



"URGENT"

Government of West Bengal  
Directorate of Forests

Office of the Principal Chief Conservator of Forests, Head of Forest Force  
Aranya Bhawan, Block: LA-10A, Salt Lake City, Sector - III, Kolkata: 700 106

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Visit us at: www.westbengalforest.gov.in



No: 9977 / P&S (P)/3D- 176 /2018

Date: 24/01/2019

To : 1) The CCF / Hill/ Northern/Central /Western/ South-West/South-east/Wild Life(N)  
2) The CF/ Parks & gardens/ North-West/SC(N)/APM  
3) The Field Director, BTR/Joint Director, SBR  
4) The DFO \_\_\_\_\_ Division.

Sub : Administrative Approval of 167 nos. for construction of Beat Offices in different locations under Forest Directorate in the Financial Year 2018-19.

Sir,

With reference to the above, this is to inform you that the Finance Department , Government of West Bengal has approved the project for Construction of Beat Offices in different locations under the Forest Directorate and subsequently the Department of Forest has provided Administrative Approval for construction of 167 nos. Beat Offices in all Forest Divisions with a cost of Rs.12.766 lacs each.

In this connection you are hereby informed to direct all executing DFOs to go ahead with the work and float e-Tender immediately. The vetted plan and estimates is enclosed herewith for your ready reference.

**All the DFOs/DCF/DFD's are directed to immediately initiate the e-Tender & issue work order after the tender process is completed.**

**The Division wise target is enclosed with the letter.**

**Also the vetted estimate is being uploaded on the Departmental Website from where it may be downloaded.**

Yours faithfully

(N.K. Pandey)

Principal Chief Conservator of Forests & HoFF  
West Bengal

No: 9978 / P&S (P)/3D- 176 /2018  
Copy forwarded to :


Date: 24/01/2019

- 1) The Principal Chief Conservator of Forests , Wildlife, West Bengal
- 2) The Principal Chief Conservator of Forests , RM&D, West Bengal
- 3) The Chief Conservator of Forests , MIS for uploading the documents.

Principal Chief Conservator of Forests & HoFF  
West Bengal



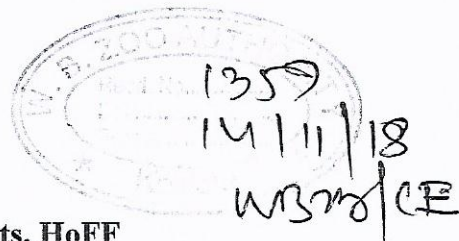
Division wise target for construction of Beat Offices at different locations under Forest Directorate				
Sl No	Name of the Division	Unit Cost ( In Rs. lakhs)	2018-19	
			Phy	Fin.
1	Kangsabati (S)	12.766	4	51.066
2	Darjeeling Wildlife	12.766	7	89.365
3	Cooch Behar	12.766	2	25.533
4	BTR East	12.766	7	89.365
5	Nadia Murshidabad	12.766	3	38.299
6	Purulia	12.766	5	63.832
7	Kangsabati (N)	12.766	5	63.832
8	Howrah	12.766	2	25.533
9	Purulia Extn. Forestry	12.766	2	25.533
10	Durgapur	12.766	4	51.066
11	Bardhaman	12.766	5	63.832
12	Bankura(N)	12.766	8	102.132
13	DFD BTR (W)	12.766	5	63.832
14	Malda	12.766	2	25.533
15	Silviculture (S)	12.766	1	12.766
16	Jaldapara Wildlife	12.766	6	76.599
17	Kharagpur	12.766	5	63.832
18	Birbhum	12.766	5	63.832
19	Darjeeling	12.766	4	51.066
20	24 Parganas (North)	12.766	2	25.533
21	Kurseong	12.766	5	63.832
22	Jhargram	12.766	9	114.898
23	Medinipore	12.766	8	102.132
24	Rupnarayan	12.766	5	63.832
25	Working Plan (S) I	12.766	1	12.766
26	Purba Medinipore	12.766	4	51.066
27	Baikunthapur	12.766	6	76.599
28	Jalpaiguri	12.766	7	89.365
29	Jalpaiguri SF	12.766	2	25.533
30	24 Parganas (S)	12.766	3	38.299
31	Panchet	12.766	5	63.832
32	Raigunj	12.766	3	38.299
33	Kurseong Soil Conservation	12.766	2	25.533
34	NTEP	12.766	1	12.766
35	Silviculture (Hill)	12.766	2	25.533
36	Parks & Gardens (N)	12.766	2	25.533
37	Garumara Wildlife	12.766	4	51.066
38	Silviculture North	12.766	1	12.766
39	Siliguri SF	12.766	3	38.299
40	Bankura South	12.766	5	63.832
41	Kalimpomg	12.766	5	63.832
Total			167	2131.99882

  
 Principal Chief Conservator of Forest (HoFF)  
 West Bengal

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Directorate of Forests

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Visit us at : westbengalforest.com



No.: 7543 /A & A / 1A-454 / 2017

Dated: 14 / 11 / 2018

To : The Member Secretary,  
West Bengal Zoo Authority,  
2<sup>nd</sup> Floor, KB-19, Sector-III,  
Salt Lake City, Kolkata-700106.

Sub : Vetting of estimate in respect of Model Estimate and Plan for Construction works of  
Beat Office at West Bengal.

We acknowledge with gratitude the services offered by your organization in vetting of  
**rates and technical** of model estimate and plan for construction works for Beat Office of the  
estimates of departmental construction works as and when required.

I am sending herewith below mentioned model estimate and plan for construction  
works for Beat Office at West Bengal, with the request to set the estimates vetted by the  
Chief Engineer of your organization.

After vetting the same may kindly be returned to this office as early as possible, so  
that we can make arrangement of floating necessary e-tender.

Encl: Estimates for

1. Rs. 9,52,400.00
2. Rs. 3,24,246.00

  
Principal Chief Conservator of Forests  
& Head of Forest Force, West Bengal.



# ESTIMATE FOR PROPOSED CONSTRUCTION OF BEAT OFFICE

[ The Rate Based On P.W.D. Schedule Effect from 1st November , 2017 ]

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
1	{ P.W.D. / Page No. 1 / Item No. 2(a)} Earth work in excavation of foundation trenches or drains, in all sorts of soil etc. (a) Depth of excavation not exceeding 1,500 mm. For Column Footing For Tie Beam		10	1.350	1.350	1.200	21.870	cum.		
			1	2.145	0.400	0.225	0.193			
			2	6.290	0.400	0.225	1.132			
			1	4.470	0.400	0.225	0.402			
			1	4.155	0.400	0.225	0.374			
			1	5.355	0.400	0.225	0.482			
			1	5.605	0.400	0.225	0.504			
	Step		1	1.200	0.800	0.225	0.216			
							25.174	cum.	119.27	3002.49
2	{ P.W.D. / Page No. 1 / Item No. 3(a)} Earth work in filling in foundation trenches or plinth with good earth etc. (a)Earth obtained from excavation of foundation. 1/5 th of the excavated earth.		1/5 x 25.174 = 5.035 cu.m.				5.035	cu.m.	77.54	390.40
3	{ P.W.D./Page No. 2/ Item No. 4(B)} Filling in foundation or plinth by fine sand. For Column Footing Plinth Filling		10	1.350	1.350	0.075	1.367	cum.		
			1	4.145	3.050	0.450	5.689			
			1	2.325	1.105	0.450	1.156			
			1	2.755	2.145	0.450	2.659			
			1	1.525	2.145	0.450	1.472			
			1	1.200	2.145	0.450	1.158			
							13.502	cum.	104.841	1415.52



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
4	{ P.W.D. / Page No. 47 / Item No. 3 }									
	Supplying and laying Polythene Sheet (150gm / sq.m.) over damp proof course or below flooring or roof terracing or in foundation or in foundation trenches.									
	For Column Footing		10	1.350	1.350		18.225	sqm.		
	For Tie Beam Bottom		1	2.145	0.400		0.858			
			2	6.290	0.400		5.032			
			1	4.470	0.400		1.788			
			1	4.155	0.400		1.662			
			1	5.355	0.400		2.142			
			1	5.605	0.400		2.242			
	Step		1	1.200	0.800		0.960			
							32.909	sqm.	24.00	789.82
5	{ P.W.D. / Page No. 14 / Item No. 1 }									
	Single brick flat soling of picked jhama bricks including ramming and dressing bed to proper level and filling joints with powdered earth or local sand.									
	Under Floor		1	4.145	3.050		12.642	sqm.		
			1	2.325	1.105		2.569			
			1	2.755	2.145		5.909			
			1	1.525	2.145		3.271			
			1	1.200	2.145		2.574			
							26.966	sqm.	358.00	9653.82
6	{ P.W.D./Page No. 34 / Item No. 22(A)(a) }									
	Cement Concrete with graded stone ballast 40 mm size (Excluding shuttering ) etc.									
	(A) Pakur variety (a) 1:3:6 proportion									
	For Column Footing		10	1.350	1.350	0.075	1.367	cu.m.		
	Tie Beam Bottom		1	2.145	0.400	0.075	0.064			
			2	6.290	0.400	0.075	0.377			
			1	4.470	0.400	0.075	0.134			
			1	4.155	0.400	0.075	0.125			
			1	5.355	0.400	0.075	0.161			
			1	5.605	0.400	0.075	0.168			
	Step		1	1.200	0.800	0.075	0.072			
	Under floor		1	4.145	3.050	0.075	0.948			
			1	2.325	1.105	0.075	0.193			
			1	2.755	2.145	0.075	0.443			

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
7	{ P. W. D./ Page No. 26 / Item No. 10(i)} Ordinary Cement Concrete (mix 1:1.5:3) with graded stone chips (20 mm. Noninal size) excluding shuttering and reinforcement, if any, in ground floor as per relevent IS codes. i) Pakur Variety For Column Footing  Column For Tie Beam  Lintel  Chajja  Roof Beam  Roof Slab Less (-)		1	1.525	2.145	0.075	0.245	cu.m.	5128.00	23027.92
			1	1.200	2.145	0.075	0.193			
							4.491			
			10	1.200	1.200	0.200	2.880	cum.		
			10	1/2(1.2x1.2+0.50x0.50)x0.250			2.112			
			10	0.250	0.250	5.140	3.213			
			1	2.145	0.250	0.350	0.188			
			2	6.290	0.250	0.350	1.101			
			1	4.470	0.250	0.350	0.391			
			1	4.155	0.250	0.350	0.364			
			1	5.355	0.250	0.350	0.469			
			1	5.605	0.250	0.350	0.490			
			1	2.145	0.250	0.150	0.080			
			2	6.290	0.250	0.150	0.472			
			1	4.470	0.250	0.150	0.168			
			1	4.155	0.250	0.150	0.156			
			1	5.355	0.250	0.150	0.201			
			1	5.605	0.250	0.150	0.210			
			1x2	4.950	0.450	0.075	0.334			
			2x2	1.800	0.450	0.075	0.243			
			2x2	1.500	0.450	0.075	0.203			
			3x1	0.750	0.450	0.075	0.076			
			1	2.145	0.250	0.225	0.121			
			2	6.290	0.250	0.225	0.708			
			1	4.470	0.250	0.225	0.251			
			1	4.155	0.250	0.225	0.234			
			1	5.355	0.250	0.225	0.301			
			1	5.605	0.250	0.225	0.315			
			1	7.340	6.655	0.125	6.106			
			-1	4.395	1.450	0.125	-0.797			
			-1	1.820	1.355	0.125	-0.308			
							20.280	cum.	5830.72	118246.16



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
8	{ P.W.D./Page No. 42/ Item No. 36 (f)} Hire and labour charges for shuttering with centreing etc. (f) 25 mm to 30 mm shuttering without staging in foundation Column Footing For Tie Beam		10x4 1x2 2x2 1x2 1x2 1x2 1x2	1.200 2.145 6.290 4.470 4.155 5.355 5.605		0.200 0.350 0.350 0.350 0.350 0.350 0.350	9.600 1.502 8.806 3.129 2.909 3.749 3.924			
							33.617	sqm.	209.00	7025.95
9	{ P.W.D./Page No. 42/ Item No. 36 (a)} Hire and labour charges for shuttering with centreing etc.  Lintel Soffits  D W W1 D2 V D1 D2  Lintel Side   Chajja  Roof Beam		1 1 1 2 3 1 2 1 1  1x2 2x2 1x2 1x2 1x2 1x2 2x1 2x2 2x2 3x1 1x2 2x2 1x2 1x2 1x2 1x2	2.450 1.105 1.200 1.500 1.200 0.750 0.600 0.900 0.750  2.145 6.290 4.470 5.155 5.355 5.605 4.950 1.800 1.500 0.750 2.145 6.290 4.470 4.155 5.355 5.605	0.250 0.250 0.125 0.250 0.250 0.250 0.125 0.125          0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225 0.225	0.613 0.276 0.150 0.750 0.900 0.188 0.300 0.113 0.094  0.644 3.774 1.341 1.547 1.607 1.682 5.198 3.780 3.150 1.181 0.965 5.661 2.012 1.870 2.410 2.522				

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
10	Roof Slab		1	7.340	6.655		48.848			
	Less (-)		-1	1.820	1.355		-2.466			
	Slab Side		1x2(7.340+6.655)x0.125				3.498			
	{ P.W.D. / Page No. 43 / Item No. 40(a)(i)}						92.603	sqm.	335.00	31022.12
	Reinforcement for reinforced concrete work in all sorts of structures etc. II. Other than SAIL/ TATA/RINL @ 1.50 % of volume of reinforced concrete									
	20.280 x 1.50/100 x 7850 kg = 2387.97 kg						2.387	M.T.	55776.00	133137.31
11	{ P.W.D./Page No. 15 / Item No. 8(a)}									
	Brick work with 1st class bricks in cement mortar (1: 6)									
	(a) In foundation and plinth									
			1	2.145	0.250	0.400	0.215	cum.		
			2	6.290	0.250	0.400	1.258			
			1	4.470	0.250	0.400	0.447			
			1	4.155	0.250	0.400	0.416			
			1	5.355	0.250	0.400	0.536			
			1	5.605	0.250	0.400	0.561			
	Step		1	1.200	0.750	0.450	0.405			
							3.836	cum.	5306.00	20353.82
12	{ P.W.D./Page No. 15/ Item No. 8(b)}									
	Brick work with 1st class bricks in cement mortar (1: 6)									
	(b) In Super Structure									
			3	2.145	0.250	2.800	4.505	cum.		
			1	1.200	0.250	2.800	0.840			
			1	4.145	0.250	2.800	2.902			
			1	3.050	0.250	2.800	2.135			
			1	1.570	0.250	2.800	1.099			
			1	5.605	0.250	2.800	3.924			
	Parapet Wall		2	5.605	0.250	0.075	0.210			
			2	6.290	0.375	0.075	0.354			
			2	5.605	0.250	0.075	0.210			
			2	6.290	0.250	0.075	0.236			
	Less, Door (D2) (-)		-1	0.750	0.250	2.100	-0.394			
	Window (W) (-)		-2	1.500	0.250	1.350	-1.013			
	(W1) (-)		-3	1.200	0.250	1.350	-1.215			
							13.792	cu.m.	5529.00	76257.70



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
13	{ P.W.D./Page No. 16 / Item No. 16} 125 mm. thick brick work with 1st class bricks in cement mortar (4:1) in ground floor.									
			1	2.450		2.800	6.860	sqm		
			1	1.105		2.800	3.094			
			1	4.030		2.800	11.284			
			1	2.145		2.800	6.006			
	Parapet Wall		2	5.605		0.600	6.726			
			2	6.290		0.600	7.548			
	Less D (-)		-1	1.200		2.100	-2.520			
	D1 (-)		-1	0.900		2.100	-1.890			
	D2 (-)		-1	0.750		2.100	-1.575			
	Less Grill opening		-1	1.250		1.350	-1.688			
			-1	1.105		1.350	-1.492			
							32.354	sqm.	724.00	23424.12
14	{ P.W.D./Page No. 189 / Item No. 1(ii)(c)} 10 mm thick cement sand plaster to wall, ceiling etc. (1:4)									
	Ceiling		1	2.575	1.355		3.489	sqm.		
	"		1	4.270	3.050		13.024			
	"		1	2.755	2.145		5.909			
	"		1	1.525	2.145		3.271			
			1	1.200	2.145		2.574			
							28.267	sqm.	129.00	3646.47
15	{ P.W.D./Page No. 189 / Item No. 1(i)(b)} 20 mm thick cement sand plaster to wall (6:1) etc.									
				1x2(2.575+1.355)x3.175			24.955	sqm		
				1x2(4.270+3.050)x3.175			46.482			
				1x2(2.755+2.145)x3.175			31.115			
				1x2(1.525+2.145)x3.175			23.304			
				1x2(1.200+2.145)x3.175			21.240			
							147.096	sqm.	167.00	24565.03
16	{ P.W.D./Page No. 189 / Item No. 1(i)(c)} 15 mm thick cement sand plaster to wall(6:1) etc.									
				1x2(6.355+7.040)x6.125			164.088	sqm.		
							164.088	sqm.	145.00	23792.76

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
17	{ P.W.D./Page No. 64 / Item No. 35}									
	Supplying, fitting & fixing 1st quality Ceramic tiles in walls and floors to match with the existing work & 4 nos. of key stones (10mm) fixed with									
	(A) Floor									
	With Sand Cement Mortar (1:4) 20 mm thick & 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg/Sq.m & joint filling using white cement slurry @ 0.20kg/Sq.m.									
	(i) Coloured decorative		1	2.145		1.525	3.271	sqm.		
			1	2.145		1.200	2.574			
							5.845	sqm.	746.00	4360.46
	(B) Wall									
	With Sand Cement Mortar (1:3) 15 mm thick & 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg/Sq.m & joint filling using white cement slurry @ 0.20kg/Sq.m.									
	(a) Area of each tile upto 0.09 Sq.m									
	(i) Coloured decorative									
	Toilet			1x2(2.145+1.525)x2.100			15.414	sqm.		
	"			1x2(2.145+1.200)x2.100			14.049			
							29.463	sqm.	749.00	22067.79
18	{ P.W.D./Page No. 66 / Item No. 36}									
	Supplying and laying true to line and level vitrified tiles of approved brand (size not less than 600 mm X 600 mm X 10 mm thick) in floor, skirting etc. set in 20 mm sand cement mortar (1:4)									
	(i) With application slurry @1.75 kg/ Sq.m, 20 mm sand cement mortar (1:4) & 2 mm thick cement slurry at back side of tiles, 0.2 kg/ Sq.m white cement for joint filling with pigment.									
	(A) Deep Colour & White									
			1	2.875	1.655		4.758	sqm.		
			1	4.570	3.350		15.310			
			1	3.055	2.445		7.469			
			3	1.200	0.400		1.440			
							28.977	sqm.	1695.00	49116.18



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
19	{ P.W.D./Page No. 192 / Item No. 15} Neat cement punning about 1.5 mm thick in wall etc. Toilet						16.074	sqm	34.00	546.52
				1x2(7.040+6.355)x0.600						
20	{ P.W.D./Page No. 114 / Item No. 1(d)} Wood work in door and window frame fitted and fixed complete etc.  (d) Sal : Local. Door (D) (D1)		1	5.400	0.100	0.075	0.041	cu.m.		
			1	5.100	0.100	0.075	0.038			
							0.079	cu.m.	77671.00	6116.59
21	{P.W.D./Page No. 117 / Item No. 1(iii)(b)} Panel shutter of door and window as per design. (iii) 35 mm thick shutters with 19 mm thick panel. (b) Sishu, Gamar, Champ, Badam, Bhola, Mogra, Hallak.  D1		1	1.075		2.050	2.204	sqm		
			1	0.775		2.050	1.589			
							3.793	sqm.	2948.00	11180.29
22	{ P.W.D./Page No. 117 / Item No. 8} Supplying , fitting and fixing in position approved P.V.C. door frame (matt finish) made of extruded P.V.C. multichamber hollow section etc.		2	4.950			9.900			
							9.900	RM	279.00	2762.10
23	{ P.W.D./Page No. 134 / Item No. 27} P.V.C. door shutter - 30 mm thick : Supplying , fitting and fixing P.V.C. door shutter of approved quality and shade in position etc		2	0.750		2.050	3.075	sqm		
							3.075	sqm	2127.00	6540.53

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
24	{P.W.D./Page No.104 / Item No. 13 (a)(ii)} M.S. or W.I. ornamental grill of approved design etc. (ii) Grill weighing above 16 kg/sq.m. and above. verandah  W W1 V		1 1 1 2 3 2	1.200 1.250 1.100 1.500 1.200 0.600		2.100 1.350 1.350 1.350 1.350 0.450	2.520 1.688 1.485 4.050 4.860 0.540	sqm     sqm		
			15.143 sqm x @ 18 kg / sq.m. = 272.574 kg.				15.143 2.725	sqm Qntl.	7046.00	19200.35
25	{P.W.D./Page No.233 / Item No. 1} Supplying profiles of required section made of Aluminium Alloy Extrusions conforming to IS: 732-1983 and IS: 1285- 1975; Anodized (with required film thickness and specified colour / natural) matt finished conforming to IS: 1868-1983 for fabrication of composit door, sliding & casement windows, partitions, formed of basic partitions (A) In 10-12 Micron thickness Anodizing film i) Natural white b) 3- track sliding window i) Bottom frame  W W1  ii) Top and side frame. W  W2  d) Shutter for all track sliding window. i) Bottom & Top member. W W1		2x1 3x1  2x1 2x2 3x1 3x2  2X3X2 3X3X2	1.500 1.200  1.500 1.350 1.200 1.350  0.500 0.400			3.000 3.600 6.600 3.000 5.400 3.600 8.100 20.100 6.000 7.200 13.200	M M M M M M M M M M M	311.00  270.00  117.00	2052.60  5427.00  1544.40



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
26	ii) Style side member.						8.100			
	W		2X3X1	1.350			12.150			
	W1		3X3X1	1.350			20.250	M	119.00	2409.75
	iii) Interlock member.						8.100			
	W		2X3X1	1.350			12.150			
	W2		3X3X1	1.350			20.250	M	148.00	2997.00
	{P.W.D./Page No.239 / Item No. 2}									
	Labour charge for fabrication and installation of composite door, window, partitions made from annodized extruded alloy aluminium sections for the following units:-									
	(A) Glazed aluminium sliding windows made of extruded and annodized alloy aluminium sections, fabrications, including cutting to proper shape and size, drilling and aligning of window shutter frame fitted with in built									
	ii) 3 / 4 track sliding window.									
27	W		2	1.500		1.350	4.050	sqm.		
	W1		3	1.200		1.350	4.860			
							8.910	sqm.	941.00	8384.31
	{P.W.D./Page No.242 / Item No. 6}									
	Supplying PVC rollers for sliding windows as per direction of Engineer in charge.									
				5x3x2			30	Nos	14.00	420.00
	{P.W.D./Page No.242 / Item No. 7}									
	Supplying maruti lock (100mm)									
				5x3x1			15	Pair	46.00	690.00
	{P.W.D./Page No. 242 / Item No. 8}									
29	Supplying EPDM gasket of approved make and brand as per direction of Engineer in charge.									
	b) 'U' shaped EPDM gasket for frames.						11.400	M		
			2	5.700			15.300			
			3	5.100			26.700	M	15.00	400.50

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
30	{P.W.D./Page No.243 / Item No. 9} Supplying bubble free float glass of approved make and brand conforming to IS: 2835-1987. ii) 4mm thick coloured / tinted / smoke glass. W W1		2 3	1.500 1.200		1.350 1.350	4.050 4.860 8.910	sqm. sqm.	468.00	4169.88
31	{P.W.D./Page No. 198 / Item No. 5} Rendering the Surface of walls and ceiling with White Cement base WATER PROOF wall putty of approved make & brand.(1.5 mm thick) Quantity same as 10 mm Plaster Quantity same as 20 mm Plaster						28.267 147.096 175.363	sqm. sqm.	122.00	21394.31
32	{P.W.D./Page No. 195 / Item No. 7} Applying Interior grade Acrylic Primer of approved quality and brand on plastered or concrete surface old or new surface to receive Distemper/ Acrylic emulsion paint including scraping and preparing the surface throughly,  (a) One Coat i) Water based interior grade Acrylic Primer Quantity same as 10 mm Plaster Quantity same as 20 mm Plaster						28.267 147.096 175.363	sqm sqm	30.80	5401.19
33	{P.W.D./Page No. 196 / Item No. 8(a)} Applying exterior grade Acrylic primer of approved quality and brand on plastered or concrete surface old or new surface etc. ( a ) One Coat Quantity same as 15 mm thick plaster						164.088	sqm	31.40	5152.36



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
34	{P.W.D./Page No. 201 / Item No. 4(a)} Applying Acrylic Emulsion Paint of approved make and brand on walls and ceiling including sand papering in intermediate coats including putty (to be done under specific instruction of Superintending Engineer) : (Two coats) ii) Luxury Quality Quantity same as interior Interior grade Acrylic primer.						175.363	sqm	70.00	12275.43
35	{P.W.D./Page No. 197 / Item No. 17(b)} Protective & Decorative Acrylic Exterior Emulsion Paint of approved quality etc.  ( b ) Premium 100% Acrylic Emulsion Quantity same as 15 mm thick plaster						164.088	sqm	84.00	13783.39
36	{P.W.D./Page No. 200 / Item No. 1(b)} Priming one coat on timber or plastered surface with synthetic oil bound primer etc.									
	D	2.60	1	1.200		2.100	6.552			
	D1	2.60	1	0.900		2.100	4.914			
							11.466	sqm.	38.00	435.71
37	{P.W.D./Page No. 200 / Item No. 1(a)} Priming one coat on Steel or other metal surface with synthetic oil bound primer of approved quality including smoothening surfaces by sand papering etc..									
		1.00	1	1.200		2.100	2.520			
		1.00	1	1.250		1.350	1.688			
		1.00	1	1.100		1.350	1.485			
		1.00	2	1.500		1.350	4.050			
		1.00	3	1.200		1.350	4.860			
		1.00	2	0.600		0.450	0.810			
							15.413	sqm.	29.00	446.96

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
38	{P.W.D./Page No. 200 / Item No. 2(A)(iv)} Painting with best quality synthetic enamel paint of approved make and brand etc. (a) On Timber or Plastered Surface. (iv) Two Coats (With any shade except white) timber or plastered surface						11.466	sqm.	81.00	928.75
	(b) On Steel or other metal Surface. (iv) Two Coats (With any shade except white) Steel or other metal surface						15.413	sqm.	79.00	1217.59
39	<b>23/P-68 (S&amp;P)</b> Supply of UPVC pipes (B Type) & fittings conforming to IS-13592-1992 (A)(i) Single socketed 3 m. length (b) 110 mm		2 1	4.500 6.000			9.00 6.00 15.00	R.M. R.M.		
	(B) Fittings (x) Bend 87.5 ° (b) 110 mm							Each	292.00	4380.00
	(ix) Bend 45 ° (b) 110 mm						6	Each	120.00	720.00
	(xvi) Pipe Clip (b) 110 mm						2	Each	89.00	178.00
	(iii) Door Tee (b) 110 mm						12	Each	21.00	252.00
	xv) Vent Cowl (b) 110 mm						2	Each	195.00	390.00
	xvii) W.C. Connector (150 mm long) 125 X 110(W/WC Ring) 75 mm						2	Each	33.00	66.00
							2	Each	142.00	284.00
40	{P.W.D./Page No. 140 / Item No. 5 (vii)} Iron butt hinges of approved quality fitted and fixed with steel screws, with ISI mark. (vii) 100mmx58mmx1.9mm						14	Each	47.00	658.00



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
41	{P.W.D./Page No. 145 / Item No. 28 (a)} Anodised aluminium Aldrop / Sliding bolts of approved quality manufactured from extruded section conforming to I.S. specification (I.S. 2681/66) fitted and fixed complete. (i) 250mm x 16mm dia bolt.						2	Each	233.00	466.00
42	{P.W.D./Page No. 144 / Item No. 26} Anodised aluminium barrel / tower / socket bolt (full covered) of approved manufactured from extruded section conforming to I.S. 204/74 fitted and fixed with cadmium plated screws: (ix) 300mm long x 10mm dia. bolt. (viii) 200 mm long, 12 mm dia. Bolt. (iv) 150mm long x 10mm dia. bolt.						2	Each	99.00	198.00
							2	Each	78.00	156.00
							4	Each	63.00	252.00
43	{P.W.D./Page No. 145 / Item No. 30} Supplying ,fitting & fixing Anodised Aluminium D-Type Handle of approved make etc. (iii) 100 mm Grip. 12 mm dia. rod						8	Nos	85.00	680.00
44	{P.W.D./Page No. 143 / Item No. 19(ii)} (ii) Door stopper (Anodised aluminium)						2	Each	70.00	140.00
45	2 /P-87 ( S&P) Construction of septic tank of different capacities as per approved drawing with 1st class brick work in cement mortar (1:4) including two 560 mm dia. R.C.C. manhole cover(heavy type)of approved make supplied, fitted and fixed in the 100mm thick R.C.C .(1:1.5:3) top slab with necessary fittings, 20mm thick cement plaster (4 : 1) with neat cement finish to the internal surfaces and 15 mm thick cement etc (i) For 10 users A) With Pakur variety. (SAIL/TATA/RINL)						1	Each	34971.00	34971.00

Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
46	4 /P-89 ( S&P) Construction of circular soak well 2.5 metre deep in all types of sandy soils with dry brick work upto 1.6 metre from the bottom having 150 mm intermediate cement brick work (1:4) band all round and cement brick work etc. (SAIL/TATA/RINL)						1	Each	16130.00	16130.00
47	2 /P-87 ( S&P) Constructing Inspection pit to a depth of 1.5 metre (inside), 250 mm thick 1st class brick work (1:4) in all sides over a layer of jhama brick soling and 150 mm thick cement concrete with stone chips (1:3:6) including necessary earth work, fitting and fixing approved type S.W. master trap, constructing masonry invert with cement concrete (1:1.5:3) with stone chips, plastering inside and outside etc. A) With Pakur variety. (SAIL/TATA/RINL)						2	Each	11531.00	23062.00
48	1/P-36 ( S&P) Supplying, fitting and fixing 10 litre porcelain low-down cistem of approved make with either side or bottom inlet, side overflow, brackets complete with all internal PVC fittings. White						2	Each	2297.00	4594.00
49	1/P-41 ( S&P) Wash basin vitreous china of approved make (without fittings) supplied, fitted and fixed in position on 75mm X 75 mm X 75 mm wood blocks and C.I. brackets including two coats of painting of C.I. brackets. (ii) 550 mm X 400 mm size						2	Each	1383.00	2766.00
50	2/P-79 ( S&P) Supplying, fitting and fixing E.W.C. in white glazed vitreous chinaware of approved make complete in position with necessary bolts, nuts etc. (a) With 'P' trap						2	Each	1421.00	2842.00



Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
51	<b>7/P-6 (S&amp;P)</b> Supplying, fitting and fixing bib cock or stop cock. (a) (i) Chromium plated Bib Cock short body (Equivalent to Code No. 511 & Model - Tropical / Sumthing Special of ESSCO or similar brand).						2	Each	539.00	1078.00
52	<b>19/P-45 (S&amp;P)</b> Supplying, fitting and fixing pillar cock of approved make. a) (i) CP Pillar Cock - 15 mm. (Equivalent to Code No. 507 & Model - Tropical / Sumthing Special of ESSCO or similar brand).						2	Each	555.00	1110.00
53	<b>9/P-43 (S&amp;P)</b> Supplying, fitting and fixing approved brand P.V.C. CONNECTOR white flexible, with both ends coupling with heavy brass C.P. nut, 15 mm dia. (ii) 450 mm long						6	Each	82.00	492.00
54	<b>7/P-6 (S&amp;P)</b> Supplying, fitting and fixing bib cock or stop cock. (d) (i) Chromium plated angular Stop Cock with wall flange (Equivalent to Code No. 5053 & Model - Florentine of Jaquar or similar brand).						6	Each	815.00	4890.00
55	<b>15/P-81 (S&amp;P)</b> Supplying, fitting and fixing bevelled edged mirror 5.5 mm thick silver red as per I.S. 3438 / 1965 together with brass C.P. hinges. (i) 450 mm X 300 mm						2	Each	367.00	734.00
56	<b>10/P-81 (S&amp;P)</b> Supplying, fitting and fixing Closet seat of approved make with lid and C.P. hinges, rubber buffer and brass screws complete. (a) E.W.C. (i) Plastic (hallow type) black						2	Each	302.00	604.00

No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
57	<b>22 /P-82 ( S&amp;P)</b> Supplying, fitting and fixing towel rail with two brackets. (a) C.P. over brass (i) 25 mm dia. and 450 mm long						2	Each	384.00	768.00
58	<b>10 /P-43 ( S&amp;P)</b> Supplying, fitting and fixing approved brand 32 mm dia. P.V.C. waste pipe, with PVC coupling at one end fitted with necessary clamps.  (ii) 750 mm long						4	Each	59.00	236.00
59	<b>6/P-80(ii) S &amp; P</b> Supplying , fitting and fixing flat back urinal (half stall urinal) in white vitreous chinaware of approved make in position with brass screws on 75 mm x 75 mm x 75 mm wooden blocks complete.  (ii) 470 mm X 280 mm X 340 mm						2	Each	945.00	1890.000
60	<b>19 (II) /P-13 ( S&amp;P)</b> Supplying, fitting and fixing PVC pipes for underground work of approved make of Schedule 80 (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). with all necessary accessories, specials viz PVC Pipes 15 mm 20 mm 25 mm						10 15 20	R.M. R.M. R.M.	117.00 143.00 191.00	1170.00 2145.00 3820.00
61	<b>6 /P-37 ( S&amp;P)</b> Supplying P.V.C. water storage tank of approved quality with closed top with lid (Black) - Multilayer  (a) 500 litre capacity						1	Each	2584.00	2584.00
62	{ P.W.D. / Page No. 45 / Item No. 8 }									



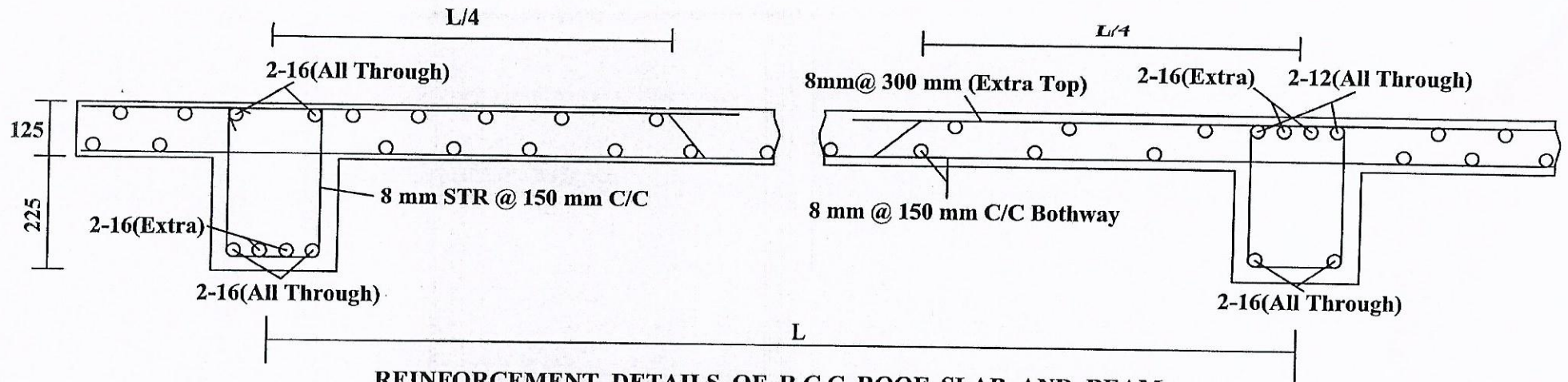
Sl. No	Description of item	M.F.	No.	L (m.)	B (m.)	D (m.)	Quantity (m3)	Unit	Rate (Rs.)	Amount (Rs.)
	a) Applying 2 coats of bonding agent with synthetic multi functional rubber emulsion having adhesive and water proofing properties by mixing with water in proportion (1 bonding agent : 4 water : 6 cement) as per Manufacturer's specification									
	Roof Slab		1	7.040	6.355		44.739	sqm.		
	Less (-)		-1	4.395	1.450		-6.373			
			-1	1.820	1.355		-2.466			
							35.900	sqm.	88.00	3159.23
63	{ P.W.D./Page No. 47/ Item No. 4 }									
	40 mm. thick damp proof course with cement concrete (1:1.5:3) (with graded stone chips 20 mm nominal size) with water proofing compound of approved brand									
			1	34.310	0.250		8.578	sqm.		
	Roof Treatment		1	7.040	6.355		44.739			
	Less (-)		-1	4.395	1.450		-6.373			
			-1	1.820	1.355		-2.466			
							44.478	sqm.	290.00	12898.58
TOTAL (Rs.)										841937.14
Add @ 12 % for GST (Rs.)										101032.46
TOTAL (Rs.)										942969.59
Add @ 1% for Cess (Rs.)										9429.70
GRAND TOTAL (Rs.)										952399.29
SAY (Rs.)										952400.00
(Rupees Nine Lakh Fifty Two Thousand Four Hundred Only)										

Sub - Assistant Engineer  
West Bengal Zoo Authority

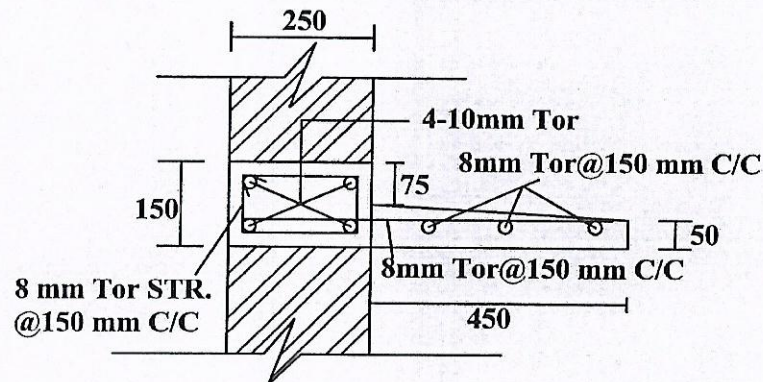
Estimated Technically by valued  
for Rs 9,52,400/-

Chief Engineer  
West Bengal Zoo Authority

Principal Chief Conservator of Forests  
& Head of Forest Force,  
West Bengal



**REINFORCEMENT DETAILS OF R.C.C ROOF SLAB AND BEAM**



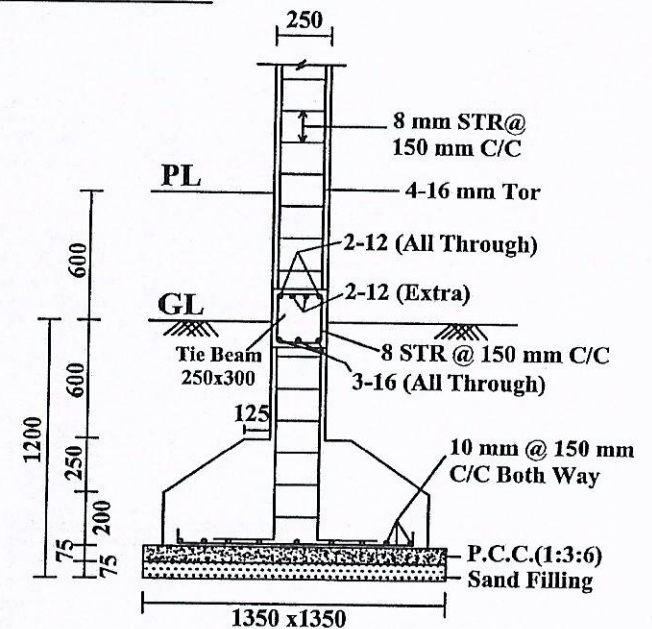
**DETAILS OF R.C.C LINTEL AND CHAJJA**

**SPECIFICATION:-**

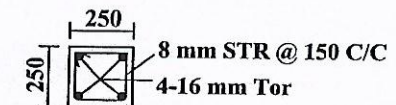
1. ALL R.C.C. SHOULD BE IN M-20 & P.C.C. M-10
2. ALL CEMENT BRICK WORK 1:6 & H.C.B.W.-1:4
3. ALL CEMENT PLASTER 1:6, 1:4 OVER CONC. SURFACES.
4. GRADE OF CEMENT USE -53
5. GRADE OF TOR STEEL: Fe-415 & MILD STEEL: Fe-250

**SCHEDULE OF DOOR AND WINDOW**

MARK	SIZE OF OPENING	FRAME SIZE	DESCRIPTION
D	1200x2100	100x75	Wooden
D1	900x2100	100x75	Wooden
D2	750x2100	100x75	Wooden
W	1500x1350	100x75	Wooden
W1	1200x1350	100x75	Wooden
V	600x450	-	Steel Glazed



**DETAILS OF R.C.C. COLUMN FOUNDATION**



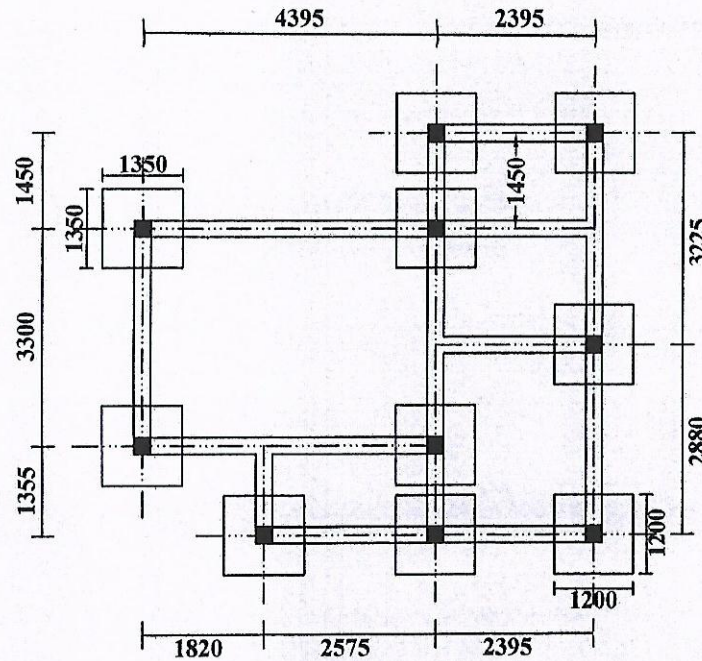
**REINFORCEMENT DETAILS OF R.C.C. COLUMN**

Principal Chief Conservator of Forests  
& Head of Forest Force,

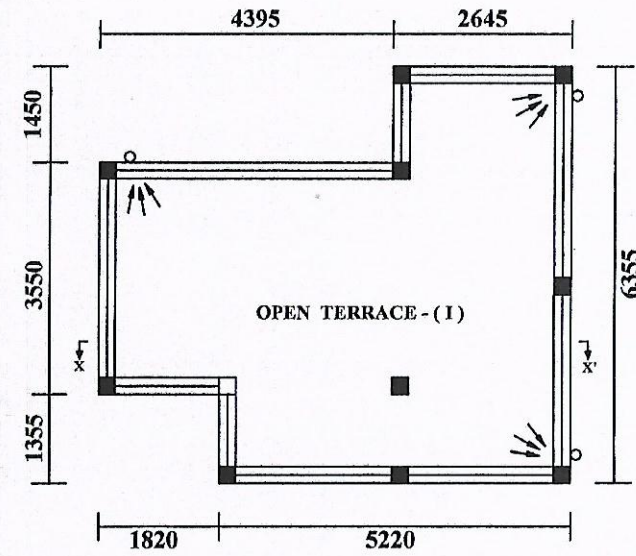
Sub - Assistant Engineer

Chief Engineer  
West Bengal Zoo Authority

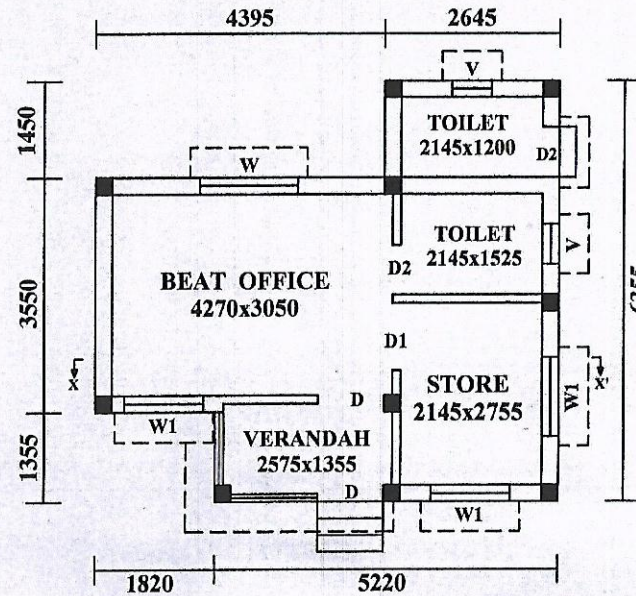




**LAYOUT PLAN**



**TERRACE ROOF PLAN**



**GROUND FLOOR PLAN**  
**COVERED AREA = 3500 SQM.**

Principal Chief Conservator of Forests  
& Head of Forest Force,  
West Bengal

Chief Engineer  
West Bengal Zoo Authority

Sub - Assistant Engineer  
West Bengal Zoo Authority



# ESTIMATE FOR CONCEALED WIRING WITHIN POLYTHENE PIPES AND PVC INSULATED & UNSHEATHED SINGLE CORE STRANDED COPPER WIRE AT NEW CONSTRUCTED BEAT OFFICE

ITEM NO.	DESCRIPTION OF WORK	QTY	UNIT	RATE	AMOUNT
1	<b>PWD REFERENCE : E2, 1(b)</b>				
	Supplying and fixing polythene pipe complete with fittings as necy. under ceiling/beam, bound with 22 SWG GI binding wire incl. supplying and drawing 1x18 SWG GI Wire as fish wire inside the pipes and fittings and providing 50 mm dia disc of MS sheet (20 SWG) having colour paint at one face fastened at the load point end of the polythene pipe with fish wire (synchronizing with roof/beam casting work of building construction)				
	19mm dia 3mm thick Polythene Pipe	1200	MTS	36.00	43200.00
2	<b>PWD REFERENCE : E2, 3(b)</b>				
	Cutting channel of 40 mm x 40 mm size on masonry wall incl. S&F heavy gauge polythene pipe dia as stated below, by means of iron hooks and supplying and drawing 18 SWG GI Wire as fish wire incl. mending good damages to building works				
	19 mm dia 3 mm thick polythene pipe with 1x14 SWG GI earth continuity wire	800	MTS	89.00	71200.00
3	<b>PWD REFERENCE : E4, 10(c)</b>				
	Supplying & Fixing CRC sheet metal (16 SWG) JB-cum-Switch Board of the following sizes complete with three no. suitable size Copper bar with holes (for Ph, N & E) fixed on bakelite/Hard Rubber insulator over the MS welded chairs incl. bakelite/Perspex/coloured Perspex (wall matching colour) top cover 3 mm thick flushed in wall for housing the board after cutting the brick wall incl. making earthing attachment, painting and mending good damages to building works				
	200 mm x 150 mm x 65 mm	12	NOS.	277.00	3324.00
4	<b>PWD REFERENCE : E6, 20(b)</b>				
	Supplying & Fixing two way CI Round box with cover concealed in ceiling/wall				
		36	NOS.	32.00	1152.00
5	<b>PWD REFERENCE : E9, 1(b), 1(e), 1(h), 1(k), 1(a1)</b>				
	Supplying and Drawing 1.1 KV single core stranded 'FR' PVC insulated & unsheathed single core stranded copper wire (Brand approved by EIC) of the following sizes in the prelaid polythene pipe and by the prelaid GI fish wire and making necy. connection as required				
	3 x 22/0.3 (1.5 sqmm)	200	MTS	48.00	9600.00
	3 x 36/0.3 (2.5 sqmm)	100	MTS	74.00	7400.00
	3 x 56/0.3 (4 sqmm)	80	MTS	106.00	8480.00
	3 x 84/0.3 (6 sqmm)	60	MTS	209.00	12540.00
	4x84/0.3 (6 sqmm) + 2x56/0.3 (4 sqmm) as ECC	40	MTS	276.00	11040.00



6	<p>Distn. wiring in 22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated &amp; unsheathed single core stranded copper wire (Brand approved by EIC) in 19 mm bore, 3 mm thick polythen pipe complete with all accessories embedded in wall to light/fan/call bell points with Modular type switch (Brand approved by EIC) fixed on Modular GI switch board with top cover plate flushed in wall incl. mending good damages to original finish</p> <p>2x22/0.3 (Ph. &amp; N) and 1x22/0.3 as ECC</p> <p>Average run 8 mtr</p>	48	POINT	1093.00	52464.00
	<p><b>PWD REFERENCE : E20, 3(iv)</b></p> <p>Distn. wiring in 22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated &amp; unsheathed single core stranded copper wire (Brand approved by EIC) in 19 mm bore, 3 mm thick polythen pipe complete with all accessories embedded in wall to 240 V 6A 5 pin plug point incl. S&amp;F 240 V 6A 3 pin Modular type plug socket &amp; Modular type switch (Brand approved by EIC) incl. S&amp;F earth continuity wire, fixed on 4 Module GI switch board with 3/4 Module top cover plate flushed in wall incl. mending good damages to original finish</p> <p>2x22/0.3 (Ph. &amp; N) and 1x22/0.3 as ECC</p> <p>Average run 4.5 mtr</p>	12	POINT	938.00	11256.00
8	<p><b>PWD REFERENCE : E17, 6(a)</b></p> <p>Supply &amp; Fixing 240 V, 10 A, 2(Two) way Modular type switch (approved make) on existing GI Modular switch board having top cover plate and making necessary connections as required</p>	60	EACH	108.00	6480.00
9	<p><b>PWD REFERENCE : E17, 4(a)</b></p> <p>Supply &amp; Fixing 240 V, 6A, 5 pin Modular type plug socket (Brand approved by EIC), without switch &amp; plug top, on existing GI Modular type switch board with top cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.</p>	12	EACH	120.00	1440.00
10	<p><b>PWD REFERENCE : E18, 9(b)</b></p> <p>Supply &amp; Fixing 240 V, 16 A, 3 pin Modular type plug socket (Brand approved by EIC) with 16A Modular type switch, without plug top on 4 Module GI Modular type switch board with top cover plate flushed in wall incl. S&amp;F switch board and cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.</p>	6	EACH	456.00	2736.00
11	<p><b>PWD REFERENCE : E19, 17</b></p> <p>Supply &amp; Fixing 240 V, 25 A, Modular type starter (Brand approved by EIC) with 25A Modular switch type DP MCB (CCurve) and 4 Module GI Modular type switch board with 4 Module top cover plate flushed in wall incl. S&amp;F switch board and cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.</p>	4	EACH	784.00	3136.00



	<b>PWD REFERENCE : E19, 20</b>				
	Supply & Fixing 240 V, 25A Modular starter (Brand approved by EIC) on existing GI Modular type switch board with top cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.	4	EACH	307.00	1228.00
13	<b>PWD REFERENCE : E19, 21</b> Supplying & Drawing LAN cable (CAT6) (Brand approved by EIC) in prelaid PVC rigid conduit/ in polythene pipe embeded in wall.	100	MTS	28.00	2800.00
14	<b>PWD REFERENCE : E19, 22</b> Supplying & Drawing 2-pair Telephone cables with high density polyethylene insulated solid annealed high conductivity bare copper of dia 0.5mm in prelaid PVC rigid conduit/ in polythene pipe embeded in wall.	100	MTS	16.00	1600.00
15	<b>PWD REFERENCE : E18, 13</b> Supply & Fixing 240 V, 3 nos. 16 A, 3 pin Modular type plug socket with 3 nos. 16A Modular type switch (Brand approved by EIC), 20A Modular switch type SP MCB (C-Curve) and Indicator without plug top on 2 row 12 Module GI Modular type switch board with 2 row 12 Module top cover plate flushed in wall incl. S&F switch board and cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.	6	EACH	1620.00	9720.00
16	<b>PWD REFERENCE : E18, 7(a)</b> Supply & Fixing Modular type RJ45 sitable for CAT6 cable (Brand approved by EIC) on existing PVC board and top cover plate on wall and making necessary connections as required	4	EACH	107.00	428.00
17	<b>PWD REFERENCE : E18, 7(b)</b> Supply & Fixing Telephone socket (RJ11) Modular type (Brand approved by EIC) on existing GI Modular board having top cover plate and making necessary connections as required	4	EACH	96.00	384.00
18	<b>PWD REFERENCE : E18, 10</b> Supply & Fixing 240V, Modular Socket (2 Module) type fan regulator (Step type) (Brand approved by EIC) on existing Modular GI switch board with top cover plate incl. making necy. connections etc.	8	EACH	387.00	3096.00



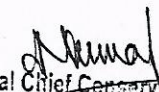
19	Supply & Fixing of Modular Switch Board of the following types complete with three no. suitable size Copper bar with holes (for Ph, N & E) fixed on bakelite/Hard Rubber insulator over the MS welded chairs incl. top cover flushed in wall for housing the board after cutting the brick wall incl. making earthing attachment, painting and mending good damages to building works				
	4 Module	6	SET	261.00	1566.00
	6 Module	6	SET	332.00	1992.00
	8 Module	4	SET	406.00	1624.00
	12 Module	2	SET	523.00	1046.00
20	<b>PWD REFERENCE : E17, 3(a)</b> Supply & Fixing 240 V 6 A Modular type switch (Brand approved by EIC) on existing GI Modular type switch board having top cover plate and making necessary connections as required	6	EACH	82.00	492.00
21	<b>PWD REFERENCE : E17, 4(a)</b> Supply & Fixing 240 V, 6A, 5 pin Modular type plug socket (Brand approved by EIC), without switch & plug top, on existing GI Modular type switch board with top cover plate and making necy. connections with PVC Cu wire and earth continuity wire etc.	6	EACH	120.00	720.00
22	<b>PWD REFERENCE : G1, 2(b)</b> Earthing with 50 mm dia GI pipe 3.64 mm thick x 3.04 Mts. long and 1 x 4 SWG GI (Hot Dip) wire (4 Mts. long), 13 mm dia x 80 mm long GI bolts, double nuts, double washers incl. S & F 15 mm dia GI pipe protection (1 Mts. long) to be filled with bitumen partly under the ground level and partly above ground level driven to an average depth of 3.65 Mts. below the ground level as below:				
	By TATA-Medium GI pipe	2	SET	1524.00	3048.00
23	<b>PWD REFERENCE : G2, 4(b)</b> Supplying & fixing earth busbar of galvanized (Hot Dip) MS flat 40 mm x 6 mm on wall having clearance of 6 mm from wall including providing drilled holes on the busbar complete with GI bolts, nuts, washers, spacing insulators etc. as required	2	MTR	194.00	388.00
24	<b>PWD REFERENCE : G2, 3(a)</b> Extra for providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work(1:6) of 25 cm width duly plastered with cement mortar (inside) CI hinged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos. 12 mm dia holes on the GI pipe	2	ITEM	915.00	1830.00
25	<b>PWD REFERENCE : G2, 3(b)</b> Extra for treatment of soil by using salt & charcoal or coke for plate electrode	2	ITEM	513.00	1026.00



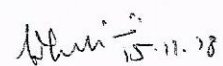
<b>PWD REFERENCE : G2, 5(a)(i)</b>					
5	Connecting the equipments to earth busbar including S & F GI (Hot Dip) wire of size as below on wall/floor with staples buried inside wall/floor as required and making connection to equipments with bolts, nuts, washers, cable lugs etc. as required and mending good damages (a) Solid GI wire No. 4 SWG				
		75	MTS	18.00	1350.00
<b>PWD REFERENCE : D11, 15</b>					
27	Supplying and fixing double door Vertical TPN MCB Distribution board for MCCB incomer with IP-42/43 protection, on angle iron frame on wall & mending good the damages to original finish incl. Inter connection with suitable size of copper wire and neutral link & provision for earthing attachment <b>Legrand</b> <b>Up to 160A</b> 4 way Enclosure (607913)				
		1	NO.	8627.00	8627.00
<b>PWD REFERENCE : D8, 10</b>					
28	Supplying and fixing 415 V Four Pole MCCB of Breaking capacity 25kA/35kA with fixed thermal and fixed magnetic / adjustable thermal and fixed magnetic setting in existing DBs / enclosure and necessary connection <b>Legrand</b> 63 A				
		1	NO.	7071.00	7071.00
<b>PWD REFERENCE : D7, 8</b>					
29	Supplying and fixing 240/415 V MCB of Breaking capacity 10kA & C characteristics on din rail of existing DBs and necessary connection <b>Legrand</b> 6-32 A SPN				
		12	NO.	546.00	6552.00
<b>NON SCHEDULE WORK</b>					
30	Supply, Laying and dressing of 3.5x35 sqmm XLPE, AR, ALU cable in underground trench as per IS specifications				
31	Cable end termination with all materials 3.5x35 sqmm	50	MTS	315.00	15750.00
32	Top & Bottom cable entry box of MCB TPN DB	2	Nos.	250.00	500.00
33	For Electric supply meter connection charges etc.	2	Nos.	480.00	960.00
		1	Job	5000.00	5000.00
<b>GRAND TOTAL</b>					<b>324246.00</b>


RUPEES THREE LAC TWENTY FOUR THOUSAND TWO HUNDRED FORTY SIX ONLY.

- N.B. A) All electrical conductor wires must be FRLs Quality.  
 B) Colour coding must be applied for point/circuit/Sub-main/ Main line etc.  
 i) Colour of Phase - Red, Yellow, Blue  
 ii) Colour of Neutral - Black  
 iii) Colour of Earth - Green  
 C) The wiring throughout the installation no joints in wiring will be permitted and no break in Neutral/ Earthwire.

  
 Principal Chief Conservator of Forests  
 & Head of Forest Force,  
 West Bengal

Estimate is Technically  
 Verified for Rs 3,24,246.00

  
 Chief Engineer  
 West Bengal Zoo Authority

  
 Sub - Assistant Engineer  
 West Bengal Zoo Authority