire damper complete with control panel, inter connecting wiring at locations shown in approved shop drawings & as per specifications. ( Make : Sachin Impex / Dynacraft / Komalco Systems / Air Product )					
6.1	DSR 2016- 16.20.1	Smoke & Fire Dampers.	M <sup>2</sup>	3	7103	21309	
6.2	DSR 2016- 16.20.2	Dampers Actuator	Nos.	4	6604	26416	
6.3		Control panel including cabling .	Nos.	4	2875	11500	
7.0		Supply, Installation of Fresh air intake with cowl connections with rain protection louvers, bird screen (Al. 26 G min.) & volume control damper gear operated type for AC areas.	sq.m	3	2300	6900	
		<b>NON SOR TOTAL COST</b>				<b>₹ 1,35,47,448.00</b>	

## DEVELOPMENT OF MULTI-SPORTS COMPLEX AT WRIGHT TOWN, JABALPUR, MADHYA PRADESH (PHASE-1)

## ABSTRACT - BILL OF QUANTITIES FOR LIFT WORKS

[illegible]