

# **BILL OF QUNATITIES**

**(BOQ)**

**RAINWATER HARVESTING, GROUND WATER RECHARGE AND WASTE WATER  
TREATMENT SYSTEM UNDER ZLD (ZERO LIQUID DISCHARGE) OF RHC 53M LODHARAN**

**SUMMARY**

**BILL OF QUANTITIES**

<b>SUB-HEAD No.</b>	<b>Description</b>	<b>Amount (Rs)</b>
1	Rainwater Pipes and Catch Pits	
2	Transfer Tank	
3	Anaerobic Baffled Reactor (ABR)	
4	Constructed Wet Land	
5	Water Level Controller	
6	Sand Filter & Storage Tank	
7	Recharge Well	
8	Pumping Machinery	
9	Fencing	
	<b>Total</b>	

**RAINWATER HARVESTING, GROUND WATER RECHARGE AND WASTE WATER TREATMENT SYSTEM  
UDER ZLD (ZERO LIQUID DISCHARGE) OF RHC 53M LODHARAN**

**BILL OF QUANTITIES**

**SUB-HEAD NO 1**

**Rainwater Pipes and Catch Pits**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1	Dismantaling of existing Structure	36.671	Cu.m		
2	Excavation in Trenches Including Backfill in ordinary soil ii) Ordinary soil	169.166	Cu.m		
3	Providing, laying, cutting, jointing, testing and disinfecting PVC pipe line with `B' Class working pressure pipe, in trenches, complete in all respects:- 75mmØ 100mmØ 150mmØ	115.00 95.00 135.00	PM PM PM		
4	Providing, jointing and testing PVC pipe Specials (Tee, Bend, elbow etc) with `B' Class working pressure pipe, in trenches, complete in all respects:- Tee 150mmx100mm Socket 150mm Elbow 150mm Socket 100mm Elbow 100mm Socket 75mm Elbow 75mm	6.00 20.00 2.00 16.00 2.00 20.00 24.00	Each Each Each Each Each Each Each		
5	Providing, fixing, jointing, PVC Rain water Down pipe Class 'B' complete in all respects:- 75mmØ	90.00	PM		
6	Construction of Rainwater Ctach Pits				
i	Excavation in Trenches Including Backfill in ordinary soil	20.74	P.Cum		
ii	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): PCC 1:4:8	2.59	P.Cum		
iii	Pacca brick work 1:3 C/S Mortor in foundation and plinth in:-	8.02	P.Cum		
iv	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): PCC 1:2:4	2.33	P.Cum		
v	Cement plaster 1:3 C/S Mortor 13mm (1/2") Thick	71.30	P.Sqm		
vi	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design,including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete :-				
a	Reinforced cement concrete in roof slab,complete in all respects:- Type C (nominal mix 1: 2: 4)	1.54	P.Cum		
vii	Steel Reinforcement Grade-40	177.24	Kg		
viii	M.S Angle Frame with hold fast for manhole covers	110.24	Kg		
ix	Cast Iron Manhole Cover weight not less than 37.325 kg	12.00	No.		
x	Providing and applying two coats of hot bitumen on concrete / plastered surface contact with soil (1 Kg per Sqm)	45.45	P.Sqm		
7	Restoration of dismantalled structure P.C.C 1:2:4	25.127	Cu.m		

**Total Rs.**

(Carried over to summary of Cost )

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**SUB-HEAD NO 2**

**Transfer Tank**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1:-	Excavation in building Including Backfill in ordinary soil	0.573	P.Cum		
2:-	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone Ratio 1: 4: 8	0.110	P.Cum		
3:-	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design,including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete:-				
a-	Reinforced cement concrete in foundation/footing Type C (nominal mix 1: 2: 4)	0.122	P.Cum		
b-	Reinforced cement concrete in walls Type C (nominal mix 1: 2: 4)	0.405	P.Cum		
c-	Reinforced cement concrete in roof slab Type C (nominal mix 1: 2: 4)	0.085	P.Cum		
4:-	Steel Reinforcement Grade-40	70.271	Kg		
5:-	M.S Angle Frame for manhole cover	9.186	Kg		
6:-	Cast Iron Manhole Cover weight not less than 37.325 kg	1	No		
7:-	Providing and applying two coats of hot bitumen on concrete surface contact with soil (1 Kg per Sqm)	2.250	PSqm		

**Total Rs.**

(Carried over to summary of Cost )

**RAINWATER HARVESTING, GROUND WATER RECHARGE AND WASTE WATER TREATMENT SYSTEM UDER ZLD (ZERO LIQUID DISCHARGE) OF RHC 53M LODHARAN**

**BILL OF QUNATITIES**

**SUB-HEAD NO 3**

**Anaerobic Baffled Reactor (ABR)**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1:-	Excavation in building Including Backfill in ordinary soil	13.776	P.Cum		
2:-	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone Ratio 1: 4: 8	0.897	P.Cum		
3:-	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone Ratio 1: 2:4	0.216	P.Cum		
4:-	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design,including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete.				
a-	Reinforced cement concrete in foundation/footing Type C (nominal mix 1: 2: 4)	1.482	P.Cum		
b-	Reinforced cement concrete in Walls Type C (nominal mix 1: 2: 4)	3.579	P.Cum		
c-	Reinforced cement concrete in roof slab Type C (nominal mix 1: 2: 4)	0.663	P.Cum		
5:-	Steel Reinforcement Grade-40	658.271	Kg		
6:-	M.S Angle Frame with hold fast for mahole cover	36.745	Kg		
7:-	Cast Iron Manhole Cover weight not less than 37.325 kg	4	No		
8:-	P/F PVC Pipe with GI Clamps	7	Rm		
9:-	Providing, jointing and testing PVC pipe Specials (Tee, Bend, elbow etc) with `B' Class working pressure pipe, complete in all respects:- Tee 150x150mm	6.000	Each		
10:-	P/I C.I Vent Pipe 75mm (3") dia	180	Kg		
11:-	Providing and applying two coats of hot bitumen on concrete surface contact with soil (1 Kg per Sqm)	14.280	PSqm		

**Total Rs.**

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SUB-HEAD NO 4

Constructed Wet Land

Sr. No	Description of Item.	Quantity	Unit	Rate (Rs)	Amount (Rs)
1:-	Excavation in ordinary soil	11.050	P.Cum		
2:-	Formation, Dressing and Preparing Subgrade (in Bed)	24.000	P.Sqm		
3:-	Formation, Dressing and Preparing Subgrade (in Slope)	36.900	P.Sqm		
4:-	Providing and Laying of HDPE Geo Membrane 2mm thick	70.000	P.Sqm		
5:-	Providing and Laying Gravel of any size as shown in drawing.	23.679	P.Cum		
6:-	Formation Of Embankment From Excavated Material	66.400	P.Cum		

**Total Rs.**

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**BILL OF QUNATITIES**

**SUB-HEAD NO 5**

**Water Level Controller**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1:-	Excavation in building Including Backfill in ordinary soil	0.573	P.Cum		
2:-	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone Ratio 1: 4: 8	0.110	P.Cum		
3:-	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design,including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete:-				
a-	Reinforced cement concrete in foundation/footing Type C (nominal mix 1: 2: 4)	0.122	P.Cum		
b-	Reinforced cement concrete in walls Type C (nominal mix 1: 2: 4)	0.405	P.Cum		
c-	Reinforced cement concrete in roof slab Type C (nominal mix 1: 2: 4)	0.085	P.Cum		
4:-	Steel Reinforcement Grade-40	70.271	Kg		
5:-	M.S Angle Frame with hold fast for manhole covers M.S. Angle Iron 2"x2"x¼" (50x50x6mm)	9.186	Kg		
6:-	Cast Iron Manhole Cover weight not less than 37.325 kg	1	No		
7:-	Providing and applying two coats of hot bitumen on concrete surface contact with soil (1 Kg per Sqm)	2.250	PSqm		
6:-	P/F PVC Pipe 150mm dia	2.000	Rm		
7:-	Providing, jointing and testing PVC pipe Specials (Tee, Bend, elbow etc) with `B' Class working pressure pipe, complete in all respects:- Elbow 150mm	1.000	Each		
8:-	Providing and installing Water Level Controller	1.000	Each		

**Total Rs.**

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**SUB-HEAD NO 6**

**Sand Filter and Storage Tank**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1:-	Excavation in building Including Backfill in ordinary soil	43.578	P.Cum		
2:-	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone PCC 1:4:8	1.816	P.Cum		
3:-	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design,including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete :-				
a-	Reinforced cement concrete in foundation/footing Type C (nominal mix 1: 2: 4)	3.221	P.Cum		
b-	Reinforced cement concrete in walls Type C (nominal mix 1: 2: 4)	7.358	P.Cum		
4:-	Steel Reinforcement Grade-40	1216.470	Kg		
5:-	P/F Perforated PVC Pipe 100mm dia	6.000	Rm		
6:-	P/F PVC Pipe 150mm dia	4.000	Rm		
7:-	Providing, jointing and testing PVC pipe Specials (Tee, Bend, elbow etc) with `B' Class working pressure pipe, complete in all respects:- Tee 150mmx100mm Elbow 100mm End Cap 100mm	1.000 2.000 3.000	Each Each Each		
8:-	Providing and Laying Gravel of any size as shown in drawing.	1.728	P.Cum		
9:-	Providing and Laying Sand as filter	3.456	P.Cum		
10:-	Providing and applying two coats of hot bitumen on concrete surface contact with soil (1 Kg per Sqm)	35.075	PSqm		
11:-	Providing and Installation of C.I Gate Valve 150mm (6") dia with 3m Long operating Shaft stainless steel	1.000	Each		

**Total Rs.**

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**SUB-HEAD NO-7**

**Recharge Well**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
1	Drilling of bore for Rechargewells, in all types of soil except shingle, gravel and rock:- i) 6" (150 mm) i/d	18.3	Per M		
2	Providing and installing PVC Pipe of Class-B in housing Recharge well borehole complete in all respect:- 4" dia	4.575	Per M		
3	Providing and installing PVC strainer of Class-B in Recharge well borehole complete in all respect. 3" inch dia	13.725	Per M		
4	Providing and Fixing Reducer and Solution for connecting	L.S			
5	Recharge Chamber				
i	Excavation in Trenches Including Backfill in ordinary soil	0.386	P.Cum		
ii	Cement concrete plain including placing, compacting, finishing and curing complete (including screening and washing of stone aggregate): PCC 1:4:8	0.110	P.Cum		
iii	Providing and laying reinforced cement concrete using Ordinary Portland Cement, coarse sand and screened graded and washed aggregate, in required shape and design, including forms, moulds, shuttering, lifting, compacting, curing, rendering and finishing exposed surface, complete:-				
a	Reinforced cement concrete in foundation/footing				
	Type C (nominal mix 1: 2: 4)	0.122	P.Cum		
b	Reinforced cement concrete in walls				
	Type C (nominal mix 1: 2: 4)	0.315	P.Cum		
c	Reinforced cement concrete in roof slab				
	Type C (nominal mix 1: 2: 4)	0.085	P.Cum		
iv	Steel Reinforcement Grade-40	59.921	Kg		
v	M.S Angle Frame with hold fast for manhole covers	9.186	Kg		
vi	Cast Iron Manhole Cover weight not less than 37.325 kg	1.000	No.		
vii	Providing and applying two coats of hot bitumen on concrete / plastered surface contact with soil (1 Kg per Sqm)	0.300	Sqm		

**Total :- Rs.**

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UDER ZLD (ZERO LIQUID DISCHARGE) OF RHC 53M LODHARAN**

**BILL OF QUANTITIES**

SUB-HEAD NO 8

**PUMPING MACHINERY**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
<b>1</b>	Submersible pumps for DRAINAGE Flow rate up to 170 l/min (10.2 m3/h) Head up to 8.7 m ELECTRIC MOTOR single-phase 230 V - 50 Hz with winding integrated thermal motor protection.	4.000	No.		

**Total Rs.**

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UDER ZLD (ZERO LIQUID DISCHARGE) OF RHC 53M LODHARAN**

**BILL OF QUANTITIES**

SUB-HEAD NO 9

**FENCING**

<b>Sr. No</b>	<b>Description of Item.</b>	<b>Quantity</b>	<b>Unit</b>	<b>Rate (Rs)</b>	<b>Amount (Rs)</b>
<b>1</b>	Providing and fixing hot dipped Galvanized Iron chainlink mesh/fence of 2"x2"mesh made of wire of specified guage, fixed on vertical posts of 2" diameter GI pipes (medium quality) erected @ 8 ft C/C duly embeded in PCC(1:2:4) etc. complete in all respect.	150.000	Sqm		

**Total Rs.**

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