

**Detailed Project Report:
Sadulshahar
Part B: Costing and
Estimations**

Contents

1. Abstract Cost for FSM Project in Sadulsahar	3
2. Annexure I- Abstract Cost for the FSTP.....	4
3. Annexure II - Abstract Cost for the Cesspool Vehicle	5
4. Annexure III – O&M costing.....	6
5. Annexure IV – Revenue Generation for Sadulsahar Nagarpalika	7
6. Annexure V - Operation and Maintenance Cost for the FSTP	7
7. Annexure VI - 10 Year Cash Flow – SFC Grants.....	10
8. Bill of Quantities.....	13

1. Abstract Cost for FSM Project in Sadulsahar

Abstract Costing for FSM Project/interventions in Sadulsahar		
SI No	Description	Actual cost in INR
1	Faecal Sludge Treatment Plant(FSTP) - CAPEX	₹ 15,200,711
2	Cesspool Vehicle(3500 Lts) - CAPEX	₹ 2,124,000
3A	Faecal Sludge Treatment Plant(FSTP) - Operations and maintenance per year	₹ 1,017,695
3 B	Faecal Sludge Treatment Plant(FSTP) - Operations and maintenance for 10 years	₹ 10,176,950
4A	Cesspool Vehicle - Operations and maintenance per year	₹ 1,084,443
4 B	Cesspool Vehicle - Operations and Maintenance for 10 years	₹ 10,844,430
	Total Project Cost	₹ 38,346,091

2. Annexure I- Abstract Cost for the FSTP

Abstract Costing for FSTP			
Sl No	Description	Nos	Actual cost in INR
A	Treatment modules		
1	Screening Chamber	12	₹ 268,956
2	Planted Drying Bed	12	₹ 5,756,317
3	Integrated settler and anaerobic filter	1	₹ 314,974
4	Planted Gravel Filter	1	₹ 272,357
5	Polishing pond	1	₹ 375,480
	Total A		₹ 6,988,084
C	Other civil, mechanical and electrical works		
1	Flexible Pavement		₹ 1,659,955
2	Operator's room		₹ 400,591
3	Sludge storage yard		₹ 314,098
4	Ramp work		₹ 302,120
5	Compound wall		₹ 964,374
6	Registers		₹ 20,343
7	Additional works: water supply, electrical etc.		₹ 935,947
8	Landscaping		₹ 447,345
9	Tools requirement for O&M		₹ 31,200
	Total B		₹ 5,075,972
	Total (A+B)		₹ 12,064,056
	Contingencies and unforeseen charges (5% of A+B)=C		₹ 603,203
	Sub Total(A+B+C)		₹ 12,667,259
	Work charge establishment (2%)		₹ 253,345

	Taxes as applicable (assuming 18%)		₹ 2,280,107
	Total Cost for FSTP		₹ 15,200,711

3. Annexure II - Abstract Cost for the Cesspool Vehicle

Abstract Costing for Cesspool vehicle			
SI No	Description	Nos	Actual cost in INR
	Procurement of Cesspool Vehicle(3500 Lts)		₹ 1,800,000
	Taxes as applicable(assuming 18%)		₹ 324,000
	Total cost for Cesspool Vehicle(3500 Lts)		₹ 2,124,000

4. Annexure III – O&M costing

Operations and Maintenance for FSTP and Cesspool vehicle in Sadulsahar										
Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Cesspool Truck - Operations and Maintenance	₹ 1,056,000	₹ 1,081,800	₹ 1,108,890	₹ 1,137,335	₹ 1,167,201	₹ 658,561	₹ 691,489	₹ 726,064	₹ 762,367	₹ 800,485
Taxes as applicable (assuming 18%)	₹ 190,080	₹ 194,724	₹ 199,600	₹ 204,720	₹ 210,096	₹ 118,541	₹ 124,468	₹ 130,691	₹ 137,226	₹ 144,087
Part A - Cesspool truck O&M	₹ 1,246,080	₹ 1,276,524	₹ 1,308,490	₹ 1,342,055	₹ 1,377,297	₹ 777,102	₹ 815,957	₹ 856,755	₹ 899,593	₹ 944,573
FSTP operations and maintenance	₹ 739,913	₹ 772,409	₹ 806,529	₹ 842,356	₹ 879,973	₹ 829,472	₹ 870,946	₹ 914,493	₹ 960,217	₹ 1,008,228
Taxes as applicable (assuming 18%)	₹ 133,184	₹ 139,034	₹ 145,175	₹ 151,624	₹ 158,395	₹ 149,305	₹ 156,770	₹ 164,609	₹ 172,839	₹ 181,481
Part B - FSTP O&M	₹ 873,097	₹ 911,442	₹ 951,704	₹ 993,980	₹ 1,038,369	₹ 978,777	₹ 1,027,716	₹ 1,079,102	₹ 1,133,057	₹ 1,189,709
Average O&M - Cesspool - 1 Year	1,084,443									
Average O&M - FSTP - 1	1,017,695									

Year										
------	--	--	--	--	--	--	--	--	--	--

5. Annexure IV – Revenue Generation for Sadulsahar Nagarpalika

Particulars of Revenue Generation by ULB	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Income from desludging	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000	₹ 600,000
Sale of End Products	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000	₹ 270,000
Taxes collected from households						₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000

6. Annexure V - Operation and Maintenance Cost for the FSTP

O&M costing Sadulshaher - PDB, 6 KLD									
S.no	Particulars	Specifications	Unit	Number of units	Reference	Unit rate in Rs.	Amount	Remarks	Amount per annum
A	Operational cost								
1	Operator	Semi-skilled manpower to guide discharge of FS into the treatment plant and carry out the required operational activities as suggested in the	Man days	300	RUIDP, SOR 2017. Basic rates, Labour, #247	₹ 500	₹ 150,000	Every year	₹ 150,000

		DPR							
2	PDB sludge removal	Removal of mature sludge from the PDB after maturation period and disposal using appropriate arrangement as directed by ULB engineer	Cubic metre	336	RUIDP, SOR 2017, #4.10.1.1	₹ 164	₹ 55,104	Every year starting from Year 2	₹ 55,104
3	Guard	Security for the treatment plant	Man days	365	RUIDP, SOR 2017. Basic rates, Labour, #234	₹ 350	₹ 127,750	Every year	₹ 127,750
4	Electricity charges	1- 2HP pump, 1- 1 HP pump, 1 - 75 watts fan, 4 Tubelights - 60 watts. 1 - 5 HP borewell	KwH	3310	JVVNL, rates	₹ 6	₹ 18,205	Every year	₹ 18,205
5	Safety equipments	All materials as specified in the DPR	Refer DPR				₹ 31,000	Every year	₹ 31,000
6	Maintain plants in drying bed, landscaping and PGF	Mali for trimming and Deweeding of plants	Man days	120	RUIDP, SOR 2017. Basic rates, Labour, #234	₹ 350	₹ 42,000	Every year	₹ 42,000
7	Testing of treated water	Testing of treated water for specifications as prescribed by Rajasthan staterd pollution control board	Per sample	12	RUIDP, SOR 2017, 5.6	₹ 6,240	₹ 74,880	Every year	₹ 74,880
B	Maintenance cost								

1	Replacement of filter materials - PDB	Removal of all filter materials and replacement with new filter media as per specifications provided in the design	Cubic metre	302		₹ 1,000	₹ 302,400	Once in 4 years	₹ 75,600
2	Replacement of filter material in PGF	Removal of all filter materials and replacement with new filter media as per specifications provided in the design	Cubic metre	7		₹ 1,000	₹ 6,720	Once in 2 years	₹ 3,360
3	Desludging of settled solids from settler and AF		Cubic metre	4	RUIDP SOR 2017, 4.24	₹ 254	₹ 914	once in 2 years	₹ 457
4	Desilting of polishing pond		Cubic metre	2	RUIDP SOR 2017, 4.23	₹ 237	₹ 474	once every year	₹ 474
5	Replacement of screen in screen chamber		per screen	12	BOQ	₹ 2,000	₹ 24,000	Once in 2 years	₹ 12,000
C	Incidental and Misc. cost	10% of total O&M cost							₹ 59,083
	Total O&M cost per annum								₹ 649,913

7. Annexure VI - 10 Year Cash Flow – SFC Grants

10 Year Cash Flow - SFC Grants												
			1	2	3	4	5	6	7	8	9	10
	Particulars	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Out Flows	Capex: 6 KLD treatment plant and Cesspool vehicle	₹ 17,324,711										
	Cesspool operation		₹ 516,000	₹ 541,800	₹ 568,890	₹ 597,335	₹ 627,201	₹ 658,561	₹ 691,489	₹ 726,064	₹ 762,367	₹ 800,485
	Treatment plant operations		₹ 649,913	₹ 682,409	₹ 716,529	₹ 752,356	₹ 789,973	₹ 829,472	₹ 870,946	₹ 914,493	₹ 960,217	₹ 1,008,228
	Subsidy - Households desludging		₹ 540,000	₹ 540,000	₹ 540,000	₹ 540,000	₹ 540,000					
	Subsidy - Tipping fee for desludging operators		₹ 90,000	₹ 90,000	₹ 90,000	₹ 90,000	₹ 90,000					
	Cesspool Truck operations and maintenance		₹ 1,056,000	₹ 1,081,800	₹ 1,108,890	₹ 1,137,335	₹ 1,167,201	₹ 658,561	₹ 691,489	₹ 726,064	₹ 762,367	₹ 800,485
	FSTP operations and		₹ 739,913	₹ 772,409	₹ 806,529	₹ 842,356	₹ 879,973	₹ 829,472	₹ 870,946	₹ 914,493	₹ 960,217	₹ 1,008,228

	maintenance											
	Net Outflow	₹ 17,324,711	₹ 1,795,913	₹ 1,854,209	₹ 1,915,419	₹ 1,979,690	₹ 2,047,175	₹ 1,488,033	₹ 1,562,435	₹ 1,640,557	₹ 1,722,585	₹ 1,808,714
Inflow	Income from Renting of trucks		₹ 120,000	₹ 120,000	₹ 120,000	₹ 120,000	₹ 120,000	₹ 150,000	₹ 150,000	₹ 150,000	₹ 150,000	₹ 150,000
	Taxes collected from households							₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000
	ULB deficit	₹ 17,324,711	₹ 1,675,913	₹ 1,734,209	₹ 1,795,419	₹ 1,859,690	₹ 1,927,175	₹ 1,338,033	₹ 1,412,435	₹ 1,490,557	₹ 1,572,585	₹ 1,658,714
	FSTP Depreciation fund							₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000	₹ 648,000
	Grant from SFC	₹ 17,324,711	₹ 1,675,913	₹ 1,734,209	₹ 1,795,419	₹ 1,859,690	₹ 1,927,175	₹ 1,338,033	₹ 1,412,435	₹ 1,490,557	₹ 1,572,585	₹ 1,658,714
	Net Present Value of SFC Grants for 10 years @5%	₹ 30,767,995										

Assumptions:

- Inflation Rate = 5%
- Calculation of the present value has been done considering a discount rate of 5%

1. Subsidy from ULB for HH

- Subsidy from ULB for HH = Rs. 500 / HH
- Total Subsidy = No. of HHs * Rs. 500 = Rs. 5,40,000

2. Subsidy from ULB for Truck Operators

- Subsidy from ULB for Truck Operators = Rs. 150/load
- Total Subsidy = No. of loads * Rs. 150 = Rs. 90,000

3. Income for renting of trucks

- Rent to be paid by the truck operator/month = Rs. 10,000

Total Rent obtained by the ULB= $12 * 10,000 = \text{Rs. } 1,20,000$

8. Bill of Quantities

1. Cost Estimate For Construction Of Screening Chamber

Cost estimate for construction of screening chamber											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr		Rs	Rs
A		Rate for Earthwork- Excavation									
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Excavation	cum	1	1	3.44	1.020	0.710	2.49		
			cum						2.49	116.00	₹ 289
c		Refilling filling with excavated earth									

	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavation	cum						2.49		
		Deduct PCC for long wall footing	cum	1	-	2.88	0.66	0.150	(0.29)		
		Deduct PCC for short wall footing	cum	1	-	0.58	0.66	0.150	(0.11)		
		Deduct SBM masonry for long wall	cum	1	-	2.68	0.46	0.460	(0.57)		
		Deduct SBM masonry for short wall	cum	1	-	0.68	0.46	0.460	(0.29)		
		Total	cum						1.24	98.00	₹ 121
B		Stone Soling									
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		Rubble soling bed	cum	1	1	1.93	0.78	0.200	0.30		
		Total	cum						0.30	1,360.00	₹ 408
C		Plain Cement Concrete									

1	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size).									
		PCC for long wall footing	cum	1	1	2.88	0.66	0.150	0.29		
		PCC for short wall footing	cum	1	2	0.58	0.66	0.150	0.11		
		PCC bed	cum	1	1	2.04	0.84	0.200	0.34		
		TOTAL C	cum						0.74	3,670.00	₹ 2,726
D		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto Plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		RCC bend	cum	1	2	4.12	0.20	0.150	0.25		
		RCC slab	cum	1	1	2.44	1.02	0.075	0.19		
			cum						0.43	5,030.00	₹ 2,182

E		Reinforcement								
	RUIDP 2017, item no 23.19(page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.								
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.								
		steel @ 125kg/cum	kg	1	1	125.00	0.43		54.23	
		Total reinforcement	kg						54.23	
			MT						0.05	51,500.00
										₹ 2,793
F		Centering/ Shuttering								
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :								
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete								
		PCC side shuttering of footing for long wall (outer side)	sqm	1	1	2.88		0.050	0.14	
		PCC side shuttering of footing for long wall (inner side)	sqm	1	1	1.56		0.050	0.08	

		PCC side shuttering of footing for short wall	sqm	1	2	1.29		0.050	0.13		
		PCC side shuttering of footing for short wall (inner side)	sqm	1	2	0.63		0.050	0.06		
			sqm						0.41	162.00	₹ 67
G		BRICK WORK									
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									
	RUIDP SOR 2017, item no 24.5.1(page 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Screening chamber long wall footing(1st layer)	cum	1	1	2.68	0.46	0.46	0.57		
		Screening chamber short wall footing(1st layer)	cum	1	2	0.68	0.46	0.46	0.29		
		Screening chamber long wall footing(2nd layer)	cum	1	1	2.56	0.34	0.53	0.46		
		Screening chamber short wall footing(2nd layer)	cum	1	2	0.74	0.34	0.53	0.26		
		Screening chamber long wall footing(3rd layer)	cum	1	1	2.44	0.22	0.72	0.39		
		Screening chamber short wall footing(3rd layer)	cum	1	2	0.80	0.22	0.72	0.25		
			cum						2.22	4500	₹ 9,972
H		Plastering with mortar, 1:4									

	RUIDP SOR 2017, item no 32.3(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :									
	RUIDP SOR 2017, item no 32.3.2(page 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		Internal walls at PDB									
		Screening Chamber									
		Long wall	Sqm	2	1	2.04		0.80	3.26		
		Short wall	Sqm	2	1	0.80		0.80	1.28		
		Screening chamber Bottom	sqm	1	1	2.00	0.80		1.60		
			sqm						6.14	210	₹ 1,290
I		Waste water pipes									
	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.									

	RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipe with rubber ring (Working pressure 6 kg/cm ²)as per IS: 4985	m	1	1	0.45			0.45	440.00	₹ 198
	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipe with rubber ring (Working pressure 6 kg/cm ²)as per IS: 4985	m	1	1	3.21			3.21	210.00	₹ 674
J	RUIDP SOR 2017, Item no. 39.35. Pg - 266	Wrought iron and mild steel welded work) (using angles, square bars, tees and channel grills, grating frames, gates and tree guards of any size and design etc. including cost of screens and welding rods or bolts and nuts complete fixed in position but without the cost of excavation and concrete for fixing which will be paid separately.									
a		Weld grill with vertical sloping 5 mm thick bar placed at a distance of 3 cms and dimensions of 700 mm x 600 mm	quint al	1	1	0.25			0.250	6,770.00	₹ 1,693
Total for one screen chamber											₹ 22,413
TOTAL COST OF 12 screening chambers											₹ 268,955.56

2. Cost Estimate for Construction of Planted Drying Bed

Cost estimate for construction of Planted Drying Bed										
Sl.no.	Item No	Description	Unit	Nos	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr		Rs	Rs
A		Rate for Earthwork- Excavation								
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).								
b	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth								
		PDB excavation	cu m	1	1	40.38	8.680	1.276	447.24	
		Register excavation	cu m	1	6	3.64	1.12	0.400	9.78	
			cu m						457.02	116.00
										₹ 53,014
c		Refilling filling with excavated earth								
	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.								

		Excavation	cu m						457.02		
		Deduct PCC for long wall footing	cu m	1	-2	39.6 8	1.40	0.100	(11.11)		
		Deduct PCC for short wall footing	cu m	1	-7	4.98	1.40	0.100	(4.88)		
		Deduct RCC footing for long wall	cu m	1	-2	39.4 8	1.20	0.375	(35.53)		
		Deduct RCC footing for short wall	cu m	1	-7	5.18	1.20	0.375	(16.32)		
		Deduct PCC for column footing	cu m	1	-6	2.10	1.10	0.100	(1.39)		
		Deduct RCC for column footing	cu m	1	- 1 2	0.90	0.90	0.300	(2.92)		
		Deduct long wall upto EGL	cu m	1	-2	38.3 8	0.30	0.800	(18.42)		
		Deduct short wall upto EGL	cu m	1	-7	6.08	0.30	0.800	(10.21)		
		Deduct columns supporting PDB inlet	cu m	1	- 1 2	0.30	0.30	0.875	(0.95)		
		Rubble soling bed	cu m	1	-6	6.04	6.04	0.300	(65.67)		
		Deduct columns at rubble soling	cu m	1	- 1 2	0.30	0.30	0.300	(0.32)		
		Deduct PCC bed	cu m	1	-6	6.04	6.04	0.100	(21.89)		
		Deduct columns at PCC bed	cu m	1	- 1 2	0.30	0.30	0.100	(0.11)		
		Deduct rubble soling at registrar	cu m	1	-6	1.84	1.22	0.300	(4.04)		

		Deduct PCC at registrar	cu m	1	-6	1.64	1.12	0.100	(1.10)		
		Total	cu m						262.17	98.00	₹ 25,692
B		Stone Soling									
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		Rubble soling bed	cu m	1	6	6.04	6.04	0.300	65.67		
		Deduct columns at rubble soling	cu m	1	- 1 2	0.30	0.30	0.300	(0.32)		
		Rubble soling at registrar	cu m	1	6	1.84	1.22	0.300	4.04		
		Total	cu m						69.38	1,360.0 0	₹ 94,362
C		Plain Cement Concrete									
1	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 Fine/coarse sand : 6 graded stone aggregate 40 mm nominal size).									

		PCC for long wall footing	cu m	1	2	39.6 8	1.40	0.100	11.11		
		PCC for short wall footing	cu m	1	7	4.98	1.40	0.100	4.88		
		PCC bed	cu m	1	6	6.04	6.04	0.100	21.89		
		Deduct columns at PCC bed	cu m	1	- 1 2	0.30	0.30	0.100	(0.11)		
		PCC at registrar	cu m	1	6	1.64	1.12	0.100	1.10		
		PCC at slope in PDB	cu m	1	6	6.04	6.04	0.138	30.10		
		Deduct columns at PCC bed	cu m	1	- 1 2	0.30	0.30	0.138	(0.15)		
		TOTAL C	cu m						68.82	3,670.0 0	₹ 252,579
		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		RCC footing for long wall	cu m	1	2	39.4 8	1.20	0.375	35.53		

		RCC footing for short wall	cu m	1	7	5.18	1.20	0.375	16.32		
		RCC for column footing	cu m	1	1 2	0.90	0.90	0.300	2.92		
		long wall of PDB	cu m	1	2	38.3 8	0.30	2.675	61.60		
		short wall of PDB	cu m	1	7	6.08	0.30	2.675	34.15		
		Columns to support PDB inlet	cu m	1	1 2	0.30	0.30 0	2.750	2.97		
		Registers cover slab	cu m	1	1 2	1.68	1.12 0	0.050	1.13		
			cu m						154.62	5,030.0 0	₹ 777,730
		Reinforcement									
	RUIDP 2017, item no 23.19(pag e 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.									
	RUIDP 2017, item no 23.19.6(p age 157)	Thermo-Mechanically Treated bars.									
		Footing @ 125kg/cum	kg	1	1	125. 00	54.7 7		6,845.6 3		
		walls @ 125kg/cum	kg	1	1	125. 00	95.7 5		11,969. 29		

		Columns @ 125kg/cum	kg	1	1	125.00	2.97		371.25		
		Registers cover slab @125kg/cum	kg	1	1	125.00	1.13		141.12		
		Total reinforcement	kg						19,327.28		
			M T						19.33	51,500.00	₹ 995,355
		Centering/ Shuttering									
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :									
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		side shuttering of footing for long wall (outer side)	sq m	1	2	39.48		0.375	29.61		
		side shuttering of footing for long wall (inner side)	sq m	1	2	31.08		0.375	23.31		
		side shuttering of footing for external short wall (inner side)	sq m	1	2	5.18		0.375	3.89		
		side shuttering of footing for external short wall (outer side)	sq m	1	2	7.58		0.375	5.69		

		side shuttering of footing for internal short wall	sq m	2	5	5.18		0.375	19.43		
		side shuttering of Column footing	sq m	2	1 2	0.90		0.300	6.48		
			sq m	2	1 2		0.90 0	0.300	6.48		
		side shuttering for PCC long wall footing(outer side)	sq m	1	2	39.6 8		0.100	7.94		
		side shuttering for PCC long wall footing(inner side)	sq m	1	2	29.8 8		0.100	5.98		
		side shuttering for PCC external short wall footing(inner side)	sq m	1	2	4.98		0.100	1.00		
		side shuttering for PCC external short wall footing(outer side)	sq m	1	2	7.78		0.100	1.56		
		side shuttering for PCC internal short wall footing	sq m	2	5	4.98		0.100	4.98		
		PCC at registrar(long side)	sq m	1	6	1.64		0.100	0.98		
		PCC at registrar(shorter side)	sq m	2	6		1.12	0.100	1.34		
			sq m						118.65	162.00	₹ 19,221
	RUIDP SOR 2017, item no 22.1.2 (page 154)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc									
		External long wall shuttering (outer side)	sq m	1	2	38.3 8		2.675	205.33		

		External long wall shuttering (inner side)	sq m	1	2	36.2 8		2.675	194.10		
		External short wall shuttering (inner side)	sq m	1	2	6.08		2.675	32.53		
		External short wall shuttering (outer side)	sq m	1	2	6.68		2.675	35.74		
		Internal short wall shuttering	sq m	2	5	6.08		2.675	162.64		
			sq m						630.34	240.00	₹ 151,281
	RUIDP SOR 2017, item no 22.1.6 (page 154)	Columns, Pillars, Piers, Abutments, Posts and Struts.									
			sq m	2	8	0.30		2.750	13.20		
			sq m	2	8		0.30 0	2.750	13.20		
			sq m						26.40	254.00	₹ 6,706
D		BRICK WORK									
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									

	RUIDP SOR 2017, item no 24.5.1(pa ge 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		PDB long wall near screening chamber	cu m	1	2	38.3 8	0.30	0.80	18.42		
		PDB long wall near registrar	cu m	1	2	38.3 8	0.30	0.45	10.36		
		PDB short wall	cu m	1	7	6.08	0.30	0.45	5.75		
		Registrar long wall	cu m	1	6	1.64	0.30	1.00	2.95		
		Registrar short wall	cu m	2	6	0.82	0.30	1.00	2.95		
			cu m						40.43	4500	₹ 181,956
E		Plastering with mortar, 1:4									
	RUIDP SOR 2017, item no 32.3(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :									
	RUIDP SOR 2017, item no 32.3.2(pa ge 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		Internal walls at PDB									
		PDB long wall near screening chamber	sq m	1	1	25.3 0		2.22	56.04		

		PDB long wall near registrar	sq m	1	1	25.3 0		2.22	56.04		
		PDB short walls	sq m	2	6	6.34		2.18	165.85		
		PDB Bottom	sq m	1	6	6.00 0	6.00		216.00		
		Register									
		Long wall	Sq m	2	6	1.04		1.00	12.48		
		Short wall	Sq m	2	6	0.80		1.00	9.60		
		Regitar Bottom	sq m	1	6	1.00	0.80		4.80		
		Screening Chamber									
		Long wall	Sq m	2	6	2.04		0.80	19.58		
		Short wall	Sq m	2	6	0.80		0.80	7.68		
		Screening chamber Bottom	sq m	1	6	2.00	0.80		9.60		
		Total	sq m						557.68	210.00	₹ 117,112
F		Waste water pipes									
	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer.									

Note: E/w to be measured and paid separately.										
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipe with rubber ring (Working pressure 6 kg/cm ²) as per IS: 4985	m	2	6	0.51			6.12	210.00	₹ 1,285
RUIDP SOR 2017, Item no. 2002. Pg - 514	110 mm dia U-PVC double/ single socketed 90 degree bend(class III, 6kg/sqcm) confirming to IS:7834	ea ch	1	1	4			4.00	378.00	₹ 1,512
RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (Class III, 6kg/sqcm) confirming to IS:7834	m	1	1	4			4.00	559.00	₹ 2,236
RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipe with rubber ring (Working pressure 6 kg/cm ²) as per IS: 4985	m	1	4	7.7			30.80	440.00	₹ 13,552
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipe with rubber ring (Working pressure 6 kg/cm ²) as per IS: 4985	m	4	6	2.22			53.28	210.00	₹ 11,189
RUIDP SOR 2017, item 0875, pg- 487	Slotted cowl (terminal guard) 100 mm dia conforming to I.S. 1729	ea ch	1	6	4			24.00	200.00	₹ 4,800

	RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	5	5.45			27.25	440.00	₹ 11,990
	RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	12			12.00	440.00	₹ 5,280
	RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	12			12.00	440.00	₹ 5,280
G		Aggregate									
i	RUIDP SOR 2017, item no 2804 (page 531)	Stone Aggregate (Single size) : 20 mm nominal size	cu m	1	6	6.00	6.00	0.165	35.64	770.00	₹ 27,443
ii	RUIDP SOR 2017, item no 2830 (page 532)	Aggregates 25 mm to 10 mm	cu m	1	6	6.00	6.00	0.150	32.40	700.00	₹ 22,680

iii	RUIDP SOR 2017, item no 2821 (page 531)	Aggregates 10 mm to 5 mm (Required stone Aggregates 6 mm to 8 mm)	cu m	1	6	6.00	6.00	0.100	21.60	630.00	₹ 13,608
iv	RUIDP SOR 2017, item no 2873 (page 532)	Coarse Sand	cu m	1	6	6.00	6.00	0.300	64.80	900.00	₹ 58,320
H		Plants									
	RUIDP SOR 2017, item no 39.41 (page 266)	Supply and planting following in poly bags / earthen pots well branched, well established & free from disease of 300 mm min. height ground covers at site in 0.3 m dia holes, 0.3 m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, backfilling the hole watering etc as required.									
	RUIDP SOR 2017, item no 39.41.7 (page 267)	Rhoeo spathacea 'Compacta' (Oyster, Boat Lily)	Sq m	1	6	6.00	6.00		216.00	111.00	₹ 23,976
											₹ 2,878,158
TOTAL COST OF 2 SET OF PLANTED DRYING BEDS											₹ 5,756,316.65

3. Cost Estimate For Measurement of Integrated Settler and AF

Measurement sheet of Integrated Settler and AF										
Sl.no.	Item No	Description	Unit	No s	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr			
A		Rate for Earthwork- Excavation								
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).								
i	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth	cu m	1	9.15	3.94	2.85	102.57		
		Registrar	cu m	1	1.96	2.26	0.64	2.83		
		Total for excavation	cu m					105.40	116.00	₹ 12,226
b		Refilling with excavated earth								

	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.								
		Excavated earth upto FGL	cu m	1	9.15	3.94	2.32	83.64		
		Deduct rubble soling below PCC bed	cu m	-1	6.91	2.44	0.10	(1.69)		
		Deduct PCC	cu m	-1	6.91	2.44	0.10	(1.69)		
		Deduct PCC for distribution chamber	cu m	-1	2.44	0.99	0.10	(0.24)		
		Deduct RCC Base Slab	cu m	-1	6.71	2.24	0.23	(3.38)		
		Deduct RCC Base Slab for distribution chamber	cu m	-1	2.24	0.89	0.23	(0.45)		
		Deduct the settler & AF module upto FGL	cu m	-1	6.41	1.94	1.85	(22.94)		
		Deduct Registrar module	cu m	-1	1.46	1.26	0.64	(1.18)		
		Total refilling	cu m					52.07	98.00	₹ 5,103
		Removal of Excess earth	cu m					53.33		
B		Plain Cement Concrete (P.C.C), 1:3:6								

1	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :								
	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).								
		PCC for integrated settler and AF	cu m	1	6.91	2.44	0.10	1.69		
		PCC for distribution chamber	cu m	1	2.44	0.99	0.10	0.24		
		PCC for registrar	cu m	1	1.66	1.46	0.10	0.24		
		TOTAL B	cu m					2.17	3,750.00	₹ 8,137
C		Stone Soling								
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.								
		Rubble soling below PCC bed	cu m	1	6.91	2.44	0.10	1.69		
		Soling for Registrar	cu m	1	1.86	1.66	0.10	0.31		
			cu m					1.99	1,360.00	₹ 2,713
D		Reinforced Cement Concrete (R.C.C), M25								

1	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level								
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)								
		Base slab	CU m	1	6.71	2.24	0.23	3.38		
		Base slab for distribution chamber	CU m	1	2.24	0.89	0.20	0.40		
		Top slab	CU m	1	7.15	1.94	0.15	2.08		
		deduct area for manhole openings	CU m	-10	0.60	0.60	0.15	(0.54)		
		Perforated slabs	CU m	2	1.84	1.54	0.08	0.43		
		RCC wall								
		Long Wall	CU m	2	6.41	0.20	2.59	6.64		
		Short Wall	CU m	3	1.54	0.20	2.59	2.39		
		Distribution chamber long wall	CU m	1	1.94	0.20	0.81	0.31		
		Distribution chamber short wall	CU m	2	0.54	0.20	0.81	0.17		
		partition wall in ISAF	CU m	3	1.54	0.15	2.59	1.79		
		Precast slabs	CU m	10	0.60	0.60	0.08	0.27		

			cu m	1	1.46	1.26	0.05	0.09		
		Total for RCC	cu m					17.43	5030	₹ 87,654
E		Reinforcement								
	RUIDP 2017, item no 23.19(pag e 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.								
	RUIDP 2017, item no 23.19.6(p age 157)	Thermo-Mechanically Treated bars.								
		Reinforcement at 125kg/cum	kg	1	125.0 0	17.43		2,178.28		
		Total for reinforcement	KG					2,178.3		
			MT					2.18	51,500.0 0	112181.5 5
F		Centering/ Shuttering								
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :								

a	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete								
		PCC side shuttering								
		PCC for integrated settler and AF	sq m	2	6.91		0.10	1.38		
			sq m	2		2.44	0.10	0.49		
		PCC for distribution chamber	sq m	1	2.44		0.10	0.24		
			sq m	2		0.99	0.10	0.20		
		Base slab(Side)	sq m	2	6.71		0.23	3.02		
			sq m	2		2.24	0.23	1.01		
		Base slab(Side) for distribution chamber	sq m	1	2.24		0.20	0.45		
			sq m	2		0.89	0.20	0.36		
			sq m					7.14	162.00	₹ 1,157
b	RUIDP SOR 2017, item no 22.1.2 (page 154)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc								
		RCC walls								
		Long Wall	sq m	4	6.41		2.59	66.41		

		Short wall	sq m	4	1.54		2.59	15.95		
		Partition wall	sq m	6	1.54		2.59	23.93		
			sq m					106.29	240.00	₹ 25,510
c	RUIDP SOR 2017, item no 22.1.3 (page 154)	Suspended floors, roofs, landings, balconies and access platform								
i		Top slab(sides)	sq m	2	7.15		0.15	2.15		
			sq m	2		1.94	0.15	0.58		
ii		Bottom	sq m	1	6.10	1.54		9.39		
		deduct area for manhole openings	sq m	-10	0.60	0.60		(3.60)		
			sq m					8.52	287.00	₹ 2,446
G		Brick work								
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in								
	RUIDP SOR 2017, item no 24.5.1(pa ge 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)								

		supporting wall for perforated wall	cu m	6	1.840	0.150	0.300	0.50		
		Registrar	cu m	1	4.520	0.230	0.640	0.67		
		Total	cu m					1.16	4,500.00	₹ 5,230
H		Plastering with mortar, 1:4								
	RUIDP SOR 2017, item no 32.3(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :								
	RUIDP SOR 2017, item no 32.3.2(pa ge 210)	1:4 (1 cement : 4 fine/ coarse sand)								
		External plastering	sq m	1	18.18		2.740	49.81		
		Registrar	sq m	1	5.44		0.640	3.48		
		Internal plastering								
i		Settler	sq m	1	6.76		2.59	17.51		
		Partition wall in settler	sq m	2	1.50		2.59	7.77		
		Bottom of settler	sq m	1	1.80	1.50		2.70		
ii		AF	sq m	1	10.28		2.59	26.63		
		short walls in AF	sq m	2	1.54		2.59	7.98		

		Bottom of AF	sq m	1	3.60	1.54		5.54		
		Distribution chamber	sq m	1	4.08		0.81	3.30		
		Distribution chamber bottom	sq m	1	1.54	0.50		0.77		
		Registrar	sq m	1	3.60		0.64	2.30		
		Registrar bottom	sq m	1	1.00	0.80		0.80		
		Total	Sq m					128.60	210.00	₹ 27,006
I		Waste water pipes								
	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.								
a	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	0.50			0.50	210.00	₹ 105
b	RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	each	1	1.00			1.00	559.00	₹ 559

c	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	4	0.30			1.20	210.00	₹ 252
d	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	4	2.00			8.00	210.00	₹ 1,680
e	RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	each	1	4.00			4.00	559.00	₹ 2,236
f	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	8	0.30			2.40	210.00	₹ 504
g	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	8	2.00			16.00	210.00	₹ 3,360
h	RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	each	1	12.00			12.00	559.00	₹ 6,708

i	RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	each	1	4.00			4.00	559.00	₹ 2,236
j	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	4	0.80			3.20	210.00	₹ 672
k	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	0.30			0.30	210.00	₹ 63
l	RUIDP SOR 2017, Item no. 1865. Pg - 509	160 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	4	2.24			8.96	440.00	₹ 3,942
m	RUIDP SOR 2017, Item no. 1862. Pg - 510	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	2.00			2.00	210.00	₹ 420
	RUIDP SOR 2017, item 0875, pg- 487	Slotted cowl (terminal guard) 100 mm dia conforming to I.S. 172	each	1	1.00			1.00	200.00	₹ 200
J		Filter material for Anaerobic Filter								

	Quotation Attached	Providing and laying Cinders as a Filter Material In AF as per the instruction given by the site engineer in charge.								
		Filter material in AF	cu m	1	1.80	1.500	0.750	2.025		
		Quantity conversion from cum to ton @0.6Ton/cum	To n	1	0.60			1.215	2,200.00	₹ 2,673
TOTAL FOR INTEGRATED SETTLER AND ANAEROBIC FILTER										₹ 314,974

4. Cost Estimate For Planted Gravel Filter

Measurement sheet of Planted Gravel Filter											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr			
A		Rate for Earthwork- Excavation									
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Total earthwork excavation	Cu m	1	1	10.21	6.39	1.71	111.56		
		Registrar	cu m	1	1	2.46	2.26	0.84	4.67		
			cu m						116.23	116.00	₹ 13,483
b		Refilling									

	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavation upto FGL	cu m	1	1	10.2 1	6.39	1.19	77.64		
		Deduct rubble soling below PCC	cu m	1	-1	7.76	5.09	0.15	(5.92)		
			cu m	1	-1	1.15	2.00	0.15	(0.35)		
		Deduct footing PCC	cu m	1	-1	7.56	4.89	0.10	(3.70)		
			cu m	1	-1	1.15	1.80	0.10	(0.21)		
		Deduct base slab	cu m	1	-1	7.36	4.69	0.18	(6.04)		
			cu m	1	-1	1.15	1.60	0.18	(0.32)		
		Deduct module below EGL	cu m	1	-1	7.06	4.39	0.76	(23.55)		
			cu m	1	-1	1.15	1.30	0.76	(1.14)		
		Deduct Registrar module	cu m	1	-1	1.46	1.26	0.84	(1.55)		
		Total refill	cu m						34.87	98.00	₹ 3,417
		Removal of excess earth	cu m						76.70		
B		Rubble soling									

	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		Rubble soling below footing PCC	cu m	1	1	7.76	5.09	0.15	5.92		
			cu m	1	1	1.15	2.00	0.15	0.35		
		Registrar	cu m	1	1	1.86	1.66	0.10	0.31		
			cu m						6.58	1,360.00	₹ 8,947
C		Plain Cement Concrete (P.C.C), 1:3:6									
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).									
		Footing PCC	cu m	1	1	7.56	4.89	0.10	3.70		
			cu m	1	1	1.15	1.80	0.10	0.21		
		Footing above brick bat filling	cu m	1	1	2.04	0.44	0.08	0.07		
		Registrar	cu m	1	1	1.66	1.46	0.10	0.24		

		TOTAL	cu m						4.21	3,750.0 0	₹ 15,801
D		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		Base slab	cu m	1	1	7.36	4.69	0.18	6.04		
			cu m	1	1	1.15	1.60	0.18	0.32		
		Long wall	cu m	1	2	7.06	0.18	1.53	3.79		
		Short wall	cu m	1	2	4.04	0.18	1.53	2.23		
			cu m	1	1	1.00	0.18	1.53	0.27		
		precast manhole slabs	cu m	1	1	1.30	1.15	0.08	0.11		
			cu m	1	4	0.60	0.60	0.08	0.11		
		Registrar	cu m	1	1	3.30	1.59	0.18	0.92		
			cu m						13.78	5,030.0 0	₹ 69,324
E		Reinforcement									

	RUIDP 2017, item no 23.19(page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.									
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.									
		Total reinforcement @ 125kg/cum	kg	1	1	125.00	13.78		1,722.76		
			MT						1.72	51,500.00	₹ 88,722
F		Centering/ Shuttering									
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :									
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		Footing PCC	sq m	1	2	7.56		0.10	1.51		
			sq m	1	2		4.89	0.10	0.98		
			sq m	1	2	1.15		0.10	0.23		
			sq m	1	2		1.80	0.10	0.36		

		Base slab	sq m	1	2	7.36		0.18	2.58		
			sq m	1	2		4.69	0.18	1.64		
			sq m	1	2	1.15		0.18	0.40		
			sq m	1	2		1.60	0.18	0.56		
			sq m						8.26	162.00	₹ 1,338
	RUIDP SOR 2017, item no 22.1.2 (page 154)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc									
		Long wall	sq m	2	2	7.56		1.53	46.34		
		Short wall	sq m	2	2	4.04		1.53	24.77		
			sq m	2	1	1.00		1.53	3.07		
			sq m						74.17	240.00	₹ 17,802
G		BRICK WORK									
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									

	RUIDP SOR 2017, item no 24.5.1(pag e 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Short wall	cu m	1	1	4.04	0.23	1.40	1.30		
			cu m						1.30	4,500.0 0	₹ 5,833
H		Plastering with mortar, 1:4									
	RUIDP SOR 2017, item no 32.3(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :									
	RUIDP SOR 2017, item no 32.3.2(pag e 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		External plastering	sq m	1	1	21.2 4		1.53	32.55		
		Register	sq m	1	1	5.44		0.84	4.57		
		Internal plastering									
		Distribution chamber	sq m	1	2	4.04		0.88	7.07		

		Distribution chamber bottom	sq m	1	1	4.04	0.40		1.62		
		PGF	sq m	1	1	20.0 0		1.53	30.60		
		Bottom	sq m	1	1	6.00	4.00		24.00		
		PGF outlet	sq m	1	1	3.96		1.53	6.06		
		Bottom	sq m	1	1	1.00	0.98		0.98		
		register	sq m	1	1	3.60		0.84	3.02		
		Register bottom	sq m	1	1	1.00	0.80		0.80		
		TOTAL	Sq m						111.27	210.00	₹ 23,366
I		Waste Water Pipes									
	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.									
	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	2.50			2.50	210.00	₹ 525

RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.70			0.70	210.00	₹ 147
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.45			0.45	210.00	₹ 95
RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	ea ch	1	1	1.00			1.00	559.00	₹ 559
RUIDP SOR 2017, Item no. 2377 Pg - 523	Chlorinated Polyvinyl - chloride (CPVC) pipe 50 mm outer dia.	m	1	10	0.25			2.50	432.00	₹ 1,080
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	2	0.85			1.70	210.00	₹ 357
RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	ea ch	1	1	2.00			2.00	559.00	₹ 1,118

	RUIDP SOR 2017, Item no. 1865. Pg - 509	160mm dia perforated pipe	m	1	2	4.50			9.00	440.00	₹ 3,960
	RUIDP SOR 2017, item no. 2002 pg- 514	110 mm dia U-PVC double/ single socketed 90° bend (class III, 6kg/sqcm) confirming to IS:7834	ea ch	1	2	3.00			6.00	378.00	₹ 2,268
	RUIDP SOR 2017, item no. 1862 pg- 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.30			0.30	210.00	₹ 63
	RUIDP SOR 2017, item no. 1862 pg- 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.45			0.45	210.00	₹ 95
J		Filter material (Aggregate)									
i	RUIDP SOR 2017, item no 2840 (page 532)	Aggregates 90 mm to 45 mm (hand broken)									
		At center	cu m	1	1	4.00	0.60	0.60	1.44		
		At corners	cu m	1	2	4.00	0.60	0.60	2.88		
		Total	Cu m						4.32	460.00	₹ 1,987

ii	RUIDP SOR 2017, item no 2830 (page 532)	Aggregates 25 mm to 10 mm	cu m	1	2	4.00	2.07	0.45	7.45	700.00	₹ 5,216
iii	RUIDP SOR 2017, item no 2821 (page 531)	Aggregates 10 mm to 5 mm	Cu m	1	2	4.00	2.22	0.15	2.66	630.00	₹ 1,678
K	RUIDP SOR 2017, item no 3428(page 544)	Brick Bat Filling	cu m	1	1	4.00	0.44	0.45	0.78	400.00	₹ 313
L		Plants									
	RUIDP SOR 2017, item no 39.41 (page 266)	Supply and planting following in poly bags / earthen pots well branched, well established & free from disease of 300 mm min. height ground covers at site in 0.3 m dia holes, 0.3 m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, backfilling the hole watering etc as required.									
	RUIDP SOR 2017, item no 39.41.7 (page 267)	Rhoeo spathacea 'Compacta' (Oyster, Boat Lily)	Sq m	1	1	6.00	4.00		24.00	111.00	₹ 2,664
M		Valves									

	Quotation attached	Ball valves for inlet, outlets and at diversion chambers	No s	1	4				4.00	550.00	₹ 2,200
TOTAL COST OF PLANTED GRAVEL FILTER											₹ 272,357

5. Cost Estimate For Polishing Pond

Measurement sheet of Polishing Pond											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr			
A		Rate for Earthwork-Excavation									
	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
			cum	1	1	8.31	9.00	2.74	204.92		

		Total	cum						204.92	116.00	₹	23,771
		Refilling with excavated earth										
	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.										
		Excavated Earth	cum						204.92			
		Deduct PCC for 225mm thick edge wall	cum	1	-2	6.80	1.00	0.10	(1.36)			
		Deduct PCC for curved wall	cum	1	-2	6.11	1.00	0.10	(1.22)			
		Deduct PCC for toe wall	cum	1	-2	6.11	0.83	0.15	(1.51)			
		Deduct RCC base slab for 225mm thick edge wall	cum	1	-2	6.60	0.80	0.25	(2.64)			
		Deduct RCC base slab for curved wall	cum	1	-2	6.31	0.80	0.25	(2.52)			
		Deduct RCC edge wall(225mm thick)	cum	1	-2	6.00	0.23	2.39	(6.44)			
		Deduct RCC curved wall	cum	1	-2	7.00	0.20	1.45	(4.06)			
		Deduct toe wall(1st layer)	cum	1	-2	7.00	0.68	0.38	(3.54)			

		Deduct toe wall(2nd layer)	cum	1	-2	7.00	0.38	0.98	(5.12)		
		Deduct module below EGL	cum	1	-1	6.58	5.93	2.36	(92.09)		
			cum						84.42	98.00	₹ 8,273
B		Rubble Soling									
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		Rubble soling bed between RCC wall	cum	1	1	6.58	2.77	0.15	2.73		
		Rubble soling bed to support stairs	cum	1	2	7.10	2.05	0.15	4.37		
			cum						7.10	1,360.00	₹ 9,654
C		Plain Cement Concrete									
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).									
		PCC for 225mm thick edge wall	cum	1	2	6.80	1.00	0.10	1.36		
		PCC for curved wall	cum	1	2	6.11	1.00	0.10	1.22		
		PCC for toe wall	cum	1	2	6.11	0.83	0.15	1.51		
		Total PCC	Cum						4.09	3,750.00	₹ 15,349

	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 Fine/coarse sand : 6 graded stone aggregate 40 mm nominal size).									
		PCC bed between RCC wall	cum	1	1	6.58	2.77	0.10	1.82		
		PCC bed to support stairs	cum	1	1	7.10	2.05	0.10	1.46		
			cum						3.28	3,670.00	₹ 12,026
D		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		RCC base slab for 225mm thick edge wall	cum	1	2	6.60	0.80	0.25	2.64		
		RCC base slab for curved wall	cum	1	2	6.31	0.80	0.25	2.52		
		RCC edge wall(225mm thick)	cum	1	2	6.00	0.23	2.65	7.16		
		RCC curved wall	cum	1	2	7.00	0.20	1.45	4.06		
		Rcc bed above PCC	cum	1	1	6.58	2.77	0.08	1.37		
		Rcc bed above toe wall	cum	1	2	7.10	0.38	0.15	0.80		

			cum						18.54	5,030.00	₹	93,275
E		Reinforcement										
	RUIDP SOR 2017, item no 23.19 (page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.										
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.										
		Total reinforcement @ 125kg/cum	kg	1	1	125.00	18.54		2,317.97			
			MT						2.32	51,500.00	₹	119,375
F		Centering/Shuttering										
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :										

	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		PCC for 225mm thick edge wall	sqm	2	2	6.80		0.10	2.72		
			sqm	2	2		1.00	0.10	0.40		
		PCC for curved wall	sqm	2	2	6.11		0.10	2.44		
		PCC for toe wall	sqm	2	2	6.11		0.15	3.66		
			sqm	2	2		0.83	0.15	0.50		
		RCC base slab for 225mm thick edge wall	sqm	2	2	6.60		0.25	6.60		
			sqm	2			0.80	0.25	0.40		
		RCC base slab for curved wall	sqm	2	2	6.31		0.25	6.31		
			sqm						23.03	162.00	₹ 3,731
	RUIDP SOR 2017, item no 22.1.2 (page 154)	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc									
		RCC edge wall(225mm thick)	sqm	2	2	6.00		2.65	63.60		
		RCC curved wall	sqm	2	2	7.00		1.45	40.60		
			sqm						104.20	240.00	₹ 25,008
G		BRICK WORK									

	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									
	RUIDP SOR 2017, item no 24.5.1(page 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Toe wall (1st layer)	cum	1	2	7.00	0.68	0.38	3.57		
		Toe wall (2nd layer)	cum	1	2	7.00	0.38	1.10	5.78		
		Steps	cum	10	0.5	7.00	0.30	0.30	3.15		
			cum						12.50	4,500.00	₹ 56,228
H		Plastering with mortar, 1:4									
	RUIDP SOR 2017, item no 32.1(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 12mm cement plaster of mix									
	RUIDP SOR 2017, item no 32.1.1(page 210)	1:4 (1 cement : 4 fine/ coarse sand)									
			sqm	1	2	7.00		1.45	20.30		
			sqm	1	2	6.00		2.20	26.40		

			sqm						46.70	150.00	₹	7,005
I		Waste water pipes										
	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.										
	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	2	4.00			8.00	210.00	₹	1,680

	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.50			0.50	210.00	₹	105
TOTAL FOR POLISHING POND											₹	375,480

6. Cost Estimate For Operator Room

Measurement sheet of Operator Room											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr			
A		Rate for Earthwork- Excavation									
	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Excavation for long wall	cum	1	2	6.46	1.95	1.58	39.68		
		Excavation for short wall	cum	1	2	2.56	1.95	1.58	15.72		
		Excavation for kitchen partition wall	cum	1	1	1.00	1.00	0.55	0.55		
		Excavation for bedroom partition wall	cum	1	1	2.00	1.00	0.55	1.10		
		Excavation for bathroom (long wall)	cum	1	1	2.12	1.00	0.55	1.17		

		Excavation for bathroom (short wall)	cum	1	1	0.40	1.00	0.55	0.22		
		Total	cum						58.44	116.00	₹ 6,779
		Refilling with excavated earth									
	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavated earth	cum						58.441		
		Deduct PCC for footing(long wall)	cum	-1	2	6.16	0.950	0.150	(1.756)		
		Deduct PCC for footing(short wall)	cum	-1	2	4.26	0.950	0.150	(1.214)		
		Deduct PCC for footing of kitchen partition wall	cum	-1	1	1.00	0.600	0.100	(0.060)		
		Deduct PCC for footing of bedroom partition wall	cum	-1	1	2.00	0.600	0.100	(0.120)		
		Deduct PCC for footing of bathroom long wall	cum	-1	1	2.12	0.600	0.100	(0.127)		
		Deduct PCC for footing of bathroom short wall	cum	-1	1	0.75	0.600	0.100	(0.045)		
		Deduct SSM footing 1st layer(long wall)	cum	-1	2	5.96	0.750	0.375	(3.353)		
		Deduct SSM footing 1st layer(short wall)	cum	-1	2	4.46	0.750	0.375	(2.509)		
		Deduct SSM footing 2nd layer(long wall)	cum	-1	2	5.81	0.600	0.375	(2.615)		

		Deduct SSM footing 2nd layer(short wall)	cum	-1	2	4.61	0.600	0.375	(2.075)		
		Deduct SSM footing 3rd layer(long wall)	cum	-1	2	5.66	0.450	0.525	(2.674)		
		Deduct SSM footing 3rd layer(short wall)	cum	-1	2	4.76	0.450	0.525	(2.249)		
		Deduct SSM footing 4th layer(long wall)	cum	-1	2	5.56	0.350	0.150	(0.584)		
		Deduct SSM footing 4th layer(short wall)	cum	-1	2	4.86	0.350	0.150	(0.510)		
		Deduct SSM footing 1st layer of kitchen partition wall	cum	-1	1	1.00	0.450	0.375	(0.169)		
		Deduct SSM footing 1st layer of bedroom partition wall	cum	-1	1	2.00	0.450	0.375	(0.338)		
		Deduct SSM footing 1st layer of bathroom long wall	cum	-1	1	2.12	0.450	0.375	(0.358)		
		Earth filling at floor	cum	1	1	5.00	5.000	0.350	8.750		
			cum						46.438	98.00	₹ 4,551
B		PLAIN CEMENT CONCRETE									
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 Fine/coarse sand : 6 graded stone aggregate 40 mm nominal size).									
		PCC for footing(long wall)	cum	1	2	6.16	0.95	0.15	1.76		
		PCC for footing(short wall)	cum	1	2	4.26	0.95	0.15	1.21		

		PCC for footing of kitchen partition wall	cum	1	1	1.00	0.60	0.10	0.06		
		PCC for footing of bedroom partition wall	cum	1	1	2.00	0.60	0.10	0.12		
		PCC for footing of bathroom long wall	cum	1	1	2.12	0.60	0.10	0.13		
		PCC for footing of bathroom short wall	cum	1	1	0.75	0.60	0.10	0.04		
		PCC bed	cum	1	1	5.00	5.00	0.10	2.50		
		Total PCC	Cum						5.82	3,670.00	₹ 21,365
C		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		Plinth Beam (230X150) long wall	cum	1	2	5.460	0.350	0.150	0.573		
		Plinth Beam (230X150) short wall	cum	1	2	5.00	0.350	0.150	0.525		
		Plinth Beam (230X150) kitchen partition wall	cum	1	1	1.000	0.230	0.150	0.035		
		Plinth Beam (230X150) bedroom partition wall	cum	1	1	2.000	0.230	0.150	0.069		
		Plinth Beam (230X150) bathroom long wall	cum	1	1	2.120	0.230	0.150	0.073		

		Plinth Beam (230X150) bathroom short wall	cum	1	1	1.400	0.230	0.150	0.048		
		Beam B1(230 X325)	cum	1	1	5.000	0.230	0.325	0.374		
		Top slab	cum	1	1	5.460	5.460	0.125	3.726		
		Lintel beam for Door	cum	1	1	1.400	0.230	0.150	0.048		
		Lintel beam for Door D1	cum	1	1	1.000	0.230	0.150	0.035		
		Lintel beam for window	cum	1	2	1.100	0.230	0.150	0.076		
		Chajja	cum	1	3	1.100	0.450	0.088	0.130		
		Total RCC	cum						5.712	5,030.00	₹ 28,732
D		Reinforcement									
	RUIDP 2017, item no 23.19(page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete									
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.									
		Plinth Beam	kg	1	1	125.00	1.32		165.41		
		Beam	kg	1	1	125.00	0.37		46.72		
		Top Slab	kg	1	1	125.00	4.02		501.89		
			kg						714.01		
		TOTAL REINFORCEMENT	MT						0.71	51,500.00	₹ 36,771

E		Centering/ Shuttering									
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :									
a	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		PCC for footing(long wall) sides	sqm	2	2	6.16		0.15	3.70		
			sqm	2	2		0.95	0.15	0.57		
		PCC for footing(short wall)	sqm	1	2	4.26		0.15	1.28		
		PCC for footing of kitchen partition wall	sqm	1	2	1.00		0.10	0.20		
			sqm	1	1		0.60	0.10	0.06		
		PCC for footing of bedroom partition wall	sqm	1	2	2.00		0.10	0.40		
			sqm	1	1		0.60	0.10	0.06		
		PCC for footing of bathroom long wall	sqm	2	1	2.12		0.10	0.42		
			sqm	1	1		0.60	0.10	0.06		
		PCC for footing of bathroom short wall	sqm	1	1	0.75		0.10	0.07		
		PCC bed	sqm	1	1	5.00	5.00		25.00		
			sqm						31.82	162.00	₹ 5,155

b	RUIDP SOR 2017, item no 22.1.5(page 154)	Lintels, beams, plinth beams, girders, bressumers and cantilevers									
		Plinth Beam (230X150) long wall	sqm	1	2	5.460		0.150	1.638		
			sqm	1	2	5.000		0.150	1.500		
		Plinth Beam (230X150) short wall	sqm	1	2	5.00		0.150	1.500		
			sqm	1	2	5.46		0.150	1.638		
		Plinth Beam (230X150) kitchen partition wall	sqm	1	2	1.000		0.150	0.300		
		Plinth Beam (230X150) bedroom partition wall	sqm	1	2	2.000		0.150	0.600		
		Plinth Beam (230X150) bathroom long wall	sqm	1	2	2.120		0.150	0.636		
		Plinth Beam (230X150) bathroom short wall	sqm	1	2	1.400		0.150	0.420		
		Beam B1(230 X325)	sqm	1	2	5.000		0.325	3.250		
			sqm	1	1	5.000	0.230		1.150		
			sqm						12.63	269.00	₹ 3,398
c	RUIDP 22.1.3 (page 154)	Suspended floors, roofs, landings, balconies and access platform									
		Top Slab(sides)	sqm	1	2	5.460		0.125	1.37		
		sides	sqm	1	2		5.460	0.125	1.37		

		Bottom	sqm	1	1	5.0	5.000		25.00		
			sqm						27.73	287.00	₹ 7,959
F		BRICK WORK									
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									
	RUIDP SOR 2017, item no 24.5.1(page 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Long wall	cum	2	1	5.46	0.230	3.060	7.69		
		Short wall	cum	2	1	5.00	0.230	3.060	7.04		
		kitchen partition wall	cum	1	1	1.00	0.115	2.000	0.23		
		Bedroom partition wall	cum	1	1	2.00	0.115	2.000	0.46		
		Bathroom long wall	cum	1	1	2.12	0.115	3.360	0.82		
		Bathroom short wall	cum	1	1	1.40	0.115	3.360	0.54		
		Deduction for window	cum	-3	1	0.90	0.230	1.200	(0.75)		
		Deduction for main door	cum	-1	1	1.20	0.230	2.100	(0.58)		

		Deduction for toilet door	cum	-1	1	0.80	0.115	1.900	(0.17)		
		Deduction of ventilator	cum	-2	1	0.60	0.230	0.400	(0.11)		
		Step at main door(1st step)	cum	1	1	1.40	0.900	0.150	0.19		
		Step at main door(2nd step)	cum	1	1	1.40	0.600	0.150	0.13		
		Step at main door(3rd step)	cum	1	1	1.40	0.300	0.150	0.06		
		Total	cum						15.54	4,500.00	₹ 69,937
G		Stone Masonry									
	RUIDP SOR 2017, item no 25.1.2(page 163)	Random rubble masonry with hard stone in foundation and plinth : Cement mortar 1:4 (1 cement : 4 coarse sand)									
		SSM footing 1st layer(long wall)	cum	1	2	5.96	0.750	0.375	3.353		
		SSM footing 1st layer(short wall)	cum	1	2	4.46	0.750	0.375	2.509		
		SSM footing 2nd layer(long wall)	cum	1	2	5.81	0.600	0.375	2.615		
		SSM footing 2nd layer(short wall)	cum	1	2	4.61	0.600	0.375	2.075		
		SSM footing 3rd layer(long wall)	cum	1	2	5.66	0.450	0.525	2.674		
		SSM footing 3rd layer(short wall)	cum	1	2	4.76	0.450	0.525	2.249		
		SSM footing 4th layer(long wall)	cum	1	2	5.56	0.350	0.450	1.751		
		SSM footing 4th layer(short wall)	cum	1	2	4.86	0.350	0.450	1.531		

		SSM footing 1st layer of kitchen partition wall	cum	1	1	1.00	0.450	0.375	0.169		
		SSM footing 1st layer of bedroom partition wall	cum	1	1	2.00	0.450	0.375	0.338		
		SSM footing 1st layer of bathroom long wall	cum	1	1	2.12	0.450	0.375	0.358		
		SSM footing 2nd layer of kitchen partition wall	cum	1	1	1.00	0.230	0.375	0.086		
		SSM footing 2nd layer of bedroom partition wall	cum	1	1	2.00	0.230	0.375	0.173		
		SSM footing 2nd layer of bathroom long wall	cum	1	1	2.12	0.230	0.375	0.183		
			cum						20.06	3,450.00	₹ 69,213
H		Plastering with mortar, 1:4									
	RUIDP SOR 2017, item no 32.3 (page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix									
	RUIDP SOR 2017, item no 32.3.2 (page 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		External plastering									
		Long wall	sqm	1	2	5.46	3.06		33.42		
		Short wall	sqm	1	2	5.46	3.06		33.42		
		Deduction of window	sqm	1	-3	0.90	1.20		(3.24)		
		Deduction of Door	sqm	1	-1	1.20	2.10		(2.52)		

		Deduction of ventilator	sqm	1	-2	0.60	0.40		(0.48)		
		Internal plastering									
		Long wall	sqm	1	2	5.00	3.060		30.60		
		Short wall	sqm	1	2	5.00	3.060		30.60		
		Beam B1 sides	sqm	1	2	5.00	0.375		3.75		
		Slab Bottom	sqm	1	1	5.00	5.000		25.00		
		Deduction of window	Sqm	1	-3	0.90	1.20		(3.24)		
		Deduction of Door	sqm	1	-1	1.20	2.10		(2.52)		
		Deduction of toilet door	sqm	1	-1	0.80	1.90		(1.52)		
		Toilet internal walls	sqm	1	1	7.04	3.060		21.54		
		Deduction of ventilator	sqm	1	-2	0.60	0.40		(0.48)		
		Deduction of toilet door	sqm	1	-1	0.80	1.90		(1.52)		
		Total plastering	sqm						162.80	210.00	₹ 34,189
I		White wash									
	RUIDP SOR 2017, item no 32.26 (page 212)	White washing with lime to give an even shade:									

	RUIDP SOR 2017, item no 32.26.1 (page 212)	New work (three or more coats)	sqm			162.80			162.8	16.00	₹ 2,605
J		Sanitary fittings									
a	RUIDP SOR 2017, item no 36.7(page 243)	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps,32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require :									
	RUIDP SOR 2017, item no 36.7.2(page 243)	White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar taps.	each	1	1				1.0	1,860.00	₹ 1,860
b	RUIDP SOR 2017, item no 36.1 (page 242)	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required :									
	RUIDP SOR 2017, item no 36.1.1(page 242)	White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests.	each	1	1				1.0	3,570.00	₹ 3,570
K		Door and Windows									

	RUIDP 29.5.1(page 192)	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 M.S. angels 40x40x6 mm for diagonal braces.	sqm	1	1	4.04			4.0	2,790.00	₹ 11,272
	40.36.1(page 272)	Providing and fixing double leaf Window wooden shutters made of 1st grade wood as per traditional design (Deshi pattern) planks thickness 25mm and width of Binies, Andheri 35mm and 25mm, including Adwa etc. with fittings (nails, sankal, kunda, cheri, handle and patti etc.) as per existing matching/ as per approved design with moulding/ carving complete in all respect : Sheesham wood grade 1st. MP teak wood grade 1st	sqm	3	1	0.90		1.200	3.2	5,830.00	₹ 18,889
L		Flooring									
	30.3(page 196)	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded 20mm nominal size stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete									
	30.3.1(page 196)	40mm thick	sqm	1	1	5.00	5.000		25.00	292.00	₹ 7,300
M		Waste water pipes									

	RUIDP SOR 2017, Item no. 19.2 Pg - 104	Providing, lowering, laying in trenches, aligning, fixing in position and jointing uPVC pipe fittings/ accessories of class III (6 Kg/sqcm) confirming to IS:7834 suitable for potable water with rubber rings joints in uPVC pipe line at all levels/ depth including all material, labour, hydraulic testing and commissioning as per Technical Specifications and as per direction of Engineer.								
a	19.2.1.5 (page 104)	160 mm dia	each	3				3.00	1,810.00	₹ 5,430
N		Ladder								
	19.65	Providing, fabricating and erecting MS ladder of 450mm wide made of 65 x 65 x 6mm angle iron and 20mm MS bars for walkway to top of the OHSR including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer complete in all respect as per specifications and the direction of the Engineer	m	1	1	3.00		3.00	1,390.00	₹ 4,170
O		Electrical works								
	55.4.1	P & F double ball bearing capacitor start ceiling fan of approved make complete with regulator and other accessories as required. (for estimation purpose only) 900 mm sweep	each	1.00				1.00	₹ 1,481.00	₹ 1,481

55.5	P & F 1.6 mm thick M.S. Recessed fan box, hexagonal/ round of size 100 mm dia, depth 75mm, 12 mm dia rod fan hook with 100 mm length extended on each side .	each	1.00					1.00	₹ 114.00	₹ 114
57.1.2	P & F strip type fluorscent tube fitting fabricated from (CRCA sheet and finished with powder coating / stove enamelled paint)/(extruded non corrosive UV resist EP channel) complete with accessories like (OCCB, starter, starter seat)/ EB, rotor holder, terminal block duly prewired with copper conductor including making connection, testing etc. as required. (without tube): 1x 36 watts with OCCB	each	2.00					2.00	₹ 277.00	₹ 554
57.7.1.2	P & F Fluorscent tube rod in existing fixtures as required. Fluorscent powder coated. 36/40 Watts	each	2.00					2.00	₹ 36.00	₹ 72
57.27.2	P & F of IP65 IK10 rated LED bulk head type ligh fixture made from CRCA sheet steel housing suitable for mounting LED tube system (integral driver), Powen consumption of 10-15W , 500-600 lumens system lumen efficiency 70 lm/ watt output suitable for 1x100 W GLS/ 9W CFL bulk head fixtures, life time of 50000 burning hours with 70% initial lumen maintained. CCT 3000° K, 4000° K and 6000° K. Fixture shall be in compliance with CE & KEMA standards. LED Bulk head luminaire 9/10W	each	1.00					1.00	₹ 1,271.00	₹ 1,271

54.1	Pipe Earthing as per IS:3043 with perforated 3.0 Mtr. Long, 40 mm dia. ' B ' class G.I. Pipe including all accessories like nut, bolts, reducer, nipple, wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300 mm and embodying the pipe complete with alternate layers salt and coke/ charcoal, testing of earth resistance as required.	each	1.00				1.00	₹ 3,000.00	₹ 3,000
41.1.3	Wiring of light point / fan point / exhaust fan point / call bell point with 1.5 sq. mm FR PVC insulated unsheathed 1.1kV grade flexible copper conductor and 1.5 sq.mm FR PVC insulated copper earth conductor (IS:694) of approved make in double lock/ ISI marked single lock pvc casing capping & it's accessories, 18 SWG M.S. box with earth terminal, screwless cage connectors for neutral looping in switch board & false ceiling point, 6 A switch 3.0 mm thick phenolic laminated sheet, zinc plated / brass screws, cup washers , making connections, testing etc. as required. long point upto 10 m	per point	4.00				4.00	₹ 487.00	₹ 1,948
47.1	P & F ISI marked (IS :3854) 6 amp. flush type switch including cutting hole in tile and making connection testing etc. as required.	each	4.00				4.00	₹ 17.00	₹ 68

	47.18	P & F ISI marked flush type 120/280 watt rotary step fan regulator including making connection testing etc. as required.	each	1.00					1.00	₹ 221.00	₹ 221
	45.1.3	P & F 18 SWG Sheet steel boxes duly finished with two coats of red oxide and with earthing terminal of following sizes (nominal size) on surface or in recessed as required. Size: 150 x 75 x 60 mm	each	1.00					1.00	₹ 57.00	₹ 57
	46.1.1.1	P&F 240/415 V MCB of breaking capacity not less than 10 KA (B/ C/ D tripping characteristic) ISI marked IS 8828(1996)]/ conforming to IEC 60898 in existing board/sheets including making connections with lugs, testing etc. as required. Single pole MCB. 0.5 A to 4 A rating	each	1.00					1.00	₹ 225.00	₹ 225
		Drainage									

	<p>35.6.1.1</p>	<p>Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement complete as per standard design : 35.6.1 Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :With bricks with class designation 75</p>	<p>each</p>	<p>1.00</p>					<p>1.00</p>	<p>7,190.00</p>	<p>₹ 7,190</p>
--	------------------------	--	-------------	-------------	--	--	--	--	-------------	-----------------	---------------------------

	19.5.3	Providing, lowering, laying, aligning, fixing in position at and jointing at all level/ depths ISI marked HDPE pipes of PE-100 grade & PN-6 for potable water as per IS 4984 (amended upto date) in trenches in complete including all material, labour, testing and commissioning as per Technical Specifications and as per direction of Engineer. Note : E/w to be measured and paid separately. 110 mm dia.	m	3.00					3.00	305.00	₹ 915
		Septic Tank									
O		Rate for Earthwork- Excavation									
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Excavation for septic tank	cum	1	1	4.15	3.17	1.88	24.75		
		Total excavation	cum						24.75	116.00	₹ 2,871

b		Refilling with excavated earth									
	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavated earth	cum						24.75		
		Deduct soling below footing PCC	cum	-1	1	2.55	1.57	0.30	(1.20)		
		Deduct footing PCC	cum	-1	1	2.35	1.37	0.15	(0.48)		
		Deduct module	Cum	-1	1	2.15	1.17	1.43	(3.61)		
		Total refill	Cum						19.46	98.00	₹ 1,907
P		Plain Cement Concrete (P.C.C),									
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
a	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).									
		PCC above rubble soling	cum	1	1	2.35	1.37	0.15	0.48		

			cum						0.48	3,750.00	₹ 1,815
Q		Stone Soling									
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		soling below footing PCC at screening chamber	cum	1	1	2.55	1.57	0.30	1.20		
									1.20	1,360.00	₹ 1,636
R		Reinforced Cement Concrete (R.C.C), M25									
	RUIDP 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement. All work upto Plinth level.									
a	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		Top Slab	cum	1	1	2.15	1.17	0.15	0.38		
		Deduction of manhole cover	cum	1	-1	0.60	0.60	0.15	(0.05)		
		Total RCC	cum						0.32	5,030.00	₹ 1,631
S		Reinforcement									
	RUIDP 2017, item no 23.19(page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in									

		position and binding all complete.									
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.									
d		Top slab	KG	1	125	0.32			40.53		
		Total Reinforcement	KG						40.53		
			MT						0.041	51,500.00	₹ 2,087
T		Centering/ Shuttering									
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :									
a	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		PCC bed									
		Long side	sqm	1	2	2.37		0.15	0.71		
		Short side	sqm	1	2	1.40		0.15	0.42		
			sqm						1.13	162.00	₹ 183

	22.1.3 (page 154)	Suspended floors, roofs, landings, balconies and access platform									
		Top Slab(sides)	sqm	1	2	3.322		0.150	1.00		
		Bottom	sqm	1	1	2.1	1.174		2.52		
			sqm						3.52	287.00	₹ 1,010
U		Solid Block masonry									
	24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in :									
	24.5.1(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in : Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Screening chamber									
		Long wall	cum	1	1	2.15	0.20	1.43	0.61		
		Short Wall	cum	3	1	0.75	0.20	1.43	0.65		
		Total	cum						1.26	4,500.00	₹ 5,676
W		Plastering with mortar, 1:4									

	RUIDP SOR 2017, item no 32.4(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :									
	RUIDP SOR 2017, item no 32.4.2(page 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		External wall of septic tank	sqm	1	1	6.64		1.63	6.64		
		Intrnal wall of septic tank	sqm	1	1	3.59		1.48	3.59		
			sqm	1	1	2.59		1.48	2.59		
		Septic tank Bottom	sqm	1	1	1.50	0.75		1.13		
		Total plastering	sqm						13.95	186.00	₹ 2,594
X		Manhole									
	RUIDP SOR 2017, item no 35.8(page 239)	Supplying and fixing C.I cover without frame for manholes:									
a	RUIDP SOR 2017, item no 35.8.1(page 239)	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	Nos	1	2				2.00	1,260.00	₹ 2,520
		TOTAL I									
Y		Waste water pipes									

RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.									
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	0.40			0.40	210.00	₹ 84
RUIDP SOR 2017, Item no. 1882. Pg - 510	110 mm dia U-PVC equal Tee (class III, 6kg/sqcm) confirming to IS:7834	each	1	1	2.00			2.00	559.00	₹ 1,118
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	2.30			2.30	210	₹ 483
RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	1	1	1.50			1.50	210	₹ 315

	RUIDP SOR 2017, Item no. 35.18. Pg - 240	Making soak pit 2.5 m diameter 3.0 metre deep with 45 x 45 cm dry brick honey comb shaft with bricks of class designation 75 and S.W.drain pipe 100 mm diameter, 1.8 m long complete as per standard design.									
	RUIDP SOR 2017, Item no. 35.18.1. Pg - 241	with bricks	Each	1	1	1.00			1.00	14400	₹ 14,400
TOTAL FOR OPERATOR ROOM											₹ 400,591

7. Cost Estimate For Sludge Storage Yard

Cost estimate for construction of Sludge Storage yard -											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr		Rs	Rs
A		Rate for Earthwork- Excavation									
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Excavation for footing	cum	1	6	1.20	1.200	1.275	11.02		
			cum						11.02	116.00	₹ 1,278
B		Refilling filling with excavated earth									

	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavation	cum						11.02		
		Deduct PCC	cum	1	-	1.45	1.45	0.150	(1.89)		
		Deduct RCC footing(rectangular portion)	cum	1	-	1.20	1.20	0.150	(1.30)		
		Note: Area of excavation= $\frac{1}{3}(A1+A2+\text{sqrt}A1*A2)*h$	cum	1	-	0.33	2.29	0.225	(1.03)		
		Deduct ciolumn	cum	1	-	0.30	0.30	0.800	(0.43)		
		Total	cum						6.37	98.00	₹ 624
C		Plain Cement Concrete									
1	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									
	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).									
		Footing PCC	cum	1	6	1.45	1.45	0.150	1.89		

		TOTAL C	cum						1.89	3,750.00	₹ 7,071
	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 Fine/coarse sand : 6 graded stone aggregate 40 mm nominal size).									
		PCC BED	cum	1	2	5.60	5.000	0.100	5.60		
			cum						5.60	3,670.00	₹ 20,552
D		Reinforced cement concrete M25									
	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level									
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement: 1 coarse sand: 2 graded stone aggregate 20 mm nominal size). (As per design mix)									
		RCC footing(rectangular portion)	cum	1	6	1.20	1.20	0.150	1.30		
		Note: Area of excavation= $1/3(A1+A2+\sqrt{A1*A2})*h$	cum	1	6	0.33	2.29	0.225	1.03		
		Columns	cum	1	3	0.30	0.300	5.020	1.36		
			cum	1	3	0.30	0.300	4.500	1.22		
			cum						4.90	5,030.00	₹ 24,631
E		Reinforcement									

	RUIDP SOR 2017, item no 23.19 (page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.								
	RUIDP 2017, item no 23.19.6 (page 157)	Thermo-Mechanically Treated bars.								
		Total reinforcement @ 125kg/cum	kg	1	1	125.00	4.897		612.11	
			MT						0.61	51,500.00
										₹ 31,524
F		Shuttering								
	RUIDP SOR 2017, item no 22.1 (page 157)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :								
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete								
		Footing PCC	sqm	2	6	1.45		0.150	2.61	
			sqm	2	6		1.45	0.150	2.60	
									5.21	162
										₹ 844

	RUIDP SOR 2017, item no 22.1.6 (page 154)	Columns, Pillars, Piers, Abutments, Posts and Struts.									
			sqm	4	3	0.30		5.020	18.07		
			sqm	4	3	0.30		4.500	16.20		
			sqm						34.27	254	₹ 8,705
G		BRICK WORK									
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in									
	RUIDP SOR 2017, item no 24.5.1(page 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Long wall	cum	1	2	10.00	0.23	1.50	6.90		
		Short wall	cum	1	3	5.60	0.23	1.50	5.80		
			cum						12.70	4500	₹ 57,132
H		ROOFING									

	RUIDP SOR 2017, item no 29.2(page no 192)	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	kg	1	1	1,100.00			1,100.00	69	₹ 75,900
	RUIDP SOR 2017, item no 31.1(page no 201)	Providing corrugated G.S. sheet roofing including vertical/ curved surface fixed with polymer coated J or L 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 overlapping of sheets complete upto any pitch in horizontal/ vertical or curved surfaces) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.									
	31.1.2	0.80mm thick with zinc coating not less than 275gm/m ²	sqm	1	1	11.69	6.83		79.8427	829	₹ 66,189.60
I		Flooring									
	30.3(page 196)	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded 20mm nominal size stone aggregate) finished with a floating coat of neat cement including cement slurry, but excluding the cost of nosing of steps etc. complete									
	30.3.1(page 196)	40mm thick	sqm	1	2	5.80	5.80		67.28	292	₹ 19,646
TOTAL FOR SLUDGE STORAGE YARD											₹ 314,098

8. Cost Estimate For Flexible Pavement

Measurement sheet of Flexible Pavement										
Sl.no.	Item NO	Description	Unit	Nos	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr			
A		Subgrade								
	RUIDP SOR 2017, item no 4.6 Pg 9	Construction of subgrade and earthen shoulders with approved material obtained from borrow area with all lifts & leads, transporting to site, spreading, grading to required slope and compacted in layers not exceeding 200mm thickness at OMC, with vibratory roller of 80100 KN static weight or more to attain a density 97% maximum dry density to meet requirement of table No. 300-2 as per MoRT&H specification clause 305. (Lead taken upto 5 km)								
			Cum	1	256.00	6.000	0.370	568.32		
								568.32	185	₹ 105,139
B		Granular Sub base								
	RUIDP SOR 2017, item no 7.1.1 Pg 21	Providing ,laying spreading and compacting of granular sub-base by providing close graded material, mixing in a mechanical mix plan at OMC, carriage of mixed to work site,spreading in uniform layer with motor grader on prepared surface and								

		compacting with vibratory power roller to achieve the desired density ,complete as per MoRT&H specification clause -401 including all material, labour,machinery, lighting ,guarding and Maintenance of diversion.								
		Grading - I Material								
		6m road	Cum	1	256.00	6.00	0.20	307.20		
		TOTAL						307.20	1070	₹ 328,704
D		Wet Mix Macadam								
	RUIDP SOR 2017, item no 7.6 Pg 22	Providing, laying, spreading (with paver finisher only) and compacting wet mix macadam (WMM) base course comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) in layers of equal compacted thickness each consolidated, including pre-mixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tippers to site, laying in uniform layers in base course on a well prepared sub-base/ base course and compacting with power								

		vibratory-roller to achieve the desired density complete as per MoRT&H specification clause - 406 including all material, labour, machinery, lighting, guarding and maintenance of diversion.								
		6m road	Cum	1	256.00	6.00	0.25	384.00		
		Total						384.00	1360	₹ 522,240
E		Prime Coat								
	RUIDP SOR 2017, item no 8.1 Pg 23	Providing and laying primer coat over prepared surface of granular base with bitumen emulsion as per IS 8887 and approved quality @0.6kg / Sqm with the help of spray set filled on bitumen container after cleaning the surface including removing of binding material and other foreign matter with wire brushes and compressed air to receive bituminous treatment complete as per clause 502 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion.								
		6m road	Sqm	1	256.00	6.00		1,536.00		

								1,536.00	20	₹ 30,720
F		Bituminous Macadam								
	RUIDP SOR 2017, item no 8.5.1 Pg 23	Providing and laying bituminous macadam in 50/75 mm compacted thickness on prepared surface with specified graded crushed stone aggregates as per Table 500-4, Grading-II for base/ binding course, loading of aggregate with F.E. loader, heating and mixing of stone aggregate and bitumen in computerised hot mix plant, transported to site by tippers to paver, laid over a previously prepared surface with paver finisher fitted with electronic sensing device to the required grade, level and alignment and rolling with power roller and vibratory compactor as per clauses 501.6 and 501.7 to achieve the desired compaction complete as per clause 504 of MoRT&H specification and including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding cost of primer/ tack coat. With Bitumen VG-grade 30 @ 3.3% (percentage by weight of total mix)								
		6m road	Cum	1	256.00	6.00	0.05	76.80		
		Total						76.80	4,730.00	₹ 363,264

G		Bituminous Concrete								
	<p>RUIDP SOR 2017, item no 8.10.1 Pg 25</p>	<p>Providing and laying 30-45 mm compacted thickness Bituminous Concrete as per design mix (approved by Engineer) on prepared surface with specified grade stone aggregate as per Table - 500-18 with bitumen for wearing course including loading of aggregate with F.E. loader and hot mixing of stone aggregate and bitumen (including cost of anti-stripping compound wherever required) in computerised hot mix plant, transporting the mixed material by tippers to paver and laying with paver finisher fitted with electronic sensing device (as per clause 504-3.5) to the required level and grade and compacting by power rollers and vibratory rollers or 150 to 250 KN pneumatic tyred roller with TP = 0.7 Mpa, to achieve the desired density complete as per clause 509 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding primer/tack coat. Grade-II with Bitumen VG-</p>								

		grade 30 @ 6% (percent by weight of total mix)								
		6m road	Cum	1	256.00	6.00	0.03	38.40		
								38.40	8,070.00	₹ 309,888
Total for Bituminous road										₹ 1,659,955

9. Cost Estimate For refilling with earth

Measurement sheet of refilling with earth										
Sl.no.	Item No	Description	Unit	Nos	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr			
A		Embankment construction								
	RUIDP 2017, item 4.4 (page 9)	Construction of embankment with approved material obtained from borrow pit with all lifts and leads, transporting to site, spreading, grading to required slope and compacting by vibratory roller 8-10 tonne to meet requirement of table 300-2 including cost of compensation for earth taken from private land complete as per MoRT&H specification clause 305. (Lead taken upto 5 km)								
		Ramp at PDB; rectangular portion	cum	1	38.30	9.24	1.88	663.90		
		Ramp at entry; rectangular portion	cum	0.5	97.40	7.00	1.88	639.53		
		Ramp at entry; sides triangular portion(1/3AH)	cum	2	97.40	3.99	1.88	242.78		
		Ramp at exit; rectangular portion	cum	0.5	30.13	7.00	1.88	197.83		
		Ramp at exit; sides triangular portion(1/3AH)	cum	2	30.13	3.99	1.88	75.10		
		Total refilling with excavated earth	Cum					1,819.14	163.00	₹ 296,520

B		Stone pitching on side slopes of embankment								
	RUIDP 2017 2.4.5.4(page 4)	Dismantling of existing structures like culverts, bridges, retaining walls, CC road and other structure comprising of masonry, cement concrete, wood work, steel work, including T&P and scaffolding wherever necessary, sorting the dismantled material, disposal of unserviceable material and stacking the serviceable material with all lifts and lead of 50 metres as directed by Engineer. Dismantling Stone Masonry. Dry rubble masonry								
		At entry road (Area X Thickness)	cum	1	317.00	0.30	15.85	171.00	₹	2,710
		At exit road (Area X Thickness)	cum	2	169.00	0.30	16.90	171.00	₹	2,890
Total refilling with excavated earth									₹	302,120

10. Cost Estimate For construction of compound wall

Cost estimate for construction of Compound wall											
Sl.no.	Item No	Description	Unit	Nos		L	B	D	Quantity	Rate	Amount
						mtr	mtr	mtr		Rs	Rs
A		Rate for Earthwork-Excavation									
a	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).									
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth									
		Excavation(long side)	cum	1	1	174.00	0.950	0.950	157.04		
			cum						157.04	116.00	₹ 18,216
c		Refilling filling with excavated earth									

	RUIDP 2017, item no 4.13 (page 12)	Earth filling with available surplus soil excavated from foundations and taken only from outside of building plinth in layers not exceeding 20cm in depth, consolidating each deposited layer including ramming and watering and consolidation with lead up to 50 m and lift upto 1.5 m.									
		Excavation	cum						157.04		
		Deduct soling(long wall)	cum	1	-	173.65	0.95	0.300	(49.49)		
		Deduct PCC (long wall)	cum	1	-	173.45	0.75	0.150	(19.51)		
		Deduct SSM(1st layer)	cum	1	-	173.30	0.60	0.300	(31.19)		
		Deduct SSM(2nd layer)	cum	1	-	173.15	0.45	0.200	(15.58)		
		Total	cum						41.25	98.00	₹ 4,043
B		Stone Soling									
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.									
		Soling below footing PCC(long wall)	cum	1	1	173.65	0.950	0.300	49.49		
		Total	cum						49.49	1,360.00	₹ 67,307
C		Plain Cement Concrete									
1	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :									

	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).									
		Footing PCC	cum	1	1	173.45	0.75	0.150	19.51		
		TOTAL C	cum						19.51	3,750.00	₹ 73,174
D		Shuttering									
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :									
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete									
		Footing PCC	sqm	2	2	173.45		0.150	104.07		
			sqm	2	2		0.75	0.150	0.45		
									104.52	162	₹ 16,932
E		Random rubble stone masonry									
	RUIDP SOR 2017, item no 25.1.2 (page 163)	Random rubble masonry with hard stone in foundation and plinth : Cement mortar 1:4 (1 cement : 4 coarse sand)									
		Footing SSM (1st layer)	cum	1	1	173.30	0.60	0.30	31.19		
		Footing SSM (2nd layer)	cum	1	1	173.15	0.45	0.20	15.58		

			cum						46.78	3450	₹ 161,382
F		Solid Block masonry									
	24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in :									
	24.5.1(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in : Cement mortar 1:4 (1 cement : 4 coarse sand)									
		wall	cum	1	1	173.00	0.30	2.00	103.80	4,500.00	₹ 467,100
G		Plastering with mortar, 1:4									
	RUIDP SOR 2017, item no 32.3 (page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix									
	RUIDP SOR 2017, item no 32.3.2 (page 210)	1:4 (1 cement : 4 fine/ coarse sand)									
		Two sides of wall	Sqm	1	2	173.00		2	692.00		

		Top of wall	Sqm	1	1	173.00	0.3		51.90		
									743.90	210	₹ 156,219
Total for compound wall											₹ 964,374

11. Cost Estimate For Registers

Cost estimate of Register										
Sl.no	Item No	Description	Unit	No s	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr			
A		Rate for Earthwork- Excavation								
a	RUIDP SOR 2017, Item no 4.10 (Page 10)	Earth work in excavation in foundation, trenches etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/ foundation and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level.								
	RUIDP SOR 2017, Item no 4.10.1.1 (Page 10)	In all types soils/ saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar, etc. Upto 1.5 m depth								
			cum	1	2.48	2.48	0.41	2.54	164	₹ 417
B		Plain Cement Concrete (P.C.C), 1:3:6								
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :								

	RUIDP 2017, item no 21.1.5 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).								
		PCC base	cum	1	1.68	1.68	0.10	0.28		
		TOTAL B	cum					0.28	3,750.00	₹ 1,063
C		Stone Soling								
	RUIDP 2017, item no 30.34 (page 200)	Random rubble dry stone Kharanja (soling) under floor.								
		rubble soling below PCC bed	cu m	1	1.88	1.88	0.10	0.35		
			cu m					0.35	1,360.00	₹ 483
D		BRICK WORK								
	RUIDP SOR 2017, item no 24.5(page 159)	Brick work with FPS bricks of class designation 75 in superstructure above plinth level upto two stories in all shapes and sizes in								
	RUIDP SOR 2017, item no 24.5.1(page 159)	Cement mortar 1:4 (1 cement : 4 coarse sand)								
		Long wall	cum	2	1.48	0.23	0.41	0.28		
		short wall	cum	2	1.02	0.23	0.41	0.19		
			cu m					0.48	4,500.00	₹ 2,139
E		Centering/ Shuttering								

	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :								
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete								
		PCC side shuttering								
		wall (outer sides)	Sq m	2	1.68		0.10	0.34		
		wall (inner sides)	Sq m	2	1.02		0.10	0.20		
		Total	Sq m					0.54	162.00	₹ 88
G		Plastering with mortar, 1:4								
a	RUIDP SOR 2017, item no 32.3(page 210)	Cement plastering including T&P, scaffolding, material and complete labpour, including cost of water, curing, racking of joints etc. with 20 mm cement plaster of mix :								
	RUIDP SOR 2017, item no 32.3.2(page 210)	1:4 (1 cement : 4 fine/ coarse sand)								
		wall outer	sqm	4	1.51		0.412	2.49		
		wall inner	sqm	4	1.02		0.412	1.69		
		Total plastering	sq m					4.17	210.00	₹ 876

H		RCC for coverslabs								
	RUIDP SOR 2017, item no 23.1 (page 155)	Providing and laying in position specified grade of reinforced cement concrete excluding the cost of centring, shuttering, finishing and reinforcement- All work upto plinth level								
	RUIDP 2017, item no 23.1.1 (page 155)	1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size). (As per design mix)	Nos	1	1.51	1.51	0.05	0.11	5,030.00	₹ 572
I		Reinforcement								
	RUIDP SOR 2017, item no 23.19 (page 157)	Reinforcement for R.C.C. work at all levels including straightening, cutting, bending, placing in position and binding all complete.								
	RUIDP 2017, item no 23.19.6(page 157)	Thermo-Mechanically Treated bars.								
		Total reinforcement @ 125kg/cum	kg	1	125	0.11		14.21		
			MT					0.01	51,500.00	₹ 732
H		Waste water pipes								

	RUIDP SOR 2017, Item no. 17.25 Pg - 70	Providing at site, lowering & laying in trenches, aligning & jointing of PVC-U pipes (SN 8) as per IS 15328 (amended up to date) and as per specifications with rubber rings with socket and spigot joint, (EPDM/SBR) for all depths for pipe length as per drawing and specification including hydraulic field testing (including the cost and conveyance of water to site for testing) and commissioning etc complete as directed by Engineer. Note: E/w to be measured and paid separately.								
i	RUIDP SOR 2017, Item no. 1862. Pg - 509	110 mm dia U-PVC pipes with rubber ring (working pressure 6 kg / cm ²) as per IS: 4985	m	2	0.50			1.00	210.00	₹ 210
										₹ 6,781
Total for 3 registers										₹ 20,343

12. Cost Estimate For Additional Works

Additional Works										
Sl.no. o.	Item NO	Description	Unit	Nos	L	B	D	Quantity	Rate	Amount
					mtr	mtr	mtr			
1		Water Supply Works								
A		Water Storage Tank								
	RUIDP 2017, item 34.47(pa ge 233)	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.	per litre	1	2,000.0 0			2,000.00	6.50	₹ 13,000
B	RUIDP SOR 2017, item no 34.7(pag e 226)	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c 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.								

i	RUIDP SOR 2017, item no 34.7.6(pa ge 226)	50mm dia nominal outer dia. Pipe	m	5				5.00	819.00	₹ 4,095
ii	RUIDP SOR 2017, item no 34.7.5(pa ge 226)	40mm dia nominal outer dia. Pipe	m	75				75.00	561.00	₹ 42,075
iii	RUIDP SOR 2017, item no 34.7.4(pa ge 226)	32mm dia nominal outer dia. Pipe	m	50				50.00	410.00	₹ 20,500
iv	RUIDP SOR 2017, item no 34.48.1 (page 233)	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931 15 mm nominal bore.	each	8				8.00	377.00	₹ 3,016
C		Water Storage Tank - Underground Sump								

	34.47(pa ge 233)	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	per litre	1	2000			2,000.00	6.50	₹ 13,000
	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).								
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth								
			Cum	1	1.41	1.41	1.8	3.58	116.00	₹ 415
		soling								
	RUIDP 2017, item no 30.34	Random rubble dry stone Kharanja (soling) under floor.	cum	1	1.4	1.4	0.1	0.20	1,360.00	₹ 267

	(page 200)									
		PCC bed								
	RUIDP 2017, item no 21.1 (Page 151)	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :								
	RUIDP 2017, item no 21.1.6 (page 151)	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size).	cum	1	1.4	1.4	0.1	0.20	3,670.00	₹ 719
		Shuttering								
	RUIDP SOR 2017, item no 22.1 (page 154)	Centring and shuttering with plywood or steel sheet upto two stories or height upto 7.5 metre above plinth level including strutting, propping etc. and removal of form for :								
	RUIDP SOR 2017, item no 22.1.1 (page 154)	Foundations, footings, bases of columns, etc. for mass concrete	sqm	4	1.4		0.1	0.56	162.00	₹ 91
2		Gate at the entrance on compound wall								

	29.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all complete.	kg	1	500.00			500.00	69.00	₹ 34,500
3		Borewell Works								
	Quotation Attached	Conduct Hydrogeological investigation to determine the most probably spot for bore hole to obtain water. The scientific investigation is to be carried in the presence and in the directions of the engineer and using specialised resistivity measuring instruments.	Nos	1.00				1.00	24,830.00	₹ 24,830
	20.1.3	Construction of Tube-well upto 100 Meter depth and above in all type of rocks by DTH system and over burden to accommodate casing pipe of following sizes in all types of soils and over burden including lowering of casing pipes,excluding the cost of casing pipes as per IS : 2800 (Part I & II) 1979 specifications. The work would be completed after obtaining sand free water and as per direction of the engineer. The tube well should have a throughout bore as per nominal dia of casing pipe:150 mm dia nominal bore	m	35.00				35.00	580.00	₹ 20,300

	20.4.3	Supply of ERW M.S black casing pipe ISI marked (IS: 4270/1992) of grade Fe410 of following nominal bore sizes at site of work - 150 mm diameter	m	26.00				26.00	1,287.00	₹ 33,462
	20.5.1	Supply of strainer pipes made of ERW M.S. black pipe ISI mark of following sizes at the site of work including required size of slotting as per IS: 8110 -1985 of following nominal bore sizes at site of work. Nominal bore dia: 150 mm	m	5.00				5.00	1,300.00	₹ 6,500
	20.6	Testing verticality of tube well by plumbing system and yeild test and draw down test by pumping system as per IS: 2800 (part II) 1979	each	1.00				1.00	7,260.00	₹ 7,260
	20.7.3	Supply and fixing of tube well cover of M.S sheet(6 mm thick) with nuts and bolts complete for casing size of 150 mm dia	each	1.00				1.00	236.00	₹ 236
	20.8	Supply and fixing of MS clamp set of 50 x 6 mm flat iron with nuts and bolts etc for holding the riser pipe assembly of submersible pump set	each set	1.00				1.00	260.00	₹ 260
	20.9	Installation of submersible motor pump set in tube well complete (labour charges only) including transportation of tripod, pulley block, and any other material required for lowering purpose	each	1.00				1.00	3,509.00	₹ 3,509

	20.10.1	Providing and lowering of GI flange pipe B class including rubber washer and nuts of 8 mm dis complete in all respect - 50 mm	metre	32.00				32.00	539.00	₹ 17,248
4		Supply of pumps								
A	Quotation attached	2HP Borewell solar pump system	Nos	1.00					187,500.00	
		5% GST							9,375.00	
		Total Cost	Nos	1.00				1.00	196,875.00	₹ 196,875
B	Quotation attached	1HP sump solar pumping system	Nos	1.00				1.00	150,000.00	
		5% GST							7,500.00	
		Total Cost	Nos	1.00				1.00	157,500.00	₹ 157,500
C	Quotation attached	Dewatering pump for reusing final treated water for gardening purpose, to be mounted on a mobile platform. Power power: 1 Hp	Nos	1.00				1.00	140,000.00	
									7,000.00	₹ 147,000
D	Market Rate	Fountain Pump	Nos	1.00				1.00	45,000.00	₹ 45,000
6		Street Lighting								

	Quotation attached	Providing & installation of Solar street light including transportation	Nos	5				5.00	15698	₹ 78,490
7		Precast Culvert for underground pipes								
	RUIDP SOR 2017, item No 3121 page 538	Precast RCC M-40 grade Box culvert section designed for 'AA' class loading as per IRC specification size 600mm x 600mm	m	1	16.50			16.50	3949	₹ 65,159
8		Excavation for intermodule pipes								
	RUIDP SOR 2017, item no 4.9 (page 10)	Earth work in excavation in open area, STP, WTP, Pumping station with mechanical means including dressing of sides and ramming of bottoms, including getting out the excavated material, disposal of excavated material lead upto 1000m at suitable site as per as per drawing and as per direction of Engineer. (Measurements for payment to be done as per standard drawings).								
	RUIDP SOR 2017, item no 4.9.1.1 (page 10)	In all types of soil upto 3m depth								
		from PDB2 last register to R7	Cum	1	3.52	0.50	0.18	0.31		
		from R7 to R8	Cum	1	33.00	0.50	0.23	3.71		

		from R8 to R9	Cum	1	1.96	0.50	0.25	0.25		
		from ISAF to PGF	Cum	1	1.29	0.50	0.62	0.40		
		from PGF to PP	Cum	1	1.20	0.50	1.44	0.86		₹ 641
								5.53	116.00	
Total for Additional works										₹ 935,947

13. Cost Estimate for landscaping

Landscaping Works						
Sl.no.	SR No.	Description	Unit	Quantity	Unit rate	Amount
RUIDP-2017						
1	39.5	Supplying and stacking of well decayed cow dung manure at site.	cum	10.00	605.00	₹ 6,050
2	39.1	Trenching in specified soil upto a depth of 60 cm. including removal and stacking of serviceable materials and then disposal by spreading and neatly leveling within a lead of 50 metres and making up the trenched area to proper levels by filling with earth or earth mixed with sludge or/and farm-yard manure before and after flooding with water (excluding cost of imported earth and sludge or farm-yard manure).	cum	1,400.00	220.00	₹ 308,000
3	39.11	Spreading of sludge farm yard manure or/ and good earth in required thickness (cost of sludge, farm-yard manure or/and good earth to be paid for separately).	cum	10.00	29.5	₹ 295
4	39.13	Grassing with 'Carpet' grass (selection no. 1) including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for moving including supplying good earth if needed.(The good earth shall be paid separately)				
	39.13.2	With grass Turf	sqm	100.00	710.00	₹ 71,000

5	39.45.3	Supply and planting following species best quality container grown healthy trees of 3 mt. min. height, well established & free from disease at site in 1.20 m dia holes, 1.20 m deep dug in the ground, mixing the soil with decayed farm yard/sludge manure, backfilling the hole watering etc as required. Neem(Azadirachta indica)	each	50.00	1,240.00	₹ 62,000
Total for landscaping at site						₹ 447,345

14. Rate Analysis

Rate Analysis for AC sheet roofing							
Providing and fixing 6mm thick AC sheet for roofing as per drawing including fixtures, labour cost, complete.(As per instruction of site engineer)							
SI No	Item No in SR	Description	unit	Qty	Rate	per	Amount in Rs
		For 100sqm					
A		Material					
1	0007(page IV)	AC sheet 6mm thick semi corrugated(45 Nos including overlapping)	sqm	142	200	sqm	28400
2	0152(page XVII)	G.I pipe 32mm dia B class	m	104	223	m	23192
3	573(page X)	MS clamps	kgs	10	54	kg	540
		TOTAL A					52132
B		Labour					
1	46 (page LVI)	Fitter class I	Nos	2	265	day	530
2	124 (page LIX)	unskilled labour	Nos	4	260	day	1040
		TOTAL B					1570
		TOTAL (A+B)					53702
C		Contractor's profit @ 10%					5370.20
		TOTAL COST OF AC SHEET ROOFING FOR 100sqm=(A+B+C)					59072.20
		Rate of AC sheet roofing for 1sqm	Rs				590.722
			Rs				591.00

