

ADDENDUM NO. – 1

NAME OF WORK: DESIGNING, CONSTRUCTING, ERECTING, COMMISSIONING INCLUDING OPERATING AND MAINTAINING FOR A PERIOD OF 5 YEARS, OF 107 MLD CAPACITY SEWAGE TREATMENT PLANT AT THIRUVANANTHAPURAM – ADOPTING ACTIVATED SLUDGE PROCESS WITH EXTENDED AERATION

BID NO. : KSUDP/PIU-TVM/003 (SS) 2008

CONTRACT NO. : TVM – SS - 03

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1	Abstract of bid	1	9	–	24 months	18 months (from the date of issue of work order)
2	Terms and Procedure of Payment	1/9	Appendix 1	9-16	Schedule No. 1 to Schedule No. 4	Revised Schedule No. 1 A, 1 B, 2, 3 and 4 are enclosed
3	Price Escalation	1/9	Appendix 2	9-10		Please treat as “Deleted”
4	Scope of Supply of Plant and Services	2 / 6	1 (i)	6 - 1	the design, construction, supply of plant equipment, installation, testing, trial run, commissioning and performance guarantee test of 107 MLD capacity Sewage Treatment Plant, and other facilities at Valiyathurai Sewage Farm Site (hereinafter referred to as “the works”),	the design, construction, supply of plant equipment, installation, testing, trial run, commissioning and performance guarantee test of 107 MLD capacity Sewage Treatment Plant and the raw sewage pumping system to the inlet chamber of STP including laying of pipe lines from the existing collection chamber and other facilities at the sewage farm site (hereinafter referred to as “the works”),
5	Battery Limit	2 / 6		6 - 1	<u>3rd para:</u> The battery limits for the proposed STP shall commence from the inlet to the Inlet Chamber at STP site with necessary connections and end at the outfall point with the necessary open channel discharging the treated effluent	<u>3rd para:</u> The battery limits for the proposed STP shall commence from making necessary arrangements for taking sewage from existing collection chamber (located at about 500 m from STP site) to the proposed inlet chamber of STP, by

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					into the nearby nalla from the STP site. The scope also includes leveling and dressing of the plant area and construction of other facilities like internal roads, office buildings, laboratory including stabilization of plant area whatsoever required, stores and as enumerated in other sections.	providing required piping, sump, pumping station, pumps set etc. in the STP compound and all associated works. and end at the outfall point with the necessary channel discharging the part of the treated effluent into the existing system of sewage farm for fodder grass cultivation and remaining part into nearby nalla/canal from the STP site. The scope also includes leveling and dressing of the plant area and construction of other facilities like internal roads, office buildings, laboratory including stabilization of plant area whatsoever required, stores and as enumerated in other sections.
6	Employers Requirement	2 / 6		6 - 3	-	Add the following as k: k. Making necessary arrangements for taking sewage from existing collection chamber to the proposed inlet chamber of STP, by providing required piping, sump, pumping station, pumps set etc. in the STP compound and all associated works.
7	Design Criteria & Hydraulic Levels	2 / 6	3	6 - 10	-	<u>Add the following as 3.15:</u> 3.15: Raw Sewage Pumping Station: a. Sump Capacity: 20 minutes storage at average flow i. e. 107 mld b. Depth of sewage: 4 m (minimum) c. Free Board: 500 mm (minimum) d. Capacity of each pump : 2230 m ³ /h e. No. of pumps : (4W+2S) f. Type of pumps: Non clog submersible type

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						<p>g. Wet well shall be designed as per IS-15310/2003 “Hydraulic design of Pump, sumps and Intakes– Guidelines/CPHEEO Mannul.</p> <p>h. Wet well may be provided with two compartments with an isolation gate so that one compartment can be emptied and take up for maintenance when the other compartment is working.</p> <p>i. Separate pumping main shall be provided for pumps from each compartment to the inlet chamber.</p> <p>j. Necessary arrangements shall be provided to bypass the wet wells and discharge the sewage to the discharge point.</p> <p>k. Overflow arrangements shall also be made in case of emergency for the wet wells to discharge the sewage to the bypass arrangement if the sewage level in the wet well reaches near the flooding level.</p> <p>l. Wet well shall have proper access to the well. RCC stair case, 1 metre wide, with SS handrail shall be provided to have proper access to the bottom of the wet well.</p> <p>m. Wet well opening shall have handrail protection.</p> <p>n. EOT crane shall be provided to remove sewage pumps from the wet well to the outside wet well area for cleaning and inspection, routine maintenance etc and loading into a truck if needed. Water supply and jet cleaning arrangement with sufficiently long</p>

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						<p>flexible pipe shall be made for pump cleaning and also for jet cleaning of stairs. Arrangement for sending the water from the cleaning area to the wet well shall also be made.</p> <p>o. Covered cleaning and routine maintenance area shall also be provided by the side of the wet well with concrete flooring. The area for cleaning and routine maintenance of sewage pumps shall be 40Sq.metres(minimum)</p> <p>p. A building shall be provided close to the wet well to house the MCC, main control panel, operating staff, and sanitation arrangement (wash basin, toilet etc)</p> <p>q. A valve pit with roof shall be provided close to the wet well house, valves, instruments etc. The EOT crane shall cover the valve pit also.</p> <p>r. Accessibility for operating the valves and gate to be provided.</p> <p>s. As bypass arrangement is provided for the wet well, bypass from the inlet chamber is not required.</p> <p>t. The pumps shall be started and stopped automatically depending on set levels (which shall be adjustable) using capacitance type level probe controllers-as per bid specifications.</p> <p>u. Provision for standby generator sets, shall also be provided (either in combination with total Treatment Plant capacity or separately) and 50% maximum operating load.(Also refer Clause 6.4.11). Provision for operating</p>

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						<p>the generator sets alternatively (Main generator and generator at the wet well sump site) shall also be given.</p> <p>v. For flushing and cleaning purposes pressurized (min 3 bar pressure) treated effluent shall be made available at 1 metre height at the following points.</p> <ul style="list-style-type: none"> • Near all wet wells, near all grit chambers, near all aeration tanks. • Near all clarifiers, near all thickeners, near dewatering area and other areas as required.
8	Design Standard	2 / 6	1.2	6-44	-	<p><u>Add the following as last para:</u> “Prevailing Building Bye-Laws and Environmental Regulations shall be adhered to. Since the location of the site is very near the Airport, all designs, height of the structures etc shall comply with Airport Authority rules and Regulations”</p>
9	Soil Investigation	2 / 6	1.9 A	6-49	<p><u>2nd para; 1st & 2nd line:</u> “Soil investigation at the site of STP were earlier carried out by Kerala Water Authority (KWA). Copy of which is available in the documents. Contractor is”</p>	<p>Fresh Geo technical investigation report is appended. This supersedes the soil investigation report enclosed earlier</p>
10	Valve Chambers	2 / 6	1.21	6 - 60	-	<p><u>Add the following as 2nd para:</u> Valve chamber / valve pit shall be provided for housing valves and instruments of submersible pumps. Open valve pit shall be provided with 1 m wide staircase with hand railings. A small pump pit of 400 mm x 400 mm x 100 mm deep shall be provided at a suitable corner of the chamber to pump</p>

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						out water. Suitable rain hood shall be provided at minimum 2.20m height to prevent ingress of rain water. Suitable drain pump set with accessories shall also be provided.
11	Flushing and Cleaning System	2/6	-	6-24	New Clause	<u>Add the following as Clause 4.16</u> Pumps for flushing/cleaning purpose (2 nos. 1W+1S) each of 20 Cu-m/hr capacity at 30 m head, with electrical, controllers etc shall be provided along with an effluent collection tank/sump (10 cu-m capacity) for this purpose. Suitable arrangement shall be made to bring the effluent to the tank. B class galvanized pipe of suitable size shall be used as header for distributing the effluent at various locations. Connection to various points shall be with NB 25 mm galvanized (B class) pipe with NB 25 gate valve and hose nipple suitable for NB 15mm hose pipe. Braided hose pipe (15 NB), 20 meters long, of suitable pressure rating along with flushing nozzles (min. 10 nos.) and hose fittings (min. 10 sets) shall also be provided for using at various points as required.
12	Commissioning and Testing including Trial run	2 / 6	C-10	6 - 77	-	<u>Add following as last para:</u> Services of equipment manufacturer's representative shall be made available for commissioning of respective equipment.
13	General Arrangement of Plant	2 / 6	1.12	6 - 77	-	<u>Add following as (d), (e) & (f):</u> (d) Necessary valves / gates shall be provided in the plant by the contractor to

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						<p>isolate any of the process units for maintenance. Drain facility shall be provided as shown in the process flow diagram, for each of the grit removal tanks, aerator tanks, clarifiers, thickeners and chorine contact tanks with adequately sized pipes and valves.</p> <p>(e) Facilities shall be arranged in such a way that the plant can be operated with one stream by using half the process unit.</p> <p>(f) Present irrigation arrangement of the fodder farm, out side the STP site, shall not be disturbed, in any way, without the prior approval of Employer / Engineer. However, if any alternation is needed to be carried out during the construction period, it shall be done at contractor's risk & cost and with minimum dislocation to the sewage flow.</p>
14	Manpower	2/6	F.3.3	6-210	<p>The bidders shall propose in his tender a staff management structure for the operation and maintenance of works. The suggested structure (minimum) shall be as follows:</p> <p>Plant Manager -1(Full time)* Shift in Charge - 3 Electrician -1 Instrumentation Engineer -1* Mechanic - 2 Chemist - 2 (Sr. Chemist 1*, Jr.Chemist 1) Operator/Helper – 10 Security Staff – As required</p>	<p>The bidders shall propose in his tender a staff management structure for the operation and maintenance of works. The suggested structure (minimum) shall be as follows:</p> <p>Plant Manager -1(Full time)* Shift in Charge - 3 Electrician -2 Instrumentation Engineer -1* Mechanic – 2+1 Chemist - 2 (Sr. Chemist 1*, Jr.Chemist 1) Operator/Helper – 14</p>

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					*Key Staff.	Security Staff – As required. *Key Staff
15	Abstract of Bid	Vol I	Change of Clause 4b and 4c		b) Last date and time for receipt of Bid-09-04-2008, 1300 hrs c) Date and time for opening of Bid-09-04-2008, 1430 hrs	b) Date of submission of bid is extended upto 30.4.08, 11.00 AM c) Opening of bid on 30-04-2008 at 2.30 PM
16	Sewage sample test results				New Clause	Recent sewage sample test result enclosed. However designs shall be as per data included in clause 2, section 6, volume 2.
17	Taxes and Duties	Vol I. Sec.8 Special Condition of Contract Clause 14.6	New Clause	-	New Clause	The rates quoted by the contractor shall be deemed to be inclusive of all the prevailing taxes that the contractor has to pay for performance of this contract. The Employer shall perform such duties in regard to the deduction of such taxes as per statutory deduction requirements at the source of payment as per applicable rules.
18	Peak Flow Period	Vol II. Sec.6	New Clause	-	New Clause	The peak flow period may be taken as 4 hrs (from around 6 AM to 10 AM) and also as 2 hours (from around 6.00 PM to 8.00 PM)
19	Operation and Maintenance Services	Vol. I. Sec.9	Schedule No.5	9-7	“ basis upon full satisfaction of engineer within Forty-Five (45) days after receipt of invoice”	“ basis upon full satisfaction of authorized representative of Corporation of Thiruvananthapuram within Forty-Five (45) days after receipt of invoice”

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20	Removal of Top Soil	Vol.II. Sec.6	Clause 1(a)	6-1	All preparatory work, including required topographical/geo-physical survey, including removal of top layer 500mm depth of existing sewage saturated and organic matter soil and its disposal as per directions by the Engineer-in-Charge.	All preparatory work, including required topographical/geo-physical survey, including removal of top layer of soil to a depth of 300mm or more of existing sewage saturated and organic matter soil and its disposal as per directions of the employer and area of excavation limited to the plant area as per the approved layout.
			Clause 8.0	6-29	<u>Second Para</u> Hence the top layer of soil comprising of rank vegetation and roots will require removal into a depth of minimum 300mm or above, for complete removal of roots, shall have to be excavated and disposed off.	