

BOQ CUM RETE SCHEDULE FOR CONSTRUCTION OF OPEN YARD #5, CLOSED & SEMI CLOSED STORES AT 2X500 MW ANPARA'D' TPS, ANPARA, SONEBHADRA, UP						
SI No	CODE	DESCRIPTION OF ITEM	UNIT	TOTAL QTY	RATE	AMOUNT
		(A) CIVIL WORKS				
		EARTHWORK/SITE CLEARANCE/ROADWORK				
1	C1	Clearing jungle including uprooting of rank vegetation, grass, brushwood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 200 m outside the periphery of the area cleared	sqm	22500.00		
2	C2	Surfact dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50m and lift upto 1.5m in all kinds of soil.	sqm	20000.00		
3	C3	Earth work in excavation in all types of ordinary and hard soil by mechanical means (Hydraulic excavator)/manual means including stacking the excavated soil, dressing of sides and ramming of bottom, dewatering of accumulated water from any source and keeping the surface dry for subsequent works such as concreting form work etc. and disposal of surplus excavated soil as directed, disposed soil to be neatly levelled and dressed lead upto 50 meters and lift upto 2 meter complete.	Cu.M	1390.00		
4	C4	Back filling available excavated earth in trenches, plinth, slides of foundations etc., including re-excavating the deposited soil excavated earlier, breaking clods, laying at all depths and heights in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering complete lead upto 50 Metre and lift upto 2.0 Meter.	Cu.M	400.00		
5	C5	Disposal of surplus excavated earth and debris including re-excavating the deposited soil earlier, transportation, loading, unloading, laying at all depths and heights, leveling and dressing both the area (viz. From where earth is transported and where it is deposited) to required levels and slopes, complete with all lifts as directed.				
	a)	upto 1 km	Cu.M	990.00		
	b)	upto 2 km	Cu.M	10.00		
6	C6	Preparation and consolidation of site area with power road roller of 8 to 12 tonne capacity after levelling, grading, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the subgrade and disposal of surplus earth lead upto 50 Mtrs	sqm	20000.00		
7	C8	Supply and Laying water bound macadam with specified stone aggregate stone screening and binding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc. complete with supply for stone aggregate, screenings, kankar, moorum and red bajri etc.				
	a)	Base course with 63 mm to 45 mm size including stone screening 13.2mm size.	cum	3000.00		
8	C10	Providing and tilling of 1" compacted thickness quarry dust as levelling course compacting the same with 8 to 10 ton road roller complete in all respects as directed by Engineer-in Charge	cum	1220.00		
9	C10a	Providing and tilling of 1" compacted thickness murrum as levelling course compacting the same with 8 to 10 ton road roller complete in all respects as directed by Engineer-in Charge	cum	50.00		
10	C11	Supplying the good earth from outside the site including the cost of filling the same within the site in layer not exceeding 20cm in depth & consolidating each deposited layer by ramming and watering including all leads & lifts etc. complete.	cum	520.00		
11	C12	Providing approved quality Yellow/silver sand and filling the same where required under floors etc., watering, ramming, consolidating, grading and finishing to final levels and slopes for all lifts and leads involved, complete as directed (Payment to be made for solid measure of the consolidated filling).	Cu.M	140.00		
		PCC				
12	C14	Plain cement concrete of mix 1:4:8 (1 cement : 4 coarse sand and 8, 40 mm down graded stone aggregate) for column footing, levelling, floors etc., including cost of all materials, lead, lift, labour charges, consolidation, shuttering, curing etc. complete.	Cu. M	385.00		
13	C15	Making plinth protection 50 mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75 mm bed of dry brick ballast 40 mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth .	sqm	380.00		
14	C16	Providing and laying and laying damp proof course 40 mm thick with concrete grade 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size and applying a coat of residual petroleum of penetration 80/100 of approved quality using 1.7 kg per sq. metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in KEROSENE OIL.	Sq m	140.00		

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15	C17	Providing and fixing at ground level precast 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)cement concrete reinforced with 1.6 mm MS wire in kerbs,RCC sleepers, edgings,drains,etc. as per approved pattern and placed in position wit	cum	7.00		
		BRICKWORK				
16	C18	Brick work with class designation 75 in cement mortar 1:6 (1 cement : 6 coarse sand) in foundation, plinth and super structure in thickness of 230 mm including cost of all materials, lead lifts, labour charges, mixing mortar, laying bricks, racking joints, curing etc. all complete as per drawing and specification and direction of Engineer In-charge.	Cu. M	245.00		
17	C19	Brick work with brick of class designation 75 in cement mortar 1:4 (1 cement : 4 coarse sand) in super structure in thickness of 115 mm including cost of all materials, lead lifts, labour charges, mixing mortar, laying bricks, racking joints, curing etc. all complete as per drawing and specification. 2 nos. MS rods of 6 mm dia are to be provided after every 3rd layer for which no additional payment will be made.	Sq. M	1140.00		
		RCC				
18	C20	Reinforced cement concrete of mix 1:1.5:3 (1 cement, 1.5 coarse sand and .3 :20 mm down graded aggregate) for column footing, sunshades, shelves, lintels etc. including cost of materials, lead lift, labour charges for concreting, shuttering, curing etc. complete.	Cu. M.	384.00		
19	C21	Centring and shuttering including providing all shuttering material , strutting, propping etc. and removal of form work for : Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	1410.00		
20	C22	Providing and placing mild steel/ tor steel reinforcement for RCC work including cost of all materials, labour for cutting, bending, binding and placing in position complete as per drawing and instruction of Engineer.	MT	21.10		
21	C23	Fabricating and fixing in position, M.S.Holding down bolts with sleeves and washers, nuts and lock nuts etc. including threading of required length and type as per instructions of Engineer I/C				
	a)	Upto 20 mm dia. bolt	kg	1600.00		
		ROOFING				
22	C24	Supply fabrication and erection of structural steel beams,channels,plates,steel tubular trusses, purlins,gates, wind ties, base plates, gusset plates, bolts, nuts etc. complete as per drawings, specifications & instructions of engineer including cost of all materials leads, lifts labour charges etc. and one coat of primer and two coats of approved enamel paint for finished products at site complete as per technical specification and direction of engineer.				
	a)	Trusses (medium grade pipes),Purlins side ties, bottom ties	MT	42.00		
	b)	structural steel for columns, crane girders,etc	MT	21.00		
	c)	Wind ties (Flats) 50 x 6 mm thick, angles,box sections,soild bars for rails etc	MT	2.00		
23	C25	Steel work in built up section/framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel for gates, railings, frames,gratings etc.	kg	700.00		
24	C26	Supplying , fitting & fixing steel rolling shutter , profile type in 18 B.G of approved type of steel lathe section 75 mm wide fitted with coil wire spring to necessitate the fitting of required nos of C.J pulley's on heavy type solid drawn gearless steel tube complete with locking arrangements bothside and outside specially built up side guide channels including,providing a hood for the rolling shutter painting with two coats of approved brand of aluminium paint over a coat of red lead primer complete.				
	a)	Manually Operated	Sq.M	100.00		
25	C27	Providing and fixing corrugated asbestos cement sheet 6 mm thick roofing and side cladding fixed with polymer coated J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	3610.00		
26	C28	Providing and fixing corrugated Translucent Plastic sheet roofing fixed with GI J or L hooks bolts and nuts 8mm diameter with bitumen and GI limpet washer complete (upto a pitch of 60 degrees) including steel primer and 2 coats of approved paint at overlaps. as per tech. specification.	Sq.M	120.00		
27	C29	Providing and fixingnon-asbestos cement ridges and hips including supply and fixing J or L bolts and nuts bitumen & GI washers etc. complete as per Technical Specification including Bitumen coating at all joints .	RM	200.00		
28	C30	Providing and fixing PVC pipe (2.5 kg/cm2) of 110 mm dia. as rain/drain water pipe in above item complete in all respect including required shoes, bends, etc	RM	60.00		
		FINISHING				

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41	C32	50 mm thk. Ironic Topping Cement Concrete flooring consisting(1-admixture:2-stone aggregate 6mm nominal size) by volume with metallic hardening compound of approved quality is mixed in the ratio(4:1) (4 cement : 1 metallic floor) hardening compound of approved quality by weight including cement slurry rounding off edges and strips etc. but excluding the cost of nose of steps etc. complete.	Sq. M	2610.00		
42	C33	Providing and fixing glass strips in joints of terrazo / cement concrete floors 40mm wide and 4mm thick	RM	2212.00		
47	C38	Plastering work with cement mortar 1:6 (1 cement : 6 fine sand) 12 mm thick after scrapping and cleaning the masoary joints including scaffolding, cost of materials, labour, mixing , leads & lifts, curing etc. complete.	Sq. M	1820.00		
48	C39	Plastering work with cement mortar 1:6 (1 cement : 6 fine sand) 15 mm thick after scrapping and cleaning the masoary joints including scaffolding, cost of materials, labour, mixing , leads & lifts, curing etc. complete.	Sq. M	1290.00		
49	C44	Providing and fixing steel glazed windows and ventilators of operable standard rolled steel section joints mitred and welded with 15 x 3 mm lugs, 10 cm long, with steel lugs embedded in cement concrete blocks 15 x 10 x 10 cm of 1:3:6 (1 cement : 3 coarse sand : 6 approved graded hard stone aggregate 20 mm nominal size) or with wooden plugs and screws or raw plugs and screws or with fixing clips or with bolts and nuts as required including providing and fixing of glass panels with glazing clips and special metal sash putty of approved make complete including painting with two coats of approved quality synthetic enamel paint over a base coat of red oxide zinc chromate primer including the cost of minor repair work, if required. Windows and ventilators will be provided with horizontal steel bars (8 mm x 8 mm) , welded to the frame @ 150 mm ncluding supply of MS frames, bars glazing etc. all complete	Sq. M	3.00		
50	C46	Providing and fixing ISI marked flush door shutters non decorative type , core of block baord construction with frame of ist class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters 30 mm thick including ISI marked stainless steel butt hinges, handle,bolts, complete with necessary screws and other accessories	Sq. M	2.00		
51	C49	Providing three coats of white wash to give a smooth and even shade including cost of materials, cleaning and preparation of surface, scaffolding etc. complete.	sqm	1650.00		
52	C50	Finishing walls/ surfaces with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade.	sq.M	800.00		
53	C52	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade in two or more coats on new work	sqm	50.00		
		FENCING				
54	F1	1.5 m high fencing with 2.0 m angle iron 50 x 50x 6 mm posts placed every 3 m centre to centre embedded in cement concrete block, every 15th post last but one end post and corner post shall be strutted on both sides and end post on one side only and provided with 8 horizontal lines and two diagonals inter woven with horizontalwires of barbed wire 9.38 Kg per 100 m (min) between the two posts and fixed with GI stapies, turn buckles etc. complete. including providing and laying earth work and concrete (1:3:6)(300X300X600 mm pit)				
		With G.I. Barbed wire (Payment to be made for per metre of complete fencing)	Metre	600.00		
55	F2	Supplying at site Angle iron post & strut of required size including bottom to be split and bent at right angle in opposite directionfor 10 cm length and drilling holes upto 10 mm dia. Etc. complete including a priming coat and two coats of enamel paint	kg	2500.00		
		SUB TOTAL AMOUNT (A)				
		(B) ELECTRICAL WORKS				
56	E1	Providing and fixing 1 x 40 Watt Batten type flourescent tube fitting (Crompton / Philips / Bajaj make),fabricated from CRCA sheet steel and finished with stove enamel paint complete with Accessories like flourescent lamp,copper wound polyster choke, starter, seat, rotor holder and terminal block duly pre-wired with copper conductor, including connections, fixing on wall, false ceiling or under roof tusties with clamps as required	Nos.	72.00		
57	E4	Providing and fixing 1 x 250 W HPSV out door type fittings (Crompton / Philips/BajaJ , complete with lamp, ballast control gear box, fixing clamp etc.	Nos.	16.00		
58	E5	Providing and fixing of following sweep exhaust fan/ceiling fan/wall mounted fan (Khaitan / Crompton make) single phase alongwith gravity louvers, frame / tripod for holding the motor including making necessary opening in wall, supply & fixing of assembly with grouting bolts, making connections, loop earthing etc.				
	a)	230 mm sweep	Nos.	2.00		
59	E8	Providing & fixing of 240 V, 5 / 15 Amp 6 Pin Power socket outlet point (with 15 A switch). Switch / socket to be fitted in suitable size 20 SWG metal type box with 3mm sunmica sheet	Nos.	14.00		

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60	E9	Providing & fixing of 240 V, 5A 3 Pin Power socket outlet point (with switch). Switch / socket to be fitted in suitable size 20 SWG metal type box with 3mm sunmica sheet along with the piano switches and fan regulator	Nos.	14.00		
61	E10	Providing & fixing 5A piano type switch for Light / Fan Control (Anchor make)	Nos.	80.00		
62	E11	Providing and Fixing of 20/25 mm PVC Conduit (including fittings) for telephone / LAN Connection / Call bell System	mtr			
63	E14	Providing & fixing of 240 V, 20 Amp INDUSTRIAL Power socket outlet point (with 20 A MCB). Switch / socket to be fitted in suitable size 20 SWG metal type box .	Nos.	8.00		
64	E15	Wiring of above power sockets with 2X4 Sq. mm FR PVC insulated Copper Conductor wires as per IS, 650 / 1100 V grade including 1 no. 4 sq mm FR PVC insulated Copper Conductor extra cable for loop earthing in medium grade conduit including supply of items.				
	a)	For 15/16/20 AMP Power sockets	Points	16.00		
65	E16	Circuit/Sub main wiring in 20/25 mm PVC conduit including supplying of all conduits, clamps, wires, complete				
	a)	2x1.5 sq. mm + 1x1.5 sqmm earth wire	RM	200.00		
	b)	2x2.5 sq. mm + 1x2.5 sqmm earth wire	RM	200.00		
66	E20	Point Wiring of the following points (including supply of Wires, conduits, clamps, boards, other misc. items) with 1.5 sq.mm colour coated FR PVC insulated copper conductor wires as per IS- 650/1100 volts grade in surface/recessed PVC conduits (medium grade) including laying of 20 SWG GI wire, conduit fitting, fixing of piano type control switches (Anchor make) in suitable sized 20 SWG metal box with 3 mm phenolic laminated sheet having provision for fan regulator, 5 Amp switch socket (supplied above) included in scope)				
	a)	Light/Fan Point	Points	80.00		
	b)	Wiring for 5/6 amps socket points	Points	20.00		
	c)	Wiring for exhaust fan.	Points	4.00		
	d)	1 x 250 W HPSV out door type fitting. One number 10 A DP switch to be used for controlling 2 fittings. D.P Switches to be fixed on outside of the store shed wall	Points	16.00		
67	E21	Providing and fixing of 32 Amp TPN with HRC fuses along with earth wire. The TPN to be provided on one side of the shed with rain protection cover.	Nos.	4.00		
68	E22	Supply and burying of earths electrodes GI Pipe 40mm dia 4.5 mtrs. Long, including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe complete with salt, charcoal and including earthing upto switch board with 8 SWG GI wire.	Set	4.00		
69	E23	Installation and commissioning of 3-ph 4W 400 / 100A Electrical Switchboard (appx size 1600 x 1000 x 2000 mm) . (Foundation will be paid in civil works)	set	1.00		
70	E24	Providing , Installation and commissioning of 24 W Lighting Panel with 10 no 20 A MCB and 14 nos 16 A MCB with 125 A SFU incomer in Sheet metal housing with double door arrangement , including all earthing and statutory requirements .	Nos.	2.00		
71	E25	Providing , Installation and commissioning of 18 W Lighting Panel with 18 nos 16 A MCB with 63 A SFU incomer in Sheet metal housing with double door arrangement , including all earthing and statutory requirements .	Nos.	2.00		
72	E26	Taking delivery from stores and laying of following type of PVC Insulated, PVC armoured standard aluminium conductor cable confirming to IS:1554-1976 (part 1), glanding with single compression gland, termination of both end in DB & SFU. The cable has to be laid underground on sand cushion including backfilling, susuitable clamp, clamping on surface including all materials etc. complete.(Only cable will be issued by BHEL as free issue item and all other materials are to be provided by the contractor).This includes road crossing for which suitable GI Pipe to be provided by the contractor.				
	a)	3 1/2 core x 185 / 300 Sq.mm armoured cable	RM	50.00		
	b)	3 1/2 Core x 50 / 95 Sq.mm armoured cable	RM	350.00		
	c)	2c/3c/4c upto 16 sq.mm armoured cable	RM	150.00		
73	E27	Earthing Flat 25 x 6 for Earthing 0.5 mtr below ground as strip earth electrode including soldering as required.	RM	60.00		
		SUB TOTAL AMOUNT (B)				
		TOTAL OF ALL THE ABOVE WORKS A+B				

NOTES:

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1		In case of omission in quoting any rate, the evaluation will be done considering the highest quoted rate obtained against that item but the work, if awarded, will be on the lowest quoted rate obtained against that item.				
2		The rate shall be entered in figures as well as in words. In case of difference in rates between words and figures, the lesser of the two will be treated as valid rate.				
3		The bidders shall enter both 'Unit Rate' & 'Amount'. In case of any mismatch between 'Total Amount based on Unit Rate' & 'Total Amount as quoted', the higher of the two shall be considered for evaluation and the lower of the two shall be considered for award.				
4		The quantities indicated against each item above are tentative and are liable to vary depending upon the site requirement. The contractor has to supply / install actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out.				
5		Evaluation of the bids shall be done based on total price against this BOQ.				

(Signature, date & seal of authorized representative of the bidder)