



**GOVERNMENT OF BIHAR**

**PUBLIC HEALTH ENGINEERING DEPARTMENT**

**MODEL ESTIMATES**

**FOR**

**CONSTRUCTION OF RURAL PIPED WATER SUPPLY SCHEME**

**UNDER MUKHYAMANTRI GRAMIN PEYJAL YOJNA**

**FOR**

**150 HOUSEHOLDS**

**WITH**

**8 METRE STEEL/R.C.C. STAGING WITH WATER STORAGE**

**WITH FRP FOR QUALITY AFFECTED AREAS**

**2017-18**

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### Various types of Model Estimates for Construction of Rural Piped Water Supply Schemes with 8 metre high Steel/R.C.C staging for 5000/10000 Ltr. water storage

Sl. No.	No. of Households in the Ward	Type and size of Tubewell	Estimated Cost in Rs. Lakh	Page No.		
1	150	150mm X 100mm dia & 125M deep T/W for alluvial soil with Fluoride plant & 8 Mtr. Steel Staging	38.562	1	-	16
2	150	150mm X 100mm dia & 125M deep T/W for alluvial soil with Fluoride plant & 8 Mtr. R.C.C. Staging	38.246	17	-	36
3	Drawing of Steel staging			37	-	38
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# GOVERNMENT OF BIHAR

PUBLIC HEALTH ENGINEERING DEPARTMENT

*MODEL ESTIMATE*

*FOR*

CONSTRUCTION OF RURAL PIPED WATER SUPPLY SCHEME

FOR A WARD HAVING 150 HOUSE HOLDS WITH FLUORIDE

UNIT & 8 MTR. STEEL STAGING

ESTIMATED COST-- Rs. 38.562 Lac

2017-18

**GOVERNMENT OF BIHAR**  
**Public Health Engineering Department**

**ABSTRACT OF COST**

**NAME OF WORK:- CONSTRUCTION OF RURAL PIPED WATER SUPPLY SCHEME FOR WARD HAVING 150 HOUSE HOLDS WITH FLUORIDE UNIT & 8 MTR. STEEL STAGING**

S.N.	Description	Total Amount
1	Construction of 150mm x100mmx125m deep T/W etc. all complete and as per direction of E/I. (As per sub Estimate no.- 1)	Rs.1,91,907.72
2	Constructing masonry Chamber 100x100x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for Tube Well, and RCC top slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size ) , necessary excavation, foundation concrete 1:2:4(1 cement : 2 fine sand : 4 graded stone aggregate 20 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3coarse sand) 12 mm thick with 5% cico fnished with a floating coat of neat cement, out side plastering with cement mortar 1:4 (1 cement : 4coarse sand) 12 mm thick complete as per standard specifications & direction of E/I. (As per sub Estimate no.- 2)	Rs.13,210.00
3	Providing and Laying Distribution network of High Density Polyethylene pipe (HDPE pipe) including 10000 liter PVC tank installed at 8M high MS staging etc all complete as per direction of E/I. (As per sub Estimate no.- 3)	Rs.5,05,053.21
4	Supply Installation, commissioning and testing of single phase 3 H.P. submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I. (As per sub Estimate no.- 4)	Rs.93,603.00
5	Providing house connection for each house hold including supplying all materials, labours, tools and making ferrule connection with 20 mm dia MDPE and 15mm CPVC Pipes with all fittings etc all complete. (As per sub Estimate no.- 5)	Rs.2,26,950.00

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S.N.	Description	Total Amount
6A	Supplying all designs drawing construction and commissioning of fully tested and successfully well operated Standard type Fluoride Treatment Unit (activated allumina based/Nano technology based/any approved technology (CSIR) for removal of excessive fluoride) suitable for designed flow of capacity given below pipeline, valve and specials all complete job as per requirement and demand of the E/I. The Mild steel pressure tank and other articles should have not less than as per the specification so as to sustain the design pressure with due factor of safety. It should be duly painted with two coats of anticorrosive paints over a coat of red oxide primer. The materials article should be as per respective Indian standard and should be manufactured from ISO : 9001 company including delivery charges and all taxes & duties complete including all civil works all complete as per standard specification and direction of E/I. (As per sub Estimate no.- 6A)	Rs.13,01,000.00
6B	Provision of safe waste water disposal etc. all complete work. (As per sub Estimate no.- 6B)	Rs.20,243.23
7	Providing and erecting 8M high staging with ladder of ISA65x65x6 and 16mm dia MS bar as trade @ 400mm c/c and GI enclosure to house electric switch panel & treatment unit (where required) of suitably designed MS section of angle, channel, etc. as per drawing attached. (As per sub Estimate no.- 7)	Rs.4,51,200.00
8	Installation of Electronically Regulated Doser type chlorinator using Sodium Hypo Chlorite (Hypo NaOCl) (As per sub Estimate no.- 8)	Rs.25,000.00
<b>TOTAL</b>		Rs.28,28,167.16
Add 1% Contingency		Rs.28,281.67
<b>Sub. TOTAL</b>		Rs.28,56,448.83
9	Add Operation & Maintenance charge for 5 years excluding 6 months trial-run @ 7% per year i.e.. 35% of estimated cost.	Rs.9,99,757.09
<b>Grand Total</b>		Rs.38,56,205.93
		<b>Say Rs.38,56,200.00</b>

(Rs. Thirty eight Lakh Fifty six Thousand Two Hundred) only

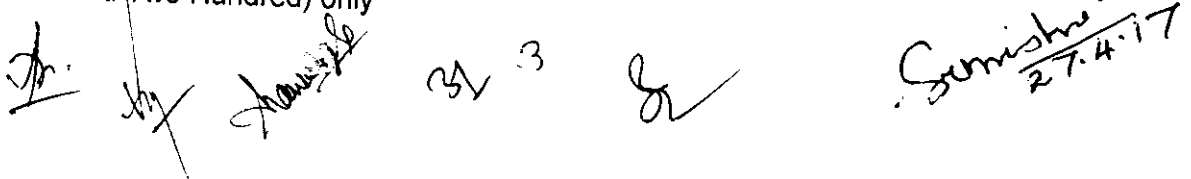
**Note:**

- Road cutting cost may increase or decrease as per actuals.
- Strongly advised that pipeline should be laid before construction of Naali-Gali.
- This is a model estimate. Hence the quantity may increase or decrease based on actual site conditions.

**Variable inter alia includes**

- Hydro geomorphological condition.
- Location of source vis-à-vis population/ house holds.
- Quality of works and materials shall be maintained as per standard specifications and direction of E/I.

Technical approval accorded for Rs.38,56,200.00 (Rs. Thirty eight Lakh Fifty six Thousand Two Hundred) only


  
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**Sub Estimate- 1**  
**CONSTRUCTION OF 150MM X 100MM DIA & 125M DEEP TUBE WELL**

S.No.	Description	Qty.	Unit	Rate	Amount
1	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level. (All types of soil)				
24.1.1.2 (a)	350mm dia bore from G.L. to 30.0M	30.0 M	P/M	Rs.413.50	Rs.12,405.00
24.1.1.1 (b)	300mm dia bore from 30.0 m to 60.0M	30.0 M	P/M	Rs.378.00	Rs.11,340.00
(c)	300mm dia bore from 60M to 90.0M	30.0 M	P/M	Rs.378.00	Rs.11,340.00
24.2.1 (d)	300mm dia bore from 90.0M to 150.0M	35.0 M	P/M	Rs.441.10	Rs.15,438.50
2A	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC (UPVC) medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
24.3.2 (a)	150 mm nominal size dia	30.0 M	P/M	Rs.615.30	Rs.18,459.00
24.3.1 (b)	100 mm nominal size dia	60.0 M	P/M	Rs.444.20	Rs.26,652.00
2B	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC (UPVC) medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
24.4.1	100 mm nominal size dia	30.0 M	P/M	Rs.468.80	Rs.14,064.00
3	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.				
24.13.2 (a)	150 mm dia well cap	1 No.	Each	Rs.205.10	Rs.205.10
24.14.2 (b)	150 mm dia M.S. Clamp 1.6 M long (one Pair)	1 No.	Each	Rs.1,031.10	Rs.1,031.10
(c)	150 mm dia center guide	4 Nos.	Each	Rs.150.00	Rs.600.00
(d)	100 mm dia center guide	6 Nos.	Each	Rs.100.00	Rs.600.00
(e)	150 mm x 100 mm dia 6mm wall thickness MS reducer	1 No.	Each	Rs.500.00	Rs.500.00
24.15.1 (f)	100mm dia & 6mm thick M.S. well shoe plug	1 No.	Each	Rs.205.60	Rs.205.60
4a	Providing all materials, labours, & equipments for fixing tube well with pea gravel of Dalbhumigarh to size 4mm to 8mm approx. as suitable for strata including carriage washing, placing and packing the same in position around the tube well etc. all complete as per direction of E/I.				
24.6	Carriage of Pea Gravel from Dhalbhumigarh (taken av distance 400km.)	9.0 M <sup>3</sup>	P/M <sup>3</sup>	Rs.917.00	Rs.8,253.00
4b	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sampl & getting tested in approved laboratory, disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	9.0 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,336.54	Rs.39,028.82
5	Transportation of drilling plants, developing equipments & all other required tools and M/c by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I	24 Hrs.	Each	Rs.649.40	Rs.15,585.60
6	Supplying all materials and labours for arrangement for additional water required during the drilling period for 70 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 No.	Each	Rs.9,200.00	Rs.9,200.00
7					
		1 No.	Each	Rs.7,000.00	Rs.7,000.00
	<b>TOTAL</b>				<b>Rs.1,91,907.72</b>

(Sub Estimate - 2)

**Analysis of Chamber for TW**

Supplying materials, labours and constructing chamber of following dimension having 250mm thick wall in C.M. (1:4) including 12mm C.P. (1:3) with punning inside, R.C.C. cover slab with C.I. Surface box, 20mm dia foot rest at 150mm interval 10mm dia lifting ring etc. all complete.

SIZE 1.00 M x 1.00 M x 0.75 M deep

S.O.R. No.	Particulars	No.	L	W	H	Qty.	Unit	Rate	Amount
1 S.O.R. No. 2.8	Earth work in excavation	1	1.75	1.75	1.0	3.063 M <sup>3</sup>	P/M <sup>3</sup>	Rs.230.50	Rs.705.91
2 S.O.R. No. 2.28	Sand filling	1	1.75	1.75	0.075	0.230 M <sup>3</sup>	P/M <sup>3</sup>	Rs.204.40	Rs.46.95
3 S.O.R. 11.72	Brick flat soling	1	1.75	1.75		3.063 M <sup>2</sup>	P/M <sup>2</sup>	Rs.253.80	Rs.777.26
4 S.O.O. 4.1.3	P.C.C. (1:2:4) in foundation	1	1.75	1.75	0.10	0.306 M <sup>3</sup>			
5 S.O.R. No. 6.1.12/1	B/Work in (1:4) C.M.	2	2.50	0.25	0.75	0.306 M <sup>3</sup> 0.938 M <sup>3</sup>	P/M <sup>3</sup> P/M <sup>3</sup>	Rs.3,850.50 Rs.4,724.40	Rs.1,179.22 Rs.4,429.13
6 S.O.R. No. 5.2.2 & 5.9.3	R.C.C. Cover slab(1:1.5:3)	1	1.50	1.50	0.15	0.338 M <sup>3</sup>	P/M <sup>3</sup>	Rs.5,139.70	Rs.1,734.65
7 S.O.R. No. +13.36.1	shuttering C.P. (1:3) with 5% Cico & neat cement Internal face Bed surface	2 1	1.50 1.00	1.50 1.00	0.15 1.00	3.15 M <sup>2</sup> 4.00 M <sup>2</sup> 1.00 M <sup>2</sup> 5.00 M <sup>2</sup>	P/M <sup>2</sup> P/M <sup>2</sup>	Rs.291.00 Rs.166.30	Rs.916.65 Rs.831.50
8 S.O.R. No. 13.11.2	C.P. (1:4) out side of wall	2	1.50	1.50	0.75	4.5 M <sup>2</sup>	P/M <sup>2</sup>	Rs.114.70	Rs.516.15
9 S.O.R. No. 5.22.7A	8mm dia T.S. Rod								
10	Lifting Ring of 10mm dia Rod	0.338 M <sup>3</sup> x	70 Kg/M <sup>3</sup>			23.625 Kg.	P/Kg	Rs.56.00	Rs.1,323.00
						4 No.	Each	Rs.30.00	Rs.120.00
11	Carriage of materials 5%							Total	Rs.12,580.41 Rs.629.02 <u>Rs.13,209.43</u>
								Say	Rs.13,210.00

**Sub Est. No. 3**

**WATER SUPPLY DISTRIBUTION SYSTEM**

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan), including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
	75mm dia Pipe	195.00	0.30	1.10 =	64.35
	63mm dia Pipe	195.00	0.30	1.10 =	64.35
	50mm dia Pipe	390.00	0.30	1.10 =	128.70
	40mm dia Pipe	520.00	0.30	1.10 =	171.60
					429.00 M <sup>3</sup>
	Add 5% extra for fittings =				21.45 M <sup>3</sup>
					450.45 M <sup>3</sup>
1B	Provision for PCC road cutting and its restoration				
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.				
					14.63 M <sup>3</sup>
					P/M <sup>3</sup>
					Rs.4,428.80
					Rs.1,03,828.73
3	Providing and laying High Density Polyethylene pipe (HDPE pipe) of 20 mm to 225 mm OD and pressure 6.0 Kg/cm <sup>2</sup> and 10 Kg/cm <sup>2</sup> suitable for water supply which is available in all standard, like ISI-4984/1995 and various grades like PE-80, PE-100 including required specials. Rates are inclusive of , all taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.				
3A	HDPE pipe of materials grade PE100- PN10 (dia in mm)				
	75mm dia Pipe from PVC Tank to Distribution main	14.00	M	P/M	Rs.239.81
	75mm dia Pipe	195.00	M	P/M	Rs.239.81
	63mm dia Pipe	195.00	M	P/M	Rs.168.77
3B	HDPE pipe of materials grade PE100- PN8 (dia in mm)				
	50mm dia Pipe	390.00	M	P/M	Rs.89.99
	40mm dia Pipe	520.00	M	P/M	Rs.59.78
	50mm dia Pipe from T/well to PVC Tank	12.00	M	P/M	Rs.89.99
4	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end).				
	75mm dia Pipe	3	Nos.	Each	Rs.1,351.60
	63mm dia Pipe	2	Nos.	Each	Rs.1,351.60
	50mm dia Pipe	3	Nos.	Each	Rs.811.40
	40mm dia Pipe	3	Nos.	Each	Rs.613.90
					Rs.4,054.80
					Rs.2,703.20
					Rs.2,434.20
					Rs.1,841.70

S.N.	Particulars	Quantity	Unit	Rate	Amount	
5- 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) , necessary excavation, foundation concrete 1:5:10(1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard specifications & direction of E/I.					
	Work for additional depth	9 Nos.	Each	Rs.5,807.50	Rs.52,267.50	
	Brick work (1:4) in foundation					
		2	1.10	0.25	0.35	0.193
		2	0.60	0.25	0.35	0.105
					0.298	
	Plaster (1:3)	2.678	CuM	CuM	Rs.4,724.40	Rs.12,649.58
		8	1.10	0.35	3.08	
6	Carriage 10% of item 5	27.72	SqM	SqM	Rs.128.20	Rs.3,553.70
7	Providing and placing on terrace (at all floor levels)					Rs.6,847.08
18.48	polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	10000	Ltrs.	P/Ltr.	Rs.6.60	Rs.66,000.00
8	Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour.					
	50mm dia	2 Nos.	each	Rs.250.00	Rs.500.00	
	75mm dia	1 No.	each	Rs.400.00	Rs.400.00	
	<b>TOTAL</b>				<b>Rs.5,05,053.21</b>	

## Sub Est. No. 4

Model estimate for supply, installation & commissioning of single phase 3 H.P submersible motor pump set with all accessories including extension of L.T. line from nearest source up-to pumping station.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
[A.]	<p>Supply Installation, commissioning and testing of single phase 3 H.P. submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories &amp; fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing &amp; commissioning as per standards specifications and direction of E/I.</p> <p>(i) 50 mm dia x 3 mtrs long medium class G.I column pipe both end thread and one end socketed- 6(six)nos  (ii) 1x3x2.5 mm<sup>2</sup> flat copper conductor submersible cable -40 (forty) mtrs.  (iii) 50 mm dia union socket- 1(one) no.  (iv) 65 mm dia x 250 mm long G.I. nipple- 1 (one) no.  (v) 50 mm dia G.I Elbow—1(One) no.  (vi) 50 mm dia M.S. clamps—2(Two) Pairs.  (vii) 50 mmx 250 mm long G.I nipple- 1(One) no.  (viii) Tube well cap for T/Well – 1(one) no.</p>	1 (one) job	p/job	Rs.42,700.00	Rs.42,700.00

	(ix) 50 mm dia x 65 mm dia reducer socket -1(one) no.				
[B]	Supply Installation, commissioning and testing of floor mounted outdoor type L.T feeder pillar single phase starter control pannel operated on 220 V, 3 phase , 50 c/s for 3 HP Submersible pump set made of MS sheet (minimum 2 mm thick) duly spray power coated painting with following accessories made of M.S sheet ( minimum 2mm thick) duly spray powder coated painting with following accessories (i) 90-220 V range single phase 7.5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked If any. 1 No.  (ii) Suitable single phase starter control panel for above motor of BCH /L&Tmake - 1(one) no.	1 (one) job	p/job	Rs.45,500.00	Rs.45,500.00
[C]	Supplying & fitting 2.5 mm <sup>2</sup> copper service cable from power point from nearest source up-to pumping station..	20 mtrs	P/Mt	Rs.130.00	Rs.2,600.00
[D]	Providing all materials and labour required for doing earthing station with G.I earth pipe of 40 mm dia x 4.5 mtrs 20fts. long G.I pipe including accessories excavation of earth , providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.with salt, charcoal,etc.as per IE & IS specification.	1 job	p/job	Rs.2,803.00	Rs.2,803.00
				<b>Total Rs.</b>	<b>Rs.93,603.00</b>

**Sub Est. No. 5**

**Estimate for the work - House service connection**

SUB-ESTIMATE						
S.No.	Description	Qty	Unit	Rate	Amount	
1A	Providing and fixing MDPE (PE 80 GradeCompound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for waterapplication rates are inclusive of , taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete asper direction of Engineer-in-charge.complete.					
	MDPE Pipe 20mm dia nominal bore	6.00	PM	Rs.19.97		Rs.119.82
1B	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall					
18.7.1	15 mm nomonal bore	1.0	PM	Rs.138.70		Rs.138.70
2	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and amming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil					
2.8.1		6.00	0.30	0.60	1.08	
3	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	1.08	CuM	Rs.230.50		Rs.248.94
2.26				Rs.74.50	1.06	Rs.78.85
4	Providing and fixing brass ferrule with CI mouth cover incuding boring and tapping the main:					
18.20.1	15mm nominal bore	1	Each	Rs.254.10		Rs.254.10
	Providing and fixing P.P. Black service Saddle (Brass threaded)	1	Each	Rs.400.00		Rs.400.00
5	Providing and fixing brass bib cock of approved quality :					
18.15.1	15mm nominal bore	1	Each	Rs.273.00		Rs.273.00
	Total					Rs.1,513.41
	Say					Rs.1,513.00
Total Nos. of House Holds=		150 Nos.	@	Rs.1,513.00		Rs.2,26,950.00

**SUB ESTIMATE NO - 6A**

**Estimate for Fluoride Treatment Plant**

S.N.	Particulars	Quantity	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Supplying all designs drawing construction and commissioning of fully tested and successfully well operated Standard type Fluoride Treatment Unit (activated alumina based/Nano technology based/any approved technology (CSIR) for removal of excessive fluoride) suitable for designed flow of capacity given below pipeline, valve and specials all complete job as per requirement and demand of the E/I. The Mild steel pressure tank and other articles should have not less than as per the specification so as to sustain the design pressure with due factor of safety. It should be duly painted with two coats of anticorrosive paints over a coat of red oxide primer. The materials article should be as per respective Indian standard and should be manufactured from ISO : 9001 company including delivery charges and all taxes & duties complete including all civil works all complete as per standard specification and direction of E/I. 8 KLPH Cacity	1 No.	Each	Rs. 13,01,000.00	Rs. 13,01,000.00
<b>TOTAL :-</b>					<b>Rs.13,01,000.00</b>

## SUB ESTIMATE NO - 6B

### Detailed Estimate for construction of chamber for waste water disposal from FRP 1.00M x 2.00M x 1.50M deep (with fly proof galvanized M.S. wire covering)

1	2.8	Earth work in excavation						
2	2.28	1.50m x 2.50m x 1.00M = Supplying & filling in plinth with local sand under floors including watering, ramming consolidating and dressing complete.	3.750 M <sup>3</sup>	P/M <sup>3</sup>	Rs.230.50	Rs.864.38		
3	11.72	1.50m x 2.50m x 0.10M = Providing designation 100 A one brick flat soling joints filled with local sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/I.	0.375 M <sup>3</sup>	P/M <sup>3</sup>	Rs.204.40	Rs.76.65		
4	(SOR 4.1.4)	1.50m x 2.50m = Providing & laying in position cement concrete of specified grade excluding the cost of centring & shuttering etc. all work up to plinth level. 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	3.750 M <sup>2</sup>	P/M <sup>2</sup>	Rs.253.80	Rs.951.75		
5	(SOR 6.1.14A)	1.50m x 2.50m x 0.08M = Brick work with bricks of class designation 100A in foundation and plinth in Cement mortar 1:4 (1 cement : 4 coarse sand) L. W. = 2 x 2.50 x 0.25 x 1.5 = S. W. = 2 x 1.00 x 0.25 x 1.5 =	0.300 M <sup>3</sup>	P/M <sup>3</sup>	Rs.3,740.20	Rs.1,122.06		
6	(SOR 13.17.1)	12 mm cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement In side L. W. = 2 x 2.00 x 1.5 = S. W. = 2 x 1.00 x 1.5 = Bottom = 2.0 x 1.0 =	2.250 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,490.60	Rs.10,103.85		
7	(SOR 13.11.2 & 13.26)	Providing 12mm cement plaster (1:4) out side with neat cement punning L. W. = 2 x 2.5 x 0.75 = S. W. = 2 x 1.50 x 0.75 =	11.000 M <sup>2</sup>	P/M <sup>2</sup>	Rs.159.00	Rs.1,749.00		
8	(SOR 9.51.2)	Providing and fixing fly proof galvanized M.S. wire gauze to windows and clerestory window using galvanized M.S. wire gage with average width of aperture 1.4 mm in both directions with wire of dia.0.63 mm. with mild steel U beading 2.5m x 1.5m =	6.00 M <sup>2</sup>	P/M <sup>2</sup>	Rs.114.70 Rs.32.30	Rs.147.00	Rs.882.00	
10		Carriage of materials. (a) Bricks ( 7 Km. Pucca & 1 Km. Kachha lead) (b) Coarse Sand (100 Km. lead) (c) Stone Chips (150 Km. lead) (d) Local Sand ( 2 Km. Pucca & 1 Km. Kachha lead)	3.750 M <sup>2</sup>	P/M <sup>2</sup>	Rs.525.10	Rs.1,969.13		
			1037 No.	P/%0	Rs.606.10	Rs.628.53		
			1.09 M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,221.09	Rs.1,330.99		
			0.27 M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,746.29	Rs.471.50		
			0.43 M <sup>3</sup>	P/M <sup>3</sup>	Rs.217.23	Rs.93.41		
					<b>Rs.20,243.23</b>			

**Sub Est. No. 7**

**8 M HIGH STEEL STRUCTURE STAGING FOR 5000/10000 LITER PVC TANK**

S.N.	Particulars	Quantity	Unit	Rate	Amount
1 10.3	Structural steel work riveted or bolted in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved primer all complete for 8M high staging with ladder of ISA65x65x6 and 16mm dia MS bar as trade @ 400mm c/c and GI enclosure to house electric switch panel & treatment unit (where required) of suitably designed MS section of angle, channel, etc. as per drawing attached.	4224 Kg	P/Kg	Rs.69.20	Rs.2,92,300.80
2 2.8.1	Earth work in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including rearing of sides and ramming of bottoms, lift upto 1.5 m. including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All Kinds of soil				
	base of footing				
	4    1.95    1.95    1.35    =				20.534
	Under Tie beam				
	2    2.30    0.25    0.275    =				0.316
	2    1.30    0.25    0.275    =				0.179
					21.029
3- 2.28	Supplying and filling in plinth with local sand and under floors including watering, ramming consolidating and dressing complete.	21.029 M <sup>3</sup>	P/M <sup>3</sup>	Rs.230.50	Rs.4,847.07
	base of footing				
	4    1.95    1.95    0.10    =				1.521
	Under Tie beam				
	2    3.95    0.25    0.10    =				0.198
	2    2.95    0.25    0.10    =				0.148
	Floor				
	1    4.00    3.00    0.10    =				1.200
					3.066
4- 11.72	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes & royalty all complete as per specification & direction of E/I.	3.066 M <sup>3</sup>	P/M <sup>3</sup>	Rs.204.40	Rs.626.69
	base of footing				
	4    1.95    1.95               =				15.210
	Under Tie beam				
	2    3.95    0.25               =				1.975
	2    2.95    0.25               =				1.475
	Floor				
	1    4.00    3.00               =				12.000
					30.660
5 4.1.2	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering-all work upto plinth level. 1:1.5:3(1 Cement :1.5 coarse sand:3 graded stone aggregate 20 mm nominal size)	30.660 M <sup>2</sup>	P/M <sup>2</sup>	Rs.253.80	Rs.7,781.51
	base of footing				
	4    1.95    1.95    0.075    =				1.141
	Floor				
	1    4.00    3.00    0.10    =				1.200
					2.341
		2.341 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,373.20	Rs.10,236.57

S.N.	Particulars	Quantity	Unit	Rate	Amount	
6 5.1.2	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of entering, shuttering, finishing and reinforcement- All work upto plinth level 1:1.5:3(1 cement: 1.5 coarse sand:3 graded stone aggregate 20 mm nominal size) Tie beam					
	1 3.95 0.25 0.25 =				0.247	
	1 2.95 0.25 0.25 =				0.184	
	base of footing					
	4 1.80 1.80 0.30 =				3.888	
	4 0.45 0.45 0.15 =				0.122	
	Column below GL					
	4 0.30 0.30 0.65 =				0.234	
	Column above GL					
	4 0.30 0.30 0.15 =				0.054	
					4.729	
		4.729 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,530.30	Rs.21,422.66	
7- 5.9.1	Centring and shuttering including strutting, propping etc. and removal of form for.					
	2 3.95 0.25 =				1.975	
	2 2.95 0.25 =				1.475	
	16 1.80 0.30 =				8.640	
	16 0.45 0.15 =				1.080	
	16 0.30 0.65 =				3.120	
	16 0.30 0.15 =				0.720	
					17.010	
		17.010 M <sup>2</sup>	P/M <sup>2</sup>	Rs.169.00	Rs.2,874.69	
8- 5.2.2	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. 8 mm to 16 mm for steel Total Reinforcement. @1.25% of Vol. Of Concrete					
					=	
		464.00 Kg.	P/Kg.	Rs.56.00	Rs.25,984.00	
9 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead (50% of E/W in excavation)	10.514 M <sup>3</sup>	P/M <sup>3</sup>	Rs.74.50	Rs.783.31	
10 13.26	Neat cement punning					
	1 4.00 3.00 =				12.000	
		12.000 M <sup>2</sup>	P/M <sup>2</sup>	Rs.32.30	Rs.387.60	
11- 10.7.1	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer. Using flats 30x6 mm for diagonal braces and central cross piece. Door					
	1 0.9 2.10 =				1.890	
	Window					
	1 1.2 0.90 =				1.080	
	Total				=	
		2.970	2.970 M <sup>3</sup>	P/M <sup>3</sup>	Rs.2,503.00	Rs.7,433.91

S.N.	Particulars	Quantity	Unit	Rate	Amount	
12-12.1.4	Providing corrugated G.S. sheet roofing fixed with G.I.J. or hooks, bolts and nuts 8 mm diameter with bitumen and G. I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on over lapping of sheets complete (upto a pitch of 60°) excluding the cost of purlins, rafters and trusses. 0.8mm thick with zinc coating not less than 275 gm/mz					
	Roof					
	1 4.50 3.50 =			15.750		
	Wall					
	1 16.00 3.00 =			48.000		
				63.750		
	Deduct for door & window					
	1 0.9 2.10 =			1.890		
	1 1.2 0.90 =			1.080		
				2.970		
	Net Qty =	60.780	M <sup>2</sup>	Rs.729.70	Rs.44,351.17	
13-10.19	Providing and fixing anchor bolt of 16 mm dia and 0.60 Mtr length embedded in R.C.C pedestal all complete as per direction of Engineer in charge. @4x4x0.95kg	15.15	Kg	P/kg	Rs.73.60	Rs.1,115.04
14-13.82.1	Painting with ready mixed paint of approved brand and manufacture in all shades to give an even shade:					
	New steel work (two or more coats)					
	Frame work					
	0.5 16.00 8.00 =			64.000		
	0.5 5.00 4.00 =			10.000		
	Roof sheet					
	2 4.50 3.50 =			31.500		
	Top sheet					
	2 5.00 4.00 =			40.000		
	GI sheet wall					
	2 16.00 3.00 =			96.000		
				241.500		
15	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.					
	(a) Bricks ( 7 Km. Pucca & 1 Km. Kachha lead)	990	Nos.	%0 nos.	Rs.606.10	Rs.600.04
	(b) Coarse Sand (100 Km. lead)	3.040	M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,221.09	Rs.3,712.11
	(c) Stone Chips (150 Km. lead)	6.070	M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,746.29	Rs.10,599.98
	(d) Local Sand ( 2 Km. Pucca & 1 Km. Kachha lead)	3.530	M <sup>3</sup>	P/M <sup>3</sup>	Rs.217.23	Rs.766.82
					TOTAL	Rs.4,51,183.37
					say	Rs.4,51,200.00

## **SUB ESTIMATE NO - 8**

### **Electronically Regulated Doser Type Chlorinator**

Sl. No.	Particulars	Quantity	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Providing cost of electronically regulated Doser type chlorinator using sodium Hypo Chlorite (NaOCl ) and installation including all cost and necessary fittings and connections as required and carriage cost etc. all complete as per direction of E/I.	1 No.	Each	25000	25000.00
<b>TOTAL :-</b>					<b>Rs.25,000.00</b>

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# GOVERNMENT OF BIHAR

PUBLIC HEALTH ENGINEERING DEPARTMENT

*MODEL ESTIMATE*

*FOR*

CONSTRUCTION OF RURAL PIPED WATER SUPPLY SCHEME

FOR A WARD HAVING 150 HOUSE HOLDS WITH FLUORIDE

UNIT & 8 MTR. R.C.C. STAGING

ESTIMATED COST-- Rs. 38.246 Lac

2017-18

**GOVERNMENT OF BIHAR**  
**Public Health Engineering Department**

**ABSTRACT OF COST**

**NAME OF WORK:- CONSTRUCTION OF RURAL PIPED WATER SUPPLY SCHEME FOR WARD HAVING 150 HOUSE HOLDS WITH FLUORIDE UNIT & 8 MTR. R.C.C.STAGING**

S.N.	Description	Total Amount
1	Construction of 150mm x100mmx125m deep T/W etc. all complete and as per direction of E/I. (As per sub Estimate no.- 1)	Rs.1,91,907.72
2	Constructing masonry Chamber 100x100x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for Tube Well, and RCC top slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size ) , necessary excavation, foundation concrete 1:2:4(1 cement : 2 fine sand : 4 graded stone aggregate 20 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3coarse sand) 12 mm thick with 5% cico fnished with a floating coat of neat cement, out side plastering with cement mortar 1:4 (1 cement : 4coarse sand) 12 mm thick complete as per standard specifications & direction of E/I. (As per sub Estimate no.- 2)	Rs.13,210.00
3	Providing and Laying Distribution network of High Density Polyethylene pipe (HDPE pipe) including 10000 liter PVC tank installed at 8M high MS staging etc all complete as per direction of E/I. (As per sub Estimate no.- 3)	Rs.5,05,053.21
4	Supply Installation, commissioning and testing of single phase 3 H.P. submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories & fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing & commissioning as per standards specifications and direction of E/I. (As per sub Estimate no.- 4)	Rs.93,603.00
5	Providing house connection for each house hold including supplying all materials, labours, tools and making ferrule connection with 20 mm dia MDPE and 15mm CPVC Pipes with all fittings etc all complete. (As per sub Estimate no.- 5)	Rs.2,26,950.00

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S.N.	Description	Total Amount
6A	Supplying all designs drawing construction and commissioning of fully tested and successfully well operated Standard type Fluoride Treatment Unit (activated allumina based/Nano technology based/any approved technology (CSIR) for removal of excessive fluoride) suitable for designed flow of capacity given below pipeline, valve and specials all complete job as per requirement and demand of the E/I. The Mild steel pressure tank and other articles should have not less than as per the specification so as to sustain the design pressure with due factor of safety. It should be duly painted with two coats of anticorrosive paints over a coat of red oxide primer. The materials article should be as per respective Indian standard and should be manufactured from ISO : 9001 company including delivery charges and all taxes & duties complete including all civil works all complete as per standard specification and direction of E/I. (As per sub Estimate no.- 6A)	Rs.13,01,000.00
6B	Provision of safe waste water disposal etc. all complete work. (As per sub Estimate no.- 6B)	Rs.20,243.23
7	Construction of 8M high R.C.C. Staging for water storage & to house electric switch panel as per drawing attached. (As per sub Estimate no.- 7)	Rs.4,28,000.00
8	Installation of Electronically Regulated Doser type chlorinator using Sodium Hypo Chlorite (Hypo NaOCl) (As per sub Estimate no.- 8)	Rs.25,000.00
<b>TOTAL</b>		Rs.28,04,967.16
Add 1% Contingency		Rs.28,049.67
<b>Sub. TOTAL</b>		Rs.28,33,016.83
9	Add Operation & Maintenance charge for 5 years excluding 6 months trial-run @ 7% per year i.e.. 35% of estimated cost.	Rs.9,91,555.89
<b>Grand Total</b>		Rs.38,24,572.73
<b>Say</b>		<b>Rs.38,24,600.00</b>

(Rs. Thirty eight Lakh Twenty four Thousand six Hundred) only

**Note:**

- Road cutting cost may increase or decrease as per actuals.
- Strongly advised that pipeline should be laid before construction of Naali-Gali.
- This is a model estimate. Hence the quantity may increase or decrease based on actual site conditions.

**Variable inter alia includes**

- Hydro geomorphological condition.
- Location of source vis-à-vis population/ house holds.
- Quality of works and materials shall be maintained as per standard specifications and direction of E/I.

Technical approval accorded for Rs.38,24,600.00 (Rs. Thirty eight Lakh Twenty four Thousand six Hundred) only

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27.4.17

**Sub Estimate- 1**  
**CONSTRUCTION OF 150MM X 100MM DIA & 125M DEEP TUBE WELL**

S.No.	Description	Qty.	Unit	Rate	Amount
1	Boring/drilling bore well of required dia for casing/strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, upto 90 metre depth below ground level. (All types of soil)				
24.1.1.2 (a)	350mm dia bore from G.L. to 30.0M	30.0 M	P/M	Rs.413.50	Rs.12,405.00
24.1.1.1 (b)	300mm dia bore from 30.0 m to 60.0M	30.0 M	P/M	Rs.378.00	Rs.11,340.00
(c)	300mm dia bore from 60M to 90.0M	30.0 M	P/M	Rs.378.00	Rs.11,340.00
24.2.1 (d)	300mm dia bore from 90.0M to 150.0M	35.0 M	P/M	Rs.441.10	Rs.15,438.50
2A	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC (UPVC) medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
24.3.2 (a)	150 mm nominal size dia	30.0 M	P/M	Rs.615.30	Rs.18,459.00
24.3.1 (b)	100 mm nominal size dia	60.0 M	P/M	Rs.444.20	Rs.26,652.00
2B	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC (UPVC) medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
24.4.1	100 mm nominal size dia	30.0 M	P/M	Rs.468.80	Rs.14,064.00
3	Supplying the following fittings & fixing the same in position as per approved lowering assembly and strata chart including providing all equipments and welding the same on process of lowering the assay etc. all complete as per S/D of E/I.				
24.13.2 (a)	150 mm dia well cap	1 No.	Each	Rs.205.10	Rs.205.10
24.14.2 (b)	150 mm dia M.S. Clamp 1.6 M long (one Pair)	1 No.	Each	Rs.1,031.10	Rs.1,031.10
(c)	150 mm dia center guide	4 Nos.	Each	Rs.150.00	Rs.600.00
(d)	100 mm dia center guide	6 Nos.	Each	Rs.100.00	Rs.600.00
(e)	150 mm x 100 mm dia 6mm wall thickness MS reducer	1 No.	Each	Rs.500.00	Rs.500.00
24.15.1 (f)	100mm dia & 6mm thick M.S. well shoe plug	1 No.	Each	Rs.205.60	Rs.205.60
4a	Providing all materials, labours, & equipments for fixing tube well with pea gravel of Dalbhumigarh to size 4mm to 8mm approx. as suitable for strata including carriage washing, placing and packing the same in position around the tube well etc. all complete as per direction of E/I.				
24.6	Carriage of Pea Gravel from Dhalbhumigarh (taken av distance 400km.)	9.0 M <sup>3</sup>	P/M <sup>3</sup>	Rs.917.00	Rs.8,253.00
4b		9.0 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,336.54	Rs.39,028.82
5	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of usable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by "V" notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water sampl & getting tested in approved laboratory, disinfection of tubewell, all complete, including hire & labour charges of air compressor, tools & accessories etc., all as per requirement and direction of Engineer-in-charge.	24 Hrs.	Each	Rs.649.40	Rs.15,585.60
6	Transportation of drilling plants, developing equipments & all other required tools and M/c by and suitable mechanical means including all cost of loading, unloading, placing at work site and back after completion of work as per S/D of E/I	1 No.	Each	Rs.9,200.00	Rs.9,200.00
7	Supplying all materials and labours for arrangement for additional water required during the drilling period for 70 Hrs & site clearance & leveling etc. And providing the soap duster etc. to staff engaged in drilling etc. all complete work as per specification & direction of E.I.	1 No.	Each	Rs.7,000.00	Rs.7,000.00
		<b>TOTAL</b>		<b>Rs.7,000.00</b>	<b>Rs.1,91,907.72</b>

(Sub Estimate - 2)

**Analysis of Chamber for TW**

Supplying materials, labours and constructing chamber of following dimension having 250mm thick wall in C.M. (1:4) including 12mm C.P. (1:3) with punning inside, R.C.C. cover slab with C.I. Surface box, 20mm dia foot rest at 150mm interval 10mm dia lifting ring etc. all complete.

**SIZE**                      **1.00 M**    x    **1.00 M**    x    **0.75 M deep**

S.O.R. No.	Particulars	No.	L	W	H	Qty.	Unit	Rate	Amount
1	Earth work in excavation	1	1.75	1.75	1.0	3.063 M <sup>3</sup>	P/M <sup>3</sup>	Rs.230.50	Rs.705.91
S.O.R. No. 2.8									
2	Sand filling	1	1.75	1.75	0.075	0.230 M <sup>3</sup>	P/M <sup>3</sup>	Rs.204.40	Rs.46.95
S.O.R. No. 2.28									
3	Brick flat soling	1	1.75	1.75		3.063 M <sup>2</sup>	P/M <sup>2</sup>	Rs.253.80	Rs.777.26
S.O.R. 11.72									
4	P.C.C. (1:2:4) in foundation	1	1.75	1.75	0.10	0.306 M <sup>3</sup>			
S.O.O. 4.1.3									
5	B/Work in (1:4) C.M.	2	2.50	0.25	0.75	0.306 M <sup>3</sup>	P/M <sup>3</sup>	Rs.3,850.50	Rs.1,179.22
S.O.R. No. 6.1.12/1						0.938 M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,724.40	Rs.4,429.13
6	R.C.C. Cover slab(1:1.5:3)	1	1.50	1.50	0.15	0.338 M <sup>3</sup>	P/M <sup>3</sup>	Rs.5,139.70	Rs.1,734.65
S.O.R. No. 5.2.2 & 5.9.3									
7	shuttering	2	1.50	1.50	0.15	3.15 M <sup>2</sup>	P/M <sup>2</sup>	Rs.291.00	Rs.916.65
S.O.R. No. 7	C.P. (1:3) with 5% Cico & neat cement								
8	Internal face	2	1.00	1.00	1.00	4.00 M <sup>2</sup>			
S.O.R. No. 8	Bed surface	1	1.00	1.00		1.00 M <sup>2</sup>			
+13.36.1						5.00 M <sup>2</sup>	P/M <sup>2</sup>	Rs.166.30	Rs.831.50
9	C.P. (1:4) out side of wall	2	1.50	1.50	0.75	4.5 M <sup>2</sup>	P/M <sup>2</sup>	Rs.114.70	Rs.516.15
S.O.R. No. 13.11.2									
10	8mm dia T.S. Rod								
S.O.R. No. 5.22.7A									
		0.338 M <sup>3</sup> x		70	Kg/M <sup>3</sup>	23.625 Kg.	P/Kg	Rs.56.00	Rs.1,323.00
11	Lifting Ring of 10mm dia Rod					4 No.	Each	Rs.30.00	Rs.120.00
12	Carriage of materials 5%							Total	Rs.12,580.41
									Rs.629.02
									<u>Rs.13,209.43</u>
								Say	Rs.13,210.00

**Sub Est. No. 3**

**WATER SUPPLY DISTRIBUTION SYSTEM**

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A	Earthwork in excavation over areas (exceeding 30 cm in depth 1.5 in width as well as 10 sqm on plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m, disposal earth to be levelled and neatly dressed.				
	75mm dia Pipe	195.00	0.30	1.10 =	64.35
	63mm dia Pipe	195.00	0.30	1.10 =	64.35
	50mm dia Pipe	390.00	0.30	1.10 =	128.70
	40mm dia Pipe	520.00	0.30	1.10 =	171.60
		429.00	M <sup>3</sup>		
	Add 5% extra for fittings =	21.45	M <sup>3</sup>		
		450.45	M <sup>3</sup>		
				Rs.230.50	Rs.1,03,828.73
1B	Provision for PCC road cutting and its restoration	14.63	M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,428.80
2	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	441.44	M <sup>3</sup>	P/M <sup>3</sup>	Rs.74.50
					Rs.32,887.35
3	Providing and laying High Density Polyethylene pipe (HDPE pipe) of 20 mm to 225 mm OD and pressure 6.0 Kg/cm <sup>2</sup> and 10 Kg/cm <sup>2</sup> suitable for water supply which is available in all standard, like ISI-4984/1995 and various grades like PE-80, PE-100 including required specials. Rates are inclusive of , all taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete as per direction of Engineer-in-charge.				
3A	HDPE pipe of materials grade PE100- PN10 (dia in mm)				
	75mm dia Pipe from PVC Tank to Distribution main	14.00	M	P/M	Rs.239.81
	75mm dia Pipe	195.00	M	P/M	Rs.239.81
	63mm dia Pipe	195.00	M	P/M	Rs.168.77
3B	HDPE pipe of materials grade PE100- PN8 (dia in mm)				
	50mm dia Pipe	390.00	M	P/M	Rs.89.99
	40mm dia Pipe	520.00	M	P/M	Rs.59.78
	50mm dia Pipe from T/well to PVC Tank	12.00	M	P/M	Rs.89.99
4	Providing and fixing brass gate valve with C.I. wheel of approved quality (screwed end).				
	75mm dia Pipe	3 Nos.	Each	Rs.1,351.60	Rs.4,054.80
	63mm dia Pipe	2 Nos.	Each	Rs.1,351.60	Rs.2,703.20
	50mm dia Pipe	3 Nos.	Each	Rs.811.40	Rs.2,434.20
	40mm dia Pipe	3 Nos.	Each	Rs.613.90	Rs.1,841.70

S.N.	Particulars	Quantity	Unit	Rate	Amount	
5 18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size), necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard specifications & direction of E/I.					
	Work for additional depth	9 Nos.	Each	Rs.5,807.50	Rs.52,267.50	
	Brick work (1:4) in foundation					
		2	1.10	0.25	0.35	0.193
		2	0.60	0.25	0.35	0.105
					0.298	
	Plaster (1:3)	2.678	CuM	CuM	Rs.4,724.40	Rs.12,649.58
		8	1.10	0.35	3.08	27.72
			SqM	SqM	Rs.128.20	Rs.3,553.70
6	Carriage 10% of item 5				Rs.6,847.08	
7 18.48	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, ISI : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	10000	Ltrs.	P/Ltr.	Rs.6.60	Rs.66,000.00
8	Providing and fixing PTMT extension nipple for water tank pipe, fittings of approved quality and colour.					
	50mm dia	2	Nos.	each	Rs.250.00	Rs.500.00
	75mm dia	1	No.	each	Rs.400.00	Rs.400.00
	<b>TOTAL</b>					<b>Rs.5,05,053.21</b>

## Sub Est. No. 4

Model estimate for supply, installation & commissioning of single phase 3 H.P submersible motor pump set with all accessories including extension of L.T. line from nearest source up-to pumping station.

Sl. No.	Particulars	Quantity	Unit	Rate	Amount
1	2	3	4	5	6
[A.]	<p>Supply Installation, commissioning and testing of single phase 3 H.P. submersible pump set having discharging capacity 3.35 lps at a total head of 35 meter(approx) of KSB/ Kirloskar or equivalent make with all accessories &amp; fittings etc including loading unloading and transportation of the pump set to the work site with all required labour, materials, tools and tackles installation, testing &amp; commissioning as per standards specifications and direction of E/I.</p> <p>(i) 50 mm dia x 3 mtrs long medium class G.I column pipe both end thread and one end socketed- 6(six)nos  (ii) 1x3x2.5 mm<sup>2</sup> flat copper conductor submersible cable -40 (forty) mtrs.  (iii) 50 mm dia union socket- 1(one) no.  (iv) 65 mm dia x 250 mm long G.I. nipple- 1 (one) no.  (v) 50 mm dia G.I Elbow—1(One) no.  (vi) 50 mm dia M.S. clamps—2(Two) Pairs.  (vii) 50 mmx 250 mm long G.I nipple- 1(One) no.  (viii) Tube well cap for T/Well – 1(one) no.</p>	1 (one) job	p/job	Rs.42,700.00	Rs.42,700.00

	(ix) 50 mm dia x 65 mm dia reducer socket –1(one) no.				
[B]	Supply Installation, commissioning and testing of floor mounted outdoor type L.T feeder pillar single phase starter control pannel operated on 220 V, 3 phase , 50 c/s for 3 HP Submersible pump set made of MS sheet (minimum 2 mm thick) duly spray power coated painting with following accessories made of M.S sheet ( minimum 2mm thick) duly spray powder coated painting with following accessories (i) 90-220 V range single phase 7.5 KVA automatic voltage stabilizer make- Sen & Pandit/ Vertex/ISI marked If any. 1 No.  (ii) Suitable single phase starter control panel for above motor of BCH /L&Tmake – 1(one) no.	1 (one) job	p/job	Rs.45,500.00	Rs.45,500.00
[C]	Supplying & fitting 2.5 mm <sup>2</sup> copper service cable from power point from nearest source up-to pumping station..	20 mtrs	P/Mt	Rs.130.00	Rs.2,600.00
[D]	Providing all materials and labour required for doing earthing station with G.I earth pipe of 40 mm dia x 4.5 mtrs 20fts. long G.I pipe including accessories excavation of earth , providing masonry enclosure with cover plate having locking arrangement and watering pipe etc.with salt, charcoal,etc.as per IE & IS specification.	1 job	p/job	Rs.2,803.00	Rs.2,803.00
				<b>Total Rs.</b>	<b>Rs.93,603.00</b>

**Sub Est. No. 5**

**Estimate for the work - House service connection**

**SUB-ESTIMATE**

S.No.	Description	Qty	Unit	Rate	Amount
1A	Providing and fixing MDPE (PE 80 GradeCompound) pipes PN-12.5 (12.5kg/Sqcm) as per ISO 4427 and specification for waterapplication rates are inclusive of , taxes and duties (Exise duty @12.50% &CST @2% against Form 'C'), labour cess, contractor profit and overhead charges all complete asper direction of Engineer-in-charge.complete.				
	MDPE Pipe 20mm dia nominal bore	6.00	PM	Rs.19.97	Rs.119.82
1B	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall				
18.7.1	15 mm nomonal bore	1.0	PM	Rs.138.70	Rs.138.70
2	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and amming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil				
2.8.1	6.00      0.30      0.60      1.08	1.08	CuM	Rs.230.50	Rs.248.94
3 2.26	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead	1.06	CuM	Rs.74.50	Rs.78.85
4	Providing and fixing brass ferrule with CI mouth cover incuding boring and tapping the main:				
18.20.1	15mm nominal bore	1	Each	Rs.254.10	Rs.254.10
	Providing and fixing P.P. Black service Saddle (Brass threaded)	1	Each	Rs.400.00	Rs.400.00
5	Providing and fixing brass bib cock of approved quality :				
18.15.1	15mm nominal bore	1	Each	Rs.273.00	Rs.273.00
	Total				Rs.1,513.41
	Say				Rs.1,513.00

**Total Nos. of House Holds=**

**150 Nos. @**

**Rs.1,513.00**

**Rs.2,26,950.00**

**SUB ESTIMATE NO - 6A**

**Estimate for Fluoride Treatment Plant**

S.N.	Particulars	Quantity	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Supplying all designs drawing construction and commissioning of fully tested and successfully well operated Standard type Fluoride Treatment Unit (activated allumina based/Nano technology based/any approved technology (CSIR) for removal of excessive fluoride) suitable for designed flow of capacity given below pipeline, valve and specials all complete job as per requirement and demand of the E/I. The Mild steel pressure tank and other articles should have not less than as per the specification so as to sustain the design pressure with due factor of safety. It should be duly painted with two coats of anticorrosive paints over a coat of red oxide primer. The materials article should be as per respective Indian standard and should be manufactured from ISO : 9001 company including delivery charges and all taxes & duties complete including all civil works all complete as per standard specification and direction of E/I. 8 KLPH Cacity	1 No.	Each	Rs. 13,01,000.00	Rs. 13,01,000.00
<b>TOTAL :-</b>					<b>Rs.13,01,000.00</b>

## SUB ESTIMATE NO - 6B

### Detailed Estimate for construction of chamber for waste water disposal from FRP 1.00M x 2.00M x 1.50M deep (with fly proof galvanized M.S. wire covering)

1		Earth work in excavation					
	2.8		$1.50\text{m} \times 2.50\text{m} \times 1.00\text{M} =$	$3.750 \text{ M}^3$	P/M <sup>3</sup>	Rs.230.50	Rs.864.38
2	2.28	Supplying & filling in plinth with local sand under floors including watering, ramming consolidating and dressing complete.					
			$1.50\text{m} \times 2.50\text{m} \times 0.10\text{M} =$	$0.375 \text{ M}^3$	P/M <sup>3</sup>	Rs.204.40	Rs.76.65
3	11.72	Providing designation 100 A one brick flat soling joints filled with local sand including cost of watering, taxes, royalty all complete as per building specification and direction of E/I.					
			$1.50\text{m} \times 2.50\text{m} =$	$3.750 \text{ M}^2$	P/M <sup>2</sup>	Rs.253.80	Rs.951.75
4	(SOR 4.1.4)	Providing & laying in position cement concrete of specified grade excluding the cost of centring & shuttering etc. all work up to plinth level. 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)					
			$1.50\text{m} \times 2.50\text{m} \times 0.08\text{M} =$	$0.300 \text{ M}^3$	P/M <sup>3</sup>	Rs.3,740.20	Rs.1,122.06
5	(SOR 6.1.14A)	Brick work with bricks of class designation 100A in foundation and plinth in Cement mortar 1:4 (1 cement : 4 coarse sand)					
			L. W. = $2 \times 2.50 \times 0.25 \times 1.5 =$	1.875			
			S. W. = $2 \times 1.00 \times 0.25 \times 1.5 =$	0.375			
			$2.250 \text{ M}^3$	P/M <sup>3</sup>	Rs.4,490.60	Rs.10,103.85	
6	(SOR 13.17.1)	12 mm cement plaster 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement In side					
			L. W. = $2 \times 2.00 \times 1.5 =$	6.000			
			S. W. = $2 \times 1.00 \times 1.5 =$	3.000			
			Bottom = $2.0 \times 1.0 =$	2.00			
			$11.000 \text{ M}^2$	P/M <sup>2</sup>	Rs.159.00	Rs.1,749.00	
7	(SOR 13.11.2 & 13.26)	Providing 12mm cement plaster (1:4) out side with neat cement punning					
			L. W. = $2 \times 2.5 \times 0.75 =$	3.75		Rs.114.70	
			S. W. = $2 \times 1.50 \times 0.75 =$	2.250		Rs.32.30	
			$6.00 \text{ M}^2$	P/M <sup>2</sup>	Rs.147.00	Rs.882.00	
8	(SOR 9.51.2)	Providing and fixing fly proof galvanized M.S. wire gauze to windows and clerestory window using galvanized M.S. wire gage with average width of aperture 1.4 mm in both directions with wire of dia.0.63 mm. with mild steel U beading					
			$2.5\text{m} \times 1.5\text{m} =$	$3.750 \text{ M}^2$	P/M <sup>2</sup>	Rs.525.10	Rs.1,969.13
10		Carriage of materials.					
		Bricks (7 Km. Pucca & 1 Km. Kachha lead)		1037 No.	P/%0	Rs.606.10	Rs.628.53
		Coarse Sand (100 Km. lead)		$1.09 \text{ M}^3$	P/M <sup>3</sup>	Rs.1,221.09	Rs.1,330.99
		Stone chips (150Km. Pucca lead)		$0.27 \text{ M}^3$	P/M <sup>3</sup>	Rs.1,746.29	Rs.471.50
		Local Sand (2 Km. Pucca + 1 Km. Kachha lead)		$0.43 \text{ M}^3$	P/M <sup>3</sup>	Rs.217.23	Rs.93.41
						<b>Rs.20,243.23</b>	

## Construction of RCC Staging 4.0M x 3.0M x 8.0M High

S.N.	Particulars	Quantity	Unit	Rate	Amount
1A	Earth work in excavation in foundation trenches or drains(not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m . including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All Kinds of soil In foundation				
	4 1.95 1.95 1.35 = 20.53				
	2 2.30 0.25 0.25 = 0.29				
	2 1.30 0.25 0.25 = 0.16				
	1 1.00 1.00 0.575 = 0.58				
	1 1.20 0.90 0.275 = 0.30				
	21.86	21.86 M	P/M	Rs.230.50	Rs.5,037.69
1B	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth: consolidating each deposited layer by ramming and watering lead				
2.26		10.27 M	P/M	Rs.74.50	Rs.764.87
2-	Providing clean coarse sand filling in foundation trenches or in plinth including ramming & watering as per specification & direction of E/I including cost of materials taxes & royalty.				
2.28	Steps 1 1.20 0.90 0.10 = 0.108 In Foundation of column 4 1.95 1.95 0.10 = 1.521 In Ladder fixing block at GL 1 1 1 0.10 = 0.100 Under Tie beam at G.L. 2 3.95 0.25 0.10 = 0.198 2 2.95 0.25 0.10 = 0.148 In Plinth 1 4.00 3.00 0.28 = 3.360 5.434	5.434 M <sup>3</sup>	P/M <sup>3</sup>	Rs.204.40	Rs.1,110.71
3-	Providing designation of 100A Brick flat Soling joints filled with local sand including cost of watering, taxes & royalty all complete as per specification & direction of E/I.				
11.72	Steps 1 1.20 0.90 = 1.08 In Foundation of column 4 1.95 1.95 = 15.21 In Ladder fixing block at GL 1 1.00 1.00 = 1 Under Tie beam at G.L. 2 3.95 0.25 = 1.975 2 2.95 0.25 = 1.475 In Plinth 1 4.00 3.00 = 12.00 32.74	32.74 M <sup>2</sup>	P/M <sup>2</sup>	Rs.253.80	Rs.8,309.41
4-	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering all work up to plinth				
4.1.3					

S.N.	Particulars	Quantity	Unit	Rate	Amount																																														
	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 40mm nominal size) (M15) Steps																																																		
	1      1.20    0.90      0.10      =      0.11																																																		
	In Foundation of column																																																		
	4      1.95    1.95      0.075      =      1.14																																																		
	In Ladder fixing block at GL																																																		
	1      1.00    1.00      0.40      =      0.40																																																		
	Under Tie beam at G.L.																																																		
	2      3.95    0.25      0.10      =      0.20																																																		
	2      2.95    0.25      0.10      =      0.15																																																		
	In Plinth																																																		
	1      4.00    3.00      0.10      =      1.20																																																		
	3.19	3.194	M <sup>3</sup>	P/M <sup>3</sup>	Rs.3,850.50	Rs.12,297.53																																													
4 A- 5.1.2	Providing and laying in position reinforced cement concrete of specified grade excluding the cost of centring and shuttering all work up to plinth 1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size)																																																		
	<table border="1"> <thead> <tr> <th>No</th> <th>Length</th> <th>Width</th> <th>Height (av.)</th> <th>Sub Qty.</th> </tr> </thead> <tbody> <tr> <td colspan="5">In foundation</td> </tr> <tr> <td>4</td> <td>1.80</td> <td>1.80</td> <td>0.30</td> <td>= 3.888</td> </tr> <tr> <td>4</td> <td>0.45</td> <td>0.45</td> <td>0.15</td> <td>= 0.1215</td> </tr> <tr> <td>4</td> <td>0.30</td> <td>0.30</td> <td>0.65</td> <td>= 0.234</td> </tr> <tr> <td colspan="5">In Tie beam at G.L.</td> </tr> <tr> <td>2</td> <td>3.95</td> <td>0.25</td> <td>0.35</td> <td>= 0.691</td> </tr> <tr> <td>2</td> <td>2.95</td> <td>0.25</td> <td>0.35</td> <td>= 0.516</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td>5.451</td> </tr> </tbody> </table>	No	Length	Width	Height (av.)	Sub Qty.	In foundation					4	1.80	1.80	0.30	= 3.888	4	0.45	0.45	0.15	= 0.1215	4	0.30	0.30	0.65	= 0.234	In Tie beam at G.L.					2	3.95	0.25	0.35	= 0.691	2	2.95	0.25	0.35	= 0.516					5.451	5.451	M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,530.30	Rs.24,694.67
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4 B- 5.9.5	Centring and shuttering including strutting, propping etc. and removal of form for: Lintels, beams, plinth beams etc.																																																		
	In foundation																																																		
	16.0    1.8      0.30      =      8.64																																																		
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	22.500	22.500	M <sup>2</sup>	P/M <sup>2</sup>	Rs.261.70	Rs.5,888.25																																													
5- 6.1.14 A	Providing designation 100A brick work in C.M. (1:6) in foundation & plinth with approved quality of clean coarse sand of F.M. 2 to 2.5 including providing 10 mm thick mortar joints, cost of screening materials, racking out joints to 15 mm depth curing taxes & reality, all complete as per specification & direction of E/I. Brick work with bricks of class designation 100A in plinth in: Cement mortar 1:6 (1 Cement : 6 Sand)																																																		
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S.N.	Particulars					Quantity	Unit	Rate	Amount	
	2	2.95	0.25	0.150	=	0.221				
	In steps									
	1	1.2	0.90	0.15	=	0.162				
	1	1.2	0.60	0.15	=	0.108				
	1	1.2	0.30	0.15	=	0.054				
						0.842				
6 A- 5.1.2	Providing and laying in position Reinforced cement concrete of specified grade excluding the cost of centering and shuttering all work up to plinth 1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size)					0.842	M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,490.60	Rs.3,778.84
	In Column up to PL									
	4	0.30	0.30	0.45	=	0.162				
	In band at plinth									
	2	3.95	0.25	0.075	=	0.148				
	2	2.95	0.25	0.075	=	0.111				
						0.421				
6 B 4.12	Extra for providing and mixing water proofing material in cement concrete work in the proportion recommended by the manufacturers. (In band at Plinth)					0.421	M <sup>3</sup>	P/M <sup>3</sup>	Rs.4,530.30	Rs.1,906.12
						107	Kg.	per 50 kg cement	Rs.46.58	Rs.99.68
6 C- 5.9.5	Centering and shuttering including strutting, propping etc. and removal of form for: Lintels, beams, plinth beams etc.									
	In Column up to PL									
	16	0.3	0.45		=	2.160				
	In band at plinth									
	4	3.95	0.075		=	1.185				
	4	2.95	0.075		=	0.885				
						4.230				
7 A- 5.2.2	Reinforced cement concrete work in wall (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, plinth and string courses, pillars, piers, abutments, posts and struts etc. up to five floor level excluding the costs of centring, shuttering, finishing and reinforcement. 1:1.5:3 (1 cement: 1.5 coarse sand : 3 graded stone aggregate 20mm nominal size)					4.230	M <sup>2</sup>	P/M <sup>2</sup>	Rs.261.70	Rs.1,106.99
	No	Length	Width	Height (av.)	Sub Qty.					
	In band at Lintels level									
	2	1.5	0.25	0.10	=	0.075				
	In beam B1, B2									
	2	4.50	0.25	0.20	=	0.450				
	2	3.00	0.25	0.20	=	0.300				
	In beam B3, B4									
	2	4.50	0.25	0.30	=	0.675				
	2	3.00	0.25	0.30	=	0.450				
	In beam B5, B6									
	2	5.00	0.25	0.25	=	0.625				
	2	3.00	0.25	0.25	=	0.375				
	In Column from PL to Roof level									
	4	0.3	0.3	8.00	=	2.880				
	For parapet post									
	8	0.125	0.125	0.85	=	0.106				



S.N.	Particulars				Quantity	Unit	Rate	Amount	
10-A-5.2.2	Providing R.C.C. M-200 with nominal mix of (1:1.5:3) in roof slab								
	No	Length	Width	Height (av.)	Sub Qty.				
	Roof Slab								
	1	5.00	3.50	0.15	= 2.625				
	1	4.70	3.70	0.10	= 1.739				
	Landing								
	3	0.60	0.60	0.15	= 0.162				
					4.526	4.526 M <sup>3</sup>	P/M <sup>3</sup>	Rs.5,139.70	Rs.23,262.28
10-B-5.9.3	Centring and shuttering including strutting, propping etc. and removal of form for:								
	In Roof slab								
	No	Length	Width	Height (av.)	Sub Qty.				
	1	4.5	3.00		= 13.500				
	1	4.2	3.20		= 13.440				
	2	5.00	0.15		= 1.500				
	2	3.50	0.15		= 1.050				
	2	4.70	0.10		= 0.940				
	2	3.70	0.10		= 0.740				
	3	0.60	0.60		= 1.080				
	3	0.60	0.15		= 0.270				
	6	0.60	0.15		= 0.540				
					33.060	33.060 M <sup>2</sup>	P/M <sup>2</sup>	Rs.291.00	Rs.9,620.46
11-5.22.7	Reinforcement for RCC work including straightening, cutting, bending & placing in position and binding all complete.								
A	6 mm to 16 mm tor steel								
	Total Reinforcement.								
	@1.60% of Vol. Of Concrete (Kg/cuM)				= 2074.34	2074.34 Kg.	P/Kg.	Rs.56.00	Rs.1,16,163.00
12-A-10.7.1	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6mm angle iron and 3mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.								
	Door D	1	0.9	2.1	= 1.890				
	Window	1	0.9	1.2	= 1.080				
					2.970	2.970 M <sup>3</sup>	P/M <sup>3</sup>	Rs.2,503.00	Rs.7,433.91
12-B-9.48.1	Providing and fixing the M.S. grill of required pattern in frames of windows etc. with M.S. flat. Square or round bars etc. all complete fixed to steel windows by welding.								
	No	Length	Width	Height (av.)	Sub Qty.				
	For windows								
	1	1.20	x	0.90	= 1.08 M <sup>2</sup>				
					@ 25 Kg/M <sup>2</sup>				
					27.00	27.00 Kg.	P/Kg.	Rs.86.00	Rs.2,322.00
13-5.18.3	Providing precast cement concrete jali 1:2:4 reinforced with 1.6mm mild steel wire including roughening cleaning, fixing and finishing in cement mortar 1:3 etc. all complete excluding plastering of the jambs sills & soffits.								
	25mm thick								

S.N.	Particulars					Quantity	Unit	Rate	Amount
	No	Length	Width	Height (av.)	Sub Qty.				
	2	0.45		0.45	= 0.405	0.405 M <sup>2</sup>	P/M <sup>2</sup>	Rs.463.40	Rs.187.68
14-A	Providing 6 mm thick cement plaster to ceiling of mix								
13.24.	1:4								
2	No	Length	Width	Height (av.)	Sub Qty.				
	1	4.50	3.00		= 13.50				
	1	4.20	3.20		= 13.44				
	2	5.00	0.15		= 0.75				
	2	3.50	0.15		= 0.53				
	2	4.70	0.10		= 0.47				
	2	3.70	0.10		= 0.37				
	3	0.60	0.60		= 0.36				
	9	0.60	0.15		= 0.09				
					29.51	29.51 M <sup>2</sup>	P/M <sup>2</sup>	Rs.87.40	Rs.2,578.74
14-B	12mm Cment plaster in coarse sand								
13.11.	1:6 (1cement : 6 Coarse Sand)								
4	No	Length	Width	Height (av.)	Sub Qty.				
	In side								
	2	4.00		2.68	= 21.440				
	2	3.00		2.68	= 16.080				
	2	2.10		0.25	= 1.050				
	2	1.20		0.25	= 0.600				
	3	0.90		0.25	= 0.675				
	Outside								
	2	4.50		3.00	= 27.000				
	2	3.50		3.00	= 21.000				
	Chajja								
	2	1.10		0.450	= 0.990				
	1	1.10		0.500	= 0.550				
	2	0.45		0.063	= 0.057				
	In Column								
	16	0.3		5.00	= 24.000				
	In beams								
	4	4.00		0.20	= 3.200				
	4	4.00		0.25	= 4.000				
	4	3.00		0.20	= 2.400				
	4	3.00		0.25	= 3.000				
	6	4.50		0.25	= 6.750				
	6	3.00		0.25	= 4.500				
	In steps								
	1	0.90		0.15	= 0.135				
	1	0.60		0.15	= 0.090				
	1	0.30		0.15	= 0.045				
					137.562				
	Deduction								
	Door & Winsow								
	1	0.90		2.10	= 1.890				
	1	0.90		1.20	= 1.080				
					2.970				
				Net Plaster	134.592	134.592 M <sup>2</sup>	P/M <sup>2</sup>	Rs.101.20	Rs.13,620.68
14C-	Providing 12mm cement plaster (1:6) including								
13.11.	providing 1.5mm neat cement punning								
4 +	No	Length	Width	Height (av.)	Sub Qty.				
13.26	In Dado								

S.N.	Particulars					Quantity	Unit	Rate	Amount
	2	4.00	0.22	=	1.760				
	2	3.00	0.22	=	1.320				
	In floors								
	1	4.0	3.0	=	12.000				
	In steps								
	1	0.90	0.15	=	0.135				
	1	0.60	0.15	=	0.090				
	1	0.30	0.15	=	0.045				
	Outside plinth								
	2	4.50	0.45	=	4.050			Rs.101.20	
	2	3.50	0.45	=	3.150			Rs.32.30	
					22.550	22.550 M <sup>2</sup>	P/M <sup>2</sup>	Rs.133.50	Rs.3,010.43
16- 13.79 1	Finishing walls with water proofing cement paint of approved brand and manufacture and of required shade to give an even shade								
	New work ( three or more coats)					164.10 M <sup>2</sup>	M <sup>2</sup>	Rs.63.20	Rs.10,370.91
17- 13.81 3 + 13.82 1	Applying priming coat & painting with ready mixed paint of approved brand and manufacture in all sheds to give an even shade								
	with ready mixed zinc chromate yellow primer of app. Brand on new steel work (two or more coats)								
	In Door								
	1	2.25	0.90	2.10	=	4.253			
	In windows								
	1	2.25	0.90	1.20	=	2.430		Rs.22.80	
	In Grill								
						1.080		Rs.63.60	
					7.763	7.76 M <sup>2</sup>	M <sup>2</sup>	Rs.86.40	Rs.670.68
21 10.3	Structural steel work riveted or bolted in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved atee primer all complete.								
	Providing MS ladder 50mm x 50mm x 6mm.								
	24M + 23 x 0.50M=35.5M @ 4.502kg/M=					159.82 Kg.	P/Kg.	Rs.69.20	Rs.11,059.61
22	Providing railing at the top with 25mm GI pipe.					51.00 Mtr	P/Mtr	Rs.269.20	Rs.13,729.20
23	Providing necessary arrangement for proper fixation of P.V.C. Tank for lateral stability against wind pressure force.								
								LS	Rs.2,000.00
24	Carriage of the following materials from quarry to work site including loading, unloading and staking at work site as per specification & direction of E/I.								
	Bricks (7 Km. Pucca & 1 Km. Kachha lead)					4935 Nos.	%0 nos.	Rs.606.10	Rs.2,991.10
	Coarse Sand (100 Km. lead)					14.46 M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,221.09	Rs.17,656.96
	Stone chips (150Km. Pucca lead)					17.13 M <sup>3</sup>	P/M <sup>3</sup>	Rs.1,746.29	Rs.29,913.95
	Local Sand (2 Km. Pucca + 1 Km. Kachha lead)					5.93 M <sup>3</sup>	P/M <sup>3</sup>	Rs.217.23	Rs.1,288.17
									Rs.4,27,962.02
							Say		Rs.4,28,000.00

## **SUB ESTIMATE NO - 8**

### **Electronically Regulated Doser Type Chlorinator**

Sl. No.	Particulars	Quantity	Unit	Rate (In Rs.)	Amount (In Rs.)
1	Providing cost of electronically regulated Doser type chlorinator using sodium Hypo Chlorite (NaOCl ) and installation including all cost and necessary fittings and connections as required and carriage cost etc. all complete as per direction of E/I.	1 No.	Each	25000	25000.00
<b>TOTAL :-</b>					<b>Rs.25,000.00</b>

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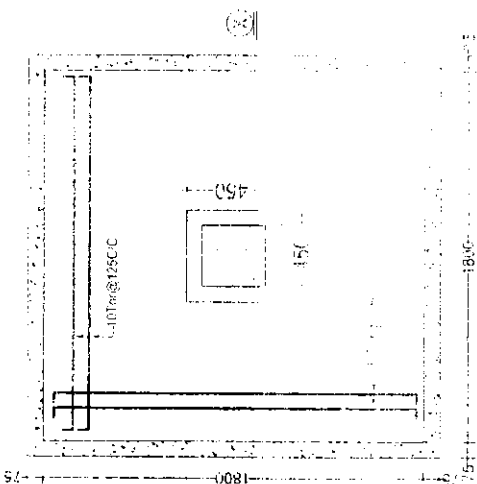
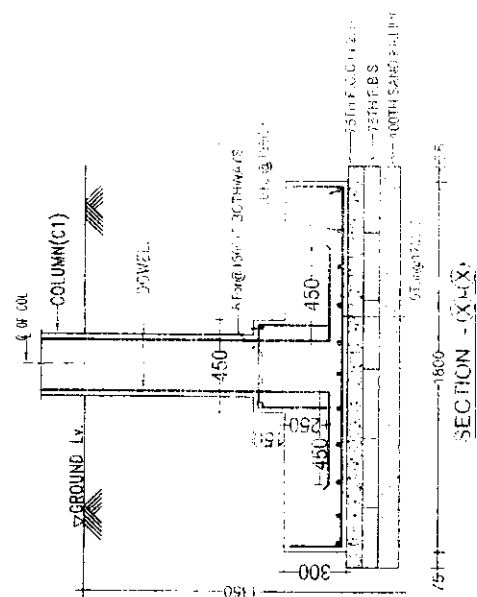
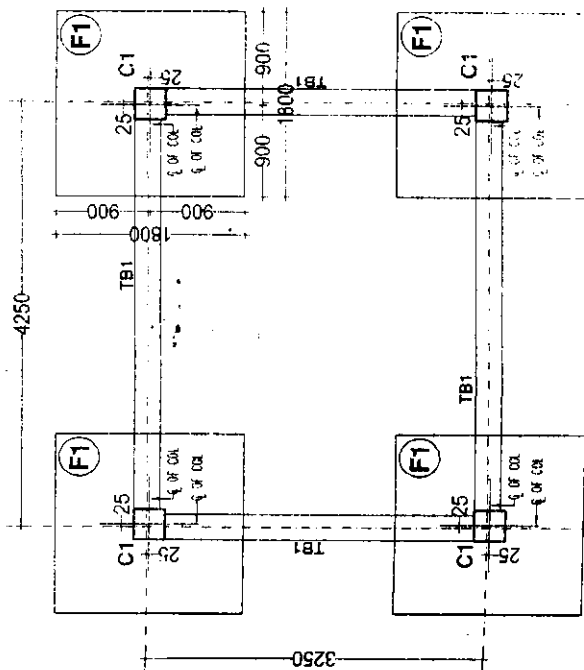
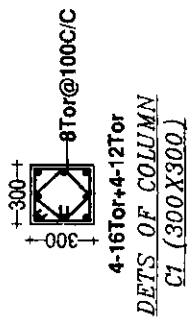
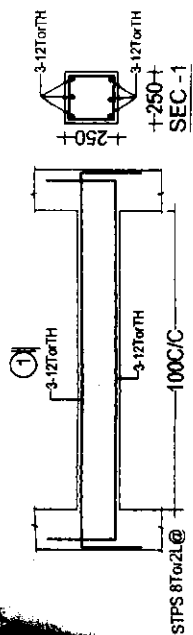
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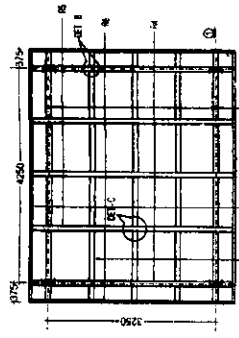


STRUCTURAL DETAILS OF ATTENDANT ROOM	
NO.	1
DATE	11/11/2011
BY	...
CHECKED BY	...
APPROVED BY	...
SCALE	...

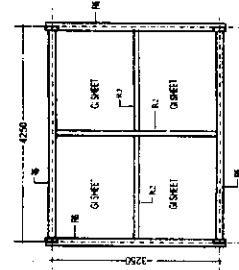
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 37  
 11/11/2011  
 188

SEE OF ALL THE BEAMS (250x250)  
 TOP L.V. OF ALL THE BEAMS SHALL BE AT FINISHED CL.

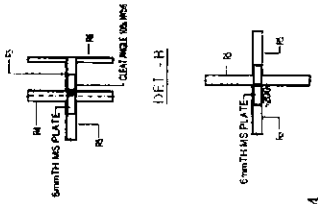
MEMBERS	SECTION
MARK	
R1	ISKA 25
R2	ISKA 25
R3	ISKA 25
R4	ISKA 25
R5	ISKA 25
R6	ISKA 25
R7	ISKA 25
R8	ISKA 25
R9	ISKA 25
R10	ISKA 25



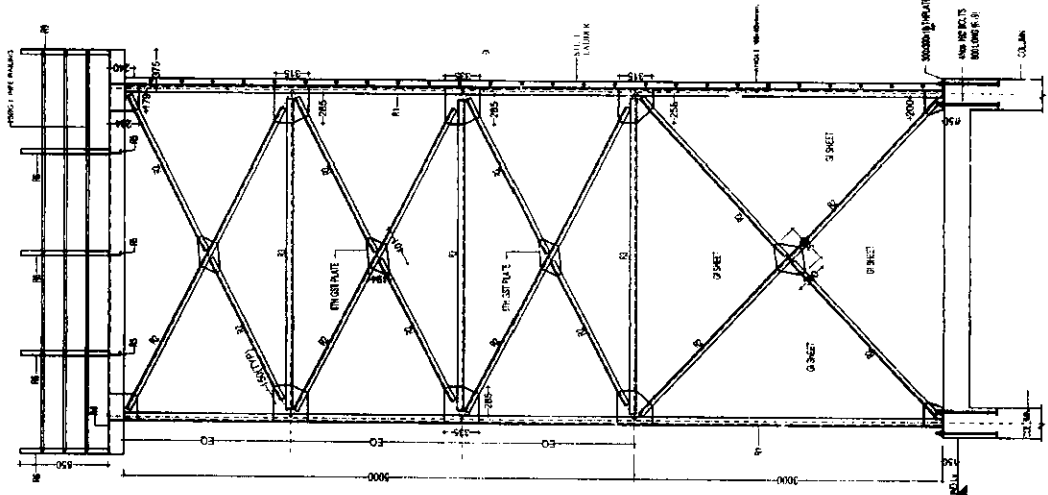
AT LEVEL 8m ABOVE ROOF SLAB OF ATTENDANT ROOM



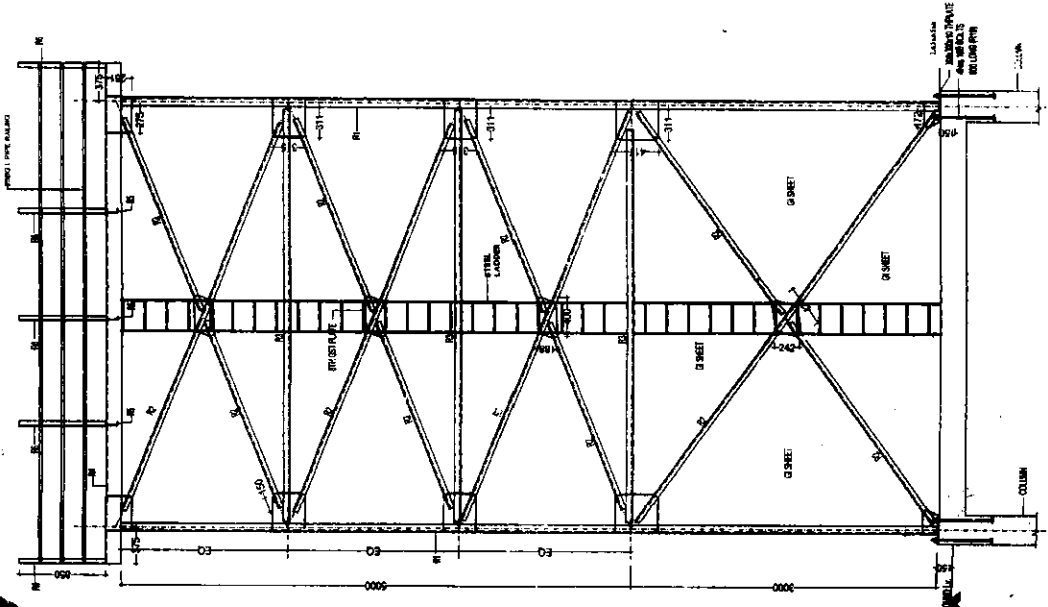
AT LEVEL 3m ABOVE ROOF SLAB OF ATTENDANT ROOM



DETAILS OF BASE PLATE



SECTION J-1 (SHOWING BRACING OF COLUMNS)



SECTION J-2 (SHOWING BRACING OF COLUMNS)

SCON PVT LTD  
 Structural Design Consultants  
 House No. 1271, Bopale Temple  
 South Subhashapur, Patna-1  
 23/03/12

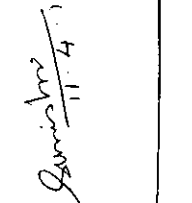
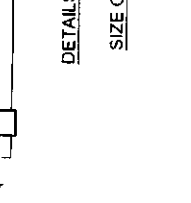
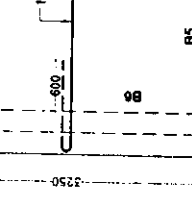
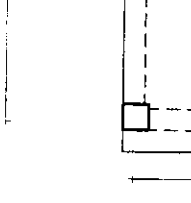
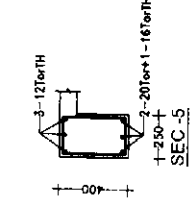
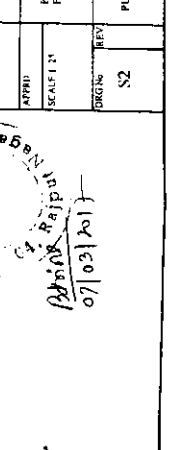
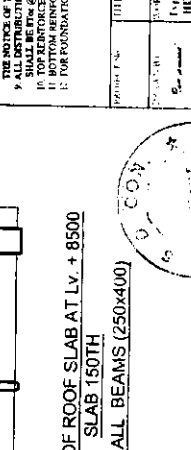
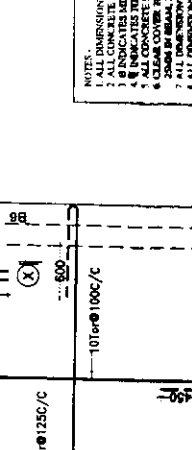
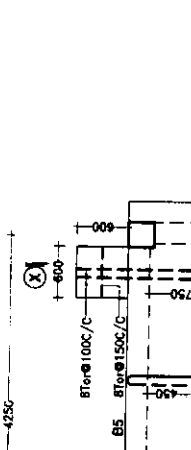
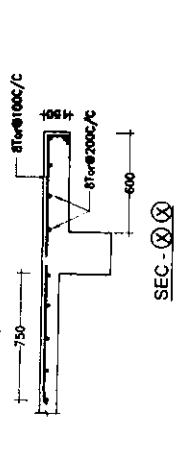
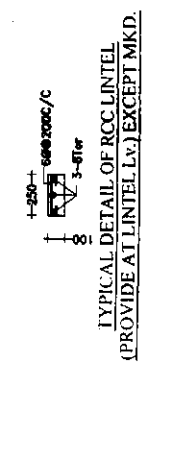
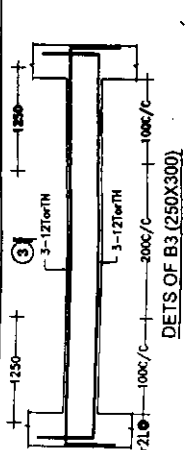
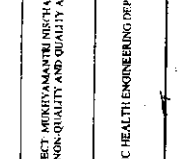
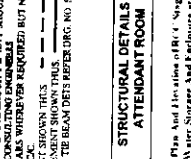
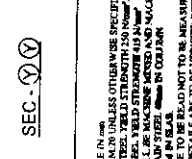
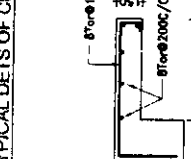
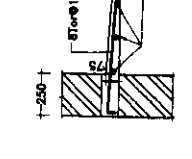
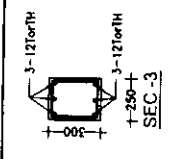
REVISION	DATE	PARTICULARS	DRAWN	CHECKED	APPROVED

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PROJECT NO. - STRUCTURAL CAPACITY PVC TANK  
 TITLE - 10000litre CAPACITY PVC TANK  
 WORK - Structural Design and Execution of steel tower for HOPE Water Storage And Exhibition at B.P. in the REPUBLICAN Field Etc.  
 CLIENT - PROJECT MANAGER/ANAND KUMAR SHARMA FOR HIGH QUALITY AND QUALITY ASSURED WORK.  
 ARCHITECT - PUBLIC HEALTH ENGINEERING DEPARTMENT, BHAR  
 SCALE - 1:50  
 DATE - 1:25  
 PROJ. NO. - S-1  
 SCON PRIVATE LIMITED  
 STRUCTURAL CONSULTANTS, CIVIL ENGINEERS  
 HOUSE NO. 1271, BOPALE TEMPLE  
 SOUTH SUBHASHAPUR, PATNA-1  
 CONTACT: 98550-81828

1.1.10.11.7  
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TYPICAL DETAILS OF CHAJJA

TYPICAL DETAIL OF RCC LINTEL  
(PROVIDE AT LINTEL LV, EXCEPT MKD.)

DETAILS OF ROOF SLAB AT LV. + 8500  
SLAB 150TH  
SIZE OF ALL BEAMS (250x400)

DETAILS OF BRACING AT LV. + 6175  
SIZE OF ALL BRACING BEAMS (250x300)

- NOTES:
1. ALL DIMENSIONS ARE IN MM.
  2. ALL DIMENSIONS ARE IN MM.
  3. 8 INDICATES 8mm STEEL STRUTTING AS REQUIRED.
  4. 8 INDICATES 8mm STEEL YIELD STRENGTH 250 N/mm<sup>2</sup>.
  5. 8 INDICATES 8mm STEEL YIELD STRENGTH 250 N/mm<sup>2</sup>.
  6. CLEAR COVER TO ALL REINFORCEMENT SHALL BE AS PER IS 456.
  7. ALL DIMENSIONS ARE TO BE MEASURED FROM THE CENTER LINE OF THE BEAM UNLESS OTHERWISE SPECIFIED.
  8. ALL DIMENSIONS ARE TO BE MEASURED FROM THE CENTER LINE OF THE BEAM UNLESS OTHERWISE SPECIFIED.
  9. ALL DIMENSIONS ARE TO BE MEASURED FROM THE CENTER LINE OF THE BEAM UNLESS OTHERWISE SPECIFIED.
  10. TOP REINFORCEMENT SHOWN THIS WAY IS TO BE PROVIDED AT ALL CORNERS AND AT ALL JOINTS.
  11. BOTTOM REINFORCEMENT SHOWN THIS WAY IS TO BE PROVIDED AT ALL CORNERS AND AT ALL JOINTS.
  12. FOR FOUNDATION & TB BEAM DETS REFER DRG. NO. S1.



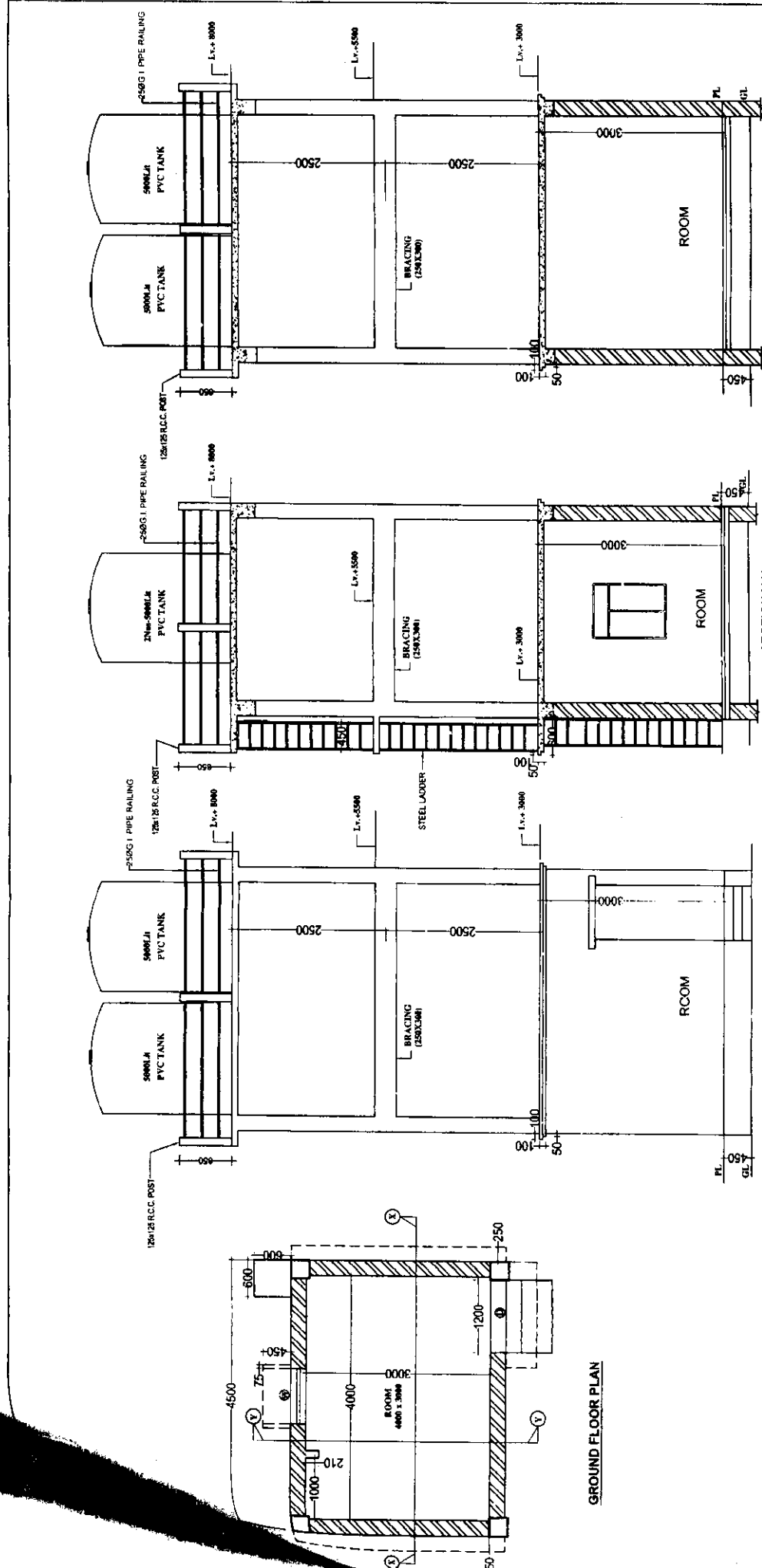
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PROJECT	PROJECT MUKTIVAMANTI NICHAYAYANA FOR NON-QUALITY AND QUALITY AFFECTED AREA
SCALE	1:1
DATE	07/03/2017
REV	S2
DEPARTMENT	PUBLIC HEALTH ENGINEERING DEPARTMENT, BHUBANESWAR, ODISHA, INDIA



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NOTES:  
1. ALL DIMENSIONS ARE IN mm

PROJECT No.	FILE	ARCHITECTURAL DETAILS OF ATTENDANT ROOM
DRAWN BY	WORK	Typical Plan And Elevation of RCC Stairing With Overhead HDPE Water Storage And Enclosure at FF to House IRP/Switch Panel Etc.
APP'D	SCALE 1:20	PROJECT MEMORANDUM/STRUCTURAL DRAWING FOR NON-QUALITY AND QUALITY AFFECTED AREA
DWG No.	REV	PUBLIC HEALTH ENGINEERING DEPARTMENT, BIHAR
A1		

SCHEDULE OF DOORS & WINDOWS	
TYPE	SIZE
D	900X2100
W	900X1200
V	450X450

SCON PVT LTD  
Structure Design Consultants  
House No-12711 Beside Temple  
South Srikshapur, Patna-1

10/01/21  
Jain 11.4.1

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ch. - 11