

**GENERAL ABSTRACT**

Jal Jeevan Mission (JJM)-WSS to Arakkulam and Velliyamattom (part) panchayath-JJM -WSS to Arakkulam and Velliyamttom Panchayaths in Idukki District- Supply and Laying Clear Water Pumping Mains, Construction of GLSR at various zones, Supplying, erecting, testing and commissioning of Clear water pump sets(Low Level Zone)- Package VIII-General Civil Work

Sl No	Head Description	Amount	
1	Supply and laying of Clear water pumping mains.	57695725.85	
2	Road Restoration Charges (MORD ROAD)	4313793.60	
3	Construction of 3.8 LL capacity Sump cum pump house near KSEB Filter House	7663445.94	
4	Construction of 0.3LL capacity steel tanks at Pathipally	784821.64	
5	Construction of 0.5 LL capacity steel tanks Near St.Antony's Church(Asramam) and Elappally	1958932.32	
6	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB filter house to Lourde Mount St.Antony's Church Discharge 6 lps, Head 133m	1425191.98	
7	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB filter house to Pathipally Discharge 4 lps, Head 212m	1512536.78	
8	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB Filter House to Elappally Discharge 6 lps, Head 280m	2532099.68	
	<b>Total Estimation PAC</b>	77886547.79	
Sl No	Description	Percentage/LS	Amount
<b>L</b>	<b>Lumsum Heading</b>		
L.001	Restoration charges (PWD)	@LS	17034690.60
L.002	Connection charges - KSEB	@LS	2000000.00
	<b>Total Lumsum Amount</b>		19034690.60
<b>C</b>	<b>Extra Charges</b>		
C.001	Provision for GST		
	77886547.79	18.00%	14019578.60
		<b>Grand Total</b>	110940816.99
		<b>Round off</b>	59183.01
		<b>Rounded Total(Rs)</b>	111000000.00

SI No	Head Description	Amount
	Rupees Eleven Crore Ten Lakh	

Approved By  
**Pradeep V.K.**  
(PEN:G14136), Chief Engineer



**DETAILED ESTIMATE**

Jal Jeevan Mission (JJM)-WSS to Arakkulam and Velliyamattom (part) panchayath-JJM -WSS to Arakkulam and Velliyamttom Panchayaths in Idukki District- Supply and Laying Clear Water Pumping Mains, Construction of GLSR at various zones, Supplying, erecting, testing and commissioning of Clear water pump sets(Low Level Zone)- Package VIII-General Civil Work

SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
1	Supply and laying of Clear water pumping mains.							
1.001	OD286685/2023-2024							
	Supply of 100 mm GI pipe and specials							
	Supply of 100 mm GI pipe							
	KSEB Filter house-Near St.Antony's Church	1.000	6600.000				6600.000	
	KSEB Filter house-Pathipally	1.000	1500.000				1500.000	
	KSEB Filter house-Elappally	1.000	6800.000				6800.000	
	<b>Total</b>						<b>14900.000</b>	
	<b>Total Quantity in metre</b>							<b>14900.000</b>
1.002	100.98.117							
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.							
	200 mm DI K9 Pipe							
	Asoka jn. - KSEB Filter House	1.000	4670.000				4670.000	
	Deduct MS(WTP - KSEB Filter House)	-1.000	2500.000				-2500.000	
	2% for future mace.	1.000	2800.000			0.020000	56.000	
	<b>Total</b>						<b>2226.000</b>	
	<b>Total Quantity in metre</b>							<b>2226.000</b>
1.003	100.98.440							
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 25mm.							
	25mm CI air valve							
		38.000					38.000	

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<b>Total</b>						<b>38.000</b>
							<b>Total Quantity in no 38.000</b>
1.004	100.98.441						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 40mm.						
	40 mm CI Air valve						
		18.000					18.000
	<b>Total</b>						<b>18.000</b>
							<b>Total Quantity in no 18.000</b>
1.005	100.98.446						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Double Orifice Type DS2, Size 50mm.						
	50 mm CI Air valve						
		6.000					6.000
	<b>Total</b>						<b>6.000</b>
							<b>Total Quantity in no 6.000</b>
1.006	100.98.460						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 150mm.						
	150 mm D/F Sluice Valve						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
							<b>Total Quantity in no 2.000</b>
1.007	100.98.457						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 80mm.						
	80mm D/F Sluice valve						
		10.000					10.000
	<b>Total</b>						<b>10.000</b>
							<b>Total Quantity in no 10.000</b>
1.008	100.98.429						
	Supply of CI Non Return Valve, Conforming to IS 5312 Part I - 1984, PN 1.6, Size 100mm.						
	100mm CI non Return Valve						
		8.000					8.000
	<b>Total</b>						<b>8.000</b>
							<b>Total Quantity in no 8.000</b>
1.009	100.98.432						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Supply of CI Non Return Valve, Conforming to IS 5312 Part I - 1984, PN 1.0, Size 200mm.						
	200mm CI NRV	2.000					2.000
	<b>Total</b>						<b>2.000</b>
						<b>Total Quantity in no</b>	<b>2.000</b>
1.010	100.1.1						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50m, in all kinds of soil.						
	All kinds of soil						
	Asoka jn.-KSEB Filter House 200mm DI-K9	1.000	2170.000	0.800	1.150	0.6000 00	1197.840
	Asoka jn.-KSEB Filter House 200mm MS	1.000	2500.000	0.800	1.150	0.6000 00	1380.000
	Cutting the bituminous / concrete	-1.000	3400.000	0.800	0.150		-408.000
	<b>Total</b>						<b>2169.840</b>
						<b>Total Quantity in cum</b>	<b>2169.840</b>
1.011	100.1.5						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50 m, in Ordinary Rock.						
	Earthwork excavation in OR						
	Asoka jn.-KSEB Filter House 200mm DI-K9	1.000	2170.000	0.800	1.150	0.2500 00	499.100
	Asoka jn. - KSEB Filter House 200mmMS	1.000	2500.000	0.800	1.150	0.2500 00	575.000
	<b>Total</b>						<b>1074.100</b>
						<b>Total Quantity in cum</b>	<b>1074.100</b>
1.012	100.2.7						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50m, in Medium Rock where Blasting is Prohibited.						
	Earthwork excavation in MR ((blasting prohibited)						
	Asoka jn.-KSEB Filter House 200mm DI-K9	1.000	2170.000	0.800	1.150	0.0800 00	159.712
	Asoka jn.-KSEB Filter House 200mm MS	1.000	2500.000	0.800	1.150	0.0800 00	184.000
	<b>Total</b>						<b>343.712</b>
	<b>Total Quantity in cum</b>						<b>343.712</b>
1.013	100.4.1						
	Excavating in hard rock for trenches by blasting for laying pipes and stacking useful materials for measurements and disposing unserviceable materials within the initial lead of 50m and lift up to 1.50m (depth from 0.0m to 1.50m) and providing protection by earth filled cement bags during blasting to avoid damages to nearby structures (200 Nos. of earth filled cement bags for 10m3 of blasting)						
	Earthwork excavation in HR						
	Asoka jn.-KSEB Filter House 200 mm DI	1.000	1120.000	0.800	1.150	0.0700 00	72.128
	Asoka jn.-KSEB Filter House 200mm MS	1.000	1000.000	0.800	1.150	0.0700 00	64.400
	<b>Total</b>						<b>136.528</b>
	<b>Total Quantity in cum</b>						<b>136.528</b>
1.014	100.1.13						
	Excavating trenches of required width for pipes, cables, etc., including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20cm in depth, including consolidating each deposited layer by ramming, watering, etc., and disposing of surplus excavated soil as directed, within a lead of 50m, in Hard Rock where Blasting is Prohibited.						
	Earthwork excavation in HR (Blasting Prohibited)						
	Asoka jn.-KSEB Filter House 200mm DI-K9	1.000	1050.000	0.800	1.150	0.0700 00	67.620
	Asoka jn.-KSEB Filter House 200mm MS pipe	1.000	1500.000	0.800	1.150	0.0700 00	96.600
	<b>Total</b>						<b>164.220</b>

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<b>Total Quantity in cum</b>						<b>164.220</b>
1.015	100.8.1						
	Fencing one side of trenches, 1.50m height with two rows of 10cm plastic caution tape in vertical casuarina pole (girth 15cm to 24cm) fixed at 2m intervals.						
	Fencing						
		1.000	2650.000				2650.000
	<b>Total</b>						<b>2650.000</b>
	<b>Total Quantity in metre</b>						<b>2650.000</b>
1.016	100.59.1						
	Cutting the bituminous / concrete roads with cutting machine for a minimum depth of 200mm along the sides of proposed alignment of the pipe to be laid without causing any damage to other utilities, including the charges for hire and conveyance of tools and plant, cost of consumables and charges for lighting, watching, ribbon fencing, caution boards, traffic diversion, and as per the direction of departmental officers etc. complete, before carrying out the demolition of bituminous / concrete road by mechanical means and carrying out the excavation.						
	Cutting the bituminous/concrete road						
	Crossing	4.000					4.000
	Cutting the bituminous / concrete	2.000	3400.000				6800.000
	<b>Total</b>						<b>6804.000</b>
	<b>Total Quantity in metre</b>						<b>6804.000</b>
1.017	OD286688/2023-2024						
	Dismantling manually / by mechanical means and disposal of material within 50 metres lead as per direction of Engineer -in-Charge:&lt;br&gt;Bituminous road						
	dismantling of bituminus road						
	Cutting the bituminous / concrete	1.000	3400.000	0.800			2720.000
	<b>Total</b>						<b>2720.000</b>
	<b>Total Quantity in sqm</b>						<b>2720.000</b>
1.018	50.2.25.1						
	Filling with contractor's own earth ( excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m as per direction of site Engineer-in-charge						
	Filling with contractors own earth						
		1.000	200.000				200.000
	<b>Total</b>						<b>200.000</b>
	<b>Total Quantity in cum</b>						<b>200.000</b>

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
1.019	100.12.9						
	Conveying and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc., but excluding cost of pipes and fittings for External work: 100mm diameter nominal bore.						
	Conveying and fixing G.I. pipes-100 mm dia						
	KSEB Filter House -Lourde Mount Church	1.000	6600.000				6600.000
	KSEB Filter House - Pathippally	1.000	1500.000				1500.000
	KSEB Filter House - Elappally	1.000	6800.000				6800.000
	<b>Total</b>						<b>14900.000</b>
	<b>Total Quantity in metre</b>						<b>14900.000</b>
1.020	100.14.3						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 200mm diameter Ductile Iron Class K-9 Pipes.						
	Laying 200mm DI pipe						
	Asoka jn.-KSEB filter house	1.000	2170.000				2170.000
	<b>Total</b>						<b>2170.000</b>
	<b>Total Quantity in metre</b>						<b>2170.000</b>
1.021	OD286689/2023-2024						
	Conveying and laying 200 mm MS pipe						
	Laying 200 mm MS pipe						
		1.000	2500.000				2500.000
	<b>Total</b>						<b>2500.000</b>
	<b>Total Quantity in metre</b>						<b>2500.000</b>
1.022	18.70.3						
	Providing push - on-joints to Centrifugally (Spun) Cast Iron Pipes or Ductile Iron Pipes including testing of joints and including the cost of rubber gasket:200 mm dia pipes						
	Providing push on joints-200 mm						
		410.000					410.000
	<b>Total</b>						<b>410.000</b>
	<b>Total Quantity in joint</b>						<b>410.000</b>



SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
1.023	18.30.5							
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:200 mm diameter pipe							
	Providing flanged joints-200mm							
		18.000					18.000	
	<b>Total</b>							<b>18.000</b>
	<b>Total Quantity in no</b>							<b>18.000</b>
1.024	18.68.1							
	Providing and laying D.I specials of class K - 12 suitable for push - on jointing as per IS : 9523 :Upt 600 mm dia							
	Providing and laying DI specials							
	200x90 DI bend	2.000				0.3200 00	0.640	
	200x45 DI bend	6.000				0.2600 00	1.560	
	200x22.5 DI bend	24.000				0.2300 00	5.520	
	200x11.25 DI bend	40.000				0.2100 00	8.400	
	200 mm DI collar	6.000				0.2700 00	1.620	
	200mm DI TP	10.000				0.2300 00	2.300	
	200 x150 mm Tee	2.000				0.3600 00	0.720	
	200 x 100 mm Tee	2.000				0.3100 00	0.620	
	<b>Total</b>							<b>21.380</b>
	<b>Total Quantity in quintal</b>							<b>21.380</b>
1.025	100.31.1.1							
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 80mm diameter, Class I.							
	Conveying and fixing 80mm D/F sluice valve							
		10.000					10.000	
	<b>Total</b>							<b>10.000</b>
	<b>Total Quantity in no</b>							<b>10.000</b>
1.026	100.31.1.2							
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 100mm diameter, Class I.							

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Conveying and fixing 100mm valve						
	NR valve	8.000					8.000
	<b>Total</b>						<b>8.000</b>
	<b>Total Quantity in no</b>						<b>8.000</b>
1.027	100.31.1.4						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 150mm diameter, Class I.						
	Conveying and fixing 150 mm D/F valve						
	Sluice	2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in no</b>						<b>2.000</b>
1.028	100.31.1.5						
	Conveying and fixing C.I. sluice valves (with cap) by providing bolts, nuts, rubber insertions etc., complete, but excluding the cost of the valve (tail pieces, if required, will be paid separately): 200mm diameter, Class I.						
	Conveying and fixing 200mm NRV						
	200mm NRV	2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in no</b>						<b>2.000</b>
1.029	100.32.1						
	Conveying and fixing C. I. Single Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 25mm Single Acting Air Valve.						
	Conveying and fixing 25mm air valve						
		38.000					38.000
	<b>Total</b>						<b>38.000</b>
	<b>Total Quantity in no</b>						<b>38.000</b>
1.030	100.32.2						
	Conveying and fixing C. I. Single Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 40mm Single Acting Air Valve.						
	Conveying and fixing 40mm air valve						
		18.000					18.000
	<b>Total</b>						<b>18.000</b>
	<b>Total Quantity in no</b>						<b>18.000</b>
1.031	100.32.3						
	Conveying and fixing C. I. Double Acting Air Valve of approved quality with bolts, nuts, rubber insertions etc., complete, but excluding the cost of air valve (tail pieces, if required, will be paid separately): 50mm Double Acting Air Valve.						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Conveying and fixing 50 mm double air valve						
		6.000					6.000
	<b>Total</b>						<b>6.000</b>
	<b>Total Quantity in no</b>						<b>6.000</b>
1.032	OD286690/2023-2024						
	Labour for cutting D.I. pipe with steel saw.200 mm diameter D.I. pipe						
	Labour for Cutting 200mm DI pipe						
		60.000					60.000
	<b>Total</b>						<b>60.000</b>
	<b>Total Quantity in Each Cut</b>						<b>60.000</b>
1.033	100.35.3						
	Testing 200mm DI/CI pipeline with potable water to the required test pressure 200 mm dia Observed Data derived from item no.1020 of PHED DATA						
	Testing 200mm DI pipeline						
		1.000	2170+25 00				4670.000
	<b>Total</b>						<b>4670.000</b>
	<b>Total Quantity in metre</b>						<b>4670.000</b>
1.034	100.37.7.1						
	In situ fabrication of M.S. pipes of size 200mm (I.D.) using 8mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete.						
	200 mm M.S pipes						
		1.000	2500.000				2500.000
	<b>Total</b>						<b>2500.000</b>
	<b>Total Quantity in metre</b>						<b>2500.000</b>
1.035	100.37.7.2						
	Fabricating M.S. flanges of diameter 200mm using 12mm thick M.S. plate including cost and conveyance charges of M.S. plate, all fabrication charges, charges of painting the steel work with two or more coat deluxe multi surface paint to give an even shade over an under-coat of primer etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Fabricating M.S pipe of 200mm Dia						
		20.000					20.000
	<b>Total</b>						<b>20.000</b>
	<b>Total Quantity in no</b>						<b>20.000</b>
1.036	100.37.7.3						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Cutting 200mm (I.D.) M.S. pipes for making bends and other specials by gas cutting including cost of gas, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	cutting M.S pipe						
		150.00 0					150.000
	<b>Total</b>						<b>150.000</b>
	<b>Total Quantity in no</b>						<b>150.000</b>
1.037	100.37.7.4						
	Welding 200mm (I.D.) M.S. pipes for making bends and other specials by gas/electric welding machine including cost of gas and welding rods, all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Welding						
		150.00 0					150.000
	<b>Total</b>						<b>150.000</b>
	<b>Total Quantity in no</b>						<b>150.000</b>
1.038	100.37.7.5						
	Grinding cut and weld edges of 200mm (I.D.) M.S. pipes during fabrication work including all labour and hire charges of tools etc., complete: For pipes fabricated with 8mm thick M.S. plates.						
	Grinding						
		300.00 0					300.000
	<b>Total</b>						<b>300.000</b>
	<b>Total Quantity in no</b>						<b>300.000</b>
1.039	2.8.1						
	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 up to 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						
	Earth work excavation						
		46.000	1.800	1.800	1.500		223.560
	<b>Total</b>						<b>223.560</b>
	<b>Total Quantity in cum</b>						<b>223.560</b>
1.040	4.1.3						
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)						
	CC 1:2:4						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	CC	46.000	1.500	1.500	0.100		10.350
	<b>Total</b>						<b>10.350</b>
	<b>Total Quantity in cum</b>						<b>10.350</b>
1.041	5.1.3						
	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:1:2:4 ( 1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)						
	RCC 1:2:4						
	Base slab	46.000	1.500	1.500	0.150		15.525
	side wall	46.000	5.400	0.150	1.150		42.849
	Cover slab	46.000	1.500	1.500	0.200		20.700
	Anchor block	200.00 0	1.000	1.000	1.000		200.000
	<b>Total</b>						<b>279.074</b>
	<b>Total Quantity in cum</b>						<b>279.074</b>
1.042	5.9.1						
	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete						
	Centering and shuttering						
	Anchor block	200.00 0	4*1		1.000		800.000
	<b>Total</b>						<b>800.000</b>
	<b>Total Quantity in sqm</b>						<b>800.000</b>
1.043	5.9.2						
	Centering and shuttering including strutting, etc. and removal of form for:Walls (any thickness) including attached pilasters, buttersesses, plinth and string courses etc.						
	Form work						
	Foundation Concrete	46.000	6.000		0.100		27.600
	Base Slab	46.000	6.000		0.150		41.400
	Side wall inside	46.000	4.800		1.150		253.920
	Side wall outside	46.000	6.000		1.150		317.400
	Cover slab sides	46.000	1.5*4		0.200		55.200
	<b>Total</b>						<b>695.520</b>
	<b>Total Quantity in sqm</b>						<b>695.520</b>
1.044	5.22.6						
	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Steel Reinforcement						
	for valve chamber	1.000	79.074			80.000 000	6325.920
	for anchor block	1.000	200.000			50.000 000	10000.00 0
	<b>Total</b>						<b>16325.92 0</b>
	<b>Total Quantity in kilogram</b>						<b>16325.92 0</b>
1.045	OD286695/2023-2024						
	Supply, erection of 100mm Mechanical flow meter of Woltsman type confirming ISO 4046 class B of ARAD/ZENNIER/REYCHEM RPG/ITRON make and shall be tested and certified by FCRI Palakkad and product shall have warranty for at least 2 years						
	Supply ,erection of Mechanical flow meter-100 mm						
		3.000					3.000
	<b>Total</b>						<b>3.000</b>
	<b>Total Quantity in no</b>						<b>3.000</b>
1.046	OD286696/2023-2024						
	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 200mm (ID) MS pipe.						
	Finishing with Epoxy paint -200 mm MS pipe						
		1.000	2500.000				2500.000
	<b>Total</b>						<b>2500.000</b>
	<b>Total Quantity in metre</b>						<b>2500.000</b>
2	Road Restoration Charges (MORD ROAD)						
2.001	3.5.3						
	Excavation in Soil using Hydraulic Excavator and Tippers with disposal upto 1000 m Excavation for roadwork in soil with hydraulic excavator of 0.9 cum bucket capacity including cutting and loading in tippers, trimming bottom and side slopes, in accordance with requirements of lines, grades and cross-sections, and transporting to the embankment location with a lift upto 1.5 m and lead upto 1000 m as per Technical Specification Clause 302.3						
	Excavation in Soil using Hydraulic Excavator						
	Tar surface	1.000	2600.000	0.800	0.300		624.000
	Concrete road	1.000	800.000	0.800	0.300		192.000
	<b>Total</b>						<b>816.000</b>
	<b>Total Quantity in cum</b>						<b>816.000</b>
2.002	4.1.A.1						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Granular Sub-base with Well Graded Material (Table 400.1) (A) By Mix in Place Method Construction of granular sub-base by providing well graded material, spreading in uniform layers with motor grader on prepared surface, mixing by mix in place method with rotavator at OMC, and compacting with smooth wheel roller to achieve the desired density, complete as per Technical Specification Clause 401. (i) For Grading I Material						
	Granular Sub-base with Well Graded Material						
		1.000	2600.000	0.800	0.150		312.000
	CC Road	1.000	800.000	0.800	0.150		96.000
	<b>Total</b>						<b>408.000</b>
	<b>Total Quantity in cum</b>						<b>408.000</b>
2.003	4.9						
	Wet Mix Macadam Providing, laying, spreading and compacting graded stone aggregate to wet mix macadam specification including premixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub-base/base course on a well prepared sub-base and compacting with smooth wheel roller of 80 to 100kN weight to achieve the desired density including lighting, barricading and maintenance of diversion, etc as per Tables 400.11 & 400.12 and Technical Specification Clause 406. By Mechanical Means with 1 km lead						
	Wet Mix Macadam						
		1.000	2600.000	0.800	0.150		312.000
	<b>Total</b>						<b>312.000</b>
	<b>Total Quantity in cum</b>						<b>312.000</b>
2.004	5.1.1a						
	Prime Coat :- Low porosity Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per Technical Specification Clause 502						
	Providing Prime Coat						
		1.000	2600.000	1.200			3120.000
	<b>Total</b>						<b>3120.000</b>
	<b>Total Quantity in sqm</b>						<b>3120.000</b>
2.005	5.2.3a						
	Tack Coat Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per Technical Specification Clause 503.						
	Providing Tack Coat						
		1.000	2600.000	1.200			3120.000
	<b>Total</b>						<b>3120.000</b>
	<b>Total Quantity in sqm</b>						<b>3120.000</b>



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
2.006	5.9.1.2a						
	20mm thick Open-Graded Premix Carpet using Bituminous (penetration grade/modified bitumen) Binder - Bitumen S-65 Providing, laying and rolling of open-graded premix carpet of 20 mm thickness composed of 13.2 mm to 5.6 mm aggregates either using penetration grade bitumen or emulsion to required line, grade and level to serve as wearing course on a previously prepared base, including mixing in a suitable plant, laying and rolling with a three wheel 80-100 kN static roller capacity, finished to required level and grades to be followed by seal coat of either Type A or Type B or Type C as per Technical Specification Clause 508. Case - I By Manual Means (II) Bitumen (S-65)						
	Providing 20mm thick Open-Graded Premix Carpet						
		1.000	2600.000	1.200			3120.000
	<b>Total</b>						<b>3120.000</b>
	<b>Total Quantity in sqm</b>						<b>3120.000</b>
2.007	5.12.A.3.2a						
	Seal Coat - Manual Means - Type C - Bitumen S-65 Providing and laying seal coat sealing the voids in a bituminous surface laid to the specified levels, grade and cross fall using Type A, Type B and Type C as per Technical Specification Clause 510 A. By Manual Means :- Case - III : Type C (II) Bitumen (S-65)						
	Providing Seal Coat						
		1.000	2600.000	1.200			3120.000
	<b>Total</b>						<b>3120.000</b>
	<b>Total Quantity in sqm</b>						<b>3120.000</b>
2.008	75.8.1						
	Providing Plain cement concrete for road work CC 1:2:4 (1 cement: 2 fine aggregate: 4course aggregate) laid to required slope and camber in panels (@ 3 m c/c) as required including compaction, finishing and tamping etc .complete. Max. size of course aggregate not exceeding 25mm , mixed in concrete mixer etc complete as perspecification (i) Nominal mix (1:2:4)						
	Providing Plain cement concrete for road work						
		1.000	800.000	0.800	0.150		96.000
	<b>Total</b>						<b>96.000</b>
	<b>Total Quantity in cum</b>						<b>96.000</b>
3	Construction of 3.8 LL capacity Sump cum pump house near KSEB Filter House						
3.001	2.6.1						
	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 disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil						
	Earth work Excavation						
	Levelling-Sump	1.000	17.000	10.000	1.500		255.000



SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Levelling-Pump house	1.000	13.000	7.000	1.500		136.500	
	<b>Total</b>						<b>391.500</b>	
	<b>Total Quantity in cum</b>							<b>391.500</b>
3.002	2.8.1							
	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 up to 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							
	Earthwork excation							
	Column Foundation of Pump house	10.000	1.500	1.500	1.500		33.750	
	For compound wall	1.000	82.000	0.450	0.450		16.605	
	For toilet	1.000	4.400	0.600	0.600		1.584	
	<b>Total</b>						<b>51.939</b>	
	<b>Total Quantity in cum</b>							<b>51.939</b>
3.003	7.1.1							
	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) up to plinth level with:Cement mortar 1:6 (1 cement : 6 coarse sand)							
	RR masonry							
	For sump levelling	1.000	10.500	16.500	0.500		86.625	
	For compound wall	1.000	82.000	0.450	0.450		16.605	
	for toilet foundation	1.000	4.400	0.600	0.600		1.584	
	for toilet basement	1.000	4.100	0.450	0.450		0.830	
	<b>Total</b>						<b>105.644</b>	
	<b>Total Quantity in cum</b>							<b>105.644</b>
3.004	4.1.3							
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)							
	CC 1:2:4							
	For sump levelling	1.000	10.500	16.500	0.150		25.988	

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	For pump house column	10.000	1.500	1.500	0.150		3.375
	For pump house- inside floor	1.000	11.000	6.000	0.100		6.600
	For compound wall	1.000	82.000	0.450	0.100		3.690
	For toilet floor levelling	1.000	2.000	1.800	0.150		0.540
	<b>Total</b>						<b>40.193</b>
						<b>Total Quantity in cum</b>	<b>40.193</b>
3.005	5.33.1						
	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 or less cement used as per design mix is payable or recoverable separately. All work upto plinth level						
	Design mix M-25						
	Sump Bottom slab	1.000	16.100	10.100	0.300		48.783
	Pump house foundation	10.000	1.200	1.200	0.200		2.880
	Pump house foundation- Trapezoidal portion( $h/3*(A1+A2+\text{root of } (A1*A2))$ )	10.000	$.20+1.44+.54$	0.450	1/3		3.270
	Pump house Plinth beam	2.000	11.500	0.300	0.450		3.105
	Column up to plinth beam	5.000	5.900	0.300	0.450		3.983
	Column up to plinth beam	10.000	0.300	0.300	0.900		0.810
	<b>Total</b>						<b>62.831</b>
						<b>Total Quantity in cum</b>	<b>62.831</b>
3.006	5.33.2						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	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 or less cement used as per design mix is payable or recoverable separately. All work above plinth level upto floor V level						
	Design mix-25						
	Haunch of sump	0.500	48.000	0.300	0.700		5.040
	vertical haunch	4.000	0.400	0.400	3.450	0.5000 00	1.104
	side wall of sump	2.000	15.25+9. 25	0.250	3.450		42.263
	Column	8.000	0.300	0.300	3.450		2.484
	Corbel	8.000	1.000	0.300	0.450		1.080
	Roof beam long side	2.000	15.000	0.300	0.300		2.700
	Roof beam short side	4.000	8.400	0.300	0.300		3.024
	Roof slab	1.000	16.100	10.100	0.150		24.392
	Pump house column	10.000	0.300	0.300	4.000		3.600
	Pump house beam- long side	2.000	11.400	0.300	0.300		2.052
	Pump house beam - short side	5.000	5.600	0.300	0.300		2.520
	Pump house lintel	1.000	23.800	0.200	0.150		0.714
	Pump house Sunshade	1.000	25.000	0.600	0.100		1.500
	Pump house Roof slab	1.000	12.000	6.500	0.150		11.700
	toilet roof slab	1.000	2.800	2.600	0.100		0.728
	<b>Total</b>						<b>104.901</b>
	<b>Total Quantity in cum</b>						<b>104.901</b>
3.007	5.34.1						
	Extra for providing richer mixes at all floor levels. Note:- Excess/less cement over the specified cement content used is payable/ recoverable separately. Providing M-30 grade concrete instead of M-25 grade BMC/RMC. (Note:- Cement content considered in M-30 is @ 340 kg/cum).						
	Design Mix M-30						
	Bottom slab	1.000	16.100	10.100	0.300		48.783
	Haunch of sump	0.500	48.000	0.300	0.700		5.040

SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Haunch of sump vertical	4.000	0.400	0.400	3.450	0.5000 00	1.104	
	side wall of sump	2.000	15.25+9. 25	0.250	3.450		42.263	
	Column	8.000	0.300	0.300	3.450		2.484	
	<b>Total</b>						<b>99.674</b>	
	<b>Total Quantity in cum</b>							<b>99.674</b>
3.008	5.9.1							
	Centering and shuttering including strutting, etc. and removal of form for: Foundations, footings, bases of columns, etc for mass concrete							
	Centering and shuttering							
	For sump	2.000	16.500+1 0.5	0.150			8.100	
	For sump Bottom slab	2.000	16.1+10. 1	0.300			15.720	
	For pump house	10*4.0 00	1.500	0.150			9.000	
	For pump house	10*4.0 00	1.200	0.120			5.760	
	For pump house- Trapezoidal portion	10*4.0 00	1.2+.45	0.45/2			14.850	
	For pump house- column up to Plinth	10.000	4*1.2	0.900			43.200	
	For pump house- Plinth beam long wall	2.000	11.400	1.200			27.360	
	For pump house- Plinth beam short wall	5.000	6.200	1.200			37.200	
	<b>Total</b>						<b>161.190</b>	
	<b>Total Quantity in sqm</b>							<b>161.190</b>
3.009	5.9.2							
	Centering and shuttering including strutting, etc. and removal of form for: Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.							
	Centering and shuttering							
	Sump side wall- inside	1.000	48.000		2.750		132.000	
	Sump side wall- outside	1.000	50.000		3.450		172.500	
	Sump -Haunch	1.000	48.000		0.700		33.600	

SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Sump Haunch vertical	4.000	3.450		0.550		7.590	
	<b>Total</b>						<b>345.690</b>	
	<b>Total Quantity in sqm</b>							<b>345.690</b>
3.010	5.9.3							
	Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform							
	Centering and shuttering							
	Sump - Roof	1.000	16.100	10.100			162.610	
	Sump - Roof sides	2.000	16.1+10.1	0.150			7.860	
	Pump house- roof	1.000	12.000	6.500			78.000	
	Pump house- roof sides	1.000	12+6.5+6.5	0.150			3.750	
	Pump house-Sunshade	1.000	25.000	0.600			15.000	
	Pump house-Sunshade sides	1.000	26.200	0.100			2.620	
	toilet roof	1.000	2.800	2.600			7.280	
	toilet roof- side	1.000	2.8+2.6	0.100			0.540	
	<b>Total</b>						<b>277.660</b>	
	<b>Total Quantity in sqm</b>							<b>277.660</b>
3.011	5.9.5							
	Centering and shuttering including strutting, etc. and removal of form for:Lintels, beams, plinth beams, girders bressumers and cantilevers							
	Centering and shuttering							
	Lintel of pump house	2.000	23.600		0.150		7.080	
	Roof beam of pump house	1.000	11.400		0.900		10.260	
	Roof beam of pump house	5.000	5.600		0.900		25.200	
	Roof beam of sump	2.000	15.000		0.900		27.000	
	Roof beam of sump	4.000	8.400		0.900		30.240	
	corbel	8.000	1.000		1.200		9.600	
	<b>Total</b>						<b>109.380</b>	
	<b>Total Quantity in sqm</b>							<b>109.380</b>
3.012	5.9.6							

SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Centering and shuttering including strutting, etc. and removal of form for:Columns, Pillars, Piers, Abutments, Posts and Struts							
	Centering and shuttering							
	Column of sump	8.000	1.200			3.450	33.120	
	Column of pump house	10.000	1.200			3.700	44.400	
	<b>Total</b>							<b>77.520</b>
	<b>Total Quantity in sqm</b>							<b>77.520</b>
3.013	5.22.6							
	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more							
	Steel reinforcement for RCC work							
	Quantity of item no.5	1.000	62.831			120.000000	7539.720	
	Quantity of item no.6	1.000	104.910			120.000000	12589.200	
	<b>Total</b>							<b>20128.920</b>
	<b>Total Quantity in kilogram</b>							<b>20128.920</b>
3.014	50.6.1.1							
	Solid block masonry using pre cast solid blocks ( factory made) of size 40x20x20cm or nearest available size confirming to IS 2185 part 1 of 1979 for foundation and plinth with thickness 20 cm and above in: CM 1:6 ( 1 cement : 6 coarse sand) etc complete							
	Solid block masonry (40x20x20 cm)							
	For PH wall	1.000	23.600	0.200		3.700	17.464	
	For PH parapet wall	1.000	12+13	0.200		0.750	3.750	
	For toilet wall	1.000	2.2+1.8	0.200		2.100	1.680	
	For sump parapet wall	1.000	40.400	0.200		0.750	6.060	
	Deduction - rolling shutter	-1.000	3.000	0.200		2.100	-1.260	
	Deduction - door	-1.000	0.800	0.200		2.100	-0.336	
	Deduction - windows	-6.000	1.500	0.200		1.400	-2.520	
	Deduction - lintel	-1.000	23.600	0.200		0.150	-0.708	
	Deduction- column width	-6.000	0.200	0.300		3.700	-1.332	
	<b>Total</b>							<b>22.798</b>
	<b>Total Quantity in cum</b>							<b>22.798</b>

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
3.015	13.1.1						
	12 mm cement plaster of mix:1:4 ( 1 cement : 4 fine sand)						
	12mm Cement plastering						
	Sump bottom slab	1.000	15.000	9.000			135.000
	Sump side wall- inside	1.000	48.000	3.450			165.600
	Sump side wall- out side	1.000	50.000	3.450			172.500
	Sump column	8.000	1.200	3.450			33.120
	Sump roof slab	2.000	16.100	10.100			325.220
	Sump roof slab - sides	1.000	52.400	0.150			7.860
	Sump long beam	2.000	15.000	0.900			27.000
	Sump short beam	4.000	8.400	0.900			30.240
	PH column	3.000	1.200	4.000			14.400
	PH side wall- inside	1.000	23.000	4.000			92.000
	PH side wall- out side	1.000	23.800	4.000			95.200
	PH sunshade	2.000	25.000	0.600			30.000
	PH sunshade- side	1.000	25.600	0.100			2.560
	PH long -beam	1.000	11.000	0.900			9.900
	PH short-beam	3.000	5.600	0.900			15.120
	PH -roof slab	2.000	12.000	6.500			156.000
	PH -roof slab sides	1.000	25.000	0.150			3.750
	P H parapet	2.000	12+13	0.750			37.500
	Sump parapet	2.000	40.400	0.750			60.600
	toilet wall inside	1.000	3.800	2.100			7.980
	toilet wall out side	1.000	4.200	2.100			8.820
	deduction- rolling shutter	-1.000	3.000	2.500			-7.500
	deduction- door	-1.000	0.800	2.100			-1.680
	deduction- windows	-6.000	1.500	1.400			-12.600
	<b>Total</b>						<b>1408.590</b>
						<b>Total Quantity in sqm</b>	<b>1408.590</b>
3.016	22.23.1						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against any leakage.For vertical surface two coats @0.70 kg per sqm						
	Providing and applying integral crystalline slurry						
	haunch	1.000	48.000	0.700			33.600
	sidewall	1.000	48.000		3.450		165.600
	Column	8.000	1.200		3.450		33.120
	<b>Total</b>						<b>232.320</b>
						<b>Total Quantity in sqm</b>	<b>232.320</b>
3.017	22.23.2						
	Providing and applying integral crystalline slurry of hydrophilic in nature for waterproofing treatment to the RCC structures like retaining walls of the basement, water tanks, roof slabs, podiums, reservoir, sewage & water treatment plant, tunnels / subway and bridge deck etc., prepared by mixing in the ratio of 5 : 2 (5 parts integral crystalline slurry : 2 parts water) for vertical surfaces and 3 : 1 (3 parts integral crystalline slurry : 1 part water) for horizontal surfaces and applying the same from negative (internal) side with the help of synthetic fiber brush. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure on negative side. The crystalline slurry shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the engineerin-charge. The product performance shall carry guarantee for 10 years against any leakage.For horizontal surface one coat @1.10 kg per sqm.						
	Providing and applying integral crystalline slurry						
	sump bottom slab	1.000	15.000	9.000			135.000
	<b>Total</b>						<b>135.000</b>
						<b>Total Quantity in sqm</b>	<b>135.000</b>
3.018	11.39						



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and laying rectified Glazed Ceramic floor tiles of size 300x300 mm or more (thickness to be specified by the manufacturer), of 1st quality conforming to IS: 15622, of approved make in colours White, Ivory, Grey, fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 Coarse sand), including grouting the joints with white cement and matching pigments etc., complete.						
	floor tiles of size 300x300 mm						
	floor tiles	1.000	2.000	1.800			3.600
	<b>Total</b>						<b>3.600</b>
	<b>Total Quantity in sqm</b>						<b>3.600</b>
3.019	11.36						
	Providing and fixing I st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer -in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3 kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.						
	Providing and fixing ceramic wall tiles						
	ceramic wall tiles for toilet	1.000	6.800	2.100			14.280
	<b>Total</b>						<b>14.280</b>
	<b>Total Quantity in sqm</b>						<b>14.280</b>
3.020	17.3.1						
	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I. brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required :W.C. pan with ISI marked white solid plastic seat and lid						
	Providing and fixing water closet						
	Providing and fixing water closet	1.000					1.000
	<b>Total</b>						<b>1.000</b>
	<b>Total Quantity in each</b>						<b>1.000</b>
3.021	17.7.11						
	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:Stainless Steel AISI - 304 (18/8) Wash basin 530 x 345 mm with single 15mm C.P. brass pillar tap						
	Providing and fixing wash basin arrangements						
	Providing and fixing wash basin arrangements	1.000					1.000

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<b>Total</b>						<b>1.000</b>
						<b>Total Quantity in each</b>	<b>1.000</b>
3.022	13.43.1						
	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface:Water thinnable cement primer						
	Applying one coat of cement primer						
	Sump out side wall	1.000	48.000	3.450			165.600
	Sump roof slab	1.000	16.100	10.100			162.610
	Parapet wall	1.000	52.400	1.700			89.080
	PH side wall - inside	1.000	23.000	4.000			92.000
	PH side wall - outside	1.000	23.800	4.000			95.200
	PH column	4.000	1.200	4.000			19.200
	P H roof slab T & B	2.000	11.400	6.200			141.360
	Parapet wall	1.000	23.800	1.700			40.460
	PH sunshade	2.000	25.000	0.600			30.000
	PH sunshade-side	1.000	25.600	0.100			2.560
	Toilet out side wall	1.000	4.200	2.100			8.820
	Toilet roof slab T & B	2.000	2.200	2.000			8.800
	Toilet parapet wall	1.000	4.200	1.700			7.140
	Deduction - Rolling shutter	-1.000	3.000	2.500			-7.500
	Deduction - windows	-6.000	1.500	1.400			-12.600
	Deduction - door	1.000	0.800	2.100			1.680
	<b>Total</b>						<b>844.410</b>
						<b>Total Quantity in sqm</b>	<b>844.410</b>
3.023	13.60.1						
	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade:Two or more coats on new work						
	Wall painting with acrylic emulsion paint						
	Quantity same as item no. 13.43.1	1.000	844.410				844.410
	<b>Total</b>						<b>844.410</b>

SI No	Specification	No	Length	Width	Depth	Cf	Quantity	
<b>Total Quantity in sqm</b>							<b>844.410</b>	
3.024	10.6.1	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.80x1.25 mm M.S. laths with 1.25 mm thick top cover						
	Supplying and fixing rolling shutter							
	rolling shutter	1.000	3.000	2.500			7.500	
	<b>Total</b>							<b>7.500</b>
<b>Total Quantity in sqm</b>							<b>7.500</b>	
3.025	50.9.1.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately), using good quality Anjili wood /jack wood						
	window and ventilator							
	horizontal	2*6	1.700	0.100	0.075		0.153	
	vertical	4*6	1.400	0.100	0.075		0.252	
	vertical-ventilator	2*1	0.600	0.100	0.075		0.009	
	horizontal-ventilator	2*1	0.800	0.100	0.075		0.012	
	<b>Total</b>							<b>0.426</b>
<b>Total Quantity in cum</b>							<b>0.426</b>	
3.026	50.9.5.1	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 35 mm thick shutters.						
	shutter							
	Window	3*6	1.400	0.450			11.340	
	Ventilator	1.000	0.600	0.400			0.240	
	<b>Total</b>							<b>11.580</b>
<b>Total Quantity in sqm</b>							<b>11.580</b>	
3.027	9.117.2							

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and fixing factory made uPVC door frame made of uPVC extruded sections having an overall dimension as below (tolerance $\pm 1$ mm), with wall thickness 2.0mm ( $\pm 0.2$ mm), corners of the door frame to be jointed with galvanized brackets and stainless steel screws, joints mitred and plastic welded. The hinge side vertical of the frames reinforced by galvanized M.S. tube of size 19 x 19 mm and 1 mm ( $\pm 0.1$ mm) wall thickness and 3 nos. stainless steel hinges fixed to the frame complete as per manufacturer's specification and direction of Engineer-in-charge Extruded section profile size 42x50 mm						
	Door frame						
		1.000	6.000				6.000
	<b>Total</b>						<b>6.000</b>
	<b>Total Quantity in metre</b>						<b>6.000</b>
3.028	9.118.1						
	Providing and fixing to existing door frames 24 mm thick factory made PVC door shutters made of styles and rails of a uPVC hollow section of size 59x24 mm and wall thickness 2 mm ( $\pm 0.2$ mm) with inbuilt edging on both sides. The styles and rails mitred and joint at the corners by means of M.S. galvanised/plastic brackets of size 75x220 mm having wall thickness 1.0 mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanised M.S. tube of size 20x20 mm and 1 mm ( $\pm 0.1$ mm) wall thickness. The lock rail made up of 'H' section, a uPVC hollow section of size 100x24 mm and 2 mm ( $\pm 0.2$ mm) wall thickness, fixed to the shutter styles by means of plastic/galvanised M.S. 'U' cleats. The shutter frame filled with a uPVC multi-chambered single panel of size not less than 620 mm, having over all thickness of 20 mm and 1 mm ( $\pm 0.1$ mm) wall thickness. The panels filled vertically and tie bar at two places by inserting horizontally 6 mm galvanised M.S. rod and fastened with nuts and washers, complete as per manufacturer's specification and direction of Engineer-in-charge ( For W.C. and bathroom door shutter).						
	PVC Door						
		1.000	0.800		2.100		1.680
	<b>Total</b>						<b>1.680</b>
	<b>Total Quantity in sqm</b>						<b>1.680</b>
3.029	13.48.2						
	Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications: Painting wood work with Deluxe Multi Surface Paint of required shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.75 ltr/10 sqm of approved brand and manufacture						
	Painting on wood work						
		6.000	1.500		1.400	0.8000 00	10.080
	<b>Total</b>						<b>10.080</b>
	<b>Total Quantity in sqm</b>						<b>10.080</b>
3.030	13.48.3						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Finishing with Deluxe Multi surface paint system for interiors and exteriors using primer as per manufacturers specifications:Painting Steel work with Deluxe Multi Surface Paint to give an even shade. Two or more coat applied @ 0.90 ltr/10 sqm over an under coat of primer applied @ 0.80 ltr/10 sqm of approved brand and manufacture						
	Painting on steel work						
		1.000	3.000			2.500	7.500
	<b>Total</b>						<b>7.500</b>
	<b>Total Quantity in sqm</b>						<b>7.500</b>
3.031	13.71						
	Lettering with black Japan pint of approved brand and manufacture						
	Lettering with black japan paint						
	Lettering with black japan paint	1.000	100.000			15.000 000	1500.000
	<b>Total</b>						<b>1500.000</b>
	<b>Total Quantity in per Letter per cm height</b>						<b>1500.000</b>
3.032	10.25.2						
	Item Shifted to Sub head 14 as item 14.73 Item Shifted to head 14 as item 14.74 Steel work welded in built up sections/framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works						
	Steel work						
	ladder & gate	1.000	350.000				350.000
	<b>Total</b>						<b>350.000</b>
	<b>Total Quantity in kg</b>						<b>350.000</b>
3.033	100.36.1						
	Filling water with 5000 litre tankers fitted in lorry and conveying water from a distance of 5 km (average) to the reservoir site and pumping the water into the reservoir of height not less than 3 m using 5 HP diesel engine pump set , hire for tanker lorry, tools and other appliances and cost of water etc. complete.						
	Filling with water						
	Filling with water	1.000	380.000				380.000
	<b>Total</b>						<b>380.000</b>
	<b>Total Quantity in Kilo litre</b>						<b>380.000</b>
3.034	100.41.33						
	Supplying and fixing 500mm dia C.I. manhole cover with frame (medium duty) charges including all cost, labour charges etc., complete.						
	Supplying and fixing Manhole cover						
	Manhole cover	4.000					4.000
	<b>Total</b>						<b>4.000</b>

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<b>Total Quantity in no</b>						<b>4.000</b>
3.035	18.26.1						
	Providing and laying flanged C.I. Standard specials such as tees, bends, collars, tapers, caps etc., suitable for flanged jointing as per IS : 1538 :Upto 300 mm dia						
	Providing and laying specials						
	200 mm wall casting pipe	3.000				0.4700 00	1.410
	100 mm wall casting pipe	3.000				0.2000 00	0.600
	<b>Total</b>						<b>2.010</b>
	<b>Total Quantity in quintal</b>						<b>2.010</b>
3.036	OD286676/2023-2024						
	Supplying and providing water level indicator to the tank using scale fabricated out of 2mm thick MS plate with in the frame work of suitable size MS square tube, 160mm PVC pipe for guiding the float, necessary pullies, suitable nylon thread for connecting float and level indicator, painting the entire structure, lettering etc complete including all charges for material and labour						
	Supplying and fixing water level indicator						
	water level indicator	1.000					1.000
	<b>Total</b>						<b>1.000</b>
	<b>Total Quantity in no</b>						<b>1.000</b>
3.037	OD286677/2023-2024						
	Supply and Fitting 100 mm CI Vent cowl						
	Supply and fitting went cowl						
	Supply and fitting went cowl	10.000					10.000
	<b>Total</b>						<b>10.000</b>
	<b>Total Quantity in no</b>						<b>10.000</b>
3.038	OD286678/2023-2024						
	Supply , delivery and fixing of 5 T or suitable capacity Electrically and manually working on single girder with overhead travelling trolley and clear lift as per site conditions for lifting the chemicals, Chlorine, pumps etc.. and fitting as required, supplied with one set of crane slings with GI D shackle and clamps etc. complete as per the instruction of the Engineer in charge.						
	Supply , delivery and fixing of 5 T or suitable capacity crane						
		1.000					1.000
	<b>Total</b>						<b>1.000</b>
	<b>Total Quantity in set</b>						<b>1.000</b>
3.039	10.2						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	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.						
	Steel section						
		650.00 0					650.000
	<b>Total</b>						<b>650.000</b>
	<b>Total Quantity in kg</b>						<b>650.000</b>
4	Construction of 0.3LL capacity steel tanks at Pathipally						
4.001	2.6.1						
	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 disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil						
	Earth work excavation						
	For site levelling	1.000	6.500	6.500	1.000		42.250
	For PCC	1.000	6.000	6.000	0.500		18.000
	<b>Total</b>						<b>60.250</b>
	<b>Total Quantity in cum</b>						<b>60.250</b>
4.002	4.1.3						
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)						
	Cement concrete 1: 2: 4						
		1.000	6.000	6.000	0.150		5.400
	<b>Total</b>						<b>5.400</b>
	<b>Total Quantity in cum</b>						<b>5.400</b>
4.003	5.1.2						
	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size)						
	Providing RCC 1:1.5:3						
	Ring Beam (3.14*.45*(2.167 +1.717)*.45	1.000	2.470				2.470
	<b>Total</b>						<b>2.470</b>
	<b>Total Quantity in cum</b>						<b>2.470</b>
4.004	5.9.1						
	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Centering & shuttering						
	for ring beam inside	1.000	3.140	3.434	0.450		4.852
	for ring beam outside	1.000	3.140	4.334	0.450		6.124
	<b>Total</b>						<b>10.976</b>
	<b>Total Quantity in sqm</b>						<b>10.976</b>
4.005	5.22.6						
	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth level Thermo - Mechanically Treated bars of grade Fe-500D or more						
	Steel Reinforcement						
		1.000	2.470			100.00 0000	247.000
	<b>Total</b>						<b>247.000</b>
	<b>Total Quantity in kilogram</b>						<b>247.000</b>
4.006	OD286679/2023-2024						
	Supplying, conveying & filling sand inside the platform for steel tank						
	Sand for filling						
		3.140	3.434	3.434	0.450	0.2500 00	4.166
	<b>Total</b>						<b>4.166</b>
	<b>Total Quantity in cum</b>						<b>4.166</b>
4.007	OD286680/2023-2024						



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>Supply, installation and commissioning of a pre-engineered, pre-fabricated, factorymanufactured steel storage Water Tank having a capacity of 30000 L thickness of 0.6 mm, in multiple layers as required for the capacity and height of the tank and multiple-layered PE sheet/membrane for the inner containment liner. The Tank Shell / Body &amp; the Liner material shall be manufactured in a facility certified and compliant to ISO 9001 - 2000 standards. The Tank shall be supplied with access points, penetrations for inlets, outlets, drains and fittings, overflow and drain, high and low water level indicators. All connections to the tank shall be with flanged or threaded nozzles, placed to the KWA water mains TANK ROOF The roof of the tank shall be of corrugated Galvalume sheet steel and shall be domed, with heavy-duty Hot-dip Galvanized truss frame for support, and capable of supporting 4-5 persons for maintenance and cleaning and tank shall have an access hatch with cover, on the roof, for operation and Maintenance. TANK COVER Tank covers shall be of approved galvanized vermin proof construction. Roof ends shall be fitted with suitable vermin-proofing tape or other material, to prevent ingress of dust and foreign objects. Covers shall be firmly fixed to the top edge of the tank with galvanized bolts and nuts. LADDERS Tanks shall be provided with Hot-dip Galvanized ladders internally or externally. External roof supports shall be of an appropriately designed Hot-dip galvanized steel construction. Tanks shall comply with relevant spill level, air gap and overflow requirements relative to Effective Capacity. All nuts and bolts used for the panels shall be a minimum of 12mm size and hot-dip galvanized/Case hardened. The tank shall have a circular angle fixed around the total circumference of the tanks, at the top, of minimum 2 mm thickness. Tanks shall be properly flushed out with clean water prior to being brought into service. TANK DIMENSIONS The dimensions of the Tank shall be of 3.88m in diameter and 2.90m in height DESIGN LIFE. The tanks shall have a design life of 40 years. TANK CONNECTIONS &amp; Standard design inlet, outlet, overflow, and scour valves should be provided. ii) Overflow connection including an Internal approved bell-mouth shaped bends to maximize the overflow capacity. iii) One (1) scour drain outlet from the floor of the tank with isolation valve. TANK LINERS: Tank liners shall be purpose-designed and manufactured and shall comply to AS/NZS 4020 (Appendix A) of 2005 and ANSI/NSF 61 - 2008, Section 5 Certificates of compliance to above standards shall be furnished by the manufacturer of the tanks. Tank liners shall: i) Be factory manufactured to one-piece construction, fabricated from multi-layer PE sheet, certified for potable drinking water, to (ANSI/ NSF 61) and duly UV Stabilized. ii) Be of PE (polyethylene) in multi-layer construction for strength, reinforced with woven scrim industrial fabric to prevent</p>						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>elongation and enhance tensile strength. The total liner material thickness shall be no less than 0.6 mm thick. The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and heat sealing strength of 2056 N v) All the liner welded lap joints shall be strengthened with Metalocene encapsulating tape welded over the overlap. vi) The Metalocene tape shall cover and protect the exposed material at the edges of the liner joints to further prevent the ingress of water into the scrim. vii) Liners shall be positively and continuously attached to the top outer edge of the circumference of the tank to prevent entry of water from the runoff from the roof structure. viii) All liners on tanks over 2m in height shall have a continuous intermediate liner support designed out of nylon (or other material) cord, around the circumference of the tank, at vertical intervals corresponding to the level of each ring. ix) The intermediate liner support cords shall be firmly secured to the steel shell at each level, to prevent stress on the liner welded joints, and thereby eliminate possibility of failure CORROSSION PROTECTION. The tank structure shall have a secondary corrosion protection system using sacrificial magnesium anodes. The number of anodes, their location around the tank and the mass of each anode shall be designed for anode replacement frequency of five years. The anodes shall be installed external to the tank and concrete apron with their location marked with a suitably label-Cost for Tank steel with 10years guarantee includes shel l,Steel wall,steel domed roof,Zinc Alum steel&amp;#39;,Cost for Poly ethylene infinity liner ,Geo synthetic Fibre withfood grade plastics are used for inside coating and Support Arrangements, Cost for Fabricated items, attachments and accessories like steel ladder, Cost of Fabricated nozzles, over flow nozzles and drain arrangements, Cost for HDG nut and bolts, Freight Charges, Erection Installation and commissioning of tank components.</p>						
	Steel storage tank						
		1.000	30000.00 0				30000.00 0
	<b>Total</b>						<b>30000.00 0</b>
	<b>Total Quantity in Litre</b>						<b>30000.00 0</b>
5	Construction of 0.5 LL capacity steel tanks Near St.Antony&#39;s Church(Asramam) and Elappally						
5.001	2.6.1						
	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 disposal of excavated earth, lead up to 50 m and lift up to 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil						
	Earthwork excavation						
	For site levelling	2.000	7.000	7.000	1.000		98.000
	For site levelling	2.000	6.500	6.500	0.500		42.250
	<b>Total</b>						<b>140.250</b>
	<b>Total Quantity in cum</b>						<b>140.250</b>
5.002	4.1.3						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level:1:2:4 (cement : 2 coarse sand (zone-III) : 4 graded stone aggregate 20 mm nominal size)						
	PCC 1:2:4						
		2.000	6.500	6.500	0.150		12.675
	<b>Total</b>						<b>12.675</b>
	<b>Total Quantity in cum</b>						<b>12.675</b>
5.003	5.1.2						
	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work up to plinth level:1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size)						
	Providing RCC 1:1.5:3						
	Ring Beam (3.14*.45*(2.652 5+2.2025)*.45	2.000	3.087				6.174
	<b>Total</b>						<b>6.174</b>
	<b>Total Quantity in cum</b>						<b>6.174</b>
5.004	5.9.1						
	Centering and shuttering including strutting, etc. and removal of form for:Foundations, footings, bases of columns, etc for mass concrete						
	Centering & shuttering						
	for ring beam inside	2.000	3.140	4.405	0.450		12.449
	for ring beam outside	2.000	3.140	5.305	0.450		14.992
	<b>Total</b>						<b>27.441</b>
	<b>Total Quantity in sqm</b>						<b>27.441</b>
5.005	5.22.6						
	Steel reinforcement for R.C.C work including straightening, cutting, bending, placing in position and binding all complete upto plinth levelThermo - Mechanically Treated bars of grade Fe-500D or more						
	Steel Reinforcement						
		1.000	6.174			100.00 0000	617.400
	<b>Total</b>						<b>617.400</b>
	<b>Total Quantity in kilogram</b>						<b>617.400</b>
5.006	OD286714/2023-2024						
	Supplying, coveying & filling sand inside the platform for steel tank						
	Sand filling						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
		2.000	3.14*4.40 5	4.405	0.450	0.2500 00	13.709
	<b>Total</b>						<b>13.709</b>
	<b>Total Quantity in cum</b>						<b>13.709</b>
5.007	OD286715/2023-2024						



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>Supply, installation and commissioning of a pre-engineered, pre-fabricated, factorymanufactured steel storage Water Tank having a capacity of 50000 L thickness of 0.6 mm, in multiple layers as required for the capacity and height of the tank and multiple-layered PE sheet/membrane for the inner containment liner. The Tank Shell / Body &amp; the Liner material shall be manufactured in a facility certified and compliant to ISO 9001 - 2000 standards. The Tank shall be supplied with access points, penetrations for inlets, outlets, drains and fittings, overflow and drain, high and low water level indicators. All connections to the tank shall be with flanged or threaded nozzles, placed to the KWA water mains TANK ROOF The roof of the tank shall be of corrugated Galvalume sheet steel and shall be domed, with heavy-duty Hot-dip Galvanized truss frame for support, and capable of supporting 4-5 persons for maintenance and cleaning and tank shall have an access hatch with cover, on the roof, for operation and Maintenance. TANK COVER Tank covers shall be of approved galvanized vermin proof construction. Roof ends shall be fitted with suitable vermin-proofing tape or other material, to prevent ingress of dust and foreign objects. Covers shall be firmly fixed to the top edge of the tank with galvanized bolts and nuts. LADDERS Tanks shall be provided with Hot-dip Galvanized ladders internally or externally. External roof supports shall be of an appropriately designed Hot-dip galvanized steel construction. Tanks shall comply with relevant spill level, air gap and overflow requirements relative to Effective Capacity. All nuts and bolts used for the panels shall be a minimum of 12mm size and hot-dip galvanized/Case hardened. The tank shall have a circular angle fixed around the total circumference of the tanks, at the top, of minimum 2 mm thickness. Tanks shall be properly flushed out with clean water prior to being brought into service. TANK DIMENSIONS The dimensions of the Tank shall be of 4.855m in diameter and 2.9m in height DESIGN LIFE. The tanks shall have a design life of 40 years. TANK CONNECTIONS &amp; Standard design inlet, outlet, overflow, and scour valves should be provided. ii) Overflow connection including an Internal approved bell-mouth shaped bends to maximize the overflow capacity. iii) One (1) scour drain outlet from the floor of the tank with isolation valve. TANK LINERS: Tank liners shall be purpose-designed and manufactured and shall comply to AS/NZS 4020 (Appendix A ) of 2005 and ANSI/NSF 61 - 2008, Section 5 Certificates of compliance to above standards shall be furnished by the manufacturer of the tanks. Tank liners shall: i) Be factory manufactured to one-piece construction, fabricated from multi-layer PE sheet, certified for potable drinking water, to (ANSI/ NSF 61) and duly UV Stabilized. ii) Be of PE (polyethylene) in multi-layer construction for strength, reinforced with woven</p>						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>scrim industrial fabric to prevent elongation and enhance tensile strength. The total liner material thickness shall be no less than 0.6 mm thick. The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and heat sealing strength of 2056 N v) All the liner welded lap joints shall be strengthened with Metallocene encapsulating tape welded over the overlap. vi) The Metallocene tape shall cover and protect the exposed material at the edges of the liner joints to further prevent the ingress of water into the scrim. vii) Liners shall be positively and continuously attached to the top outer edge of the circumference of the tank to prevent entry of water from the runoff from the roof structure. viii) All liners on tanks over 2m in height shall have a continuous intermediate liner support designed out of nylon (or other material) cord, around the circumference of the tank, at vertical intervals corresponding to the level of each ring. ix) The intermediate liner support cords shall be firmly secured to the steel shell at each level, to prevent stress on the liner welded joints, and thereby eliminate possibility of failure CORROSION PROTECTION. The tank structure shall have a secondary corrosion protection system using sacrificial magnesium anodes. The number of anodes, their location around the tank and the mass of each anode shall be designed for anode replacement frequency of five years. The anodes shall be installed external to the tank and concrete apron with their location marked with a suitably label-Cost for Tank steel with 10years guarantee includes shel l,Steel wall,steel domed roof,Zinc Alum steel&amp;#39;,Cost for Poly ethylene infinity liner ,Geo synthetic Fibre withfood grade plastics are used for inside coating and Support Arrangements,Cost for Fabricated items,attachments and accessories like steel ladder,Cost of Fabricated nozzles,over flow nozzles and drain arrangements, Cost for HDG nut and bolts,Freight Charges,Erection Installation and commissioning of tank components.</p>						
	Supplying and Installation of Steel Tank 0.50 LL						
		2.000	50000.00 0				100000.0 00
	<b>Total</b>						<b>100000.0 00</b>
	<b>Total Quantity in Litre</b>						<b>100000.0 00</b>
6	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB filter house to Lourde Mount St.Antony&#39;s Church Discharge 6 lps, Head 133m						
6.001	OD286706/2023-2024						



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>Supply erection, testing and commissioning of CF pumpset having a discharge of 6 lps for a head of 133m from KSEB Filter house to lound mound. Supply and erection of CF pump set with the following specification&amp;lt;br&amp;gt;1. Pump&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre-qualified reputed make Centrifugal pump sets with Bronze/SS impeller, SS shaft and CI pump casing with suitable type base plate with coupling, coupling guard foundation bolts &amp; nuts etc. complete suitable for coupling the pump and motor above the base plate etc. complete including providing suitable concrete foundation including cost of cement sand and metal etc. complete&amp;lt;br&amp;gt;The duty condition is as follows&amp;lt;br&amp;gt;Discharge - 6 lps&amp;lt;br&amp;gt;Total head - 133 mtrs&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;Size of pumping main pipe - 100 mm GI, Length-6600 m&amp;lt;br&amp;gt;Speed- Less than 1500 rpm. 2. Motor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre qualified reputed make horizontal solid shaft foot mounted TEFC squirrel cage induction motor suitable for the above pump working 3 phase 50 Hz AC supply, working voltage 415 V/3300V (select the suitable). The motor shall confirm to IE2/IE3 as per IS 12615-2018 including providing suitable concrete foundation including cost of cement sand and metal etc. complete For 3300v motors digital motor protection relay shall be included in starter as per CEA regulation 2010. Flexible coupling shall be used for coupling of pumps and motors.&amp;lt;br&amp;gt;3. Starter&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of suitable rating (Fully Automatic starter with air break contact for less than 100 HP and for above 100 HP FCMA starters to be used.) starter suitable for the above motor with over voltage and under voltage protection, single phase preventer, over load relay with motor protection relay with main contactor and bypass contactor as per CEA regulation 2010 and code of practice etc. complete.&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;4. Panel board (suitable for operating two pump sets but one pump set at a time)&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of cubical type floor mounted MS fabricated dust and vermin proof common control panel board consisting of 1 No. suitable capacity MCCB as incomer and 2 Nos of suitable capacity MCCB as out going (the two MCCBs are interlocking with each other) providing suitable size Aluminium bus bar inter connect the above MCCBs and fitted with 3 Nos of indicator lamps, 1 No. volt meter with selector switch, 1 No. Ammeter with selector switch etc. Complete and provided with a common earth bus for the entire panel and inter connect with the MCCBs as per CEA regulation 2010 and code of practice. The panel shall be fitted on a common base frame on suitable foundation. (Specification may be modified if there is only one)&amp;lt;br&amp;gt;pump set by changing 2 Nos of out going as one out going and the provision of interlocking may be avoided)&amp;lt;br&amp;gt;5. Cabling work&amp;lt;br&amp;gt;Supply, laying, testing and commissioning of suitable size XLPE cables for the above pump set from panel board to starter and from starter to motor. considering energy conservation.&amp;lt;br&amp;gt;6. Earthing&amp;lt;br&amp;gt;Supply of all materials and providing suitable earthing by using suitable size pipe/plate earthing GI/copper strip buried in ground and giving double earthing to motor, starter, panel board etc. as per IE standards.&amp;lt;br&amp;gt;7. Capacitor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of heavy duty APP capacitor for the motor to get a power factor above 0.95. The capacitor shall confirm to IS 2834&amp;lt;br&amp;gt;8. Valves&amp;lt;br&amp;gt;Supply of suitable size best quality heavy duty ISI marked CI double flanged sluice valve and Non return valve with suitable pressure rating. Fitting of valves shall include proper RCC support especially for Non return valves. In case of positive suction pump set sluice valve should be in suction as well as delivery sides for easy repair works.&amp;lt;br&amp;gt;9. Suction and delivery pipe connections&amp;lt;br&amp;gt;Supply and fitting of suitable size best quality GI/MS pipe of thickness not less than 8mm for a total length of 10 m. suitable for the above pump set and suitable size foot valve and connecting the suction pipe and valve with suitable flanges, nut and bolts IR sheet etc. complete and connecting the delivery side of the</p>						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	pump with the valves and suitable specials to connect with the pumping main. If the dia of suction pipe is above 80 mm CI pipes & specials shall be provided. .Also two year Warrantee and Supply of ELCB/RCCB to be added at panel for safety.						
	Supply erection,testing and commissioning of CF pumpset having a discharge of 6 lps for a head of 133m from KSEB Filter house to lourd mound.						
	16 HP PUMPSET	2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in no</b>						<b>2.000</b>
6.002	OD286707/2023-2024						
	Submitting application to KSEBLfor power connection and power extension .						
	Submitting application to KSEBLfor power connection and power extension						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
6.003	OD286708/2023-2024						
	Providing and fixing 10SWG copper strip/conductor in 40mm GI pipe from earth electrode including connection with brass nut, bolt, sprn3g.						
	earthing conductor of size 10 SWG						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
6.004	OD286709/2023-2024						
	OD37419/2023-2024						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure .						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
7	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB filter house to Pathipally Discharge 4 lps, Head 212m						
7.001	OD286698/2023-2024						



SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>Supply erection, testing and commissioning of CF pumpset having a discharge of 4 lps for a head of 212 m from KSEB filter house to Pathipally. Supply and erection of CF pump set with the following specification&amp;lt;br&amp;gt;1. Pump&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre-qualified reputed make Centrifugal pump sets with Bronze/SS impeller, SS shaft and CI pump casing with suitable type base plate with coupling, coupling guard foundation bolts &amp; nuts etc. complete suitable for coupling the pump and motor above the base plate etc. complete including providing suitable concrete foundation including cost of cement sand and metal etc. complete&amp;lt;br&amp;gt;The duty condition is as follows&amp;lt;br&amp;gt;Discharge - 4lps&amp;lt;br&amp;gt;Total head - 212 mtrs&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;Size of pumping main pipe - 100 mm GI, Length-1500 m&amp;lt;br&amp;gt;Speed- Less than 1500 rpm. 2. Motor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre qualified reputed make horizontal solid shaft foot mounted TEFC squirrel cage induction motor suitable for the above pump working 3 phase 50 Hz AC supply, working voltage 415 V/3300V (select the suitable). The motor shall confirm to IE2/IE3 as per IS 12615-2018 including providing suitable concrete foundation including cost of cement sand and metal etc. complete For 3300v motors digital motor protection relay shall be included in starter as per CEA regulation 2010. Flexible coupling shall be used for coupling of pumps and motors.&amp;lt;br&amp;gt;3. Starter&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of suitable rating (Fully Automatic starter with air break contact for less than 100 HP and for above 100 HP FCMA starters to be used.) starter suitable for the above motor with over voltage and under voltage protection, single phase preventer, over load relay with motor protection relay with main contactor and bypass contactor as per CEA regulation 2010 and code of practice etc. complete.&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;4. Panel board (suitable for operating two pump sets but one pump set at a time)&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of cubical type floor mounted MS fabricated dust and vermin proof common control panel board consisting of 1 No. suitable capacity MCCB as incomer and 2 Nos of suitable capacity MCCB as out going (the two MCCBs are interlocking with each other) providing suitable size Aluminium bus bar inter connect the above MCCBs and fitted with 3 Nos of indicator lamps, 1 No. volt meter with selector switch, 1 No. Ammeter with selector switch etc. Complete and provided with a common earth bus for the entire panel and inter connect with the MCCBs as per CEA regulation 2010 and code of practice. The panel shall be fitted on a common base frame on suitable foundation. (Specification may be modified if there is only one)&amp;lt;br&amp;gt;pump set by changing 2 Nos of out going as one out going and the provision of interlocking may be avoided)&amp;lt;br&amp;gt;5. Cabling work&amp;lt;br&amp;gt;Supply, laying, testing and commissioning of suitable size XLPE cables for the above pump set from panel board to starter and from starter to motor. considering energy conservation.&amp;lt;br&amp;gt;6. Earthing&amp;lt;br&amp;gt;Supply of all materials and providing suitable earthing by using suitable size pipe/plate earthing GI/copper strip buried in ground and giving double earthing to motor, starter, panel board etc. as per IE standards.&amp;lt;br&amp;gt;7. Capacitor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of heavy duty APP capacitor for the motor to get a power factor above 0.95. The capacitor shall confirm to IS 2834&amp;lt;br&amp;gt;8. Valves&amp;lt;br&amp;gt;Supply of suitable size best quality heavy duty ISI marked CI double flanged sluice valve and Non return valve with suitable pressure rating. Fitting of valves shall include proper RCC support especially for Non return valves. In case of positive suction pump set sluice valve should be in suction as well as delivery sides for easy repair works.&amp;lt;br&amp;gt;9. Suction and delivery pipe connections&amp;lt;br&amp;gt;Supply and fitting of suitable size best quality GI/MS pipe of thickness not less than 8mm for a total length of 10 m. suitable for the above pump set and suitable size foot valve and connecting the suction pipe and valve with suitable flanges, nut and bolts IR sheet etc. complete and connecting the delivery side of the</p>						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	pump with the valves and suitable specials to connect with the pumping main. If the dia of suction pipe is above 80 mm CI pipes & specials shall be provided. .Also two year Warrantee and Supply of ELCB/RCCB to be added at panel for safety.						
	Supply erection,testing and commissioning of CF pumpset having a discharge of 4 lps for a head of 212 m from KSEB filter house to Pathipally						
	17 HP pump set	2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in no</b>						<b>2.000</b>
7.002	OD286699/2023-2024						
	Submitting application to KSEBLfor power connection and power extension .						
	Submitting application to KSEBLfor power connection and power extension						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
7.003	OD286700/2023-2024						
	Providing and fixing 3.15 mm(10 SWG)copper strip/conductor in 40mm GI pipe from earth electrode including connection with brass nut, bolt, sprn3g.						
	earthing conductor of size 10 SWG						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
7.004	OD286701/2023-2024						
	OD37419/2023-2024						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure .						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
8	Supply, Erection, Testing and commissioning of CF type CW Pumpsets from KSEB Filter House to Elappally Discharge 6 lps, Head 280m						
8.001	OD286720/2023-2024						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	<p>Supply erection, testing and commissioning of CF pumpset having a discharge of 6 lps for a head of 280 m from KSEB Filter house to elapally. Supply and erection of CF pump set with the following specification&amp;lt;br&amp;gt;1. Pump&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre-qualified reputed make Centrifugal pump sets with Bronze/SS impeller, SS shaft and CI pump casing with suitable type base plate with coupling, coupling guard foundation bolts &amp; nuts etc. complete suitable for coupling the pump and motor above the base plate etc. complete including providing suitable concrete foundation including cost of cement sand and metal etc. complete&amp;lt;br&amp;gt;The duty condition is as follows&amp;lt;br&amp;gt;Discharge - 6 lps&amp;lt;br&amp;gt;Total head - 280 mtrs&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;Size of pumping main pipe - 100 mm DI, Length-6800 m&amp;lt;br&amp;gt;Speed- Less than 1500 rpm. 2. Motor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of KWA pre qualified reputed make horizontal solid shaft foot mounted TEFC squirrel cage induction motor suitable for the above pump working 3 phase 50 Hz AC supply, working voltage 415 V/3300V (select the suitable). The motor shall confirm to IE2/IE3 as per IS 12615-2018 including providing suitable concrete foundation including cost of cement sand and metal etc. complete For 3300v motors digital motor protection relay shall be included in starter as per CEA regulation 2010. Flexible coupling shall be used for coupling of pumps and motors.&amp;lt;br&amp;gt;3. Starter&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of suitable rating (Fully Automatic starter with air break contact for less than 100 HP and for above 100 HP FCMA starters to be used.) starter suitable for the above motor with over voltage and under voltage protection, single phase preventer, over load relay with motor protection relay with main contactor and bypass contactor as per CEA regulation 2010 and code of practice etc. complete.&amp;lt;br&amp;gt;&amp;lt;br&amp;gt;4. Panel board (suitable for operating two pump sets but one pump set at a time)&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of cubical type floor mounted MS fabricated dust and vermin proof common control panel board consisting of 1 No. suitable capacity MCCB as incomer and 2 Nos of suitable capacity MCCB as out going (the two MCCBs are interlocking with each other) providing suitable size Aluminium bus bar inter connect the above MCCBs and fitted with 3 Nos of indicator lamps, 1 No. volt meter with selector switch, 1 No. Ammeter with selector switch etc. Complete and provided with a common earth bus for the entire panel and inter connect with the MCCBs as per CEA regulation 2010 and code of practice. The panel shall be fitted on a common base frame on suitable foundation. (Specification may be modified if there is only one)&amp;lt;br&amp;gt;pump set by changing 2 Nos of out going as one out going and the provision of interlocking may be avoided)&amp;lt;br&amp;gt;5. Cabling work&amp;lt;br&amp;gt;Supply, laying, testing and commissioning of suitable size XLPE cables for the above pump set from panel board to starter and from starter to motor. considering energy conservation.&amp;lt;br&amp;gt;6. Earthing&amp;lt;br&amp;gt;Supply of all materials and providing suitable earthing by using suitable size pipe/plate earthing GI/copper strip buried in ground and giving double earthing to motor, starter, panel board etc. as per IE standards.&amp;lt;br&amp;gt;7. Capacitor&amp;lt;br&amp;gt;Supply, erection, testing and commissioning of heavy duty APP capacitor for the motor to get a power factor above 0.95. The capacitor shall confirm to IS 2834&amp;lt;br&amp;gt;8. Valves&amp;lt;br&amp;gt;Supply of suitable size best quality heavy duty ISI marked CI double flanged sluice valve and Non return valve with suitable pressure rating. Fitting of valves shall include proper RCC support especially for Non return valves. In case of positive suction pump set sluice valve should be in suction as well as delivery sides for easy repair works.&amp;lt;br&amp;gt;9. Suction and delivery pipe connections&amp;lt;br&amp;gt;Supply and fitting of suitable size best quality GI/MS pipe of thickness not less than 8mm for a total length of 10 m. suitable for the above pump set and suitable size foot valve and connecting the suction pipe and valve with suitable flanges, nut and bolts IR sheet etc. complete and connecting the delivery side of the</p>						

SI No	Specification	No	Length	Width	Depth	Cf	Quantity
	pump with the valves and suitable specials to connect with the pumping main. If the dia of suction pipe is above 80 mm CI pipes & specials shall be provided. .Also two year Warrantee and Supply of ELCB/RCCB to be added at panel for safety.						
	Supply erection,testing and commissioning of CF pumpset having a discharge of 6 lps for a head of 280 m from KSEB Filter house to elapally						
	32HP PUMP SET	2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in no</b>						<b>2.000</b>
8.002	OD286721/2023-2024						
	Submitting application to KSEBLfor power connection and power extension .						
	Submitting application to KSEBLfor power connection and power extension						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
8.003	OD286722/2023-2024						
	Providing and fixing 4.75 mm(6 SWG) copper strip/conductor in 40mm GI pipe from earth electrode including connection with brass nut, bolt, sprn3g.						
	earthing conductor of size 6 SWG						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>
8.004	OD286723/2023-2024						
	OD37419/2023-2024						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure .						
	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick						
		2.000					2.000
	<b>Total</b>						<b>2.000</b>
	<b>Total Quantity in set</b>						<b>2.000</b>