



**Subwork 31: Machineries and Equipments at Processing Site**

Sr. No.	Description	Unit	Quantity	Unit Rate	Amount in Rs. Lakhs		
					DSR	SOR	NSI
1	Diesel Generator	nos	1			23.80	
2	Wet Waste Processing Machineries	Unit	1			327.87	
3	Dry Waste Processing Machineries	Unit	1			88.43	
4	Leachate Treatment Plant (100 KLD)	Unit	1			114.18	
5	Skid Steer Loader	nos	4	1850000		74.00	
<b>TOTAL</b>							<b>628.28</b>

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pg-10  
pg-1/9

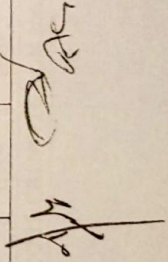
**BOQ & COST ESTIMATE FOR PROCESSING MACHINERY**

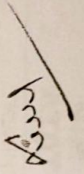
Sr. No.	Description of Item	Unit	HP	Quantity	Rate (Rs)		Rate (Rs) 2019	Inflation Index 2018-19	GST 18%	Insurance 2%	transportation 5%	Erection & Commissioning 2%	Amount
					2017	2018							
<b>Supply, Delivery of processing machinery for processing of Municipal Solid Waste at processing facility under SBM as per Technical Specifications &amp; Terms</b>													
1	Upfront Segregation Machinery												
1.1	Hopper with feeder conveyor	Nos	10	1	11,50,000	11,91,400	12,31,908		2,21,743	24,638	61,595	24,638	15.65
1.2	100 mm dia Trommel	Nos	20	1	20,00,000	20,72,000	21,42,448		3,85,641	42,849	1,07,122	42,849	27.21
1.3	Reject Conveyor	Nos	5	1	9,50,000	9,84,200	10,17,663		1,83,179	20,353	50,883	20,353	12.92
1.4	Accept Conveyor	Nos	7.5	1	8,50,000	8,80,600	9,10,540		1,63,897	18,211	45,527	18,211	11.56
1.5	Hand Sorting Conveyor	Nos	5	1	9,50,000	9,84,200	10,17,666		1,83,179	20,353	50,883	20,353	12.92

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## BOQ &amp; COST ESTIMATE FOR PROCESSING MACHINERY

Sr. No.	Description of Item	Unit	HP	Quantity	Rate (Rs) 2017	Rate (Rs) 2018	Rate (Rs) 2019	GST 18%	Insurance 2%	transportation 5%	Erection & Commissioning 2%	Amount
1.6	Electric Panel Board	Nos		1	3,50,000	3,62,600	3,74,928	67,487	7,499	18,746	7,499	4,76
1.7	Bailing Machine	Nos	7.5	1	12,00,000	12,43,200	12,85,469	2,31,384	25,709	64,273	25,709	16,33
2	Preparatory section machinery											
2.1	Feeder conveyor	Nos	7.5	1	9,50,000	9,84,200	10,17,663	1,83,179	20,353	50,883	20,353	12,92
2.2	35 mm trommel	Nos	20	1	18,00,000	18,64,800	19,28,203	3,47,077	38,564	96,410	38,564	24,49
2.3	Accept Conveyor	Nos	5	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10,20
2.4	Reject Conveyor	Nos	7.5	1	9,50,000	9,84,200	10,17,663	1,83,179	20,353	50,883	20,353	12,92
2.5	16 mm trommel	Nos	15	1	17,00,000	17,61,200	18,21,081	3,27,795	36,422	91,054	36,422	23,13
2.6	Accept Conveyor	Nos	5	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10,20
2.7	Reject Conveyor	Nos	7.5	1	9,50,000	9,84,200	10,17,663	1,83,179	20,353	50,883	20,353	12,92
2.8	Electric Panel Board	Nos		2	15,00,000	15,54,000	16,06,836	2,89,230	32,137	80,342	32,137	20,41
3	Finishing Section											
3.1	Hopper with feeder conveyor	Nos	7.5	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10,20







**BOQ & COST ESTIMATE FOR PROCESSING MACHINERY**

Sr. No.	Description of Item	Unit	HP	Quantity	Rate (Rs) 2017	Rate (Rs) 2018	Rate (Rs) 2019	GST 18%	Insurance 2%	transportation 5%	Erection & Commissioning 2%	Amount
3.2	4 mm trommel	Nos	15	1	16,00,000	16,57,600	17,13,958	3,08,513	34,279	85,698	34,279	21,77
3.3	Magnetic Separator	Nos	1.5	1	5,50,000	5,69,800	5,89,173	1,06,051	11,783	29,459	11,783	7.48
3.4	Accept Conveyor	Nos	7.5	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10.20
3.5	Reject Conveyor	Nos	3	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10.20
3.6	De Stoner Reject conveyor	Nos	3	1	5,00,000	5,18,000	5,35,612	96,410	10,712	26,781	10,712	6.80
3.7	De-Stoner	Nos	12	1	7,00,000	7,25,200	7,49,857	1,34,974	14,997	37,493	14,997	9.52
3.8	De-Stoner Inside Reject Conveyor	Nos	5	1	3,50,000	3,62,600	3,74,928	67,487	7,499	18,746	7,499	4.76
3.9	Air Aspirator Having Cyclone Blower, Ducting	Nos	6	1	4,00,000	4,14,400	4,28,490	77,128	8,570	21,424	8,570	5.44
3.10	Compost Accept Coveyor	Nos	5	1	6,00,000	6,21,600	6,42,734	1,15,692	12,855	32,137	12,855	8.16
3.11	Electric Panel Board	Nos		1	3,50,000	3,62,600	3,74,928	67,487	7,499	18,746	7,499	4.76
<b>Grand Total for Wet Waste Processing Machineries</b>												<b>327.87</b>

**RFDF section for Sizing for Dry Waste Processing**

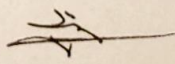
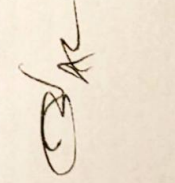
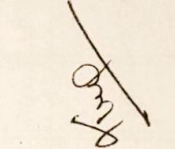
4.1	Feeder conveyor	Nos	8	1	9,50,000	9,84,200	10,17,663	1,83,179	20,353	50,883	20,353	12.92
4.2	Shredder Double shaft	Nos	40	1	39,00,000	40,40,400	41,77,774	7,51,999	83,555	2,08,889	83,555	53.06
4.3	Magnetic Separator	Nos	2	1	5,50,000	5,69,800	5,89,173	1,06,051	11,783	29,459	11,783	7.48
4.4	Accept Conveyor	Nos	5	1	7,50,000	7,77,000	8,03,418	1,44,615	16,068	40,171	16,068	10.20
<b>Grand Total for Dry Waste Processing Machineries</b>												<b>187.46</b>

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BOQ & COST ESTIMATE FOR PROCESSING MACHINERY												
Sr. No.	Description of Item	Unit	HP	Quantity	Rate (Rs) 2017	Rate (Rs) 2018	Rate (Rs) 2019	GST 18%	Insurance 2%	transportation 5%	Erection & Commissioning 2%	Amount
	Board		-	1	3,50,000	3,62,600	3,74,928	67,487	7,499			4,76
Grand Total for Dry Waste Processing Machineries												
				24								88.43
				2								
TOTAL for Wet and Dry Waste processing machineries												
												416.30

Rate Analysis for Leachate Treatment Plant (100 KLD)

Sr. No.	Description	2017 cost	2018	2019	GST 18%	Insurance 2%	Transportation 5%	Erection & Commissioning 2%	TOTAL
1	100 KLD Leachate Treatment Plant	8393000	8695148	8990783.03	1618341	179815.66	449539.15	179815.66	11418294
			3.6% Inflation Index 2017-18	3.4% Inflation Index 2018-19					



**Subwork 32: IEC Activity for Rishikesh**

Sr. No	Activity	Activity Details	Unit	Estimated Quantity	Rate in INR.	Amount (in INR).	Remarks
<b>A) Visual/Audio Visual media</b>							
1	Production of Television spots	Design, script, shoot, edit, prepare 30-60 second television spots, shot on DigiBeta or DV Cam in HD format, in Hindi/local language, involving renowned local professional actors, based on a minimum of 7 different themes (i.e. ODF, handwashing, SWM awareness and good practices) as required by the Client/ULB, to be aired on national and local channels	No	X 1	30000 0.00	300000	Market Survey, agencies contacted, 1- Channel Mountain, Dehradun.
2	Production of Audio-visual (success stories on SBM-U and awareness)	Design, script, prepare Audio-Visual content (10-15 minutes), shot on DigiBeta or DV Cam in HD format, in Hindi/local language, based on a minimum of 5 different themes (i.e. ODF, handwashing, SWM awareness and good practices) as required by the Client/ULB.	No	1	10000 0.00	100000	Market Survey, agencies contacted, 1- Channel Mountain, Dehradun.
3	Adaptation/ dubbing of video content	The consultant will be responsible for making changes/additions/edits to any existing video/audio content, including changing frames/flow and/or dubbing content into local languages, as required by client.	No	1	10000 0.00	100000	Market Survey, agencies contacted, 1- Channel Mountain, Dehradun.
4	Short Films	Films (12 numbers) of minimum 2 minutes duration, shot on DigiBeta or DV Cam in HD format, with minimum 6 renowned actors, will be scripted, shot, edited by the Consultant in Hindi and also dubbed in local language, which will be screened using mobile vans and on other occasions within the target ULBs and elsewhere as desired by the client.	No	1	30000 0.00	300000	Market Survey, agencies contacted, 1- Channel Mountain, Dehradun.
<b>B) Audio Media</b>							
5	Production of Audio (success stories on SBM-U and awareness)	30 second Radio Jingles will be produced by the consultant, on the Theme (i.e. ODF, handwashing, SWM awareness and good practices) to be identified by the client in Hindi/local language, to be aired through All India Radio local stations.	No	1	30000 0.00	300000	Market Survey, agencies contacted, 1- Channel Mountain, Dehradun.
<b>C) Outdoor Media</b>							
6	Hoardings/ banners or other Out of Home (OOH) advertising like hot air balloons/ other innovative	Design, script the content in local languages, based on the theme as provided by the ULBs/Client. The Out-of-home (OOH) advertising will be printed in colour, in the form of hoardings, in sizes as required by the Client to be printed on cloth and installed/mounted by the Consultant on a minimum of 20 locations in each ULB, as directed by the Client	sq. ft	15	50000	750000	

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Sr. No	Activity	Activity Details	Unit	Estimated Quantity	Rate in INR.	Amount (in INR).	Remarks
	ad spaces						
<b>D) Print Media</b>							
7	Printing of awareness posters	Coloured, (A3size, 170GSM GLOSSY/MATTLAMINATED PAPER) with photos, text regarding SWMBest Practices, Designing, Printing, Distribution among target groups in English, Hindi, based on the content supplied by the Client/ULBs and scripted by the consultant, in lots of 100, for each ULB.	Lot	1000	50	50000	Local rates to be collected
8	Printing of Newsletter	Coloured-8pages, (A4size) in 300GSM Glossy paper, with photos, text regarding SWMBest Practices and project information, Designing, Printing, Distribution among target groups in English, Hindi, based on the content supplied by the Client/ULBs and scripted by the consultant, at least one in each quarter for each ULB, in lots of minimum 500 copies.	No	12X 1000	30	360000	As per SPMG-NGCA
<b>F) Mass Contact Program</b>							
9	Cleanliness/Awareness drives in Govt. hospitals/unclean sites	To be conducted once in each ULB, consisting of "Walk of Shame" through unclean sites, lecture/training session with a cleaning drive, involving Government staff, school children, Municipal employees, local community members, shopkeepers, volunteers, NGO etc, with 02 event banners, 10 awareness cloth banners (not flex/PVC), all necessary Audio/Visual equipment, Cleanliness equipment like brooms, brushes, cleaning materials, with a minimum of 200 people, refreshment to participants (usage of food items of plastic and thermocol is not allowed during the event), requisite manpower to execute the activity will be provided by the consultant.	No			20000 0	
10	Open School painting/ poster, slogan writing and quiz Competition	ULB to develop School painting/poster Competition, Quiz Competition, slogan writing competition in two groups, i.e. 6 to 8 class and 9 to 12 class (covering all Government school, maximum students 5 from each school), all three competitions will be organized on the same day, will have to organize once in each ULB, by the consultant. The paintings from the competition will be evaluated by the agency by a panel of experts nominated by the Consultant and approved by the Client. An exhibition of the paintings will be held and awards will be given to various age groups for best three paintings. All three required stationary, 02 event & 05 awareness cloth banners (not flex/PVC) size 5x3 feet, Refreshment for participants (usage of disposable plastic and thermocol is not allowed during these events), with a minimum of 150 students and requisite manpower will be provided by the consultant.	No			50000 0	
				Lumpsum		200000 0	
				Lumpsum		50000 0	

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Sr. No	Activity	Activity Details	Unit	Estimated Quantity	Rate in INR.	Amount (in INR).	Remarks
11	Swachhata Marathon (1/4th) in school/colleges	A Swachhata 1/4th Marathon with minimum 100 participants, covering a distance of 10.55 Km (Marathon Distance = 42.195 Km), will have to be organized once in each 24 ULBs, with Medical aid counter/Mobile Medical Unit, Water stations, Fruit/Snack stations (enroute at different locations), stage at the Start and End point (which will also act as an Award stage) of the marathon by the Consultant, as per Athletics Federation of India norms and guidelines. The required permits, approvals from all the concerned authorities will be taken by the Consultant, who will also be responsible for bringing in sponsors for such events. Registration counter, 10 event banners (cloth not flex/ PVC of minimum size 8 x 3 feet), refreshment for participants (disposal thermocol and plastic items are not to be used in the event) and requisite manpower will be provided by the consultant.	No	Lumpsum	50000 0	500000	
12	Celebration of World Environment Day/ Toilet Day, Earth Day, Hand wash day, Independence Day, Republic day, Uttarakhand day	Stirring speech, Morning procession in Middle, Secondary, Sr. Secondary schools, Demonstration including audio/visuals, Banners (both Concept based and Event) on the related themes may be required preferably in local language. Healthy, nutritious refreshment for students participating in such events, requisite manpower to execute the activity in 7 schools (One school for each day) in each ULB on occasion of World Environment Day, Toilet Day, Earth Day, Hand wash day, Independence Day, Republic day, Uttarakhand day	No	Lumpsum	50000 0	500000	
13	Street plays/ Nukkad Natak	Utilising folk arts forms, songs, dramas, entertainment performances etc. to which the local populace are able to identify, of minimum 30 minutes duration (in Hindi/Local language) with at least 8-10 characters will be scripted by the agency focusing on different components of SBM and SWM "Good Practices" as adopted by communities. The play will have to be performed in various crowded places of ULBs by professional actors employed by the Consultant, in front of minimum 50 persons, at least once in each month in each ULB. The Consultant will also be responsible for designing, printing/preparation and fixing in place of event banners, 10 awareness cloth banners (not flex/PVC) for each play, as approved by the client.	No	24	10000	240000	

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Sr. No	Activity	Activity Details	Unit	Estimated Quantity	Rate in INR.	Amount (in INR).	Remarks
14	Seminar/ Workshop	ULB level seminars/workshops (Venue to be finalised and provided by Client/ULB free of cost), involving district/ block level officers concerned, NGOs, CBOs, researchers, academicians, prominent local people and public representatives, will be organized, by the consultant at least once in each ULB, focusing on "Good Practices" of SWM, with special focus on "Community Participation", (minimum 60 -75 participant) with all necessary Audio Visual equipment, refreshment, manpower essential to execute the activity. Prominent National Specialists will be engaged as individual consultants to address the gathering. Plastic & Thermocol disposal items is prohibited in all events.	No	24	5000	120000	
15	Press Release	Finalising content and ensuring publicity by Press Release, as a tool of public awareness, as directed by the Client/ ULB	No	24	2500	60000	
16	Mobile based Outreach campaign:	Creation and execution of SMS/calling/mobile outreach campaigns reaching out to a minimum of 10,000 people in each campaign, once in each quarter, in 24 ULBs.	No	Lumpsum		100000	
Total						4480000	

37.80 per

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14 SI - net 37.80  
 10 SI - Rs 44.80 per

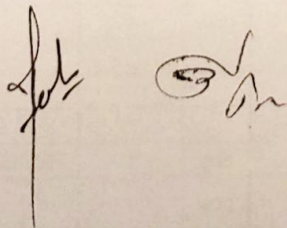
नगर आयुक्त  
 नगर निगम, अहमदाबाद



Annexure I & II – BOQ, Drawings and Quotations

List of Sub-Work for Doiwala Town

- Subwork 1: Vehicle for Collection and transportation
- Subwork 2: Construction of Open Shed 200 sq. m at Decentralized Transfer Centre at one place
- Subwork 3: Construction of Leachate Collection Tank at Decentralized Waste Transfer Centre
- Subwork 4: Procurement of Portable compactor along with hook loader for Transfer and secondary transportation for Municipal Solid Waste at Doiwala
- Subwork 5: Construction of 200 sq.m. shed at Dry waste collection center at two places in Doiwala
- Subwork 6: Construction of Internal Road and KC Drain at Dry waste collection center at 2 places in Doiwala
- Subwork 7: Construction of Entrance Gate at Dry waste collection Centre at 2 places in Doiwala
- Subwork 8: Construction of Barbed Wire Fencing at Dry waste collection Centre at 2 places in Doiwala
- Subwork 9: Construction of Leachate Tank at Dry waste collection Centre at 2 places in Doiwala
- Subwork 10: Construction of Dry waste segregation bins at Dry waste collection Centre at 2 places in Doiwala
- Subwork 11: Site Development and Barbed Wire Fencing at Processing Site
- Subwork 12: Construction of Internal road with KC Drain at Processing Site
- Subwork 13: Construction of Entrance Gate at Processing Site
- Subwork 14: Construction of Septic Tank at Processing Site
- Subwork 15: Construction of Admin Building at Processing Site
- Subwork 16: Construction of Compost Curing and Storage Shed at Processing Site
- Subwork 17: Construction of Compost Coarse Segregation Shed at Processing Site
- Subwork 18: Construction of Windrow Platform (25m x 12m) at Processing Site
- Subwork 19: Construction of Windrow Platform (33m x 12m) at Processing Site
- Subwork 20: Construction of Leachate Tank at Processing Site
- Subwork 21: Electrical Cost at Processing Site
- Subwork 22: Machineries, Vehicles and Equipment's at Processing Site
- Subwork 23: IEC Activity in Doiwala



Sr. No.	Description	Unit	Quantity	Unit Rate	Amount in Rs. Lakhs		
					DSR	SOR	NSI
<b>Collection and Transportation</b>							
1	Auto Tipper	nos	5	625000	—	—	31.25
<b>Decentralized Transfer Centre in 1 area</b>							
2	Construction of open shed (200 sq.m. x 1 Nos.)	sq. m	200	29.16	—	—	0.02
3	Construction of Leachate Tank (1 Nos.)	nos	1	0.59	—	—	—
4	Stationary Compactor with Hook Loader	set	1	—	—	—	75.00
<b>Dry waste Collection Centre in 2 areas</b>							
5	Construction of open shed (200 sq.m. x 2 Nos.)	sq. m	400	58.32	—	—	<del>3.50</del> 0.05
6	Construction of Internal Road including KC drain (30 m x 2 Nos.)	m	60	—	4.08 4.30	—	—
7	Construction of Entrance Gate (2 Nos.)	nos	2	1.14	—	—	—
8	Barbed Wire fencing (104 m x 2 Nos.)	m	208	1.99	—	—	—
9	Construction of Leachate Tank (2 Nos.)	nos	2	1.18	—	—	—
10	Dry waste segregation bins (28 x 2 Nos)	nos	56	—	—	—	4.62
<b>Processing Facility</b>							
Civil and Electrical							
11	Site Clearance and barbed wire fencing			3.80	—	—	4.47
12	Construction of Internal Drain including KC drain	m	120	—	8.15 8.59	—	—
13	Construction Entrance Gate	nos	1	0.57	—	—	—
14	Construction of Septic Tank	nos	1	0.71	—	—	0.04
15	Construction of Admin Building as per drawing	sq. m	16.9	6.48 6.67	—	—	0.59 0.11
16	Construction of COMPOST CURING & STORAGE SHED (20x10)	sq. m	200	29.15 29.16	—	—	1.80
17	Construction of COMPOST COARSE SEGREGATION SHED (40x18)	sq. m	720	78.60 78.63	—	—	0.02
18	Construction of Windrow platform (25x12)	sq. m	300	7.12 7.14	—	—	—
19	Construction of Windrow platform (33x12)	sq. m	396	9.39 9.41	—	—	—
20	Construction of Leachate Tank	nos	1	0.59	—	—	—
21	Provision of Locally available tree & Plants			4.53	—	—	0.50
22	Electrical			13.32	—	—	5.85
<b>Accessories for facility</b>							
23	Skid Steer Loader	nos	1	1850000	—	—	18.500
24	Wet Waste Processing Machineries	nos		—	—	—	156.970
25	Tipper Truck for Reject Disposal	nos	1	1800000	—	—	18.000
<b>IEC ACTIVITY</b>							
26	IEC Activity			—	—	—	16.25
<b>TOTAL COST (in lakhs)</b>					242.39	12.89	339.47

233.30, 12.43, 341.41

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DSR

SOR

NSI

Add Cost Index on DSR Item (Dehradun) 2%		4.67	—	(4.85)
Add 1% Labour cess on DSR items	Subtotal (A)	237.97	12.23	(2.47) 341.41
Add 3% contingency on schedule (DSR+SOR) items		7.14	0.37	(7.80) —
Total Capital cost	Subtotal (B)	245.11	12.60	(609.88) 341.41

₹ 245.11 , 14.07

341.41

Total SI = ₹ 245.11 + ₹ 14.07 = ₹ 299.18 Lacs

NSI = ₹ 341.41 Lacs.

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7/17/2017  
 TATA CONSULTING ENGINEERS LIMITED

TATA CONSULTING ENGINEERS LTD.

Subwork 1: Vehicle for Collection and transportation

ABSTRACT SHEET

Item No.	Item Description	Unit	Quantity	Rate in Rs.	Amount in Rs.
1	Auto Tipper	Nos.	5	6,25,000	3125000

SI - Nil  
NSI Rs 31.25 lacs

MEASUREMENT SHEET

Item No.	Item Description	Unit	Quantity
1	Auto Tipper	Nos.	5

Auto Tipper Requirement

Sr. No	Details	2019
1	Population (2019)	64347
2	Number of households	13200
3	Household cover by one Auto Tipper	1000
4	Number of Auto Tipper required	14
5	Existing Auto Tipper	9
6	Additional Requirement	5

Assumption and calculation:

1. Auto Tipper provided for every 1000 households. (As per CPHEEO Manual)
2. Capacity of Auto Tipper: 850 kg
3. Density of MSW: 500 kg/cum
4. Carrying Capacity of Auto Tipper: 1.7 cum
5. No. of Trips per day: 2 Nos.

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Subwork 2: Construction of Open Shed 200 sq. m at Decentralized Transfer Centre at one place

S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
1	Civil Work Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.									
	Upto 1.5 meter depth	10	1.4	1.4	1.95	38.22				
	For column foundation (250x300)	1	46.92	0.43	0.25	5.04				
	For PCC of Plinth Beam	1	67.04	0.96	0.4	25.74				
	Side Drain					69.01	Cum	252.3	17410.53	DSR Item No_2.8.1
2	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in-Charge:	1	20	10		200.00	Sqm	92.55	18510.00	DSR Item No_2.1.1
3	150 mm THK Well compacted stone soling voids should be filled and compacted with stone chipping and sand filling 60-90 mm stone size	1	20	10	0.15	30.00				
	For Grade Slab	1	5	3	0.15	2.25				
	For Entrance					32.25	Cum	1873.00	60404.25	UNIT ESTIMATE
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 coarse sand (zone-III): 6 graded stone aggregate 40 mm nominal size)	10	1.4	1.4	0.075	1.47				
	in column foundation									

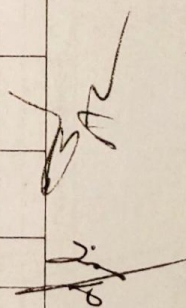
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S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
	Below plinth beam	1	50.75	0.43	0.075	1.64				
	Plinth Protection	1	65.84	1	0.1	6.58				
	Below Side Drain	1	67.04	0.96	0.075	4.83				
	For Entrance	1	5	3	0.1	1.50				
	For Flooring over soiling	1	20	10	0.075	15.00				
						31.02	Cum	6126.25	190021.37	DSR Item No_4.1.6
3	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	1	20	10		200.00	Sqm	498.35	99670.00	DSR Item No_11.3.1
4	Providing and fixing glass strips in joints of terrazzo/ cement concrete floors 40 mm wide and 4 mm thick machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).					1000.00	RM	75.15	75150.00	DSR Item No_11.13.1
5	All works upto plinth level									
	Column foundation	10	1.2	1.2	0.35	5.04				
	Column 250x300	10	0.25	0.3	1.5	1.13				
	Plinth beam	1	50.75	0.23	0.3	3.50				
						9.67	Cum	7997.3	77307.90	DSR Item

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S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
	All works above plinth level upto floor V level									No_5.33.1
	Column (250x300) above plinth	10	0.25	0.3	6	4.50				
	Column (230x230) above plinth Stool Column	3	0.23	0.23	3	0.48				
	Band Lintel	1	60.92	0.23	0.23	3.22				
	Tie Beam	1	81	0.25	0.3	6.08				
	Chajja for Rolling shutter	1	5	0.75	0.15	0.56				
						14.84	Cum	9400.85	139473.53	DSR Item No_5.33.2
6	Centering and shuttering including strutting, propping etc. and removal of form work for :									
	Foundations, footings, bases for columns									
	sides of foundation	10	4.8		0.35	16.8	sqm	284.85	4785.48	DSR Item No_5.9.1
	Columns, piers, abutments, pillars, posts and struts									
	Sides of column above foundation									
	Columns (250x300)	10	1.1		7.5	82.5				
	Column (230x230) above plinth Stool Column	3	0.92		3	8.28				
	Lintels, beams, plinth beams, girders, bressumers and cantilevers					90.78	sqm	733.7	66605.29	DSR Item No_5.9.6
	Sides of Plinth Beam	10	50.8		0.6	30.45				
	Sides of band lintel	10	60.9		0.7	42.03				
	Sides of tie beam	10	81.0		0.9	68.85				
	Weather shade, Chajjas, corbels etc., including edges					141.33	sqm	552.05	78023.88	DSR Item No_5.9.5

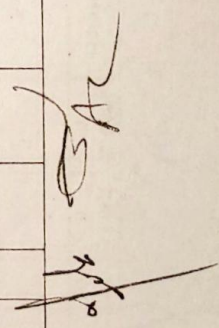




S. No	Item Description	No	Lengt h	Breadt h	Height	Qty	Unit	Rate	Amount	Item Reference
7	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level and above. Thermo-Mechanically Treated bars of grade Fe-500D or more. Consider 1.5 % of Total volume	1	5	0.75		3.75	Sqm	766.75	2875.31	DSR Item No_5.9.19
						2885.2 3	Kg	83.5	240916.7 4	DSR Item No_5.22.6
	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in									
	Wall-1 of Outer Drain	1	46.58	0.23	0.3	3.21				
	Wall-2 of Outer Drain	1	44.92	0.23	0.15	1.55				
						4.76	Cum	6376.2 5	30374.92	DSR Item No_6.1.1
8	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level Cement mortar 1:6 (1 cement : 6 coarse sand) Center line Deduction for Rolling shutter	1	60.92	0.23	3	42.03				
		1	5	0.23	3	-3.45				
						38.58	Cum	7590.4 5	292876.0 0	DSR Item No_6.4.2
9	12 mm cement plaster of mix :1:6 (1 cement: 6 fine sand) on Internal Surface Internal side Deduct rolling shutter opening	1	60		3	180.00				
		1	5		3	-15.00				
						165.00	Sqm	254.25	41951.25	DSR Item No_13.1.2

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S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
10	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) in drain wall -1	1	46.58		0.53	24.69				
	wall-2	1	44.92		0.53	23.81				
	Bottom	1	45.52	0.3		13.66				DSR Item No_ 13.1.1
11	20 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand) on External Surface									
	External side	1	61.84		3	185.52				
	Deduct rolling shutter opening	1	5		3	-15.00				DSR Item No_ 13.3.1
12	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.									DSR Item No_ 13.80
13	Finishing walls with water proofing cement paint of required shade .New work (Two or more coats applied @ 3.84 kg/10 sqm)									DSR Item No_ 13.44.1
14	Distemping with oil bound washable distemper of approved brand and manufacture to give an even shade .New work (two or more coats) over and including water thinnable priming coat with cement primer									DSR Item No_ 13.41.1
15	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									DSR Item No- 10.2
						9668.00	Kg	101.75	983719.00	

  
 SAR

S. No	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
16	Providing and fixing pre-coated galvanized iron profile sheets (size, shape and pitch of corrugation as approved by Engineer-in-charge) 0.50 mm (+ 0.05 %) total coated thickness with zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 15-18 microns. Sheet should have protective guard film of 25 microns minimum to avoid scratches during transportation and should be supplied in single length upto 12 metre or as desired by Engineer-in-charge. The sheet shall be fixed using self drilling /self tapping screws of size (5.5x 55 mm) with EPDM seal, complete upto any pitch in horizontal/ vertical or curved surfaces, excluding the cost of purlines, rafters and trusses and including cutting to size and shape wherever required.					244.00	Sqm	627.55	153122.20	DSR Item No- 12.5
17	Painting on G.S. sheet with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : New work (two or more coats) including a coat of approved steel primer but excluding a coat of mordant solution					244.00	Sqm	138	33672.00	DSR Item No- 13.53.1
18	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete. On steel work					322.27	Sqm	189.75	61150.10	DSR Item No- 13.52.1
19	Providing and fixing 15 cm wide, 45 cm overall semi-circular plain G.S. sheet gutter with iron brackets 40x3mm size, bolts, nuts and washers etc., including making necessary connections with rain water pipes complete. 0.80 mm thick with zinc coating not less than 275 gm/m <sup>2</sup>					41.20	RM	765	31518.00	DSR Item No- 12.7.1

BAR

S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
20	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion, (i) Single socketed pipes.					50	RM	305.05	15252.50	DSR Item No-12.41.2
21	110 mm diameter Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A, including jointing with seal ring conforming to IS : 5382, leaving 10 mm gap for thermal expansion.					12	Nos	129.85	1558.20	DSR Item No-12.42.5.2
	Bend 87 5°					6	Nos	113.8	682.80	DSR Item No-12.42.6.2
	Shoe (Plain)					48	Nos	50	2400.00	NSI
22	Providing & Fixing MS Clamp to hold wall mounted Rain water pipe in position including making necessary holes and fittings etc.					1	per cm dept h per 100 m	557.65	557.65	DSR Item No- 5.28
23	Providing and fixing in position 12mm thick bitumen impregnated fiber per cm board conforming to IS : 1838, including cost of primer, sealing compound depth per Grade-A in expansion joints. Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS. 4454 - part 1 and M.S. top cover of required thickness for rolling shutters.									
24										

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S. N	Item Description	No	Lengt h	Breadt h	Height	Qty	Unit	Rate	Amount	Item Reference
25	80x0.90 mm M.S. laths with 0.90 mm thick top cover					15	Sqm	2654.2 5	39813.75	DSR Item No- 10.6.3
26	Providing and fixing ball bearing for rollers					1	each	419.85	419.85	DSR Item No- 10.7
									2916204. 25	2915236.75
									2400.00	2400.00

S1- Rs 29.16 lacs  
NS1 Rs 0.02 lacs

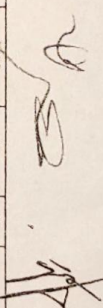
Stone Soling										
S.N	Item Description	No	Qty	Unit	Rate	Amount	Item Reference			
	Details of cost 3 m X6 m and 150 mm thick area									
1	Stone Boulder 50 mm to 200 mm	1	2.7	Cum	850	2295.00	DSR 7753			
2	Gravel 5 mm to 10 mm to fill voids	1	0.54	Cum	850	459.00	DSR 7754			
3	Sand Filling	1	0.27	Cum	1953.05	527.32	DSR 2.27			
4	Beldar to spread boulder & Gravel	1	2	Day	558	1116.00	DSR 0114			
				Total		4397.32				
	Add 15% CPOH			15%		659.60				
				Total		5056.92				
				Total per Cum		1873.00				

1843.00  
C check as prev

Qty Calculation of Truss of Open Shed (20x10)						
Size of shed	10	x	20		m	
No of trusses	5	Nos				
No of Bays	4	Nos				
length of bay/ purlin	5	m				
No. of purlins	12	Nos				
Width of building/ Width of truss	10	m				
No of columns per bay	2	Nos				
Length of top chord / sag rod	12.2	m				
<b>Steel quantities of Trusses</b>						
<b>Description</b>	<b>Units</b>	<b>Nos.</b>	<b>Length</b>	<b>m</b>	<b>Total length</b>	<b>Total weight 'kgs'</b>
Top & bottom chord ( 2 L 75X75X8 @17.8kg/m)	kg	5	24	120	17.8	2136
Chord members ( 2L 50X50X6 @ 9Kg/m)	kg	5	23	115	9	1035
purlins ( MC 150 @ 16.8Kg/m)	kg	48	5	240	16.8	4032
Tie members ( MC 150 @ 16.8Kg/m)	kg	22	5	110	16.8	1848
sag rod (12 dia @0.89kg/m)	kg	4	12.2	48.8	0.89	43.432
Cap plate (300x300x16thk@ 11.3kg/No)	kg	10	Nos		11.3	113
					<b>Total weight of truss =</b>	<b>9668</b>
Area of GI roof sheet cover	244	sqm				

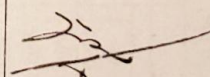
Subwork 3: Construction of Leachate Collection Tank at Decentralized Waste Transfer Centre

S. No	Item Description	No	Length h	Breadth h	Height/Depth h	Qty	Unit	Rate	Amount	Item Reference
	Size		1.5	1.5	1.5					
	Wall thick		0.2							
1	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge. Upto 1.5 meter depth	1	2.5	2.5	1.5	9.375	Cum	181.85	1704.844	DSR_Item No_2.6.1
2	Beyond 1.5 meter upto 3.0 meter	1	2.5	2.5	0.3	1.875	Cum	271.89	509.7938	DSR_Item No_2.6.1 +2.26.1
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 (zone-III) : 8 graded stone aggregate 40 mm nominal size)	1	2.5	2.5	0.1	0.625	Cum	5789.6	3618.5	DSR_Item No_4.1.8
4	Providing and laying in position machine batched and machine mixed design mix M-30 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge.									
	Bottom of tank	1	2.3	2.3	0.2	1.058				
	Wall-1	2	1.7	0.2	1.5	0.51				
	Wall-2	2	1.7	0.2	1.5	0.51				





S. N	Item Description	No	Length h	Breadth h	Height/Depth h	Qty	Unit	Rate	Amount	Item Reference
5	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level and above.					2.078	Cum	9470.6	19679.91	DSR Item No_5.33.2 + 5.34.1
	Thermo-Mechanically Treated bars of grade Fe-500D or more									
	Consider 1.5 % of Total volume					245	Kg	83.5	20431.16	DSR Item No_5.22.6
6	Centering and shuttering including strutting, propping etc. and removal of form for all heights. Foundations, footings, bases of columns, etc. for mass concrete									
	Sides of Foundation	2	4.6		0.2	1.84	Sqm	284.85	524.124	DSR Item No_5.9.1
7	Centering and shuttering including strutting, propping etc. and removal of form for all heights. Walls (any thickness) including attached pilasters, buttresses, plinth and string courses etc.									
	Wall-1	4	1.7		1.5	10.2				
	Wall-2	4	1.7		1.5	10.2				
						20.4	Sqm	609.3	12429.72	DSR Item No_5.9.2
							Total		58898.04	


  
 SI Rs 0.59 lacs
   
 NSI - Nil -



**Subwork 4: Procurement of Portable compactor along with hook loader for Transfer and secondary transportation for Municipal Solid Waste at Doiwala**

Item No.	Item Description	Unit	Quantity Per Set	Number of Set (nos.)	Rate in Rs. Per set	Amount in Rs.
1	Solid Waste Portable Compactor with integral 10.5 Cum Container unit including Hydraulic Loading Bucket/ Shovel arrangement as per technical specifications enclosed.	Nos.	2			
2	Hook loader mounted on 16.2 T GVW BS - IV Truck Chassis capable of handling the compactor unit with 10.5 cum volume container unit as per technical specifications.	Nos.	1	1	750000	750000
<b>Total cost for 1 Set</b>						<b>750000</b>

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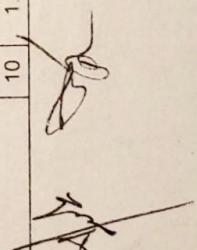
SI - Nil

NSI - Rs 7.50 lacs

HSI → Rs. 75.00 lacs.

## Subwork 5: Construction of 200 sq.m. shed at Dry waste collection center at two places in Doiwala

S. N	Item Description	N	Lengt h	Breadt h	Height	Qty	Unit	Rate	Amount	Item Reference
1	Civil Work Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan), including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soil.									
	Upto 1.5 meter depth									
	For column foundation (250x300)	10	1.4	1.4	1.95	38.22				
	For PCC of Plinth Beam	1	46.92	0.43	0.25	5.04				
	Side Drain	1	67.04	0.96	0.4	25.74				
						69.01	Cum	252.3	17410.53	DSR Item No_2.8.1
2	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including getting out and disposal of excavated earth upto 50 m and lift upto 1.5 m, as directed by Engineer-in-Charge.	1	20	10		200.00	Sqm	92.55	18510.00	DSR Item No_2.1.1
3	150 mm THK Well compacted stone soling voids should be filled and compacted with stone chipping and sand filling 60-90 mm stone size									
	For Grade Slab	1	20	10	0.15	30.00				
	For Entrance	1	5	3	0.15	2.25				
						32.25	Cum	1873.00	60404.25	UNIT ESTIMATE
2	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:3:6 (1 Cement : 3 coarse sand (zone-III); 6 graded stone aggregate 40 mm nominal size)									
	in column foundation	10	1.4	1.4	0.075	1.47				





S. N	Item Description	No	Length h	Breadth h	Height	Qty	Unit	Rate	Amount	Item Reference
	Below plinth beam	1	50.75	0.43	0.075	1.64				
	Plinth Protection	1	65.84	1	0.1	6.58				
	Below Side Drain	1	67.04	0.96	0.075	4.83				
	For Entrance	1	5	3	0.1	1.50				
	For Flooring over soiling	1	20	10	0.075	15.00				
						31.02	Cum	6126.25	190021.37	DSR Item No_4.1.6
3	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	1	20	10		200.00	Sqm	498.35	99670.00	DSR Item No_11.3.1
4	Providing and fixing glass strips in joints of terrazzo/ cement concrete floors 40 mm wide and 4 mm thick					1000.00	RM	75.15	75150.00	DSR Item No_11.13.1
5	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. (Note :- Cement content considered in this item is @ 330 kg/cum. "Excess/less cement used as per design mix is payable/recoverable separately).									
	All works upto plinth level	10	1.2	1.2	0.35	5.04				
	Column foundation	10	0.25	0.3	1.5	1.13				
	Column 250x300									

*Handwritten signature/initials*





