DETAILED ESTIMATE

Jal Jeevan Mission (JJM)-JJM PROVIDING FHTCS TO ALL HOUSEHOLD IN ERATTAYAR AND KAMAKSHI (PART) PANCHAYATHS IN IDUKKI DISTRICTS-Supply and Laying CWPM's -200 mm D I Pipe from WTP to Hero pady ,150 mm DI Pipe from Heropady to Adayalakkallu ,80mm GI(M) pipe from Kurissummotil padi to Kurissummotil padi Top and Construction of Sump cum Pump house at Heropady.Supply and Installation of Steel Tanks at Adayalkallu,Vazhavara ,Nanguthotty and Kurissummootilpadi Top.-Pipeline Work

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
1	Part I - Supply and CWPM 150 mm I										
1.001	100.98.116										
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.										
	150 mm Di Pipe	;	aski	520							
	150 mm DI K9	1	2942.000				2942.000				
	Add 2 % of future mace	1	2942.000	3-16		0.0200 00	58.840				
	Round off	1	C-PLATFOR	M FOR THE M	ANAGEMENT	$\begin{array}{c} 0.1600\\00\end{array}$	0.160				
	Total OF PUBLIC WORKS										
				Tot	al Quantity	in metre	3001.000				
1.002	100.98.117										
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 200mm Dia.										
	200mm DI Pipe										
		1	2145.000				2145.000				
	2 % spare pipe	1	2145.000			$\begin{array}{c} 0.0200\\00\end{array}$	42.900				
	Round off	1				$\begin{array}{c} 0.1000\\00\end{array}$	0.100				
	Total										
				Tot	al Quantity	in metre	2188.000				
1.003	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 Sluice valve										
	150 MM VALVE	1					1.000				
	Total										
				,	Fotal Quant	tity in no	1.000				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
1.004	100.98.461								
	Supply of CI Doul Valve with Cap Pl	ole Flange N 1.6, Siz	ed Sluice Val e 200mm.	ve Conformi	ing to IS 148	46 - 2000	, Sluice		
	200 mm Sluice va	lve							
	200 MM VALVE	1					1.000		
	Total						1.000		
				1	Total Quant	ity in no	1.000		
1.005	100.98.444								
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Large Orifice Type S2, Size 50mm.								
		r		1	1				
		8					8.000		
	Total						8.000		
			- C	1. S.	Total Quant	ity in no	8.000		
1.006	100.98.441		14-TB	QATA					
	Supply of CI Air V Type S1, Size 40n		nforming to 1	IS 14848 - 20	000, Single C	Drifice, Sn	nall Orifice		
	40 MM Air valve								
		10					10.000		
	Total		OF PUBLIC	WORKS	MONONCOLEMPIER I		10.000		
				I	Total Quant	ity in no	10.000		
1.007	100.98.469								
	Supply of CI Doul Valve with Cap Pl			ve Conformi	ing to IS 148	46 - 2000	, Sluice		
	valve for CWPM f	from Kuri	shumootilpa	dy to Kurish	umootilpady	top			
	80 mm valve	1					1.000		
	Total						1.000		
				1	Total Quant	ity in no	1.000		
2	Part II - Working	charges							
2.001	100.1.1								
	Excavating trenches sockets, and dressing getting out the exce exceeding 20cm in watering, etc., and 50m, in all kinds of	ing of side avated so depth, in disposing of soil.	es, ramming il, and then r cluding cons	of bottoms, c returning the solidating eac	lepth up to 1. soil as requir ch deposited	.5m, inclu ed, in lay layer by r	ding ers not amming,		
	all kinds of soi	1			1				
	150 mm DI K9	1	2942.000	0.600	1.100	$0.6500 \\ 00$	1262.118		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	200 mm DI K9	1	2145.000	0.800	1.150	$\begin{array}{c} 0.6500\\00\end{array}$	1282.710			
	Total						2544.828			
				Тс	otal Quantity	y in cum	2544.828			
2.002	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.									
	Ordinary Rock									
	150 mm DI K9	1	2942.000	0.600	1.100	$\begin{array}{r} 0.2500 \\ 00 \end{array}$	485.430			
	200 mm D I K9	1	2145.000	0.800	1.150	$\begin{array}{c} 0.2500\\00\end{array}$	493.350			
	Total		14 B	QALA			978.780			
			Stor.	Te	otal Quantity	y in cum	978.780			
2.003	100.2.2			3-16						
	Excavation work by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5m in width or 10m2 on plan), including dressing of sides and ramming of bottoms, lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m, in Medium Rock where Blasting is Prohibited.									
	Medium Rock									
	150 mm DI K9	1	2942.000	0.600	1.100	$\begin{array}{c} 0.0500\\00\end{array}$	97.086			
	200 mm DI K9	1	2145.000	0.800	1.150	$\begin{array}{c} 0.0500\\00\end{array}$	98.670			
	Total						195.756			
				Тс	otal Quantity	y in cum	195.756			
2.004	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.									
	Hard rock									
	150 mm DI K9	1	2942.000	0.600	1.100	$\begin{array}{c} 0.0500\\00\end{array}$	97.086			
	200 mm DI K9	1	2145.000	0.800	1.150	$\begin{array}{c} 0.0500\\00\end{array}$	98.670			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Total						195.756	
				Тс	otal Quantit	y in cum	195.756	
2.005	100.8.1							
	Fencing one side of in vertical casuarir						aution tape	
	Fencing							
		1	3000.000				3000.000	
	Total							
				Tot	al Quantity	in metre	3000.000	
2.006	18.12.8							
	Providing and fixin refilling etc. Extern				ings includir	ng trenchi	ng and	
	CWPM From Kur	rissummo	til padi to K	urissummoti	l padi Top			
	80 mm GI Pipe	1	659.000				659.000	
	Total		14-18	Q41-11			659.000	
			See Star	Tot	al Quantity	in metre	659.000	
2.007	100.31.2.1			3-16				
	Conveying and fix insertions etc., con will be paid separa	nplete, bu	t excluding t	he cost of the				
	valve for CWPM f				umootilpady	top		
	80 mm valve	1					1.000	
	Total						1.000	
				,	Fotal Quant	tity in no	1.000	
2.008	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 Bituminous road							
		2	1000.000				2000.000	
	Total						2000.000	
				Tot	al Quantity	in metre	2000.000	
2.009	15.43.2							
	Dismantling manu material and dispo of Engineer -in-Ch	sal of uns	erviceable m	aterial within				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Dismantling								
		1	1000.000	0.700			700.000		
	Total						700.000		
				To	tal Quantit	y in sqm	700.000		
2.010	15.2.1								
	Demolishing ceme material within 50 concrete 1:3:6 or r	metres le	ad as per dire	ection of Eng	ineer - in-Cl	cluding di narge.Non	isposal of ninal		
	Demolishing Cor	ncrete							
		1	2500.000	0.600	0.150		225.000		
	Total						225.000		
				To	tal Quantit	y in cum	225.000		
2.011	100.14.2			(a.2)					
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 150mm diameter Ductile Iron Class K-9 Pipes.								
	Laying 150 mm D	I Pipes		and the second se	_				
		1	2942.000				2942.000		
	Total						2942.000		
			e-PLATFOR OF PUBLIC	Tota	al Quantity	in metre	2942.000		
2.012	100.14.3								
	Conveying and lay conforming to IS: Iron Class K-9 Pip	8329 excl	np;S Centrifu uding cost of	gally Cast (S pipes and sp	Spun) / Duct becials: 200r	ile Iron Pi nm diame	pes ter Ductile		
	Laying 200 mm D	I Pipe							
		1	2145.000				2145.000		
	Total						2145.000		
				Tota	al Quantity	in metre	2145.000		
2.013	18.30.4								
	Providing flanged testing of joints:15	joints to c 0 mm dia	louble flange meter pipe	d C.I./ D.I pi	pes and spec	cials, inclu	ıding		
	150 mm Flanged J	oint		r					
		6					6.000		
	Total						6.000		
]	Fotal Quant	ity in no	6.000		
2.014	18.30.5								
	Providing flanged testing of joints:20			d C.I./ D.I pi	pes and spec	cials, inclu	ıding		
	200 mm Flanged j	oint							

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
		6					6.000				
	Total						6.00				
				r	Fotal Quant	tity in no	6.00				
2.015	18.68.1										
	Providing and laying D.I specials of class K - 12 suitable for push - on join IS : 9523 :Upt 600 mm dia										
	D I Specials										
	150*90 degree bend	4				0.2000	0.80				
	150*45 degree bend	10				0.1600 00	1.60				
	150*22.5 degree bend	16				0.1400 00	2.240				
	150*11.25 degree bend	20		M.		0.1300 00	2.600				
	150*150 mm TEE	2	A.K	94A		0.2700 00	0.540				
	150mm TP	1				0.1400 00	0.14				
	200*200 mm TEE	1				0.4600 00	0.460				
	200*90 mm Bend	4	OF PUBLIC	WORKS		0.3800	1.520				
	200*45 mm Bend	6				0.2600 00	1.56				
	200*22.5 mm Bend	16				0.2200	3.520				
	200*11.25 mm Bend	25				0.2100 00	5.25				
	Total										
	Total Quantity in quintal										
2.016	18.67.1										
	Providing and layir per IS 13382:Upto			d specials su	itable for me	echanical j	ointing as				
	150mm Mechanica	l joint									
	150 mm M J Collar	5				0.2500 00	1.25				
	Total										
	Total Quantity in quintal										

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Providing push - o Pipes including tes pipes								
	Push on Joint								
		530					530.000		
	Total						530.000		
				To	tal Quantity	y in joint	530.000		
2.018	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								
	Push-on-Joints								
		390					390.000		
	Total 390.00								
	Total Quantity in joint 390.000								
2.019	OD107091/2022-2	2023		84014					
	Labour for Cutting	, DI Pipe	with steel say	w 150 mm di	ameter DI P	ipe			
	cutting			J					
		15			J		15.000		
	Total		e-PLATFOR	M FOR THE M WORKS	IANAGEMENT		15.000		
				Total Q	Quantity in H	Each Cut	15.000		
2.020	OD107078/2022-2	2023							
	Labour for Cutting	g DI Pipe	with steel say	w 200 mm di	ameter DI P	ipe			
	cutting								
		12					12.000		
	Total						12.000		
				Τα	otal Quantity	y in each	12.000		
2.021	100.35.2								
	Testing 150mm D 150 mm dia Observed Data der		_		-	test press	ure		
	Testing								
		1	2942.000				2942.000		
	Total						2942.000		
				Tot	al Quantity	in metre	2942.000		
2.022	100.35.3								
	Testing 200mm D 200 mm dia Observed Data der				•	test press	ure		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
	Testing								
		1	2145.000				2145.000		
	Total						2145.000		
				Tot	al Quantity	in metre	2145.000		
2.023	100.32.3								
	Conveying and fix nuts, rubber inserti required, will be p	ions etc.,	complete, bu	t excluding t	he cost of air	valve (ta			
		8					8.000		
	Total	0					8.000		
				,	Total Quant	ity in no	8.000		
2.024	100.32.2				Total Quality		0.000		
	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.								
	40 MM Air valve	_		and the	_				
		10					10.000		
	Total						10.000		
			OF PUBLIC	WORKS	Total Quant	ity in no	10.000		
2.025	100.31.1.4								
	Conveying and fix insertions etc., con will be paid separa	nplete, bu	t excluding the	he cost of the					
	150 mm Sluice val	lve							
		1					1.000		
	Total						1.000		
				,	Total Quant	ity in no	1.000		
2.026	100.31.1.5								
	Conveying and fix insertions etc., con will be paid separa	nplete, bu	t excluding t	he cost of the	y providing b e valve (tail j	olts, nuts, pieces, if r	rubber required,		
	200 mm Sluice val	lve	,						
		1					1.000		
	Total						1.000		
				,	Total Quant	ity in no	1.000		
2.027	2.6.1								

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
	Earth work in exca over areas (exceed including disposal earth to be levelled	ling 30 cm of excava	n in depth, 1.5 nted earth, lea	5 m in width id up to 50 m	as well as 10 and lift up t) sqm on j	plan)				
	For Valve Cham	bers of in	side size 1.50)mx1.50mx1.	.30m- 2Nos						
	For valve chamber	2	2.100	2.100	1.800		15.876				
	Total						15.876				
				То	tal Quantity	y in cum	15.876				
2.028	4.1.3										
	of centering and sl	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)									
	For Valve Cha	mbers of	inside size 1.	50mx1.50mx	x1.30m						
	Valve Chambers	2	2.100	2.100	0.100		0.882				
	For concreting concrete/ tar road cutting	1	700.000	0.600	0.150		63.000				
	Total		63.882								
	10181										
				То	tal Quantity	y in cum	63.882				
2.029	5.1.2		OF PUBLIC V	M FOR THE M	ANAGEMENT	· · · · · ·	63.882				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size	of centeri 5:3 (1 cen	tion specified ng, shuttering nent 1.5 coars	d grade of rei g, finishing a se sand :3 gra	inforced cem ind reinforce aded stone ag	ent concr ment - Al	63.882 rete, 1 work up				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan	of centeri 5:3 (1 cen	tion specified ng, shuttering nent 1.5 coars	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1	inforced cem and reinforce aded stone ag	ent concr ment - Al	63.882 rete, 1 work up 20 mm				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab	of centeri 5:3 (1 cen nbers of ir 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500	inforced cem ind reinforce aded stone as 30m 0.250	ent concr ment - Al	63.882 rete, 1 work up 20 mm 1.125				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab	of centeri 5:3 (1 cen nbers of ir 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000	inforced cem ind reinforce aded stone ag 30m 0.250 0.150	ent concr ment - Al	63.882 rete, 1 work up 20 mm <u>1.125</u> 1.200				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long	of centeri 5:3 (1 cen bers of ir 2 2 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250	inforced cem ind reinforce aded stone ag 30m 0.250 0.150 1.300	ent concr ment - Al	63.882 rete, 1 work up 20 mm <u>1.125</u> <u>1.200</u> 2.600				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall	of centeri 5:3 (1 cen bers of ir 2 2 2 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250	inforced cem ind reinforce aded stone as 30m 0.250 0.150 1.300 1.300	ent concr ment - Al	63.882 rete, 1 work up 20 mm <u>1.125</u> <u>1.200</u> <u>2.600</u> 1.950				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall Road reconcrete	of centeri 5:3 (1 cen bers of ir 2 2 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250	inforced cem ind reinforce aded stone ag 30m 0.250 0.150 1.300	ent concr ment - Al	63.882 rete, 1 work up 20 mm <u>1.125</u> <u>1.200</u> 2.600 <u>1.950</u> 225.000				
2.029	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall	of centeri 5:3 (1 cen bers of ir 2 2 2 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250 0.600	inforced cem and reinforce aded stone ag 30m 0.250 0.150 1.300 1.300 0.150	ent concr ment - Al ggregate 2	63.882 rete, l work up 20 mm 1.125 1.200 2.600 1.950 225.000 231.875				
	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall Road reconcrete Total	of centeri 5:3 (1 cen bers of ir 2 2 2 2 2	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250 0.600	inforced cem ind reinforce aded stone as 30m 0.250 0.150 1.300 1.300	ent concr ment - Al ggregate 2	63.882 rete, 1 work up 20 mm <u>1.125</u> <u>1.200</u> <u>2.600</u> 1.950				
	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall Road reconcrete	of centeri 5:3 (1 cen <u>abers of ir</u> 2 2 2 2 1 1	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000 2500.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250 0.600 To	inforced cem ind reinforce aded stone as 30m 0.250 0.150 1.300 1.300 0.150 tal Quantity	ent concr ment - Al ggregate 2 y in cum	63.882 rete, 1 work up 20 mm 1.125 1.200 2.600 1.950 225.000 231.875 231.875				
	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall Road reconcrete Total 5.22.4 Steel reinforcemer	of centeri 5:3 (1 cen <u>abers of ir</u> 2 2 2 2 1 1	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000 2500.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250 0.600 To	inforced cem ind reinforce aded stone as 30m 0.250 0.150 1.300 1.300 0.150 tal Quantity	ent concr ment - Al ggregate 2 y in cum	63.882 rete, 1 work up 20 mm 1.125 1.200 2.600 1.950 225.000 231.875 231.875				
	5.1.2 Providing and layi excluding the cost to plinth level:1:1: nominal size For Valve Chan Cover slab base slab side wall long side wall Road reconcrete Total 5.22.4 Steel reinforcement in position and bin	of centeri 5:3 (1 cen <u>abers of ir</u> 2 2 2 2 1 1 nt for R.C.	tion specified ng, shuttering nent 1.5 coars nside size 1.50 1.500 2.000 4.000 3.000 2500.000	d grade of rei g, finishing a se sand :3 gra 0mx1.50mx1 1.500 2.000 0.250 0.250 0.600 To	inforced cem ind reinforce aded stone as 30m 0.250 0.150 1.300 1.300 0.150 tal Quantity	ent concr ment - Al ggregate 2 y in cum	63.882 rete, 1 work up 20 mm 1.125 1.200 2.600 1.950 225.000 231.875 231.875				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
	Total						1460.000				
				Total Q	Quantity in k	kilogram	1460.000				
2.031	4.3.1										
	Centering and shuttering including strutting, propping etc. and removal of form work for:Foundations, footings, bases for columns										
	Centering Shutt	ering									
	valve chamber cover slab side	2	8.000			$\begin{array}{c} 0.2500\\00\end{array}$	4.000				
	valve chamber side Wall	2	14.000			1.3000 00	36.400				
	anchor block	60	2.400	0.600			86.400				
	Total						126.800				
				Тс	otal Quantit	y in sqm	126.800				
2.032	100.37.6.1		1	10							
	In situ fabrication including cost and of painting the stee even shade over an	conveyar el work w	ice charges o ith two or mo	f M.S. plate, ore coat deluz	all fabrication xe multi surf	on charges	s, charges				
	MS pipe 150 mm										
	For culvert Crossing	1	30.000	M FOR THE M	ANAGEMENT		30.000				
	For Inter connecting Steel Tanks with Existing GLSR	3	10.000				30.000				
	Total						60.000				
				Tota	al Quantity	in metre	60.000				
2.033	100.37.6.2										
	Fabricating M.S. flanges of diameter 150mm using 12mm thick M.S. plate in cost and conveyance charges of M.S. plate, all fabrication charges, charges of the steel work with two or more coat deluxe multi surface paint to give an ev over an under-coat of primer etc., complete: For pipes fabricated with 8mm to plates.										
	MS flange										
	150 MM	6					6.000				
	Total						6.000				
	Total Quantity in no										
				-		ny m no	0.000				
2.034	100.37.6.3										
2.034	100.37.6.3 Cutting 150mm (I. including cost of g fabricated with 8m	as, all lab	our and hire	king bends a	nd other spec	cials by ga					

EST No. :WRD/KWA-CE(CR)/EST/822/2022_26_2_1 (Edit Id : 10)
(Dsor year : 2018,Cost Index (Place : Idukki,Value : 141.53),GST : 18%

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
		8					8.000			
	Total						8.000			
					Total Quant	ity in no	8.000			
2.035	100.37.6.4									
	Welding 150mm (welding machine i tools etc., complet	ncluding	cost of gas a	nd welding r	ods, all labou	ir and hire	gas/electric e charges of			
	welding				I					
		10					10.000			
	Total									
	Total Quantity in no 10.00									
2.036	036 100.37.6.5									
	Grinding cut and weld edges of 150mm (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		19-16							
		20					20.000			
	Total			7 H			20.000			
			- PL 47500		Total Quant	ity in no	20.000			
2.037	100.37.7.1		OF PUBLIC	WORKS	WORK AND ENVIENCE					
	In situ fabrication including cost and of painting the stee even shade over an	conveyar el work w	ice charges c ith two or me	of M.S. plate, ore coat delu	, all fabrication xe multi surf	on charge	s, charges			
	200 mm ms pipe									
	200 mm DI Pipe	1	30.000				30.000			
	Total						30.000			
				Tot	al Quantity	in metre	30.000			
2.038	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.									
	Flange	[I	1					
		6					6.000			
	Total						6.000			
				1	Total Quant	ity in no	6.000			
2.039	100.37.7.3									

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Cutting 200mm (I. including cost of g fabricated with 8m	as, all lab	our and hire							
	Cutting									
		10					10.000			
	Total						10.000			
				,	Total Quant	tity in no	10.000			
2.040	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									
		12					12.000			
	Total			340			12.000			
			6.8		Total Quant	tity in no	12.000			
2.041	100.37.7.5		16.1R	NACE NO.						
	Grinding cut and w including all labou 8mm thick M.S. p	ir and hire								
	grinding		-PLATFOR	M FOR THE M	ANAGEMENT					
		24	OF PUBLIC	WORKS			24.000			
	Total						24.000			
				,	Total Quant	tity in no	24.000			
2.042										
	Providing and layi excluding the cost to plinth level:1:2: nominal size)	of center	ing, shutterin	ıg, finishing a	and reinforce	ement - Al	ll work up			
	Anchor block									
	Anchor block	60	0.600	0.600	0.600		12.960			
	Total						12.960			
				To	otal Quantit	y in cum	12.960			
2.043	OD111602/2022-2	2023								
	Supply and Install	ation of S	urge Arresto	r 200 mm as	per directior	ı				
	200 mm Surge ar	restor- ze	ro velocity v	alve and airc	ushion valve					
		1					1.000			
	Total						1.000			
				Γ	otal Quanti	ty in job	1.000			
3	Part III - Construc	tion of 2.6	6LL GLSR A	ND PUMP	HOUSE at H	eropady				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
3.001	2.31				- -					
	Clearing jungle in saplings of girth u removal of rubbish	p to 30 cm	n measured a	t a height of	1 m above g	round lev	el and			
	Clearing Jungle									
		1	10.000	7.000			70.000			
	Total						70.000			
	Total Quantity in sqm 70.000									
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									
	sump	1	7.000	5.000	0.200		7.000			
	Total	_	2000				7.000			
3.003	2.7.3	-		Te	otal Quantit	y in cum	7.000			
	Earth work in exca over areas (exceed including disposal earth to be levelled Hard Rock	ling 30 cn of excava	n in depth, 1. ated earth, le	5 m in width ad up to 50 n	as well as 1 n and lift up	0 sqm on to 1.5 m,	plan)			
		1	10.000	8.000	0.600		48.000			
	Total						48.000			
				Тс	otal Quantit	y in cum	48.000			
3.004	OD76090/2022-20)23								
	DOWEL BARS - Supplying and Providing MS dowel bars of size 16 mm dia of 2.0m long (1m in rock and 1m in concrete) including drilling holes of 20mm dia and filling the gap with cement grout(0.50kg/each) etc									
	Dowel Bars	300					300.000			
	Total					1	300.000			
	Total			,	Total Quant	tity in no	300.000			
3.005	413				- vui Yuull					
5.005	Providing and layi of centering and sl (zone-III) : 4 grade cement concrete	nuttering ed stone a	- All work up	to plinth lev	vel:1:2:4 (cer					

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity					
	sump	1	10.000	8.000	0.700		56.000					
	deductions for Column footing	-4	1.000	1.000	0.200		-0.800					
	Total						55.200					
				To	tal Quantity	y in cum	55.200					
3.006												
	Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor	oncrete fo esign mix, of centerion mmendec workabili eer - in-ch ess or less	or reinforced of including puting, shuttering proportions ity without in harge. Note:- cement used	cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement cont	rete work, us ncrete to site and reinforce 03 to accele agth and dura ent consider	sing ceme of laying ment, inc rate, retar ability as ed in this	nt content g but luding d setting of per item is @					
	M25 concrete		A.									
	sump	1	9.700	9.700	0.250		23.523					
	Deduction for column	-4	0.300	0.300	0.250		-0.090					
	Column											
	Total			211			23.433					
3.007	Total 5.33.2	ing in posi		M FOR THE M WORKS	tal Quantity	· · · · · · · · · · · · · · · · · · ·	23.433 23.433					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor	oncrete fo esign mix, of centerion mmendec workabili eer - in-ch ess or less	or reinforced of including puting, shuttering proportions ity without in harge. Note:- cement used	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement cont as per design	I machine mi rete work, us ncrete to site and reinforce 03 to acceler agth and dura ent consider n mix is paya	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this	23.433 gn mix M- nt content g but luding d setting of per item is @					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25	oncrete fo esign mix, of centerion mmendec workabili eer - in-ch ess or less	or reinforced of including puting, shuttering l proportions ity without in harge. Note:- cement used linth level up	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement cont as per design oto floor V le	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ogth and dura rent consider n mix is paya vel	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor	oncrete fo esign mix, of centerion mmendec workabili eer - in-ch ess or less	or reinforced of including puting, shuttering proportions ity without in harge. Note:- cement used	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement cont as per design	I machine mi rete work, us ncrete to site and reinforce 03 to acceler agth and dura ent consider n mix is paya	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch	oncrete fo esign mix, of centerio mmendec workabili eer - in-ch ess or less k above p	or reinforced of including puting, shuttering proportions ity without in harge. Note:- cement used linth level up 38.800 36.800	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement cont as per design to floor V le 0.250 0.400	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ogth and dura ent consider n mix is paya vel 3.200 0.150	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column footing	oncrete for esign mix, of centerio mmended workabili eer - in-ch ess or less rk above p	or reinforced of including puting, shuttering l proportions ity without in harge. Note:- cement used linth level up 38.800 36.800 1.000	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement contr as per design to floor V le 0.250 0.400 1.000	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ogth and dura- rent consider n mix is paya vel 3.200 0.150 0.200	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column footing column	oncrete fo esign mix, of centerior mmendec workabili eer - in-ch ess or less k above p 1 1 1 4 4	or reinforced of including puting, shuttering puting, shuttering proportions ity without in harge. Note:-cement used linth level up 38.800 36.800 1.000 0.300	e batched and cement concr imping of cor g, finishing a as per IS: 91 npairing stren Cement contr as per design to floor V le 0.250 0.400 1.000 0.250	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ogth and dura ent consider n mix is paya vel 3.200 0.150 0.200 3.200	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800 0.960					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in recc concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column footing column	oncrete fo esign mix, of centerio mmendec workabili eer - in-ch ess or less k above p	or reinforced of including puting, shuttering proportions ity without in harge. Note:-cement used linth level up 38.800 36.800 1.000 0.300 0.300	e batched and cement concr imping of con g, finishing a as per IS: 91 npairing stren Cement contr as per design to floor V le 0.250 0.400 1.000 0.250 0.250	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ogth and dura ent consider n mix is paya vel 3.200 0.150 0.200 3.200 3.000	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800 0.900					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column footing column beam	oncrete for esign mix, of centerio mmended workabili eer - in-ch ess or less ck above p	or reinforced of including puting, shuttering l proportions ity without in harge. Note:- cement used linth level up 38.800 36.800 1.000 0.300 0.300 9.700	e batched and cement contr imping of con- g, finishing a as per IS: 91 npairing stren Cement contr as per design oto floor V le 0.250 0.400 1.000 0.250 0.250 0.250	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ngth and dura- rent consider n mix is paya vel 3.200 0.150 0.200 3.200 3.200 0.200	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800 0.960 0.900 1.940					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column beam cover slab	oncrete for esign mix, of centerior mmendec workabili eer - in-ch ess or less k above p 1 1 4 4 4 4 4 4 4	or reinforced of including puting, shuttering puting, shuttering puting, shuttering proportions ity without in harge. Note:-cement used linth level up 38.800 36.800 1.000 0.300 0.300 0.300 0.300 0.300 0.300 10.000 10.000 0.300 0	e batched and cement concrumping of cor g, finishing a as per IS: 91 npairing stren Cement contr as per design to floor V le 0.250 0.400 1.000 0.250 0.250 0.250 10.000	I machine mirete work, us ncrete to site and reinforce 03 to acceler ngth and dura ent consider n mix is paya vel 3.200 0.150 0.200 3.200 0.200 0.200 0.200	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800 0.960 0.900 1.940 20.000					
3.007	Total 5.33.2 Providing and layi 25 grade cement c as per approved de excluding the cost admixtures in reco concrete, improve direction of Engin 330 kg/ cum. Exce separately.All wor M25 wall haunch column footing column beam	oncrete for esign mix, of centerio mmended workabili eer - in-ch ess or less ck above p	or reinforced of including puting, shuttering l proportions ity without in harge. Note:- cement used linth level up 38.800 36.800 1.000 0.300 0.300 9.700	e batched and cement contr imping of con- g, finishing a as per IS: 91 npairing stren Cement contr as per design oto floor V le 0.250 0.400 1.000 0.250 0.250 0.250	I machine mi rete work, us ncrete to site and reinforce 03 to acceler ngth and dura- rent consider n mix is paya vel 3.200 0.150 0.200 3.200 3.200 0.200	ixed desig sing ceme of laying ment, inc rate, retar ability as ed in this able or rec 0.5000	23.433 gn mix M- nt content g but luding d setting of per item is @ coverable 31.040 1.104 0.800					

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity					
	Beam PH	3	3.450	0.200	0.300		0.621					
	man hole cover	-4	0.455	0.610	0.100		-0.111					
	Total						60.659					
				То	tal Quantity	in cum	60.659					
3.008												
	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).											
	Extra for Pr	oviding ri										
	wall	1	38.800	0.250	3.200		31.040					
	haunch	1	36.800	0.400	0.150	$\begin{array}{c} 0.5000\\00\end{array}$	1.104					
	column footing	4	1.000	1.000	0.200		0.800					
	Column	4	0.300	0.250	3.000		0.900					
	Column	4	0.300	0.250	3.200		0.960					
	beam	4	9.700	0.250	0.200		1.94(
	cover slab	1	10.000	10.000	0.200		20.000					
	lintel PH	1	19.250	0.200	0.200		0.770					
	sunshade	2	1.700	0.600	0.075		0.153					
	beam PH	3	3.450	0.200	0.300		0.621					
	roof slab	1	6.800	3.650	0.100		2.482					
	man hole cover	-4	0.455	0.610	0.100		-0.111					
	Total						60.659					
				То	tal Quantity	v in cum	60.659					
3.009	5.9.1											
	Centering and shur footings, bases of				removal of fo	orm for:Fo	oundations					
	Centering and sh	uttering										
	sump basement pcc	4	10.000		0.700		28.000					
	sump basement Rcc	4	9.700		0.250		9.700					
	Total						37.700					
				То	tal Quantity	y in sqm	37.700					
3.010	5.9.2											
	Centering and shut thickness) includir											
	Centering and sh											

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	side wall-inside	1	36.800		3.200		117.760			
	side wall-out side	1	38.800		3.200		124.160			
	column	4	1.100		3.100		13.640			
	lintel of pump house	1	38.500		0.200		7.700			
	Total						263.260			
				То	tal Quantity	y in sqm	263.260			
3.011	5.9.3									
	Centering and shut floors, roofs, landi	ttering incl ngs, balco	luding struttin	ng, etc. and r ess platform	emoval of fo	orm for:Su	uspended			
	Centering and s	huttering								
	cover slab	1	10.000	10.000			100.000			
	cover slab side	1	40.000		0.250		10.000			
	Column	4	3.200	1.100			14.080			
	Column PH	4	3.000	1.100			13.200			
	beam	4	9.200	526-5	0.250		9.200			
	Beam PH	3	3.450	1.000			10.350			
	roof slab	1	6.875	3.750			25.781			
	roof slab side	1	21.250	A FOR THE M	0.100		2.125			
	Sun shade	2	1.700	VORKS	0.600		2.040			
	man hole cover	-4	0.455	0.610	0.100		-0.111			
	Total						186.665			
				То	tal Quantity	y in sqm	186.665			
3.012	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									
	@100kg/cum	60.659				$\begin{array}{c} 100.00\\0000\end{array}$	6065.900			
	Total						6065.900			
				Total Q	uantity in k	ilogram	6065.900			
3.013	13.7.1									
3.013	13.7.1 12 mm cement pla cement : 3 fine sar		ed with a floa	ating coat of	neat cement	of mix:1:	3 (1			
3.013	12 mm cement pla		ed with a floa	ating coat of	neat cement	of mix:1:	3(1			
3.013	12 mm cement pla cement : 3 fine sar		ed with a floa 36.800	ating coat of	neat cement	of mix:1:	、 			
3.013	12 mm cement pla cement : 3 fine san Plastering			ating coat of		of mix:1:	3 (1 <u>117.760</u> 133.860			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	column PH	4	1.100		3.000		13.200			
	cover slab side	1	42.400		0.125		5.300			
	cover slab of sump	1	10.000	10.000			100.000			
	Beam of sump	4	9.200		0.750		27.600			
	Roof slab for pump house	1	6.875	3.750			25.781			
	roof slab side	1	21.250		0.100		2.125			
	pump house wall inside	1	18.450		3.000		55.350			
	pump house wall out side	1	20.050		3.000		60.150			
	pump house floor	1	6.000	6.000			36.000			
	man hole cover	-4	0.500	0.500		3.1400 00	-3.140			
	rolling shutter	-1	2.400	520	2.400		-5.760			
	windows	-2	1.500	0000	1.500		-4.500			
	ventilators	-1	0.450		0.450		-0.202			
	Total			- 11	_		577.164			
		_	CPOATFOR	To	otal Quantit	y in sqm	577.164			
3.014	13.16.1		OF PUBLIC							
	6 mm cement plast	ter of mix	:1:3 (1 ceme	nt : 3 fine sa	ind)					
	plastering roof									
	plastering roof	1	3.050	6.200			18.910			
	Total						18.910			
				To	otal Quantity	y in sqm	18.910			
3.015	13.44.1									
	Finishing walls with water proofing cement paint of required shade:New work (Two or more coats applied @ 3.84 kg/10 sqm)									
	Waterproofing									
	Waterproofing side wall	1	1.000	36.800	3.200		117.760			
	Waterproofing base	1	9.200	9.200			84.640			
	Total						202.400			
				Тс	otal Quantit	y in sqm	202.400			
3.016	13.47.1									
	Finishing walls wi required shade:Ne including priming	w work (7	wo or more	coats applied	1 @ 1.43 ltr/	10 sqm o				

	Specification	No	Length	Width	Depth	Cf	Quantity					
	Painting											
	sump-side wall- out side	1	38.800		3.450		133.860					
	cover slab side	1	40.000		0.200		8.000					
	pump house wall	1	20.050		3.000		60.150					
	pump house cover slab side side	1	21.250		0.100		2.125					
	Sun shade	4	1.700	0.600	0.000		0.000					
	Sun shade side	2	2.900	0.075			0.435					
	deduction for shutter	-1	1.000	2.400	2.400		-5.760					
	deduction for window	-2	1.000	1.500	1.500		-4.500					
	Total		A	1			194.310					
			a kin	То	tal Quantity	v in sqm	194.310					
3.017	13.71		ALC: NO	State -								
	Lettering with blac	ettering with black Japan pint of approved brand and manufacture										
						r						
		100	Selection of the Colored	AFOR THE MA	ANAGEMENT		100.000					
	Total		OF PUBLIC V	VORKS			100.000					
			Total Quan	tity in per L	letter per cn	n height	100.000					
3.018	10.25.2											
		1 1 1 4	. 14.72	,								
	Item Shifted to Sul Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl	nd 14 as it in built u blying a pr gratings, f	em 14.74 p sections/fra fiming coat of frames, guard	med work, in f approved st bar, ladder,	teel primer us railings, brac	sing struc ckets, gat 250.00	ctural steel					
	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc	nd 14 as it in built u blying a pr gratings, f n and widt	em 14.74 p sections/fra fiming coat of frames, guard	med work, in f approved st bar, ladder,	teel primer us railings, brac	sing struc ckets, gat	etural steel es and 250.000					
	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl	nd 14 as it in built u blying a pr gratings, f n and widt	em 14.74 p sections/fra fiming coat of frames, guard	med work, in f approved st bar, ladder, stair from gr	teel primer us railings, brac	sing struc ckets, gat 250.00 0000	250.000					
2.010	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc Total	nd 14 as it in built u blying a pr gratings, f n and widt	em 14.74 p sections/fra fiming coat of frames, guard	med work, in f approved st bar, ladder, stair from gr	teel primer us railings, brac	sing struc ckets, gat 250.00 0000	etural steel es and 250.000					
3.019	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc	nd 14 as ite in built up lying a pr gratings, f and widt 1	em 14.74 p sections/fra iming coat of frames, guard h 35 cm and s	med work, in f approved st bar, ladder, stair from gro T nhole cover	teel primer us railings, brac ound to PH	sing struc ckets, gat 250.00 0000 i ty in kg	250.000 250.000 250.000					
3.019	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc Total 100.41.34 Supplying and fixi	nd 14 as ite in built up lying a pr gratings, f and widt 1	em 14.74 p sections/fra iming coat of frames, guard h 35 cm and s	med work, in f approved st bar, ladder, stair from gro T nhole cover	teel primer us railings, brac ound to PH	sing struc ckets, gat 250.00 0000 i ty in kg	250.000 250.000 250.000					
3.019	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc Total 100.41.34 Supplying and fixi (low duty) charges	nd 14 as ite in built up lying a pr gratings, f and widt 1	em 14.74 p sections/fra iming coat of frames, guard h 35 cm and s	med work, in f approved st bar, ladder, stair from gro T nhole cover	teel primer us railings, brac ound to PH	sing struc ckets, gat 250.00 0000 i ty in kg	250.000 250.000 250.000					
3.019	Item Shifted to hea Steel work welded in position and app etc. as required.In similar works Ladder 3 m length ladder,vent cowl etc Total 100.41.34 Supplying and fixi (low duty) charges CI manhole cover	nd 14 as it in built u olying a pr gratings, f and widt 1 ng Rectan including	em 14.74 p sections/fra iming coat of frames, guard h 35 cm and s	med work, in f approved st bar, ladder, stair from gro T nhole cover	teel primer us railings, brac ound to PH	sing struc ckets, gat 250.00 0000 i ty in kg	etural steel es and 250.000 250.000 250.000					

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity		
3.020	50.6.1.2								
	Solid block mason or nearest availabl floor two level this complete.	e size con	firming to IS	5 2185 part I	of 1979 for s	uper strue	cture up to		
	Brick Masonry								
	pump house	1	19.250	0.200	3.200		12.320		
	rolling shutter	-1	2.400	0.200	2.400		-1.152		
	windows	-2	1.500	0.200	1.500		-0.900		
	ventilators	-1	0.450	0.200	0.450		-0.040		
	Total						10.228		
				Тс	otal Quantity	y in cum	10.228		
3.021	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								
	Rolling Shutter		e-PLATFOR OF PUBLIC	M FOR THE M WORKS	ANAGEMENT				
		1	2.400		2.800		6.720		
	Total						6.720		
				Т	otal Quantit	y in sqm	6.720		
3.022	21.1.1.1								
	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS : 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminnium snap beading for glazing /paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately): For fixed portionAnodised aluminium (anodised transparent or dyed to required shade according to IS : 1868, Minimum anodic coating of grade AC 15)								
	Aluminium for wi	ndow frar	ne						
	Aluminium	2				9.0000 00	18.000		
	Total						18.000		
				,	Fotal Quant	ity in kg	18.000		

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
3.023	21.1.1.2			\							
	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS : 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminnium snap beading for glazing /paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge.(Glazing, paneling and dash fasteners to be paid for separately): For fixed portionPowder coated aluminium (minimum thickness of powder coating 50 micron)										
	Aluminium For wi	ndow shu	itters			6 0000					
	For window shutters	2				6.0000 00	12.000				
	Total		J	1			12.000				
			A.K	OXD '	Total Quant	ity in kg	12.000				
3.024	21.3.1		1 Aller	No la constance de la constance							
	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of Engineer - in -Charge. (Cost of aluminium snap beading shall be paid in basic item):With float glass panes of 4.0 mm thickness										
	Glazing for shutt	ers									
	Glazing shutters	2	1.400	1.400		1.2500 00	4.900				
	Glazing	1	0.450	0.450			0.203				
	Total						5.103				
				Т	otal Quantit	y in sqm	5.103				
3.025	21.15.2										
	Providing and fixing aluminium window minimum thickness Window fastners	vs with ne	ecessary nece	essary screws							
		2				$2.0000 \\ 00$	4.000				
	Total						4.000				
				,	Total Quant	tity in no	4.000				
3.026	9.48.1										
	Providing and fixing M.S. flats, square all complete.Fixed M.S Grill for Wind	or round b to steel v	bars etc. inclu	uding primin	n frames of v g coat with a	vindows e pproved s	etc. with steel primer				

EST No. :WRD/KWA-CE(CR)/EST/822/2022_26_2_1 (Edit Id : 10)	
(Dsor year : 2018,Cost Index (Place : Idukki,Value : 141.53),GST : 18%)

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	MS Grill	2				40.000 000	80.000
	Total						80.000
				,	Total Quant	tity in kg	80.000
4	Part - IV - Road re	storation	charges				
4.001	3.11						
	Removal of unserv metres lead but ex- as per clause 305.						
	Removal of u	nserviceat	ole soil				
	pwd berm	1	750.000	0.600	0.200		90.000
	pwd CC	1	450.000	0.600	0.400		108.000
	pwd TC	1	15.000	0.600	0.500		4.500
	Total		1	107			202.500
			a Ki	To	otal Quantit	y in cum	202.500
4.002	10.2		Ser and a ser a se				
	Maintenance of Ea material/ irregular soil and compactir	ties on th	e shoulder to	the design lequipment.	evel by addin		
	pwd berm		e-PLATFOR OF PUBLIC	WORKS	ANAGEMENT		
	pwd berm	1	750.000	0.600	0.200		90.000
	Total						90.000
				Te	otal Quantit	y in sqm	90.000
4.003	4.2.A.1 Construction of gr layers with a moto rotavator at OMC, density, complete Method	r grader o and com	n a prepared bacting with	surface, mix a vibratory r	ting by mix i oller to achie	n-place meret here here here here here here here	nethod with sired
	GSB						
	pwd CC	1	450.000	0.600	0.400		108.000
	pwd TC	1	15.000	0.600	0.500		4.500
	Total						112.500
				То	otal Quantit	y in cum	112.500
4.004	5.1.a						
	Providing and app of granular Base in 0.70 - 1.0 kg/sqm	icluding c	learing of ro	ad surface ar			
	PRIMER COAT					[]	l
	PRIMER COAT	1	15.000	0.900			13.500

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Total						13.500			
				Te	otal Quantit	y in sqm	13.500			
4.005	4.12									
	Providing, laying, Macadam specific mechanical mix pl layers with paver i with vibratory roll	ation incl ant carria n sub- ba	uding premix ge of mixed se / base cou	ting the Mate Material by t rse on well p	erial with wa ipper to site,	ter at OM laying in	C in uniform			
	WMM									
	pwd TC	1	15.000	0.600	0.500		4.500			
	Total						4.500			
				Тс	otal Quantit	y in cum	4.500			
4.006	5.2.b									
	distributor at the ra cleaned with mech	Providing and applying tack coat with bitumen emulsion (RS) using emulsion pressure distributor at the rate of 0.25 - 0.30 kg per sqm on the prepared Granular Surface cleaned with mechanical broom.								
	TACK COAT									
	pwd TC	1	15.000	0.900			13.500			
	Total			ΚЦ			13.500			
		_	e-PLATEOR	THE THE	otal Quantit	y in sqm	13.500			
4.007	Providing, laying a thickness compose grade bitumen (V course on a previo appropriate capaci wheeled roller 8-1	ed of 11.2 G - 30) to usly prep ty not less	mm to 0.09 the required ared base, ind s than 75 ton	mm (Type-A line, grade, cluding mixin nes/hour., lay	a) aggregates and level to s ng in a suitab ying and rolli	using vis serve as wole HMP of ing with a	cosity yearing of Smooth			
	CLOSE GRADED				-	-				
	pwd TC	1	15.000	0.900			13.500			
	Total						13.500			
				Т	otal Quantit	y in sqm	13.500			
4.008	5.8.a									
	stone aggregates o prepared surface a	5.8.a Providing and laying surface dressing as wearing course in single coat using crushed stone aggregates of specified size on a layer of bituminous binder (VG 30) laid on the prepared surface and rolling with 8-10 tonne smooth wheeled steel roller. Grading I - 19 mm nominal chipping size								
	tack coat									
	pwd TC	1	15.000	0.900			13.500			
	Total						13.500			
				Te	otal Quantit	y in sqm	13.500			
4.009	12.4									

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	Plain cement conc 40 mm nominal siz vibration including	ze mechai	nically mixed							
	40 mm									
	pwd CC	1	450.000	0.900	0.150		60.750			
	Total						60.750			
				Тс	otal Quantit	y in cum	60.750			
4.010	12.8.B.1									
	Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications PCC Grade M20 M20									
	pwd CC	1	450.000	0.900	0.075		30.375			
	Total						30.375			
			1	To	otal Quantit	y in cum	30.375			
5	Construction of St Kurishumoottil pa		in Nangutho	tty,Vazhava	ra,Adayalakl	kallu and				
5.001	2.1.1									
	Earth work in surfa width as well as 10 lift up to 1.5 m, dis) sqm on	plan includin il to be levell	g disposal of ed and neatly	f excavated e	arth up to	50 m and			
	For site Levelling		OF PUBLIC	WORKS						
	Nanguthotty	1	10.000	10.000	0.300		30.000			
	Nanguthotty for PCC	1	9.000	9.000	0.150	0.7850 00	9.538			
	Vazhavara	1	10.000	10.000	0.300		30.000			
	Vazhavara for PCC	1	9.000	9.000	0.150	0.7850 00	9.538			
	Adayalakkallu	1	11.000	11.000	0.300		36.300			
	Adayalakkallu for PCC	1	10.000	10.000	0.150	0.7850 00	11.775			
	Kurishummoottil Pady	1	5.000	5.000	0.300		7.500			
	Kurishum moottilpady for PCC	1	4.000	4.000	0.150	0.7850 00	1.884			
	Total						136.535			
				Тс	otal Quantit	y in sqm	136.535			
5.002	4.1.3									
	Providing and layi of centering and sh (zone-III) : 4 grade	nuttering -	- All work up	to plinth lev	vel:1:2:4 (cer	de exclud nent : 2 c	ing the cost oarse sand			

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity				
	For site Levellir	ng									
	Nanguthotty	1	9.000	9.000	0.150	$\begin{array}{c} 0.7850\\00\end{array}$	9.538				
	Vazhavara	1	9.000	9.000	0.150	$\begin{array}{c} 0.7850\\00\end{array}$	9.538				
	Adayalakallu	1	10.000	10.000	0.150	$\begin{array}{c} 0.7850\\00\end{array}$	11.775				
	Kurishummoottil pady	1	4.000	4.000	0.150	$\begin{array}{c} 0.7850\\00\end{array}$	1.884				
	Total						32.735				
				Tot	al Quantity	in cum	32.735				
	Providing and laying in position specified grade of reinforced cement concrete, excluding the cost of centering, shuttering, finishing and reinforcement - All work to plinth level:1:1:5:3 (1 cement 1.5 coarse sand :3 graded stone aggregate 20 mm nominal size										
	RCC Ring Beam		<u>(6.108</u>	2013							
	Nanguthotty	3.14	7.768	0.450	0.450		4.939				
	Vazhavara	3.14	7.768	0.450	0.450		4.939				
	Adayalakkallu	3.14	8.739	0.450	0.450		5.557				
	Kurishumoottilpa dy	3.14	3.884	0.450	0.450		2.470				
	Total						17.905				
				Tot	al Quantity	v in cum	17.905				
5.004	5.9.1										
	Centering and shur footings, bases of				emoval of fo	orm for:Fe	oundations,				
	Centering and shu	ittering				r					
	Nanguthotty outside	3.14	8.218		0.450		11.612				
	Nanguthotty	2.1.4	7 210		0.450		10.340				
	Inside	3.14	7.318		0.430						
		3.14	8.218		0.450		11.612				
	Inside										
	Inside Vazhavara O/S	3.14	8.218		0.450		10.340				
	Inside Vazhavara O/S Vazhavara I/S Adayalakkallu	3.14 3.14	8.218 7.318		0.450 0.450		11.612 10.340 12.348 11.712				
	Inside Vazhavara O/S Vazhavara I/S Adayalakkallu O/S Adayalakkallu	3.14 3.14 3.14	8.218 7.318 8.739		0.450 0.450 0.450		10.340 12.348				

	Specification	No	Length	Width	Depth	Cf	Quantity				
	Total						78.940				
				To	tal Quantity	y in sqm	78.940				
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										
	Nanguthotty @100kg/M3	4.939				100.00 0000	493.900				
	Vazhavara @100kg/M3	4.939				100.00 0000	493.900				
	Adayalakkalu @100kg/M3	5.557				100.00 0000	555.700				
	Kurisummoottilp ady @100kg/M3	2.47		A		100.00 0000	247.000				
	Total		a ska	SZ D			1790.500				
			6.6	Total Q	uantity in k	ilogram	1790.50				
5.006	2.25				_						
			exceeding 20	cm in depth	, consolidati	ing each d	eposited				
	layer by ramming a Earth filling and c	and water	ing, lead up to	<u>50 m and li</u>	ft up to 1.5	ing each d m.	-				
	layer by ramming a Earth filling and c Nanguthotty	and water ompacting 3.14	ing, lead up to g 4.109	50 m and li 4.109	0.300	ing each d	15.90				
	layer by ramming a Earth filling and c Nanguthotty Vazhavara	and water ompacting 3.14 3.14	ng, lead up to g 4.109 4.109	50 m and li 4.109 4.109	0.300 0.300	ing each d	<u>15.90</u>				
	layer by ramming a Earth filling and c Nanguthotty	and water ompacting 3.14	ing, lead up to g 4.109	50 m and li 4.109	0.300	ing each d	15.90 15.90 19.84				
	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad	and water ompacting 3.14 3.14 3.14 3.14	4.109 4.109 4.590	2 50 m and li 4.109 4.109 4.590	0.300 0.300 0.300	ing each d	15.90 15.90 19.84 14.21				
	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top	and water ompacting 3.14 3.14 3.14 3.14	4.109 4.109 4.590	2 50 m and li 4.109 4.109 4.590 3.884	0.300 0.300 0.300	m.	15.90 15.90 19.84 14.21 65.86				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top	and water ompacting 3.14 3.14 3.14 3.14 3.14	4.109 4.109 4.590	2 50 m and li 4.109 4.109 4.590 3.884	0.300 0.300 0.300 0.300 0.300 0.300 0.300	m.	15.90 15.90 19.84 14.21 65.86				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total	and water ompacting 3.14 3.14 3.14 3.14 3.14 23 cluding loa	4.109 4.109 4.590 3.884 ading, unload	2 50 m and li 4.109 4.109 4.590 3.884 Tot	0.300 0.300 0.300 0.300 0.300	m.	15.90 15.90 19.84 14.21 65.86 65.86				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per	and water ompacting 3.14 3.14 3.14 3.14 3.14 23 cluding loa	4.109 4.109 4.590 3.884 ading, unload	2 50 m and li 4.109 4.109 4.590 3.884 Tot	0.300 0.300 0.300 0.300 0.300	m.	15.90: 15.90: 19.84(14.21(65.86(65.86(
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per the direction of dep	and water ompacting 3.14 3.14 3.14 3.14 3.14 23 cluding loa	4.109 4.109 4.590 3.884 ading, unload	2 50 m and li 4.109 4.109 4.590 3.884 Tot	0.300 0.300 0.300 0.300 0.300	m.	15.90: 15.90: 19.84(14.21(65.86 (65.86 (65.86 (
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per the direction of dep Sand filling	and water ompacting 3.14 3.14 3.14 3.14 3.14 223 Pluding loa partmenta	4.109 4.109 4.590 3.884 ading, unload	2 50 m and li 4.109 4.109 4.590 3.884 Tot	0.300 0.300 0.300 0.300 0.300 0.300 0.300 tal Quantity tation and o	m.	15.90 15.90 19.84 14.21 65.86 65.86 65.86 65.86				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per the direction of dep Sand filling Nanguthotty	and water ompacting 3.14 3.14 3.14 3.14 3.14 223 cluding loa partmenta 3.14	4.109 4.109 4.109 4.590 3.884 ading, unload 1 officers.1 4.109	2 50 m and li 4.109 4.109 4.590 3.884 Tot ing, transpor 4.109	0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300	m.	15.903 15.903 19.840 14.210 65.860 65.860 ental 23.857 23.857				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per the direction of dep Sand filling Nanguthotty Vazhavara	and water ompacting 3.14 3.14 3.14 3.14 3.14 23 cluding loa partmenta 3.14 3.14	4.109 4.109 4.590 3.884 ading, unload l officers.1 4.109 4.109	2 50 m and li 4.109 4.109 4.590 3.884 Tot ing, transpor 4.109 4.109 4.109	0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300	m.	15.905 15.905 19.846 14.210 65.866 65.866				
5.007	layer by ramming a Earth filling and c Nanguthotty Vazhavara Adayalakallu Kurissumootilpad i Top Total OD78600/2022-20 Supply of Sand inc charges as per the direction of dep Sand filling Nanguthotty Vazhavara Adayalakkallu Kurishummoottil	and water ompacting 3.14 3.14 3.14 3.14 3.14 23 cluding loa partmenta 3.14 3.14 3.14 3.14	ading, unload 4.109 4.109 4.590 3.884 ading, unload 1 officers.1 4.109 4.109 4.109 4.590	2 50 m and li 4.109 4.109 4.590 3.884 Tot ing, transpor 4.109 4.109 4.109 4.590	0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.300 0.450 0.450 0.450	m.	15.903 15.903 19.840 14.210 65.860 65.860 ental 23.857 23.857 29.769				

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
5.008	OD78727/2022-20)23					



l No	Specification	No	Length	Width	Depth	Cf	Quantity	
	Supply, installation manufactured stee thickness of 0.6							
	mm, in multiple la layered	yers as re	quired for the	e capacity an	d height of t	he tank ai	nd multiple-	
	PE sheet/membran & the Li		inner contain	ment liner. T	The Tank She	ell / Body		
	material shall be m standards. The Tar	anufactu						
	outlets, drains and fittings, overfl to the	ow and d	rain, high and	d low water l	evel indicato	ors. All co	nnections	
	tanks shall be with TANK ROOF	flanged	or threaded n	ozzles, place	d to the KW	A water r	nains	
	:The roof of the tar with	nk shall b	e of corrugat	ed Galvalum	e sheet steel	and shall	be domed,	
	heavy- duty Hot-d	ip Galvan	ized truss fra	me for suppo	ort, and capa	ble of sup	porting 4-5	
	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 preven the top	t ingress		o <mark>re</mark> ign object		all be firm	nly fixed to	
	edge of the tank w with Hotdip	ith galvar				ts shall be	provided	
	Galvanized ladder appropriately design with relevant							
	spill level, air gap and bolts	and overf	low requiren	nents relative	to Effective	Capacity	. All nuts	
	used for the panels hardened.	shall be	a minimum c	of 12mm size	and hot-dip	galvanize	ed/Case	
	The tank shall hav at the top,	e a circula	ar angle fixed	around the	total circumf	erence of	the tanks,	
	of minimum 2 mm prior to being	thicknes	s.Tanks shall	be properly	flushed out v	with clear	n water	
	brought into servic 7.768m in	e TANK	DIMENSIO	NS: The dim	ensions of th	e Tank sł	hall be of	
	diameter and 2.200 years.)m in heig	ght DESIGN	LIFE: The ta	anks shall ha	ve a desig	gn life of 50	
	TANK CONNECT	FIONS: S	tandard desig	gn valve outle	et connection	n : i) 200r	nm CI	
	ii) Overflow conne maximize	ection inc	luding an Int	ernal approve	ed bell-mout	h shaped	bends to	
	the overflow capac of the	•		, , ,				
	tank with isolation purposedesigned							
	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							

Γ

The tensile	e dri n mu long	ulti-layer ation and										
to (ANSI/NSF 61) and duly UV Stabilized. ii) Be of PE (polyethylene) in construction for strength, reinforced with woven scrim industrial fabric to prevent e enhance tensile strength. The total liner material thickness shall be no less than The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and he strength of	n mu long	ulti-layer ation and										
(ANSI/ NSF 61) and duly UV Stabilized. ii) Be of PE (polyethylene) in construction for strength, reinforced with woven scrim industrial fabric to prevent e enhance tensile strength. The total liner material thickness shall be no less than The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and he strength of	long	gation and										
for strength, reinforced with woven scrim industrial fabric to prevent e enhance tensile strength. The total liner material thickness shall be no less than The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and he strength of												
tensile strength. The total liner material thickness shall be no less than The tensile strength shall not be less than 2266 N (warp) and 2495 N (weft) and he strength of	0.6	mm thick										
strength shall not be less than 2266 N (warp) and 2495 N (weft) and he strength of		tensile strength. The total liner material thickness shall be no less than 0.6 mm thick.										
	strength shall not be less than 2266 N (warp) and 2495 N (weft) and heat sealing											
2050 IN V) All the liner werded rap joints shall be strengthened with Mo	etall	ocene										
encapsulating tape welded over the overlap. vi) The Metallocene tape shall cover and	l pro	tect the										
exposed	-											
scrim. vii)												
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											
(or other material)cord, around the circumference of the tank, at vertica	al in	tervals										
to the level of each ring. ix) The intermediate liner support cords shall	be f	irmly										
secured to the steel shell at each level, to prevent stress on the liner welded joints, and	d the	ereby										
eliminate possibility of failure CORROSSION PROTECTION. The tank structure	re sh	all have a										
secondary corrosion protection system using sacrificial magnesium anodes. The n	numł	per of										
anodes, their location around the tank and the mass of each anode shall be designed												
replacement												
frequency of five years. The anodes shall be installed external to the ta apron												
with their location marked with a suitably label-Cost for Tank steel with guarantee	th I(Dyears										
includes shel l,Steel wall,steel domed roof,Zinc Alum steel&39;,Cethylene infinity	Cost	for Poly										
liner, Geo synthetic Fibre with food grade plastics are used for inside c Support Arrangements, Cost for Fabricated items, attachments and acce												
ladder,Cost of												
Fabricated nozzles, over flow nozzles and drain arrangements, Cost for bolts, Freight Charges, Erection Installation and commissioning of tank	com	ponents										
including charges of extra 1 no 200 mm MS HDG Nozzle type BS10E mm MS HDG anti vortex type E table and Transportation charges.	tabl	e and 200										
Steel Tank												
Nanguthotty 10425 0		104250.0 00										

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Total						104250.0 00
				То	tal Quantity	' in Litre	104250.0 00
5.009	OD78968/2022-20	023					



Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
SI No	Supply,installation manufactured steel thichness of 0.6 mi tank and multiple- Tank Shell / Body certified and comp access points, pene high and low water or threaded nozzle tank shall be of cor Hot-dip Galvanize maintenance and c for operation and N galvanized vermin proofing tape or ot shall be firmly fixe LADDERS :Tanks externally. Externa galvanized Steel co overflow requirem panels shall be a m tank shall have a c top, of minimum 2 prior to being brou Tank shall be of 7. shall have a design outlet connection : Internal approved no. 100 mm, iii) O valve. One No. 100 manufactured and ANSI/NSF 61 - 20 furnished by the m manufactured to on for potable drinkin (polyethylene) in r	and com l storage V m, in mul layered P & amp; th liant to IS etrations f r level ind s, placed rrugated C d truss fra leaning at Vaintenar proof con her mater ed to the t s shall be al roof sup onstructio ents relat inimum of ircular an mm thick ght into s 768m in of 1 life of 50 i) 200mr bell-mout ne (1) sco 008, Section anufactur ne- piece g water, t nulti-laye	missioning o Water Tank h tiple layers a E sheet/mem he Liner mate SO 9001 - 20 for inlets, out dicators. All of to the KWA Galvalume shame for supp nd tank shall nee TANK C nstruction. R fial, to preven op edge of th provided wit ports shall b on. Tanks sha ive to Effection of 12mm size gle fixed arook kness. Tanks service TANI diameter and D years. TAN n CI Flanged h shaped ber our drain out NK LINERS apply to AS/N on 5 Certification construction, so (ANSI/ NSI)	of a pre-engination of a pre-engination of a capa is required for the erial shall be 00 standards lets, drains a connections to water mains neet steel and ort, and capa have an accer OVER : Tank oof ends shall of ends shall the total shall be proper of an approximate of a properties of a of a pro	active of 1374 r the capacit inner contai manufacture . The Tank s nd fittings, o to the tanks s TANK ROC . shall be dor ble of suppo ess hatch wit covers shal l be fitted w dust and fore galvanized be alvanized lad opriately dest th relevant s All nuts and galvanized/0 circumferen erly flushed ONS: The di ght DESIGN TIONS: Sta erflow conne ize the overf loor of the ta shall be purp pendix A)of liance to abo rs shall: i) Be	abricated, 20 L(1No y and heig nment lin d in a faci- hall be su verflow a hall be wi DF :The ro- ned, with rting 4-5 p h cover, o l be of app ith suitable sign objec olts and n ders inter igned Hot pill level, l bolts use Case hard ce of the to out with of mensions [LIFE: The ndard dess ection inc low capace out with is ose-desige f 2005 and ve standar e factory rer PE she lized. ii) I with wov	factory s.) ght of the er. The ility pplied with nd drain, ith flanged of of the heavyduty persons for on the roof, proved le vermin- ts. Covers uts. nally or -dip air gap and ed for the ened. The tanks, at the clean water of the ne tanks ign valve luding an city. One solation ned and for the et, certified Be of PE ren scrim
	ANSI/NSF 61 - 20 furnished by the m manufactured to or for potable drinkin (polyethylene) in r industrial fabric to material thickness less than 2266 N (v	008, Section anufactur ne- piece g water, t nulti-laye prevent e shall be r warp) and	on 5 Certifica rer of the tan construction, to (ANSI/ NS or construction elongation an to less than 0 1 2495 N (we	ates of compl ks. Tank line , fabricated fi SF 61) and du n for strengtl d enhance te 0.6 mm thick. ft) and heat s	liance to abo rs shall: i) B rom multilay rly UV Stabi n, reinforced nsile strength The tensile sealing streng	ve standar e factory er PE she lized. ii) I with wow h. The tota strength s gth of 205	rds shall be et, certified Be of PE ren scrim al liner hall not be 6 N v) All
	the liner welded la welded over the ov material at the edg scrim. vii) Liners s the circumference structure. viii) All intermediate liner circumference of the ix) The intermediate each level, to preve possibility of failur	Verlap. vi) es of the l shall be po of the tan liners on support do he tank, a te liner su ent stress re CORR	The Metallo liner joints to ositively and k to prevent tanks over 21 esigned out of t vertical inter on the liner OSSION PR	ocene tape sh o further prev continuously entry of wate m in height so of nylon (or o ervals corresp shall be firm welded joints OTECTION.	all cover and ent the ingre attached to er from the ru hall have a c other materia bonding to the ly secured to and thereby The tank sti	l protect the ses of wate the top ou unoff from ontinuous l)cord, arc the steel y eliminat cucture sh	he exposed er into the iter edge of n the roof ound the each ring. shell at e all have a
	secondary corrosic number of anodes, designed for anode	their loca	ation around	the tank and	the mass of	each anod	e shall be

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity			
	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',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 and including charges of extra 1 no 200 mm MS HDG Nozzle type BS10E table and 200 mm MS HDG anti vortex type E table and Transportation charges.									
	Steel tank at Vaz		[Γ					
	Vazhavara	13742 0					137420.0 00			
	Total						137420.0 00			
	Total Quantity in Litre									
5.010	OD78979/2022-20	023	de la							



Sl No	Specification	No	Length	Width	Depth	Cf	Quantity					
	Supply,installation and commissioning of a pre-engineered, pre-fabricated, factory manufactured steel storage Water Tank having a capacity of 131941L(1Nos.) 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.											
	access points, penetrations for inlets, outlets, drains and fittings, overflow and drain, high and low water level indicators. All connections to the tanks 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 heavyduty 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											
	Internal approved I no. 100 mm, iii) O valve. One No. 100 manufactured and ANSI/NSF 61 - 20 furnished by the m manufactured to on	bell-mout ne (1) sco 0mm.TAI shall com 08, Sectio anufactur	h shaped ber our drain out NK LINERS aply to AS/N on 5 Certifica- rer of the tan	nds to maxim let from the f :Tank liners s ZS 4020 (Ap ates of compl ks. Tank line	ize the overf loor of the ta shall be purp pendix A)of liance to abo rs shall: i) Bo	low capac ink with is ose-desig 2005 and ve standa e factory	city. Öne solation ned and d rds shall be					
	for potable drinkin (polyethylene) in r industrial fabric to material thickness less than 2266 N (v the liner welded la	g water, t nulti-laye prevent e shall be r warp) and p joints sl	to (ANSI/ NS or construction elongation and to less than 0 l 2495 N (we hall be streng	SF 61) and du n for strength d enhance te 0.6 mm thick. (ft) and heat s gthened with	ily UV Stabi n, reinforced nsile strength The tensile sealing streng Metallocene	lized. ii) l with wow h. The tota strength s gth of 205 encapsul	Be of PE ven scrim al liner hall not be 66 N v) All ating tape					
	welded over the ov material at the edg scrim. vii) Liners s the circumference structure. viii) All intermediate liner s circumference of the	es of the shall be po of the tan liners on support do he tank, a	liner joints to ositively and k to prevent tanks over 2 esigned out o t vertical inte	o further prev continuously entry of wate m in height sl of nylon (or o ervals corresp	ent the ingre attached to er from the ru hall have a c other materia bonding to th	ss of wate the top ou unoff from ontinuous l)cord, are le level of	er into the uter edge of n the roof bound the reach ring.					
	ix) The intermedia each level, to preve possibility of failur secondary corrosion number of anodes, designed for anode	ent stress re CORR on protect their loca	on the liner OSSION PR ion system u ation around	welded joints OTECTION. sing sacrificition the tank and	, and thereby The tank str al magnesium the mass of	y eliminat ructure sh n anodes. each anod	e all have a The le shall be					

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	external to the tan label-Cost for Tan roof,Zinc Alum sto withfood grade pla Fabricated items,a nozzles,over flow Charges,Erection I charges of extra 1 HDG anti vortex to	k steel wi eel', astics are ttachment nozzles a Installatio no150 mi	th 10years g Cost for Poly used for insides and access and drain arra n and comm n MS HDG	uarantee incl y ethylene in de coating an ories like ste ngements, C issioning of t Nozzle type 1	udes shel 1,S finity liner ,C d Support A el ladder,Cos ost for HDG ank compon BS10E table	teel wall,s Geo synthe rrangemen st of Fabri nut and b ents inclue	teel domed etic Fibre nts,Cost for cated olts,Freight ding
	Steel Tank Adayalakkallu	13194					131941.0
	Total	1					00 131941.0 00
	Total Quantity in Litre						
5.011	OD78992/2022-20)23	a k				



Sl No	Specification	No	Length	Width	Depth	Cf	Quantity					
	Supply, installation manufactured steel of 0.6 mm, in mult multiple-layered P Body & amp; the L	l storage ' iple layer E sheet/m iner mate	Water Tank h s as required nembrane for erial shall be	having a capa for the capa the inner con manufactured	city of 2606 city and heig ntainment lir d in a facility	2 L(1Nos tht of the ner. The T certified	.) thichness tank and 'ank Shell / and					
	compliant to ISO 9 points, penetration low water level ind threaded nozzles, p	s for inlet licators. A placed to	ts, outlets, dr All connectio the KWA wa	ains and fittinns to the tank ter mains TA	ngs, overflov ks shall be w ANK ROOF	v and drai ith flange :The roof	n, high and d or of the tank					
	shall be of corrugated Galvalume sheet steel and shall be domed, with heavyduty 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											
	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 3.884m in diameter and 2.20m in height DESIGN LIFE: The tanks shall have a design life of 50 years. TANK CONNECTIONS: Standard design valve outlet connection : i) 150mm CI Flanged valve ii) Overflow connection including an Internal approved bell-mouth shaped bends to maximize the overflow capacity. One											
	no. 100 mm, iii) O valve. One No. 100 manufactured and ANSI/NSF 61 - 20	ne (1) sco 0mm.TAI shall com 08, Sectio	our drain out NK LINERS oply to AS/N2 on 5 Certifica	et from the f Tank liners s ZS 4020 (Ap ates of compl	loor of the ta shall be purp pendix A)of liance to abo	nk with is ose-desig f 2005 and ve standa	solation ned and d					
	furnished by the m manufactured to or for potable drinkin (polyethylene) in r industrial fabric to	ne- piece g water, t nulti-laye	construction, to (ANSI/ NS er constructio	, fabricated fi SF 61) and du n for strength	rom multilay 11y UV Stabi n, reinforced	er PE she lized. ii) l with wov	Be of PE ven scrim					
	material thickness less than 2266 N (y the liner welded la welded over the ov material at the edg	shall be r warp) and p joints sl verlap. vi)	to less than 0 l 2495 N (we hall be streng) The Metallo	.6 mm thick. ft) and heat s thened with ocene tape sh	The tensile sealing streng Metallocene all cover and	strength s gth of 205 encapsul l protect t	hall not be 6 N v) All ating tape he exposed					
	scrim. vii) Liners s the circumference structure. viii) All intermediate liner circumference of the	shall be po of the tan liners on support do	ositively and k to prevent tanks over 21 esigned out o	continuously entry of wate m in height sl of nylon (or o	y attached to er from the ru hall have a c other materia	the top or unoff from ontinuous l)cord, are	uter edge of n the roof ound the					
	ix) The intermedia each level, to preve possibility of failur secondary corrosic	te liner su ent stress re CORR on protect	apport cords on the liner OSSION PR ion system u	shall be firm welded joints OTECTION. sing sacrifici	ly secured to s, and thereby The tank str al magnesiu	the steel y eliminat ructure sh n anodes.	shell at e all have a The					
	number of anodes, designed for anode											

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	external to the tank and concrete apron with their location marked with a suitably label-Cost for Tank steel with 10years guarantee includes shel 1,Steel wall,steel domed roof,Zinc Alum steel',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 and Transportation charges						
	Steel tank at Kurishumoottilpady top						
	Kurishumoottilpa dy top	26062					26062.00 0
	Total Total Quantity in Litre						26062.00 0
							26062.00 0

