

Construction of 5MLD Capacity Sewage Treatment Plant and Recycling Unit for Medical College, Trivandrum		
General Abstract		
Sl.No.	Description	Amount (in Rs.)
1	Inlet Chamber and Screen chamber	4,160,831
2	Collecton Tank	17,892,582
3	MBBR Chambers	13,946,835
4	Flocculation Tank	4,724,775
5	Plant Room	3,492,164
6	Clarifier	5,341,176
7	Clarified Water Tank	2,923,930
8	Sludge Holding Tank	2,960,601
9	Treated Water Tank	8,124,925
10	Substation Building	1,080,474
11	Clorination Building	917,412
12	Laundry Collection Tank	2,921,870
13	Laudry pre clarifier	1,544,560
14	Laundry clarifier	1,600,627
15	InterConnecting Channel	1,422,979
16	Compound wall	10,966,437
17	Transmission main & effluent Disposal pipline	4,134,579
18	Electrical and Mechanical Installations	63,479,000
19	Deposit to be made to KSEB for availing Electrical Connection and substation equipments	1,500,000
20	Landscaping 2% details to be submitted	3,550,000
21	Providing arrangments for reusing the treated water in the toilet flushing system and Flow meter arrangements (LS)	2,043,750
22	Maintenance of the STP for 5 years 3.5%/year	31,062,500
23	Any other items required (round off)	1,807,994
	Total	191,600,000
Say Rs 19.16 Cr		
Rupees Nineteen Crore Sixteen Lakhs Only		

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
1. Inlet Chamber and Screen chamber 4.8 x 10.6 x 5.5m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared. vide data no : 1	m ²							
				1	12	8		96.00	941.62	904.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) : vide data no -2								
	20.1.1	400 mm dia piles	metre	8	11			88.00	2825.67	248,659.04
3	16	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
		first depth upto 1.5m		1	6	12	1.50	108.00		
		Total						108.00	228.22	24,647.60
3a	16a	Second depth from 1.5m to 3m		1	6	12	1.5	108.00		
		Total						108.00	296.05	31,973.77
3b	16b	third depth from 3m to 4.5m		1	6	12	1.5	108.00		
		Total						108.00	363.89	39,299.93
3c	16c	fourth depth from 4.5m to 6m		1	6	12	0.5	36.00		
		Total						36.00	431.72	15,542.03
4	24	Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete	m ²							
				2	6		5	60.00		
				2	12		5	120.00		
								180.00	606.13	109,104.09
4a	22	Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. etc. complete.	kwh							
		say						50.00	110.06	5,502.93
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	5	11	0.10	5.50		
		Total						6.00	6308.50	37,850.98

3a	5a	Centering and shuttering including strutting, propping etc. and removal of form							
		Foundations, footings, bases of columns, etc. for mass concrete		1	32		0.1	3.20	
								3.20	288.13
									922.03
4	5	RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete	m ³						
		raft		1	4.8	10.6	0.5	25.44	
								25.00	9833.93
									245,848.25
4a	5a	Centering and shuttering including strutting, propping etc. and removal of form							
		Foundations, footings, bases of columns, etc. for mass concrete		1	30.8		0.5	15.40	
								15.40	288.13
									4,437.25
5	5	RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³						
		side wall all around		1	30.8	0.3	5.5	50.82	
		intermediate cross wall		4	4.8	0.3	5.5	31.68	
		intermediate partitian wall		1	10.6	0.3	5.5	17.49	
		Platform		1	30.8	0.6	0.15	2.77	
		Screen Chamber - Walkway		1	30.8	0.5	0.15	2.31	
		Screen Chamber - Block		1	0.6	0.3	0.3	0.05	
		Total						105.00	9833.93
									1,032,562.67
		Centering and shuttering including strutting, propping etc. and removal of form							
	5b	Walls (any thickness) including attached pilasters, buttresses,plinth and string courses etc.							
		side wall all around		2	30.8		5.5	338.80	
		intermediate cross wall	2	4	4.8		5.5	211.20	
		intermediate partitian wall	2	1	10.6		5.5	116.60	
		Screen Chamber - Block		1	0.6		0.3	0.18	
								666.78	529.19
									352,850.21
	5c	Centering and shuttering including strutting, propping etc. and removal of form							
		Suspended floors, roofs, landings, balconies and access platform							
		Platform		1	30.8		0.6	18.48	
		Screen Chamber - Walkway		1	30.8		0.5	15.40	
		Total						1367.00	589.10
									805,299.78
6	7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level .Mild steel and Medium Tensile steel bars	Qtl						
		Raft			3.2 x 110kg/m ³			3.52	
		side wall			99.99 x80kg/m ³			79.99	
		Slabs			5.14 x 80kg/m ³			4.12	
		Total						88.00	9526.22
									838,307.05
7	8	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:3 (1 cement: 3 fine sand)	m ²						
		Inside- Chamber		1	30.8		5.5	169.40	
		intermediate cross wall	2	4	4.8		5.5	211.20	
		intermediate partitian wall	2	1	10.6		5.5	116.60	
		Platform		2	30.8		0.6	36.96	
		Screen Chamber - Walkway		2	30.8		0.5	30.80	
		Bottom		1	10.6	4.8		50.88	
		Total						616.00	318.49
									196,192.25
8	9	Plastering with Cement mortar 1:4 ,12mm thick one coat floated hard and trowelled to smooth including cost and conveyance for materials and labour charges and watering, curing etc. complete	m ²						
		Outside - Inlet Chamber		1	30.8		5.5	169.40	
		Total						169.00	298.11
									50,380.04
9	10	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	m ²						
		Outside - Inlet Chamber		1	30.8		2	61.60	84.85
									5,226.67
10		Providing Handrails	Ls						15,000.00
11		Providing gate valve and other accessories	Ls						60,000.00
12		Providing screen as per the requirement	Ls						35,000.00
13	34	Supplying and providing CI steps @ 30cm c/c	Nos						
				24				24.00	
								24.00	221.70
									5320.80
		TOTAL							4,160,831.37

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
2. Collection Tank 10 x 30 x 8 m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	12	32		384.00	941.62	3,616.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payments shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	75	3			225.00	2825.67	635,775.95
3	16	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
		first depth upto 1.5m		1	11	31	1.50	511.50		
		Total						512.00	228.22	116,847.88
3a	16a	Second depth from 1.5m to 3m		1	11	31	1.5	511.50		
		Total						511.50	296.05	151,431.31
3b	16b	third depth from 3m to 4.5m		1	11	31	1.5	511.50		
		Total						511.50	363.89	186,128.85
3c	16c	fourth depth from 4.5m to 6m		1	11	31	1.5	511.50		
		Total						511.50	431.72	220,826.39
3d	16d	fifth depth from 6.0m to 7.5m		1	11	31	1.5	511.50		
		Total						511.50	499.56	255,523.93
4	24	Providing steel sheet shoring to the sides of the trenches to depths of above 4.00 m but not exceeding 6.00m using 6 mm M.S. sheet 0.50 M wide stiffen on edges with 50 mm x 50mm x 6 mm M.S. angles driving down vertically on either side one after another in lines and levels with suitable pile driving equipments and accessories to a maximum depth of 0.50 M below the bottom of the proposed excavation 0.5 M above ground level suitably braced by horizontal walling pieces at 75 x 150 mm x 8 mm angles on either side at intervals not exceeding 1.50M and horizontal screw jack type struts at 1.50M intervals and maintaining the shoring till the pipes are laid and works are completed, dismantling, cleaning and restacking for reuse including all labour, hire charges and conveyance for equipments, tools and plants and sundries etc. complete .	m2							
				2	10		6	120.00		
				2	32		6	384.00		
								504.00	606.13	305,491.45
4a	22	Bailing out water with 5 HP engine and pumpset including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. etc. complete.	kwh							
		say						100.00	110.06	11,005.85
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	11	31	0.10	34.10		
		Total						34.00	6308.50	214,488.89
3a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	84		0.1	8.40		
								8.40	288.13	2,420.32
4	5	RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete	m ³							

		raft		1	10.8	30.8	0.5	166.32			
								166.00	9833.93	1,632,432.41	
4a	5a	Centering and shuttering including strutting, propping etc. and removal of form									
		Foundations, footings, bases of columns, etc. for mass concrete		1	83.2		0.5	41.60			
								41.60	288.13	11,986.34	
5	5	RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³								
		side wall all around		1	83.2	0.4	8	266.24			
		intermediate cross wall		1	30	0.3	8	72.00			
		intermediate beam		10	10.6	0.3	0.4	12.72			
		Platform		1	83.2	0.6	0.15	7.49			
		intermediat- Walkway		1	10	0.5	0.15	0.75			
		Block for pipes/valves etc		4	0.6	0.3	0.3	0.22			
		Total						359.00	9833.93	3,530,380.93	
	5a	Centering and shuttering including strutting, propping etc. and removal of form									
		Walls (any thickness) including attached pilasters, buttresses,plinth and string courses etc.	m2								
		side wall all around		2	83.2		8	1331.20			
		intermediate cross wall		2	30		8	480.00			
		Screen Chamber - Block		1	0.6		0.3	0.18			
								1811.38	529.19	958,555.78	
	5b	Centering and shuttering including strutting, propping etc. and removal of form	m2								
		Suspended floors, roofs, landings, balconies and access platform									
		Platform		1	83.2		0.6	49.92			
		intermediat- Walkway		1	10		0.5	5.00			
		Total						3678.00	589.10	2,166,710.00	
	5b	Centering and shuttering including strutting, propping etc. and removal of form	m2								
		Lintels, beams, plinth beams, girders, bressumers and cantilevers									
		intermediate beam		10	10.6		0.9	95.40			
		Total						3828.00	487.16	1,864,865.34	
6	7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level .Mild steel and Medium Tensile steel bars	Qtl								
		Raft				166 x 110kg/m ³		182.60			
		side wall				390 x80kg/m ³		312.00			
		Slabs				7.86 x 80kg/m ³		6.28			
		Total						501.00	9526.22	4,772,634.47	
7	8	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:3 (1 cement: 3 fine sand)	m ²								
		Inside- Chamber		1	83.6		8	668.80			
		intermediate cross wall		2	30		8	480.00			
		intermediate beams		10	10.6		0.9	95.40			
		Platform		1	83.2	0.6		0.00			
		intermediat- Walkway		1	10	0.5		0.00			
		Bottom		1	30	10		300.00			
		Total						1544.00	318.49	491,754.59	
8	9	Plastering with Cement mortar 1:4 ,12mm thick one coat floated hard and trowelled to smooth including cost and conveyance for materials and labour charges and watering, curing etc. complete	m ²								
		Outside - Inlet Chamber		1	83.6		8	668.80			
		Total						669.00	298.11	199,433.43	
9	10	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	m ²								
		Outside - Inlet Chamber		1	83.6		2	167.20	84.85	14,186.69	
10		Providing Handrails	Ls							75,000.00	
11		Providing gate valve and other accessories	Ls							60,000.00	
12	34	Suppplying and providing CI steps @ 30cm c/c	Nos								
				50				50.00			
								50.00	221.70	11085.00	
		TOTAL								17,892,581.79	

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
3. MBBR Chamber 2nos# 2 nos 10 x 10x 6m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	12	22		264.00	941.62	2,486.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	50	13			650.00	2825.67	1,836,686.08
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
	2.6.1	first depth upto 1.5m		1	11	22	0.50	121.00		
		Total						121.00	228.22	27,614.44
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		2	11	11	0.20	48.40		
		Total						48.00	6308.50	302,807.84
3a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		2	44		0.2	8.80		
								8.80	288.13	2,535.57
4	5	RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete	m ³							
		raft		2	10.8	10.8	0.5	116.64		
								117.00	9833.93	1,150,569.83
4a	5a	Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a								
		Foundations, footings, bases of columns, etc. for mass concrete		2	21.6		0.5	10.80		
								10.80	288.13	3,111.84
5	5	RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³							
		side wall all around		2	43.2	0.4	6	207.36		
		intermediate beam		8	10.6	0.3	0.4	10.18		
		Platform		4	43.2	0.6	0.15	15.55		
		intermediat- Walkway		2	10	0.5	0.15	1.50		
		Block for pipes/valves etc		8	0.6	0.3	0.3	0.43		
		Total						235.00	9833.93	2,310,973.59
	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m2							
		side wall all around		4	43.2		6	1036.80		
		Screen Chamber - Block		2	0.6		0.3	0.36		
								1037.16	529.19	548,849.89
	5b	Centering and shuttering including strutting, propping etc. and removal of form	m2							
		Suspended floors, roofs, landings, balconies and access platform								

[illegible]

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
4. Flocculation Tank 10 x 10 x 3m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared. vide data no : 1	m ²							
				1	12	10		120.00	941.62	1,130.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) vide data no -1a								
	20.1.1	400 mm dia piles	metre	25	15.5			387.50	2825.67	1,094,947.47
3	16	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil 5	m ³							
	2.6.1	first depth upto 1.5m		1	11	11	0.50	60.50		
		Total						61.00	228.22	13,921.33
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	11	11	0.20	24.20		
		Total						24.00	6308.50	151,403.92
3a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	22		0.2	4.40		
								4.40	288.13	1,267.79
4	5	RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete vide data no : 4	m ³							
		raft		1	10.8	10.8	0.5	58.32		
								58.00	9833.93	570,367.95
4a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	21.6		0.5	10.80		
								10.80	288.13	3,111.84
5	6	RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³							
		side wall all around		1	43.6	0.3	3	39.24		
		intermediate beam		4	10.6	0.3	0.4	5.09		
		Platform		4	43.2	0.6	0.15	15.55		
		intermediat- Walkway		1	10	0.5	0.15	0.75		
		Block for pipes/valves etc		4	0.6	0.3	0.3	0.22		
		Total						61.00	10288.24	627,582.67
		Centering and shuttering including strutting, propping etc. and removal of form								
	5b	Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m ²							
		side wall all around		2	43.2		3	259.20		
		Screen Chamber - Block		2	0.6		0.3	0.36		
								259.56	529.19	137,355.35
		Centering and shuttering including strutting, propping etc. and removal of form	m ²							

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
5. Plant Room 10 x 20 x 5m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared. vide data no : 1	m ²							
				1	10	20		200.00	941.62	1,883.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	25	13			325.00	2825.67	918,343.04
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth, 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil vide data no 15	m ³							
	2.6.1	first depth upto 1.5m		1	11	11	0.50	60.50		
		Total						61.00	228.22	13,921.33
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	11	11	0.20	24.20		
		Total						24.00	6308.50	151,403.92
3a		Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a								
		Foundations, footings, bases of columns, etc. for mass concrete		1	22		0.2	4.40		
								4.40	288.13	1,267.79
4		RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete vide data no : 4	m ³							
		foundation of column		10	1.5	1.5	0.2	4.50		
				10	1.3	1.3	0.4	6.76		
				10	0.3	0.3	1	0.90		
								12.16	9833.93	119,580.59
4a		Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a	m ²							
		Foundations, footings, bases of columns, etc. for mass concrete		10	6		0.5	30.00		
				10	1.2		1	12.00		
								42.00	288.13	12,101.60
5		RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete vide data no :	m ³							
		Columns		15	0.3	0.3	4	5.40		
		longitudinal beams		13	5	0.3	0.4	7.80		
		intermediate beam		10	4.6	0.3	0.4	5.52		
		plinth beam		1	60	0.3	0.4	7.20		
		Roof Slab		1	10	20	0.15	30.00		
		Sunshade		1	60	0.6	0.1	3.60		
		Machine Foundations		4	0.6	0.6	0.6	0.86		
		Total						60.00	10288.24	617,294.43
	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Columns, Pillars, Piers, Abutments, Posts and Struts	m ²							
		Columns		15	1.2		3	54.00		
								54.00	664.93	35,906.14

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
6. Clarifier 10m dia x 5.5m										
Sl. No	ref data	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	12	12		144.00	941.62	1,356.00
2	2	Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	25	13			325.00	2825.67	918,343.04
3	16	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.	m ³							
	2.6.1	first depth upto 1.5m		1	11	11	0.50	60.50		
		Total						61.00	228.22	13,921.33
3	4	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft	1	3.14	5	5	0.20	15.70		
		Total						16.00	6308.50	100,935.95
3a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete	2	3.14	5		0.1	3.14		
								3.14	288.13	904.74
4	5	RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete vide data no : 4	m ³							
		raft	1	3.14	5	5	0.50	39.25		
								39.25	9833.93	385,981.76
4a	5a	Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a								
		Foundations, footings, bases of columns, etc. for mass concrete	2	3.14	5		0.5	15.70		
								15.70	288.13	4,523.69
5	6	RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete vide data no :	m ³							
		side wall all around	2	3.14	5	0.3	5.5	51.81		
		intermediate channel	2	3.14	4	0.2	1	5.02		
		Platform	2	3.14	5	0.2	1	6.28		
		intermediat- Walkway		1	10	0.5	0.15	0.75		
		Block for pipes/valves etc		4	0.6	0.3	0.3	0.22		
		Total						64.00	10288.24	658,447.39
5a	5a	Centering and shuttering including strutting, propping etc. and removal of form								
		Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m2							
		side wall all around	2	3.14	5		5.5	172.70		
		Screen Chamber - Block		4	0.6		0.3	0.72		
								173.42	529.19	91,771.33
5b	5b	Centering and shuttering including strutting, propping etc. and removal of form	m2							

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
7. Clarified Water Tank 7.5 x 10 x 5.5										
Sl. No		Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1		Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared. vide data no : 1	m ²							
				1	8	10.6		84.80	941.62	798.00
2		Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap) vide data no -2								
	20.1.1	400 mm dia piles	metre	20	13			260.00	2825.67	734,674.43
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil vide data no 15	m ³							
	2.6.1	first depth upto 1.5m		1	11	11	0.50	60.50		
		Total						61.00	228.22	13,921.33
3		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) vide data no: 4	m ³							
		for raft		1	8	10.6	0.20	16.96		
		Total						17.00	6308.50	107,244.44
3a		Centering and shuttering including strutting, propping etc. and removal of form vide item 5 a								
		Foundations, footings, bases of columns, etc. for mass concrete		1	36		0.2	7.20		
								7.20	288.13	2,074.56
4		RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete vide data no : 5	m ³							
		raft		1	7.5	10.6	0.5	39.75		
								40.00	9833.93	393,357.21
4a		Centering and shuttering including strutting, propping etc. and removal of form vide item 5 a								
		Foundations, footings, bases of columns, etc. for mass concrete		1	36		0.5	18.00		
								18.00	288.13	5,186.40
5		RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete vide data no :	m ³							
		side wall all around		1	36	0.3	5.5	59.40		
		intermediate beam		1	10.6	0.3	0.4	1.27		
				1	7.5	0.3	0.4	0.90		
		Platform		1	36	0.6	0.15	3.24		
		column		1	0.3	0.3	5	0.45		
		Block for pipes/valves etc		2	0.6	0.3	0.3	0.11		
		Total						65.00	10288.24	668,735.63
5b		Centering and shuttering including strutting, propping etc. and removal of form								
		Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m2							
		side wall all around		2	36		5.5	396.00		
		Screen Chamber - Block		2	0.6		0.3	0.36		
								396.36	529.19	209,747.91
5c		Centering and shuttering including strutting, propping etc. and removal of form	m2							

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
8. Sludge Holding Tank 6.0 x 10 x 5.5										
Sl. No		Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1		Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	7	11		77.00	941.62	725.00
2		Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	18	13			234.00	2825.67	661,206.99
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil vide data no 15	m ³							
	2.6.1	first depth upto 1.5m		1	7	11	0.50	38.50		
		Total						39.00	228.22	8,900.52
3		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	6.6	10.6	0.20	13.99		
		Total						14.00	6308.50	88,318.95
3a		Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a								
		Foundations, footings, bases of columns, etc. for mass concrete		1	34.4		0.2	6.88		
								6.88	288.13	1,982.36
4		RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete	m ³							
		raft		1	6.3	10.3	0.5	32.45		
								32.00	9833.93	314,685.77
4a		Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	33.8		0.5	16.90		
								16.90	288.13	4,869.45
5		RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³							
		side wall all around		1	32	0.3	5.5	52.80		
		intermediate beam		1	10.6	0.3	0.4	1.27		
				1	6	0.3	0.4	0.72		
		Platform		1	33.8	0.6	0.15	3.04		
		column		1	0.3	0.3	5	0.45		
		Block for pipes/valves etc		2	0.6	0.3	0.3	0.11		
		Total						58.00	10288.24	596,717.95
5b		Centering and shuttering including strutting, propping etc. and removal of form								
		Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m2							
		side wall all around		2	33.8		5.5	371.80		
		Screen Chamber - Block		2	0.6		0.3	0.36		
								372.16	529.19	196,941.62
5c		Centering and shuttering including strutting, propping etc. and removal of form	m2							

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
9. Treated Water Tank 10 x 20 x 5m										
Sl. No		Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1		Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	12	22		264.00	941.62	2,486.00
2		Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles	metre	50	13			650.00	2825.67	1,836,686.08
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
	2.6.1	first depth upto 1.5m		1	12	22	0.50	132.00		
		Total						132.00	228.22	30,124.84
3		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
		for raft		1	11	21	0.20	46.20		
		Total						46.00	6308.50	290,190.85
3a		Centering and shuttering including strutting, propping etc. and removal of form vide item 4 a								
		Foundations, footings, bases of columns, etc. for mass concrete		1	63		0.2	12.60		
								12.60	288.13	3,630.48
4		RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete	m ³							
		raft		1	10.8	20.8	0.5	112.32		
								112.00	9833.93	1,101,400.18
4a		Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	63.2		0.5	31.60		
								31.60	288.13	9,105.01
5		RCC M30 for sub structure etc using 20mm broken stone and SRC excluding all charges for form work , shuttering, watering, curing etc. complete	m ³							
		side wall all around		1	63.2	0.3	5	94.80		
		Columns		3	0.3	0.3	5	1.35		
		longitudinal beams		13	5	0.3	0.4	7.80		
		intermediate beam		10	4.6	0.3	0.4	5.52		
		Roof Slab		1	10.6	20.6	0.15	32.75		
		Block for pipes/valves etc		4	0.6	0.3	0.3	0.22		
		Total						142.00	10288.24	1,460,930.15
5b		Centering and shuttering including strutting, propping etc. and removal of form								
		Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.	m ²							
		side wall all around		2	63.2		5	632.00		
		Screen Chamber - Block		2	0.6		0.3	0.36		
								632.36	529.19	334,635.65
5c		Centering and shuttering including strutting, propping etc. and removal of form	m ²							

Estimate for the construction of 5MLD STP at Medical College, Trivandrum

10. Substation Building 10 x 20 x 3.70m

Sl. No	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
			1	10	20		200.00	941.62	1883.24
2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
	Column		8	4.2	4.2	1.6	225.79		
	Wall		2	16.92	1.4	1.6	75.80		
	Total						302.00	561.89	169691.62
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
	Column		4	4.2	4.2	0.1	7.06		
	Wall		1	16.92	0.8	0.1	1.35		
	Ramp		1	4	1	0.1	0.40		
	Total						9.00	6308.50	56776.47
4	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 mm nominal size) upto plinth level with Cement mortar 1:6 (1 cement : 6 coarse sand) vide data no : 15	m ³							
	Foundation for Wall		1	16.92	0.6	0.45	4.57		
	Basement for Wall		1	16.92	0.45	0.45	3.43		
	Total						8.00	5746.68	45973.42
5	RCC M30 for foundation etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete	m ³							
	Column footing		4	4.2	4.2	0.2	14.11		
							14.00	9833.93	138776.42
6	RCC M30 for super structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete	m ³							
	Column		4	0.4	0.4	5.85	3.74		
	Plinth beam		1	16.92	0.3	0.4	2.03		
	Lintel beam		1	16.92	0.23	0.3	1.17		
	Ramp		1	4	1/2x(0.9x0.6)		1.08		
	Beams		1	4	0.3	0.45	0.54		
	Roof slab		1	5.66	4	0.2	4.53		
	Total						13.00	10887.61	141538.90
7	Brick work with common burnt clay selected F.P.S. (non modular) bricks of class designation 7.5 in exposed brick work including making horizontal and vertical grooves 10 mm wide 12 mm deep complete in cement mortar 1:6 (1 cement : 6 coarse sand) Above plinth level upto floor V level vide data no: 14	m ³							
	Wall		1	16.92	0.23	3.65	14.20		
	Parapet		1	21.84	0.12	1.1	2.88		
	Deduction for column		4	0.4	0.4	3.65	2.34		
							15.00	8153.90	122308.48

Estimate for the construction of 5MLD STP at Medical College, Trivandrum

11. Chlorination Building 7 x 6 x 4

Sl. No	Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
			1	15	10		150.00	941.62	1412.00
2	Earth work in rough excavation, banking excavated earth in layers not exceeding 20 cm in depth, breaking clods, watering, rolling each layer with ½ tonne roller or wooden or steel rammers, and rolling every 3rd and top-most layer with power roller of minimum 8 tonnes and dressing up in embankments for roads, flood banks, marginal banks and guide banks or filling up ground depressions, lead upto 50 m and lift upto 1.5 m	m ³							
	Column		6	2.1	2.1	1.3	34.40		
	Wall		1	17	1.2	1.3	26.52		
	Ramp		1	3.5	2.5	0.2	1.75		
	Total						62.67	561.89	35213.00
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size) Column	m ³							
	Column		6	1.5	1.5	0.1	1.35		
	Wall		1	17	0.6	0.1	1.02		
	Ramp		1	3.5	1/2x(2.5x0.5)		2.19		
	Total						4.56	6308.50	28751.00
4	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20 m m nominal size) upto plinth level with Cement mortar 1:6 (1 cement : 6 coarse sand)	m ³							
	Foundation for Wall		1	21.12	0.6	0.45	5.70		
	Basement for Wall		1	20.52	0.45	0.45	4.16		
	Total						10.00	5746.68	57467.00
5	RCC M30 for foundation etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete	m ³							
	Column footing		6	1.5	1.5	0.3	4.05		
							4.00	9833.93	39336.00
6	RCC M30 for super structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete	m ³							
	Column		6	0.3	0.3	3.7	2.00		
	Plinth beam		1	23.2	0.3	0.4	2.78		
	Lintel beam		1	23.2	0.3	0.4	2.78		
	Beams		3	5	0.3	0.4	1.80		
	Roof slab		1	6.8	5.8	0.15	5.92		
	Ramp		1	3.5	1/2x(2.5x0.4)		1.75		
	Net Total						17.03	10887.61	185438.00

7	Brick work with common burnt clay selected F.P.S. (non modular) bricks of class designation 7.5 in exposed brick work including making horizontal and vertical grooves 10 mm wide 12 mm deep complete in cement mortar 1:6 (1 cement : 6 coarse sand) Above plinth level upto floor V level	m ³							
	Wall		1	22.38	0.23	3.7	19.05		
	Parapet		1	24.64	0.12	1	2.96		
	Deduction						22.00		
	Window		4	1.2	0.23	1.50	1.66		
	Ventilator		4	0.75	0.23	0.45	0.31		
	Rolling Shutter		1	3.5	0.23	3.50	2.82		
							4.78		
							17.22	8153.90	140395.00
8	Providing and fabricating Ribbed tor steel bars / HYSD steel reinforcement including straightening ,cutting,welding, bending , hooking , lapping, placing in position tying with binding wire of approved quality and gauge including cost of binding wire anchoring to the adjoining members where ever necessary, etc., including cost of labour, materials, with all lead and lift complete as per the design specifications and as directed by the engineer.	Qtl							
	Column footing			4.05x110kg/m ³			4.46		
	Column			2.00x100kg/m ³			2.00		
	slab			7.67x75kg/m ³			5.75		
	Beam			7.37x95kg/m ³			7.00		
	Total						19.20	9526.22	182923.00
9	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:3 (1 cement: 3 fine sand)	m ²							
	Inside		1	22		4.5	99.00		
	Roof underside		1	6	5		30.00		
	Deduction								
	Window		4	1.2		1.50	7.20		
	Ventilator		4	0.75		0.45	1.35		
	Rolling Shutter		1	3.5		3.50	12.25		
	Total						108.20	318.49	34461.00
10	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete. 40 mm thick with 20 mm nominal size stone aggregate	m ²							
	Floor		1	6	5		30.00		
	Total						30.00	518.26	15548.00
11	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:4 (1 cement: 4 fine sand)	m ²							
	Outside		1	23.84		4.5	107.28		
	Roof outer side		1	6.36		5.36	34.09		
	Parapet outside		1	24.4		2.12	51.73		
	Deduction								
	Window		4	1.2		1.50	7.20		
	Ventilator		4	0.75		0.45	1.35		
	Rolling Shutter		1	3.5		3.50	12.25		
	Total						193.10	298.11	57564.00
12	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	m ²							
	Qty as per item 9 and 11						301.30	84.85	25565.00
13	Providing and fixing glazed shutters for doors, windows and clerestory windows using 4 mm thick float glass panes including ISI marked M.S. pressed butt hinges bright finished of required size with necessary screws. Using Anjili wood/ Jack wood 30mm thick shutters.	m ²							
	Window		4	1.2		1.50	7.20		
	Ventilator		4	0.75		0.45	1.35		
	Total						8.55	3390.80	28991.00

Estimate for the construction of 5MLD STP at Medical College, Trivandrum

12. Laundry Collection Tank 7m x 8.5 x 5.5m

Sl. No	Description	Unit	No	Dia	Dia/Thickness	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area	m ²							
				8.00	9.00		72.00		
	Total						72.00	941.62	678.00
2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
				7.50	8.50	2.00	15.00		
	Total						15.00	561.89	8428.00
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
				7.00	8.50	0.10	5.95		
	Total						6.00	6308.50	37851.00
3a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	raft			31		0.1	2.4335		
							2.4335	288.13322	701
4	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Raft slab			7.00	8.50	0.50	29.75		
	Wing Wall			31.00	0.30	1.50	13.95		
	Total						43.70	9833.93	429743.00
4a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	Raft slab			31.00		0.50	48.67		
	Total						49.00	288.13	14119.00
4b	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		2	31.00		4.00	248.00		
	Total						248.00	529.19	131238.00
5	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Wing Wall			31.00	0.30	4.00	37.20		
	Walkway slab			31.00	1.00	0.15	4.65		
	Total						41.85	10288.24	430563.00
	Centering and shuttering including strutting, propping etc. and removal of form								
5b	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		2	31.00		4.00	248.00		
	Total						248.00	529.19	131238.00
5c	Suspended floors, roofs, landings, balconies and access platform								
	Walkway slab			31.00	1.20		116.81		
	Total						117.00	589.10	68925.00

Estimate for the construction of 5MLD STP at Medical College, Trivandrum									
13. Laundry Pre clarifier 7m x 3 x 5.5m									
Sl. No	Description	Unit	No	Dia	Dia/Thickness	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area	m ²							
				8.00	4.00		32.00		
	Total						32.00	941.62	301.00
2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
				7.50	3.50	2.00	15.00		
	Total						15.00	561.89	8428.00
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
				7.00	3.00	0.10	2.10		
	Total						2.00	6308.50	12617.00
3a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	raft			20		0.1	1.57		
							1.57	288.13322	452
4	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Raft slab			7.00	3.00	0.50	10.50		
	Wing Wall			20.00	0.30	1.50	9.00		
	Total						19.50	9833.93	191762.00
4a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	Raft slab			20.00		0.50	31.40		
	Total						31.00	288.13	8932.00
4b	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		2	20.00		4.00	160.00		
	Total						160.00	529.19	84670.00
5	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Wing Wall			20.00	0.30	4.00	24.00		
	Walkway slab			20.00	0.60	0.10	1.20		
	Total						25.20	10288.24	259264.00
	Centering and shuttering including strutting, propping etc. and removal of form								
5a	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		2	20.00		4.00	160.00		
	Total						160.00	529.19	84670.00
5b	Suspended floors, roofs, landings, balconies and access platform								
	Walkway slab			20.00	0.70		43.96		
	Total						44.00	589.10	25920.00

Estimate for the construction of 5MLD STP at Medical College, Trivandrum									
14. Laundry Clarifier 7m dia x 5.5m									
Sl. No	Description	Unit	No	Dia	Dia/Thickness	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area	m ²							
				8.00	8.00		64.00		
	Total						64.00	941.62	603.00
2	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
			1xπ/4	7.00	5.00	2.00	10.99		
	Total						11.00	561.89	6181.00
3	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
			1xπ/4	7.00	7.00	0.10	3.85		
	Total						4.00	6308.50	25234.00
3a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	raft		π	7		0.1	0.5495		
							1	288.13322	288
4	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Raft slab		1xπ	3.50	3.50	0.50	19.23		
	Wing Wall		1xπ	7.00	0.30	1.50	9.89		
	Central inlet		1xπ	1.15	0.15	1.50	0.81		
	Total						30.00	9833.93	295018.00
4a	Centering and shuttering including strutting, propping etc. and removal of form								
	Foundations, footings, bases of columns, etc. for mass concrete								
	Raft slab		π	7.00		0.50	10.99		
	Total						11.00	288.13	3169.00
4b	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		π	7.00		1.50	32.97		
	Total						33.00	529.19	17463.00
4c	Columns, Pillars, Piers, Abutments, Posts and Struts								
	Central inlet		π	1.15		1.50	5.42		
	Total						5.00	664.93	3325.00
4	RCC M30 for sub structure etc using 20mm broken stone and SRC including all charges for form work ,shuttering, watering, curing etc. complete excluding reinforcement	m ³							
	Wing Wall		1xπ	7.00	0.30	4.00	26.38		
	Walkway slab		1xπ	7.00	1.20	0.15	3.96		
	Central inlet		1xπ	1.15	0.15	4.00	2.17		
	Top slab in middle wall		1xπ	1.15	0.60	0.15	0.32		
	Total						33.00	10288.24	339512.00
	Centering and shuttering including strutting, propping etc. and removal of form								
5a	Walls (any thickness) including attached pilasters, butteresses,plinth and string courses etc.								
	Wing Wall		π	7.00		4.00	87.92		
	Total						88.00	529.19	46568.00

5b	Columns, Pillars, Piers, Abutments, Posts and Struts							
	Central inlet		π	1.15		4.00	14.44	
	Total						14.00	664.93
5c	Suspended floors, roofs, landings, balconies and access platform							9309.00
	Walkway slab		$1x\pi$	7.00	1.20		26.38	
	Top slab in middle wall		$1x\pi$	1.15	0.60		2.17	
	Total						29.00	589.10
								17084.00
6	Providing and fabricating Ribbed tor steel bars / HYSD steel reinforcement including straightening ,cutting,welding, bending , hooking , lapping, placing in position tying with binding wire of approved quality and gauge including cost of binding wire anchoring to the adjoining members where ever necessary, etc., including cost of labour, materials, with all lead and lift complete as per the design specifications and as directed by the engineer.	Qtl						
	Raft		20. x 110kg/m ³				22.00	
	side wall		39.25 x100kg/m ³				39.25	
	Slabs		5 x 80kg/m ³				4.00	
	Total						65.00	9526.22
7	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:3 (1 cement: 3 fine sand)	m ²						619204.00
	Wing Wall		$1x\pi$	7.00		4.00	87.92	
	Walkway slab		$1x\pi$	7.00	2.55		56.05	
	Central inlet		$2x\pi$	1.15		4.00	28.89	
	Top slab in middle wall		$1x\pi$	1.15	0.85		3.07	
	Total						176.00	318.49
8	12 mm cement plaster finished with a floating coat of neat cement of mix : 1:4 (1 cement: 4 fine sand)	m ²						56055.00
	Outside wing wall		$1x\pi$	7.00		4.00	87.92	
	Total						88.00	298.11
9	Finishing walls with water proofing cement paint of required shade : New work (Two or more coats applied @ 3.84 kg/10 sqm)	m ²						26233.00
	Qty as per item 8						88.00	84.85
10	Painting with anti corrosive bituminous paint two coats to the outside surfaces including all charges for material and labour, etc. complete as per the instruction of the engineer	m ²						7467.00
			$1x\pi$	13.76		2.20	95.05	
	Total						95.00	118.56
11	Providing Handrails	Ls						11263.00
12	Providing gate valve and other accessories	Ls						50,000.00
13	Supplying and providing CI steps @ 30cm c/c	Nos						60,000.00
			30				30.00	
							30.00	221.70
								6651.00
	Total							1600627.00

Estimate for the construction of 5MLD STP at Medical College, Trivandrum										
16 Compound Wall										
Sl. No		Description	Unit	No	Length	Breadth	Height	Quantity	Rate(Rs.)	Amount(Rs.)
1		Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	m ²							
				1	400	2		800.00	941.62	7,533.00
2		Providing, driving and installing driven cast-in-situ reinforced cement concret epiles of grade M-25 of specified diameter and length below the pile cap, to carry safe working load not less than specified, excluding the cost of steel reinforcement but including the cost of shoe and the length of pile to be embedded in the pile cap etc. all complete. (Length of pile for payment shall be measured from top of shoe to the bottom of pile cap)								
	20.1.1	400 mm dia piles @ 1.5mc/c for total length -200m	metre	140	14			1960.00	2825.67	5,538,314.93
4a		Bailing out water with 5 HP engine and pump set including conveyance to the site, erection, dismantling and taking back of engine and pump, cost of fuel lubricating oil and other stores pay of staff etc. etc. complete.	kwh							
		say						100.00	110.06	11,005.85
3		Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30cm in depth. 1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed. All kinds of soil	m ³							
	2.6.1	first depth upto 1.5m		1	400	0.6	0.50	120.00		
		Total						120.00	228.22	27,386.22
3		Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level 1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40mm nominal size)	m ³							
				1	400	0.6	0.10	24.00		
		Total						24.00	6308.50	151,403.92
3a		Centering and shuttering including strutting, propping etc. and removal of form								
		Foundations, footings, bases of columns, etc. for mass concrete		1	400		0.2	80.00		
								80.00	288.13	23,050.66
4		RCC M30 for foundation structure etc using 20mm broken stone and SRC excluding all charges for form work ,shuttering, watering, curing etc. complete between the piles	m ³							
				1	200	0.3	1	60.00		
								60.00	9833.93	590,035.81
4a		Centering and shuttering including strutting, propping etc. and removal of form	m2							
				1	200		1.2	240.00		
								240.00	288.13	69,151.97
5		Random rubble masonry in CM 1:6 for foundation including cost of 72 kg cement	m3							
				1	200	0.7	0.8	112.00		
				1	200	0.6	0.6	72.00		
				1	400	0.45	0.45	81.00		
								265.00	5746.68	1,522,869.48
6		Pointing the exposed face of RR masonry with CM 1:4 including cost of 10 kg cement as per standard specification								
				2	400	0.45		360.00		
								360.00	155.98	56,154.08
7		Brick work in cement mortar 1:5 with existing country burnt bricks(22.9cm*11.2cm*7cm) for superstructure	m3							
				1	400	0.3	2	240.00		
								240.00	8153.90	1,956,935.67

17. Transmission main & Effluent Disposal Pipeline

[illegible]

21. Recycling & Pipeline

[illegible]

Estimate for the construction of 5MLD STP at Medical College, Trivandrum

18. Electrical and Mechanical Installations including recycling and sludge drying system

SL NO	DESCRIPTION	QTY	UNIT	Unite rate (LS / Market Rate)	Total amount in Rupees
1	Bio Fluid Treatment System for Labs				
a	Tanks for Collection of Bio Fluids Capacity - 500 lts	Sets	18	110,000.00	1,980,000.00
b	Chlorine Dosing System - Capacity 0-10 LPH (1w +1s)				
c	Tanks for Disinfected Bio Fluids Capacity - 500 lts				
d	Venturi Aeration System - Capacity 0.5 HP				
2	Bio Fluid Treatment System for OT Fluids				
a	Tanks for Collection of OT Fluids Capacity - 5000 lts	Sets	16	300,000.00	4,800,000.00
b	Chlorine Dosing System - Capacity 0-25 LPH (1w +1s)				
c	Tanks for Disinfected OT Fluids Capacity - 5000 lts				
d	Venturi Aeration System - Capacity 1 HP				
3	Laundry - Flow 700 KLD - 8hrs Operation				
a	Submersible Pump for Laundry waste water Duty: 50 cum/hr @ 15 M H. (1 W +1 S)	Nos	2	130,000.00	260,000.00
b	DeFoamer Dosing System - Capacity 0-35 LPH (1w +1s)	Nos	2	60,000.00	120,000.00
c	HCL Dosing System - Capacity 0-20 LPH (1w +1s)	Nos	2	60,000.00	120,000.00
d	Clarifier Mechanism	Set	1	500,000.00	500,000.00
e	Flocculation Dosing System - Capacity 0-20 LPH (1w +1s)	Nos	2	60,000.00	120,000.00
4	Oil and Grease Separator System				
a	OGS for Main Canteen - Capacity 20m3/hr	No	1	2,000,000.00	2,000,000.00
b	OGS for Girls and Boys Hostel Canteen - Capacity 7.5m3/hr	Nos	5	1,200,000.00	6,000,000.00
c	OGS for Regional Cancer Center - Capacity 15m3/hr	No	1	1,700,000.00	1,700,000.00
d	OGS for Sri Chitra Institute - Capacity 15 m3/hr	No	1	1,700,000.00	1,700,000.00
5	STP				
a	MS Bar Screen - 8mm & 6mm with rake	Set	1	100,000.00	100,000.00

6	Raw Effluent Pumps	Nos	4	170,000.00	680,000.00
	Flowrate - 62.5 m3/hr @ 12 m Head Submersible type 2W+2 S				
7	Aeration grid system for the MBBR tanks with seives and supports MOC : SS Diffuser	Set	1	2,700,000.00	2,700,000.00
8	Coarse bubble diffusers for Equalization Tank	Set	1	1,750,000.00	1,750,000.00
9	Air blowers for Equalization ,MBBR	Nos	1	7,644,000.00	7,644,000.00
	Duty: 6250 m3 /hr				
10	MBBR media - 500m2/m3	m3	233	45,000.00	10,485,000.00
11	Sludge Pumps, Submersible type for clariflculator	Nos	4	200,000.00	800,000.00
	flowrate = 62.5 m3/hr@12 M head (2w+2s)				
12	Filter Feed pumps, (2W+2S), Submersible type	Nos	4	250,000.00	1,000,000.00
	Required flowrate = 62.5 m3/hr @ 25m				
13	Coagulant Dosing pump, (2W + 2S)	No.	4	90,000.00	360,000.00
	Pump Capacity : 0-250 lph + Tank 100 lts capacity				
14	Lamella Clarifier	No	1	1,500,000.00	1,500,000.00
15	Disc Filter	Set	1	2,800,000.00	2,800,000.00
	Flowrate 250 m3/hr.				
16	Dual Media Filter & Accessories	Set	1	5,000,000.00	5,000,000.00
	Flowrate - 250 m3/hr.				
17	De watering system of sludge drying from 70% to 10% water content	Lot	1	3,000,000.00	3,000,000.00
18	Disinfection Dosing Pump (2w + 2S)	Set	4	90,000.00	360,000.00
	Pump Capacity : 0-150 lph + Tank 100 lts capacity				
19	Plant Piping,pumps, valves	Lot	1	2,500,000.00	2,500,000.00
	(MS/GI/PVC/UPVC?HDPE)				
20	LT Control Panel & Automation	No.	1	2,000,000.00	2,000,000.00
21	Elelctrical wiring and instrumentation	Lot	1	1,000,000.00	1,000,000.00
22	Recycling water pumping units and acessories including 100% standbye	set	1	500,000.00	500,000.00
					63,479,000.00
TOTAL - INR 6,30,69,000					