DETAILED ESTIMATE

Jal Jeevan Mission (JJM)-WSS - to Santhanpara, Rajakumary (Part) and Senapathy (Part) Panchayaths in Idukki District-Package II- Clear Water Pumping Main, Sump cum pump house, GLSR in Senapathy GP-Pipeline Work

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
1	Part I - Supply of Materials						
1.001	100.98.115						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 100mm Dia.						
	100 mm DI K9 pipe						
	Swargamedu booster - Swargamedu Peak	1	696.000				696.000
	Spare for Future Maintenance	1	20.000				20.000
	Deduction for MS Pipe	-1	8.000				-8.000
	Total						**708.000**
						Total Quantity in metre	**708.000**
1.002	100.98.116						
	Supply of DI K9 Pipe Conforming to IS 8329/2000, 150mm Dia.						
	150 mm DI K9 pipe						
	CW sump to Swargamedu Booster	1	2710.000				2710.000
	Spare for Future Maintenance	1	60.000				60.000
	MS pipe	-1	30.000				-30.000
	Total						**2740.000**
						Total Quantity in metre	**2740.000**
1.003	100.98.440						
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Single Orifice, Small Orifice Type S1, Size 25mm.						
	Air valve 25mm						
		7					7.000
	Total						**7.000**
						Total Quantity in no	**7.000**
1.004	100.98.446						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Supply of CI Air Valve, Conforming to IS 14848 - 2000, Double Orifice Type DS2, Size 50mm.						
	CI Air valve						
	50 mm	5					5.000
	Total						**5.000**
						Total Quantity in no	**5.000**
1.005	100.98.460						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 150mm.						
	150mm Sluice valve						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
1.006	100.98.458						
	Supply of CI Double Flanged Sluice Valve Conforming to IS 14846 - 2000, Sluice Valve with Cap PN 1.6, Size 100mm.						
	100mm sluice valve						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
2	Part II - Working charges						
2.001	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.						
	Excavation for all kind Soil 75%						
	for 150mm DI	1	2680.000	0.600	1.150	0.750000	1386.900
	for 100mm DI	1	688.000	0.500	1.050	0.750000	270.900
	Deduction for Tar/CC cutting	-1	1250.000	0.600	0.200		-150.000
	Total						**1507.800**
						Total Quantity in cum	**1507.800**
2.002	100.1.5						

Sl 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 50 m, in Ordinary Rock.						
	Excavation in ordinary rock 15%						
	for 150mm DI	1	2680.000	0.600	1.150	0.150000	277.380
	for 100mm DI	1	688.000	0.500	1.050	0.150000	54.180
	Total						**331.560**
						Total Quantity in cum	**331.560**
2.003	100.2.2						
	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.						
	Excavation in Medium rock 5%						
	for 150mm DI	1	2680.000	0.600	1.150	0.050000	92.460
	for 100mm DI	1	688.000	0.500	1.050	0.050000	18.060
	Total						**110.520**
						Total Quantity in cum	**110.520**
2.004	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)						
	Excavation in Hard Rock 5%						
	for 150mm DI	1	2680.000	0.700	1.150	0.050000	107.870
	for 100mm DI	1	688.000	0.600	1.050	0.050000	21.672
	Total						**129.542**
						Total Quantity in cum	**129.542**
2.005	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						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
		1	3368.000				3368.000
	Total						**3368.000**
						Total Quantity in metre	**3368.000**
2.006	100.14.1						
	Conveying and laying S&S Centrifugally Cast (Spun) / Ductile Iron Pipes conforming to IS: 8329 excluding cost of pipes and specials: 100mm diameter Ductile Iron Class K-9 Pipes.						
	Conveying and laying 100 mm DI						
	Swargamedu Booster to Swargamedu Peak	1	688.000				688.000
	Total						**688.000**
						Total Quantity in metre	**688.000**
2.007	100.14.2						
	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.						
	Conveying and laying 150 mm DI						
	CWR Cum PH-Swargamedu Booster	1	2680.000				2680.000
	Total						**2680.000**
						Total Quantity in metre	**2680.000**
2.008	18.30.2						
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:100 mm diameter pipe						
	Flanged joints for 100mm dia pipe						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
2.009	18.30.4						
	Providing flanged joints to double flanged C.I./ D.I pipes and specials, including testing of joints:150 mm diameter pipe						
	Flanged joints for 150mm dia pipe						
		6					6.000
	Total						**6.000**
						Total Quantity in no	**6.000**
2.010	OD110459/2022-2023						
	Labour for cutting DI pipe with steel saw 100 mm diameter of DI Pipe						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Labour of Cutting 100mm DI pipes						
		8					8.000
	Total						**8.000**
						Total Quantity in Each Cut	**8.000**
2.011	OD110442/2022-2023						
	Labour for cutting DI pipe with steel saw 150 mm diameter of DI Pipe						
	Labour of Cutting 150mm DI pipes						
		20					20.000
	Total						**20.000**
						Total Quantity in Each Cut	**20.000**
2.012	18.70.1						
	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:100 mm dia pipes						
	Providing push- on -joints 100mm Di pipe						
		150					150.000
	Total						**150.000**
						Total Quantity in joint	**150.000**
2.013	18.70.2						
	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:150 mm dia pipes						
	Providing push- on -joints 150mm DI pipes						
		500					500.000
	Total						**500.000**
						Total Quantity in joint	**500.000**
2.014	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						
	DI Specials						
	150 * 90 Bend	4				0.200000	0.800
	150 * 45 Bend	4				0.160000	0.640
	150 * 22.5 Bend	8				0.150000	1.200
	150 * 11.25 Bend	12				0.140000	1.680
	100 * 90 Bend	2				0.110000	0.220

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	100 * 45 Bend	2				0.100000	0.200
	100 * 22.5Bend	4				0.090000	0.360
	100 * 11.25 Bend	6				0.090000	0.540
	150 *100 Tee	2				0.220000	0.440
	150 TP	4				0.140000	0.560
	100 TP	2				0.090000	0.180
	Total						**6.820**
						Total Quantity in quintal	**6.820**
2.015	18.67.1						
	Providing and laying S & S C.I. Standard specials suitable for mechanical jointing as per IS 13382:Upto 300 mm dia						
	MJ Collar						
	100mm DI K9	5				0.130000	0.650
	150mm DI K9	8				0.200000	1.600
	Total						**2.250**
						Total Quantity in quintal	**2.250**
2.016	100.31.2.2						
	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 II.						
	CI Sluice valve						
	100 mm	1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
2.017	100.31.2.4						
	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 II.						
	C I sluice valve						
	150 mm	2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
2.018	100.32.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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.						
	C I Air valve						
	25 mm	7					7.000
	Total						**7.000**
						Total Quantity in no	**7.000**
2.019	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.						
	C I Air valve						
	50 mm	5					5.000
	Total						**5.000**
						Total Quantity in no	**5.000**
2.020	100.35.1						
	Testing 100mm DI/CI pipeline with potable water to the required test pressure 100 mm dia						
	Testing 100MM Pipe						
	100 mm DI pipe	1	688.000				688.000
	100 mm MS pipe	1	8.000				8.000
	Total						**696.000**
						Total Quantity in metre	**696.000**
2.021	100.35.2						
	Testing 150mm DI/CI pipeline with potable water to the required test pressure 150 mm dia Observed Data derived from item no.1018 of PHED DATA						
	Testing 150MM Pipe						
	150 mm DI pipe	1	2680.000				2680.000
	150 mm MS pipe	1	30.000				30.000
	Total						**2710.000**
						Total Quantity in metre	**2710.000**
2.022	100.37.5.1						
	In situ fabrication of M.S. pipes of size 100mm (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.						
	MS Pipe - 100mm						
		1	8.000				8.000
	Total						**8.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
						Total Quantity in metre	**8.000**
2.023	100.37.5.2						
	Fabricating M.S. flanges of diameter 100mm 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.						
	MS flange - 100mm						
		4					4.000
	Total						**4.000**
						Total Quantity in no	**4.000**
2.024	100.37.5.3						
	Cutting 100mm (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						
		4					4.000
	Total						**4.000**
						Total Quantity in no	**4.000**
2.025	100.37.5.4						
	Welding 100mm (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						
		4					4.000
	Total						**4.000**
						Total Quantity in no	**4.000**
2.026	100.37.5.5						
	Grinding cut and weld edges of 100mm (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						
		8					8.000
	Total						**8.000**
						Total Quantity in no	**8.000**
2.027	100.37.6.1						
	In situ fabrication of M.S. pipes of size 150mm (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.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	MS Pipe - 150mm						
		1	30.000				30.000
	Total						**30.000**
						Total Quantity in metre	**30.000**
2.028	100.37.6.2						
	Fabricating M.S. flanges of diameter 150mm 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.						
	MS flange - 150mm						
		12					12.000
	Total						**12.000**
						Total Quantity in no	**12.000**
2.029	100.37.6.3						
	Cutting 150mm (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						
		12					12.000
	Total						**12.000**
						Total Quantity in no	**12.000**
2.030	100.37.6.4						
	Welding 150mm (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						**12.000**
						Total Quantity in no	**12.000**
2.031	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						
		24					24.000
	Total						**24.000**
						Total Quantity in no	**24.000**
2.032	100.59.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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						
	Cutting Bituminous - crossing	2	30.000				60.000
	Cutting Bituminous -Side	2	800.000				1600.000
	Total						**1660.000**
						Total Quantity in metre	**1660.000**
2.033	15.2.2						
	Demolishing cement concrete manually / by mechanical means including disposal of material within 50 metres lead as per direction of Engineer - in-Charge.Nominal concrete 1:4:8 leaner mix (including equivalent design mix)						
	Demolishing concrete						
		1	1860.000	0.600	0.150		167.400
	Total						**167.400**
						Total Quantity in cum	**167.400**
2.034	OD167024/2022-2023						
	Dismantling manually / by mechanical means and disposal of material within 50 metres lead as per direction of Engineer -in-Charge: Bituminous road						
	Dismantling Bituminous Road						
		1	800.000	0.600			480.000
	Total						**480.000**
						Total Quantity in sqm	**480.000**
3	Part III - Valve chamber construction						
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						
	Excavation						
	Valve chamber 1x1x1	3	1.700	1.700	1.500		13.005
	Total						**13.005**
						Total Quantity in cum	**13.005**
3.002	4.1.5						

Sl 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:1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)						
	1:2:4						
	PCC Valve chamber 1x1x1	3	1.700	1.700	0.100		0.867
	Total						**0.867**
						Total Quantity in cum	**0.867**
3.003	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						
	Valve chamber side wall and cover slab						
	Side wall 1X1X1	3	5.000	0.250	1.000		3.750
	Cover slab	9	0.500	1.500	0.250		1.688
	base slab	3	1.500	1.500	0.150		1.013
	Anchor block	84	0.400	0.400	0.400		5.376
	Total						**11.827**
						Total Quantity in cum	**11.827**
3.004	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						
	side wall inside	3	4*1		1.000		12.000
	side wall outside	3	4*1.5		1.000		18.000
	anchor block	84	1.600		0.400		53.760
	Total						**83.760**
						Total Quantity in sqm	**83.760**
3.005	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						
	base slab - side	3	6.000		0.150		2.700
	cover slab - side	9	4.000		0.250		9.000
	Total						**11.700**
						Total Quantity in sqm	**11.700**
3.006	5.22.6						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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						
	For valve chamber@60kg/cu	6.451				60.000000	387.060
	anchor block @20kg/cum	5.376				20.000000	107.520
	Total						**494.580**
						Total Quantity in kilogram	**494.580**
4	Part IV - Road restoration -PWD/SH						
4.001	3.6						
	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 within all lifts and lead upto 1000m						
	Excavation						
	PWD/SH Berm	1	600.000	0.600	0.200		72.000
	PWD/SH CC	1	600.000	0.600	0.350		126.000
	PWD/SH Tar	1	150.000	0.600	0.400		36.000
	Total						**234.000**
						Total Quantity in cum	**234.000**
4.002	4.2.A.1						
	Construction of granular sub-base by providing graded material, spreading in uniform layers with a motor grader on a prepared surface, mixing by mix in-place method with rotavator at OMC, and compacting with a vibratory roller to achieve the desired density, complete as per clause 401. Grading-III -For lower sub-base - Mix in Place Method						
	GSB						
	PWD/SH Berm	1	600.000	0.600	0.200		72.000
	PWD/SH CC	1	600.000	0.600	0.150		54.000
	PWD/SH Tar	1	150.000	0.600	0.200		18.000
	Total						**144.000**
						Total Quantity in cum	**144.000**
4.003	4.12						
	Providing, laying, spreading and compacting graded stone aggregate to Wet Mix Macadam specification including premixing the Material with water at OMC in mechanical mix plant carriage of mixed Material by tipper to site, laying in uniform layers with paver in sub- base / base course on well prepared surface and compacting with vibratory roller to achieve the desired density.						
	WMM						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	PWD/SH Tar	1	150.000	0.600	0.200		18.000
	Total						**18.000**
						Total Quantity in cum	**18.000**
4.004	5.1.a						
	Providing and applying primer coat with bitumen emulsion (SS) on prepared surface of granular Base including clearing of road surface and spraying primer at the rate of 0.70 - 1.0 kg/sqm using mechanical means.						
	Primer coat BMBC						
	PWD/SH Tar	1	150.000	1.500			225.000
	Total						**225.000**
						Total Quantity in sqm	**225.000**
4.005	5.2.b						
	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/SH	1	150.000	1.500			225.000
	Total						**225.000**
						Total Quantity in sqm	**225.000**
4.006	5.3.2.a						
	Providing and laying bituminous macadam with 80-100 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading premixed with a bituminous binder (VG 30), transported to the site, laid over a previously prepared surface with paver finisher to the required grade, level, and alignment and rolled as per clauses 501.6 and 501.7 to achieve the desired compaction For Grading II - (19 mm nominal size)						
	BM						
	BM	1	150.000	1.500	0.050		11.250
	Total						**11.250**
						Total Quantity in cum	**11.250**
4.007	5.2.a						
	Providing and applying tack coat with bitumen emulsion(RS) using emulsion pressure distributor at the rate of 0.20 - 0.30 kg per sqm on the prepared bituminous surface cleaned with mechanical broom.						
	Tack Coat						
	tack coat	1	150.000	1.500			225.000
	Total						**225.000**
						Total Quantity in sqm	**225.000**
4.008	5.6.2.a						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Providing and laying bituminous concrete with 80-100 TPH hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with a bituminous binder(NRMB) @ 5.4 percent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level, and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MORTH specification clause No. 507 complete in all respects For Grading - II (13.2 mm Nominal Size)						
	BC						
		1	150.000	1.500	0.030		6.750
	Total						**6.750**
						Total Quantity in cum	**6.750**
4.009	12.4						
	Plain cement concrete 1:3:6 nominal mix in foundation with crushed stone aggregate 40 mm nominal size mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days.						
	PCC						
	PWD/SH CC	1	600.000	0.600	0.100		36.000
	Total						**36.000**
						Total Quantity in cum	**36.000**
4.010	12.8.B.1						
	Plain/Reinforced Cement Concrete in Open Foundation complete as per Drawing and Technical Specifications PCC Grade M20						
	Road concrete						
	PWD/SH CC	1	600.000	0.600	0.050		18.000
	Total						**18.000**
						Total Quantity in cum	**18.000**
5	Road restoration LSGD						
5.001	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						
	Tar Road	1	300.000	0.600	0.400		72.000
	CC Road	1	703.000	0.600	0.350		147.630
	Total						**219.630**
						Total Quantity in cum	**219.630**
5.002	4.1.A.1						

Sl 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						
	GSB						
	Tar Road	1	300.000	0.600	0.200		36.000
	CC Road	1	703.000	0.600	0.200		84.360
	Total						**120.360**
						Total Quantity in cum	**120.360**
5.003	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						
	WMM						
	Tar Road	1	300.000	0.600	0.200		36.000
	Total						**36.000**
						Total Quantity in cum	**36.000**
5.004	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						
	Prime coat						
	Tar Road	1	300.000	0.600			180.000
	Total						**180.000**
						Total Quantity in sqm	**180.000**
5.005	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.						
	Tack Coat						
	Tar Road	1	300.000	0.600			180.000
	Total						**180.000**
						Total Quantity in sqm	**180.000**

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
5.006	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)						
	OGPC						
	Tar Road	1	300.000	0.600			180.000
	Total						**180.000**
						Total Quantity in sqm	**180.000**
5.007	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)						
	seal coat						
	Tar Road	1	300.000	0.600			180.000
	Total						**180.000**
						Total Quantity in sqm	**180.000**
5.008	11.4.3.1						
	Providing concrete for plain/reinforced concrete in open foundations complete as per drawings and technical specifications Clause 802, 803, 1202 & 1203 III. P.C.C. grade M 20 (i) Nominal mix (1:2:4)						
	concrete work						
	CC Road	1	703.000	0.600	0.150		63.270
	Total						**63.270**
						Total Quantity in cum	**63.270**
6	1.4 LL Sump cum pump house at Swargamedu						
6.001	2.31						
	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared						
	Site clearing work						
		1	8.000	10.000			80.000
	Total						**80.000**
						Total Quantity in sqm	**80.000**
6.002	OD124248/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Dowel bars - Supplying and providing MS dowel bars of size 16mm dia of 2m long (1m in rock and 1m in concrete) including drilling holes of 20 mm dia and filling the gap with cement grout (.5kg/each) etc...						
	Dowel bar						
		120					120.000
	Total						**120.000**
						Total Quantity in no	**120.000**
6.003	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						
	sump	1	9.100	7.100	1.000		64.610
	Compound wall	1	36.000	0.300	0.400		4.320
	Total						**68.930**
						Total Quantity in cum	**68.930**
6.004	2.7.2						
	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.Hard rock (requiring blasting)						
	Earth work-Hard rock						
	sump	1	7.100	9.100	0.200		12.922
	for column	2	1.300	1.300	0.200		0.676
	Total						**13.598**
						Total Quantity in cum	**13.598**
6.005	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)						
	PCC						
	For water tank	1	7.100	9.100	0.100		6.461
	Footing PCC	2	1.300	1.300	0.100		0.338
	Compound wall	1	36.000	0.300	0.100		1.080
	Total						**7.879**
						Total Quantity in cum	**7.879**
6.006	7.1.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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 basement	1	8.900	6.900	0.700		42.987
	Compound wall	1	36.000	0.300	0.400		4.320
	Deduction	-2	1.200	1.200	1.200		-3.456
	Total						**43.851**
						Total Quantity in cum	**43.851**
6.007	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						
	M25 CC						
	Water tank base slab	1	6.500	8.500	0.200		11.050
	Column footing	2	1.200	1.200	1.200		3.456
	Total						**14.506**
						Total Quantity in cum	**14.506**
6.008	5.33.2						
	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						
	M25 CC above plinth level						
	Tank side wall short	2	6.000	0.250	3.250		9.750
	Tank side wall long	2	8.500	0.250	3.250		13.813
	Haunch	1	28.000	0.700	0.400	0.500000	3.920

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Tank beam short	2	6.000	0.300	0.330		1.188
	Tank column	2	0.300	0.300	2.920		0.526
	Tank beam long	1	8.000	0.300	0.330		0.792
	Tank cover slab	1	7.100	9.100	0.120		7.753
	Pump house Roof slab	1	3.900	4.000	0.120		1.872
	Tank cover slab PH portion	1	3.300	3.400	0.080		0.898
	lintel	1	9.700	0.200	0.100		0.194
	Sunshade all around	1	15.800	0.600	0.075		0.711
	Deduction for manhole	-6	0.610	0.455	0.200		-0.333
	Pump house column	2	0.300	0.300	2.770		0.499
	Pump house Beam	1	3.300	0.200	0.330		0.218
	Total						**41.801**
						Total Quantity in cum	**41.801**
6.009	22.22						
	Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like basement raft, retaining walls, reservior, sewage & water treatment plant, tunnels / subway and bridge deck etc.. at the time of transporting of concrete into the drum of the ready-mix truck , using integral crystalline admixture @0.80% (minimum) to the weight of cement content per cubic meter of concrete) or higher as recommended by the manufacturer's specification in reinforced cement concrete at site of work. 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. The crystalline admixture 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 Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.						
	Admixture for Waterproofing						
	.8% of cement	40	330.000			0.008000	105.600
	Total						**105.600**
						Total Quantity in kg	**105.600**
6.010	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).						
	M30 grade concrete						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Tank side wall short	2	6.000	0.250	3.250		9.750
	Tank side wall long	2	8.500	0.250	3.250		13.813
	Haunch	1	28.000	0.700	0.400	0.500000	3.920
	Tank beam short	2	6.000	0.300	0.300		1.080
	Tank column	2	0.300	0.300	2.650		0.477
	Tank beam long	1	8.000	0.300	0.450		1.080
	Tank cover slab	1	7.100	9.100	0.120		7.753
	Pump house cover slab	1	3.900	4.000	0.120		1.872
	Tank cover slab PH portion	1	3.300	3.400	0.080		0.898
	Sunshade all around	1	15.800	0.600	0.075		0.711
	Deduction for manhole	-6	0.610	0.455	0.120		-0.200
	Total						**41.154**
						Total Quantity in cum	**41.154**
6.011	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						
	@ 100 kg/m^3	55.7				100.000000	5570.000
	Total						**5570.000**
						Total Quantity in kilogram	**5570.000**
6.012	50.6.2.3						
	Solid block masonry using pre cast solid blocks (Factory made) of size 30x20x15cm or nearest available size confirming to IS 2185 part I of 1979 for super structure above floor two level upto floor five level with thickness 15cm in : CM 1:6 (1 cement : 6 coarse sand) etc complete						
	Solid block masonry						
	Pump house long wall	2	3.400	0.200	3.000		4.080
	Pump house short wall	2	2.900	0.200	3.000		3.480
	Deduction for rolling shutter	-1	2.400	0.200	2.800		-1.344
	Deduction for windows	-3	1.500	0.200	1.500		-1.350

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Deduction for PH lintel - long wall	-2	3.400	0.200	0.100		-0.136
	Deduction for PH lintel - short wall	-1	2.900	0.200	0.100		-0.058
	Deduction for column width	-2	0.300	0.300	3.000		-0.540
	Compound wall	1	36.000	0.150	1.500		8.100
	Deduction for compound wall	-1	2.400	0.200	1.500		-0.720
	Parapet	1	11.800	0.150	0.450		0.797
	Total						**12.309**
						Total Quantity in cum	**12.309**
6.013	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						
	R.S for pump house	1	2.400		2.800		6.720
	Total						**6.720**
						Total Quantity in sqm	**6.720**
6.014	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						
	Tank base slab	1	30.000		0.200		6.000
	Tank column foundation	2	4.800		1.200		11.520
	Total						**17.520**
						Total Quantity in sqm	**17.520**
6.015	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						
	Tank wall inside	1	28.000		3.250		91.000
	Tank wall outside	1	30.000		3.250		97.500
	Column	2	1.200		2.920		7.008

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Column PH	2	2.800	1.200			6.720
	Total						**202.228**
						Total Quantity in sqm	**202.228**
6.016	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						
	Tank cover slab	1	9.100	7.100			64.610
	deduction tank walls	-1	29.000	0.250			-7.250
	Tank cover slab sides	1	32.400		0.120		3.888
	Tank-Beam under roof slab long	1	8.000	0.930			7.440
	Tank-Beam under roof slab short	2	6.000	0.930			11.160
	Lintel	2	9.700		0.100		1.940
	Sunshade side	1	15.800		0.075		1.185
	Sunshade	1	15.800	0.600			9.480
	Manhole sides	6	2.130	0.200			2.556
	PH Roof slab	1	4.100	3.900			15.990
	PH beam	1	2.900	0.700			2.030
	PH wall deduction	-1	12.600	0.200			-2.520
	Total						**110.509**
						Total Quantity in sqm	**110.509**
6.017	9.48.1						
	Providing and fixing M.S. Grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.Fixed to steel windows by welding						
	Mild steel grill for windows						
	Steel gril	2				30.000 000	60.000
	Total						**60.000**
						Total Quantity in kg	**60.000**
6.018	21.1.1.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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)						
	Wndow Frames						
		3				9.000000	27.000
	Total						**27.000**
						Total Quantity in kg	**27.000**
6.019	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)						
	for window shutters						
		18					18.000
	Total						**18.000**
						Total Quantity in kg	**18.000**
6.020	21.15.2						
	Providing and fixing aluminium casement windows fastener of required length for aluminium windows with necessary necessary screws etc. complete.Powder coated minimum thickness 50 micron aluminium						
	Aluminium casement windows fastener						
		9					9.000
	Total						**9.000**
						Total Quantity in no	**9.000**
6.021	21.3.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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 in windows						
	Pump house	3	1.500	1.500		1.200000	8.100
	Total						**8.100**
						Total Quantity in sqm	**8.100**
6.022	OD124231/2022-2023						
	Supplying and providing 100mm dia vent cowl including fitting charges etc.						
	Vent cowl						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
6.023	13.7.1						
	12 mm cement plaster finished with a floating coat of neat cement of mix:1:3 (1 cement : 3 fine sand)						
	12mm Cement plastering						
	Tank base slab out side	1	30.000		0.200		6.000
	Tank wall inside	1	28.000		2.850		79.800
	Tank wall outside	1	30.000		3.250		97.500
	Column	2	1.200		2.650		6.360
	Column PH	2	2.800	1.200			6.720
	Tank cover slab top	1	9.100	7.100			64.610
	PH wall deduction	-1	12.600	0.200			-2.520
	PH Roof slab top	1	4.100	3.900			15.990
	Pump house long wall	4	3.400		3.000		40.800
	Pump house short wall	4	2.900		3.000		34.800
	Deduction for rolling shutter	-1	2.400		2.800		-6.720
	Deduction for windows	-3	1.500		1.500		-6.750
	Compound wall	2	36.000		1.600		115.200
	Deduction for compound wall	-2	2.400	0.200	1.500		-1.440

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Parapet wall	2	11.800		0.450		10.620
	Total						**460.970**
						Total Quantity in sqm	**460.970**
6.024	13.16.1						
	6 mm cement plaster of mix:1:3 (1 cement : 3 fine sand)						
	6mm cement plaster						
	Tank cover slab	1	9.100	7.100			64.610
	deduction tank walls	-1	29.000	0.250			-7.250
	Tank cover slab sides	1	32.400		0.120		3.888
	Tank-Beam under roof slab long	1	8.500	0.900			7.650
	Tank-Beam under roof slab short	2	6.500	0.600			7.800
	Sunshade side	1	15.800		0.075		1.185
	Sunshade	1	15.800	0.600			9.480
	Manhole sides	6	2.130	0.200			2.556
	PH Roof slab	1	4.100	3.900			15.990
	PH beam	1	2.900	0.700			2.030
	PH wall deduction	-1	12.600	0.200			-2.520
	Total						**105.419**
						Total Quantity in sqm	**105.419**
6.025	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)						
	water proofing paint						
	Tank base slab out side	1	30.000		0.200		6.000
	Tank wall inside	1	28.000		2.850		79.800
	Column	2	1.200		2.650		6.360
	Total						**92.160**
						Total Quantity in sqm	**92.160**
6.026	13.47.1						
	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade:New work (Two or more coats applied @ 1.43 ltr/ 10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm)						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Painting						
	Tank base slab out side	1	30.000		0.200		6.000
	Tank wall outside	1	30.000		3.250		97.500
	Column PH	2	2.800	1.200			6.720
	Tank cover slab top	1	9.100	7.100			64.610
	PH wall deduction	-1	12.600	0.200			-2.520
	PH Roof slab top	1	4.100	3.900			15.990
	Pump house long wall	4	3.400		3.000		40.800
	Pump house short wall	4	2.900		3.000		34.800
	Deduction for rolling shutter	-2	2.400		2.800		-13.440
	Deduction for windows	-4	1.500		1.500		-9.000
	Deduction for PH lintel - long wall	-4	3.400		0.100		-1.360
	Deduction for PH lintel - short wall	-2	2.900		0.100		-0.580
	Compound wall	2	36.000		1.500		108.000
	Deduction for compound wall	-2	2.400	0.200	1.500		-1.440
	Parapet	2	11.800		0.450		10.620
	Tank cover slab sides	1	32.400		0.120		3.888
	Lintel	2	9.700		0.100		1.940
	Sunshade side	1	15.800		0.075		1.185
	Sunshade	1	15.800	0.600			9.480
	Manhole sides	6	2.130	0.200			2.556
	PH Roof slab	1	4.100	3.900			15.990
	PH beam	1	2.900	0.700			2.030
	PH wall deduction	-1	12.600	0.200			-2.520
	Tank cover slab	1	30.000	0.300			9.000
	Total						**400.249**
						Total Quantity in sqm	**400.249**
6.027	13.71						
	Lettering with black Japan pint of approved brand and manufacture						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Lettering						
		50					50.000
	Total						**50.000**
						Total Quantity in per Letter per cm height	**50.000**
6.028	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 for ladder ,gate and hand rail						
		950					950.000
	Total						**950.000**
						Total Quantity in kg	**950.000**
6.029	100.41.34						
	Supplying and fixing Rectangular C.I. manhole cover 455mm x 610mm with frame (low duty) charges including all cost, labour charges etc., complete.						
	Manhole cover						
		6					6.000
	Total						**6.000**
						Total Quantity in no	**6.000**
6.030	13.65.1						
	Painting with black anti- corrosive bitumastic paint of approved brand and manufacture to give an even shade:Two or more coats on new work						
	for metal stairs ,handrails pipes ets						
	1	100					100.000
	Total						**100.000**
						Total Quantity in sqm	**100.000**
6.031	100.36.1						
	Filling water with 5000 litre tankers fited 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 appliences and cost of water etc. complete.						
	Filling potable water						
		140					140.000
	Total						**140.000**
						Total Quantity in Kilo litre	**140.000**
6.032	18.26.1						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	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						
	Wall casting pipes						
	150 mm, Inlet,Scour, Overflow	3				0.290000	0.870
	100 mm, Outlet	1				0.160000	0.160
	Total						**1.030**
						Total Quantity in quintal	**1.030**
7	Construction of steel storage tank at Swargamedu Top						
7.001	2.31						
	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared						
	Clearing jungle						
		1	10.000	8.000			80.000
	Total						**80.000**
						Total Quantity in sqm	**80.000**
7.002	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						
	for ring beam	1	3.14*3.884	1.000	0.450		5.488
	cutting and levelling	1	4.000	4.000	0.750		12.000
	Total						**17.488**
						Total Quantity in cum	**17.488**
7.003	OD124207/2022-2023						
	Dowel bars - Supplying and providing MS dowel bars of size 25mm dia of 2m long (1m in rock and 1m in concrete) including drilling holes of 30mm dia and filling the gap with cement grout (.5kg/each) etc...						
	Dowel Bar for RCC Ring						
		30					30.000
	Total						**30.000**
						Total Quantity in no	**30.000**
7.004	4.1.8						

Sl 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:1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 nominal size)						
	PCC 1:4:8						
	For ring beam	1	3.14*3.884	1.000	0.200		2.439
	Total						**2.439**
						Total Quantity in cum	**2.439**
7.005	5.2.2						
	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up tot floor five level excluding cost of centering, shuttering, finishing and reinforcement :1:1.5:3(1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)						
	RCC 1:1.5:3						
	For ring beam	1	3.14*3.884	0.450	0.450		2.470
	Total						**2.470**
						Total Quantity in cum	**2.470**
7.006	5.9.3						
	Centering and shuttering including strutting, etc. and removal of form for:Suspended floors, roofs, landings, balconies and access platform						
	Formwork						
	Outer area	1	3.14*4.334		0.450		6.124
	Inner area	1	3.14*3.434		0.450		4.852
	Total						**10.976**
						Total Quantity in sqm	**10.976**
7.007	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						
	@120 kg/cum						
		2.439				120.000000	292.680
	Total						**292.680**
						Total Quantity in kilogram	**292.680**
7.008	2.25						
	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation 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.						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Earth filling and compacting						
		1	2.984	2.984	0.300	3.140000	8.388
	Total						**8.388**
						Total Quantity in cum	**8.388**
7.009	OD124199/2022-2023						
	Supply of Sand including loading, unloading, transportation and other incidental charges as per the direction of departmental officers.1						
	Sand filling						
		3.14	2.984	2.984	0.150		4.194
	Total						**4.194**
						Total Quantity in cum	**4.194**
7.010	OD124202/2022-2023						

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 30000 L(1Nos.) thickness of 0.6 mm, in multiple layers as required for the capacity and height of the tank and multiplelayered PE sheet/membrane for the inner containment liner. The Tank Shell / Body & 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 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 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 Hotdip 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 3.884 m in diameter and 2.9 m in height DESIGN LIFE: The tanks shall have a design life of 40 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) One (1) scour drain outlet from the floor of the tank with isolation valve. One No. 100mm.TANK LINERS:Tank liners shall be 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						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	furnished by the manufacturer of the tanks. Tank liners shall: i) Be factory manufactured to onepiece 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 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 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&39;,Cost for Poly ethylene infinity liner ,Geo synthetic Fibre with food 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.						
	Steel tank supply						
		1	30000.000				30000.000

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Total						**30000.000**
						Total Quantity in Litre	**30000.000**
8	Electrification works & Supply erection testing and commissioning of clear water pump set at Swargamedu booster .						
8.001	OD150826/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	CW pump set for BPH Swargamedu-Supply,erection testing and commisioning of CF pump set with the following specification 1. Pump 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 & 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 The duty condition is as follows Discharge - 1.5 lps, Total head - 82 mtrs, Speed <1500rpm. Modification may done for mono block pump sets 2. Motor 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 IS12615-2018 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 present CEA regulations. Flexible coupling shall be used for coupling of pumps and motors. 3. Starter 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 regulations and code of practice etc. complete. 4. Panel board (suitable for operating two pump sets but one pump set at a time) 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 IE rules 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) pump set by changing 2 Nos of out going as one out going and the provision of interlocking may be avoided) 5.Cabling work 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 6.Earthing 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. 7. Capacitor 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 8. Valves 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. 9. Suction and delivery pipe connections 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 pump with the valves and suitable specials to connect with the pumping main. If the dia of suction pipe is above 80 mm MS pipes & specials shall be provided. . Two year Warrantee and Supply of ELCB/RCCB to be added at panel for safety.						
	CF pump set						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
8.002	OD150812/2022-2023						
	Supplying and fixing LED tube light T-5,high luminous along with ceiling rose as per the direction of the departmental officers						
	Led Tube set						
		6					6.000
	Total						**6.000**
						Total Quantity in no	**6.000**
8.003	OD150813/2022-2023						
	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required. As per Databook DAR Electrical-5.14.						
	25mm x 5 mm copper strip for earthing						
		1	8.000				8.000
	Total						**8.000**
						Total Quantity in metre	**8.000**
8.004	OD150814/2022-2023						
	25mm PVC Conduit- Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/ recessincluding cutting the wall and making good the same in case of recessed conduit as required. 25 mm .As per Databook DAR Electrical-1.21.2.						
	25 mm pvc conduit						
		1	6.000				6.000
	Total						**6.000**
						Total Quantity in metre	**6.000**
8.005	OD150815/2022-2023						
	Wiring with 3x 4 sq mm FRLS PVC insulated copper conductor-Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existingsurface / recessed steel/ PVC conduit as required. 3 x 4 sq. mm As per databook DAR Electrical-1.17.21.						
	From Main DB to Light DB						
		1	6.000				6.000
	Total						**6.000**
						Total Quantity in metre	**6.000**
8.006	OD150816/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	12 Way MCB DB 240V -Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCBIRCCB/Isolator 12 way, Double door. As per Databook DAR Electrical-2.3.3.						
	12 way MCB DB						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
8.007	OD150817/2022-2023						
	SPN 5-32A MCB-Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable forinductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. asrequired. Single pole and netural .As per Databook DAR Electrical-2.10.2.						
	MCB 5 -32 A						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
8.008	OD150818/2022-2023						
	DP Isolator 40A -Supplying and fixing following rating, double pole, 240 volts, isolator in the existing MCB DB complete withconnections, testing and commissioning etc. as required. 40 amps .As per Databook DAR Electrical-2.12.1.						
	DP Isolator 40A						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
8.009	OD150819/2022-2023						
	RCCB DP 40A - Supplying and fixing following rating, double pole, (single phase and neutral), 240 volts, residual current circuitbreaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40 amps . As per Databook DAR Electrical 2.14.2.						
	RCCB DP 40A						
		1					1.000
	Total						**1.000**
						Total Quantity in no	**1.000**
8.010	OD150820/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copperconductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitableGI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required.Group B. As per Databook DAR Electrical 1.10.2.						
	Wiring light/fan points with 1.5 sqmm wire						
		14					14.000
	Total						**14.000**
						Total Quantity in point	**14.000**
8.011	OD150821/2022-2023						
	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required. As per Data book Electrical 5.6						
	Earting with copper plate 600mm x600mm						
		1					1.000
	Total						**1.000**
						Total Quantity in set	**1.000**
8.012	OD150822/2022-2023						
	Expenses of getting electrical connection from KSEB including documentation fee, service charges, energization charges etc						
	Electrical connection expenses						
		1					1.000
	Total						**1.000**
						Total Quantity in job	**1.000**
8.013	OD150823/2022-2023						
	Supply, conveyance, installation and commissioning of light duty Exhaust fan of 300/305mm sweep in metal frame working on 230V A/C 300 sweep including making good the damages etc as required as directed by the departmental officers						
	Exhaust Fan for PH						
		2					2.000
	Total						**2.000**
						Total Quantity in no	**2.000**
8.014	OD152594/2022-2023						

Sl No	Specification	No	Length	Width	Depth	Cf	Quantity
	Supply conveyance ,installation testing and commissioning of36/40 W LED street/Yard light out put greater than105 lumen/watts 4000-6000K with IP66 protection with LED chip make cree/Lumilled/Nichea with powerfactor greater than 0.95 at full load ,internal surge protection up to 8 kv and alluminium preasure die cast powder coated housing acryliccover complete with THD less than 10% power factor greater than 0.98 R0HS compliant duly wired up for use on 230v AC supply.Driver compartment should be separately accessible for maintanance(LM 79&80 Certificate from NABL acredited third party lab produced mentioning chip manufacturer)						
	Yard Light						
		4					4.000
	Total						**4.000**
						Total Quantity in no	**4.000**