

Name of Work : Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V.

Contract No : CNT/SEW/MWB/1999/2009-10.

CHECK LIST FOR THE GUIDANCE OF THE CONTRACTOR

I	The Tender schedule for the above work consists of 33 pages as detailed below:	
	(i)	Checklist for the guidance of the Contractors
	(ii)	Notice Inviting Tender
	(iii)	Letter of Tender 2 pages
	(iv)	Price Schedule
	(v)	Work schedule
	(vi)	Milestone
	(vii)	Data and Specifications
	(viii)	Drawings
II	1	The total number of items in the work schedule – 115 Nos. and the departmental value works out to Rs.41,67,585.65.
	2.	Tenderers are requested to sign all pages in the tender schedule and must sign letter of tender. Tenders which do not have the Signature of the Tenderer in letter of tender will be rejected.
	3.	Technical specification of the equipment offered by the Bidders if any, and any other information related to the bid may be enclosed along with Tender Schedule after duly Signing in all the pages.
	4.	Bidders are requested to verify the number of pages in the work schedule and number of items in the work schedule. Any clarification and further information required may be obtained from the Office of the Contracts and Monitoring wing on any working day.
	5.	<p>The present tender document contains detailed estimate and price schedule. The tenderers are requested to quote the percentage variation over the departmental value in words and figures in any one of the forms in price schedule. If there is any discrepancy between words and figures, the lower among words and figures will be taken into account.</p> <p>All entries should be made legibly in ink. Writing the percentage variation first in pencil and later over writing in ink should be avoided and also over writing the corrections may be avoided.</p> <p>Corrections if any should be made by neatly scoring out the unwanted matter and rewriting legibly. Every such correction should be attested by the full signature of the tenderer.</p>

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6.	<p><u>Eligibility :</u> Contractors registered in Metro water in Class-II A&amp;III B and above i.e. those who are eligible to take up the work costing more than Rs.30.00 lakh are eligible to tender for this work. Contractors registered in other departments and undertakings of the Central or State Government in the corresponding class for taking up such work, who have executed similar works of the same or higher magnitude are also eligible to tender for this work. Contractors not Registered in the Board and who intend to participate in the tender, subject to their eligibility as above are requested to obtain a copy of the Standard tender document from the Office of the Contracts wing before submitting their Tender. They should furnish Proof for their registration in the appropriate class and experience as indicated above while submitting their tenders, otherwise their tenders will be treated as non responsive. The tender received from ineligible contractors will be treated as non responsive. However the successful tenderer will have to get himself registered in the Board in the appropriate class.</p>
7.	<p>EMD shall be in the form of Demand Draft or Banker's Cheque or Pay Order drawn from Nationalised / Scheduled Bank / TNSC Bank in favour of CMWSS Board.</p>
8.	<p><u>SECURITY DEPOSIT</u> Security deposit will be collected from the successful Tenderer in the following form and manner within 14 days from the date of receipt of work order: Form in which S.D. collected. a) In the shape of NSC/NSS/KVP/Post office Time Deposits valid for the required contract period and pledged in favour of Managing Director, CMWSS Board and shall have the necessary transfer endorsement of the Post Office. ( OR ) Fixed Deposit for the required period from nationalized/schedule Bank/TNSC Bank in favour of Managing Director, CMWSS Board. ( OR ) Certified cheque/Bank Draft in favour of Managing Director, CMWSS Board payable at Chennai.</p>
b)	<p>The value of S.D will be as follows:</p>
i)	<p>for tenders with any plus percentage and upto (-)5% over departmental value – 2% of the contract value.</p>
ii)	<p>for tenders between (-)5% to (-)15% over departmental value --- 4% of the contract value.</p>
iii)	<p>for tenders, above (-)15% over departmental value --- 5% of the contract value.</p>
9.	<p>Milestone details for completion of works and details of penalty for the non completion of work are furnished in the Milestone at <b>Page No.24</b>. Tenderers are requested to take note of the details. The above details will be incorporated in the contract documents while executing agreement.</p>

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10	All duties, taxes such as VAT, Sales Tax and Service Tax etc. and other levies payable by the contractor under the contract or for any other cause shall be included in the rates, prices and total quoted rates submitted by the bidder. Any statutory variations in duties/taxes, which takes effect from a date subsequent to the due date for receipt of tender, shall be to CMWSS Board's Account.
11.	<u>Tender Validity</u> Tenders shall remain valid for a period of not less than ninety days (90 days) after the deadline date for bid submission. A tender valid for a shorter period shall be rejected by the Employer as non-responsive.
12.	No cheque will be accepted towards Earnest Money Deposit.
13.	Tenders with conditions are liable for rejection.
14.	All entries should be made legibly in ink. Writing the percentage in figures and words first in pencil and later over writing in ink should be avoided and also over writing the corrections should also be avoided.
15.	Correction if any should be made by neatly score out the unwanted matter and rewriting legibly. Every such correction should be attested by the full signature of the tenderer.
16.	The defects liability period in respect of original civil works and pipe laying works is 5 years and for Electrical, Mechanical and instrumentation works three years.

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CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD  
NO.1, PUMPING STATION ROAD, CHINTADRIPET, CHENNAI-600 002.

NOTICE INVITING TENDER

Sealed Bids are invited from the eligible bidders for the following work.

Sl. No	Name of Work and Contract No.	Due Date	Approximate value of Tender Rs/ Lakh	E.M.D. in Rs.	Tender schedule available From - To	Eligibility	Contract Period
1	Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V. CNT/SEW/MWB/1999/2010-11	26.05.2010	42.26	31,150/-	11.05.2010 to 25.05.2010	Class IIA & IIIB and above	120 days
2.i	Availability of Bid Document In person	Information & Facilitation Officer, CMWSS Board, No. 1 Pumping Station Road, Chintadripet, Chennai-600002, (Telephone: 044-28451300, Extn. 227 )					
2.ii	Through Website	<a href="http://www.chennaietrowater.tn.nic.in">www.chennaietrowater.tn.nic.in</a> & <a href="http://www.tenders.tn.gov.in">www.tenders.tn.gov.in</a>					
3	Cost of Bid Document	Free					
4	Address for information and clarifications and for receipt of tenders	Office of Superintending Engineer, Contracts & Monitoring, 4 <sup>th</sup> Floor, CMWSS Board, Chennai – 600 002 Phone No. 044-2845 1300 Extn. 253 FAX : 044-2845 8181					

SUPERINTENDING ENGINEER  
(CONTRACTS & MONITORING)

Signature of Tenderer

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### LETTER OF TENDER

To be delivered to the Superintending Engineer, C&M Chennai Metropolitan Water Supply and Sewerage Board at or before 3.00 P.M. on **26.05.2010**.

To  
The Managing Director  
Chennai Metropolitan Water Supply & Sewerage Board  
Chennai- 600 002  
Sir,

I/We the undersigned do hereby tender and undertake to perform, provide and execute all the works, materials matters and things described or mentioned in the Schedule (Bill of quantities) hereto annexed and the specifications thereto and drawings therein referred to (which have been produced to and carefully examined by me/us) in strict accordance with and under and subject to the terms, provisions and conditions set forth or mentioned in the said Schedule (Bills of Quantities) specifications and the drawings therein referred to, at the rates given and as stated in the Bills of quantities.

I/We herewith enclose D.D/B.C./P.O No..... dated .....for having remitted Rs..... into the Board's Cash Section as a guarantee for the due fulfillment of my/our tender, and if successful, undertake and agree to forward to the Board within fourteen days after the notification of the acceptance by the Board of this tender has been received by me/us, the sum as demanded in the Form and manner required as security for the due fulfillment of my/our contract.

I/we undertake and agree that I/We will not withdraw this tender during the period that will be required for intimation, acceptance or non/acceptance as stipulated in clause 15 on the Notice Inviting Tender or during such extended period as agreed to by me/us, such period to date from the last date by which tenders are due to be submitted to the Board and if I/We do so withdraw, I/We shall forfeit the Earnest Money Deposit to the Board.

I/We further undertake to produce the Income-tax Clearance Certificate and the certificate and the Sales Tax Verification Certificate from the Commercial Tax Department of this State and agree to execute at my/our cost the agreement attached and to sign the plans therein referred to within 14 days after the notification of the acceptance of my/our tender has been received by me/us. In the event of my/our failing to make the Security Deposit or to execute the agreement in the said manner and sign the plans within the time specified for the purpose, the sum of **Rs.31,150/-** accompanying this tender shall be forfeited to the Board and this concluded contract shall in such case be considered, as having been cancelled or terminated and you may thereupon at such time or times, in such manner and on such terms as you may think fit, arrange either departmentally or by any other person or persons to carry out the works and provide, execute and do all works, materials, matters and things described or mentioned herein and I/We agree to be liable irrespective of the forfeiture aforesaid for all damages, losses, costs, charges and expenses arising from or by reason of such failure and arrangements.

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I/We undertake to assume full responsibility for the stability and soundness of the Works/structures that will be executed by me/us as per this contract.

I/We also undertake to do all extra or varied works which may be ordered as part of this contract upon the terms provided for in the conditions and specifications. The tenders shall be valid for a period of 90 days from the last date fixed for receipt of tenders. In case my/our tender for the work of “**Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V**” is accepted, I/We agree and guarantee to commence the said works within a period of seven days from the date and complete the entire work within the stipulated period of 4 Months from the date on which the work order received by me/us. I/We also agree that time is the essence of contract. I/We have actually inspected the site of works and have tendered for the works after such inspection.

**UNDERTAKING**

I/We have gone through the copy of standard tender document received from the Office of the Contracts and Monitoring wing and abide by the same for this contract also.

As witness my/our hand this.....day of.....2010.

Signature.....

Name and address:

Signature of Tenderer

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Depot – 65, Area-V.

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### PRICE SCHEDULE

1. This tender has been called for in the percentage tender system. In the work schedule, detailed items of works involved in the work with specifications along with the quantity, the departmental rates and amount for individual items are furnished. The total value of the work is also furnished.

2. The tenderers are requested to quote the percentage variation over the total departmental value, which will be applicable for all items of works, individually and uniformly at which they are willing to execute the works, in the following format. In case any discrepancy / correction are found between figures and words furnished for the percentage, then the LOWER percentage among them ALONE will be taken as correct.

Signature of Tenderer

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FILL UP ANYONE OF THE FORM NO:A, B or C  
STRIKE OUT THE FORM WHICH IS NOT APPLICABLE.

FORM NO:A

I / We agree to execute the work of **“Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V”** with a tender percentage of (-) Minus--  
-----  
------(in words) -----(in figures) over departmental value of to Rs.41,67,585.65 as furnished in the work schedule which is also applicable for all items of works, individually and uniformly over the departmental rates, furnished in the work schedule.

FORM NO:B

I / We agree to execute the work of **“Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V”** at the departmental value of to Rs.41,67,585.65 for all items of work furnished in the schedule.

FORM NO:C

I / We agree to execute the work of **“Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V”** with a tender percentage of (+) Plus -  
------(in words) ----- (in figures) over departmental value of to Rs.41,67,585.65 as furnished in the work schedule which is also applicable for all items of works, individually and uniformly over the departmental rates, furnished in the work schedule.

NOTE:

1. The tenderers are requested to strike out the forms which are not applicable
2. If any two or three forms are filled by the tenderers the LOWEST percentage quoted by the tenderer will be considered.
3. If there is any discrepancy in percentage quoted in words and in figures the lowest percentage quoted will be considered.
4. If the tenderer failed to fill/strike out any or all of the form, the department value will be taken as quoted rate.

Signature of Tenderer

NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYII  
250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU IN DEPOT - 65 / AREA - V.

CNT/SEW/MWB/1999/2009-10.

ABSTRACT

BILL	DESCRIPTION OF WORKS	AMOUNT
I	CONSTRUCTION OF SUCTION WELL	1288789.80
II	MISCELLANEOUS ITEMS OF WORKS	327325.85
III	ELECTRICAL AND ITS ALLIED WORKS	1958796.00
IV	CONSTRUCTION OF PUMP ROOM	138102.20
V	PIPES AND SPECIALS FOR SUCTION AND DELIVERY PIPE LINES	454571.80
	<b>TOTAL</b>	<b>4167585.65</b>

SCHEDULE						
NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYING 250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU STP IN DEPOT - 65 / AREA - V.						
CNT/SEW/MWB/1999/2009-10.						
SL.N O.	DESCRIPTION	NO. OR QTY	RATE Rs.P	PER	AMOUNT Rs.P	
	Bill I:Construction of Suction well					
1	Earth work excavation in hard stiff clay,stiff black cotton,hard red earth,shales,muram,gravels,stone earth and earth mixed with small size boulders and hard gravelley soil as per SS 20B and depositing the earth on banks with initial lead of 10m etc					
	From 0 to 2.00m depth	70.00	Cu.m	28.75	Cu.m	2012.50
2	Providing form work with centering for soffits of reinforced cement concrete slabs or plain surface including strutting upto 3.00 m high etc. complete complying with standard specifications for well kerbs and steining	290.00	Sq.m	428.00	Sq.m	124120.00
3a)	Cement concrete 1:1.5:3 (One cement,one and half sand three aggregate ) using 20mm gauge hard broken stone jelly for RCC works excluding centering,shuttering and cost of steel reinforcement but including laying in position, compacting,curing,finishing etc complete.					
i.	For well kerb & For well steining	103.00	Cu.m	3508.00	Cu.m	361324.00
ii.	For raft slab(4.50 to 9.00m)	14.00	Cu.m	3568.50	Cu.m	49959.00
3b)	Cement concrete 1:1.5:3 (one cement, one and half sand three aggregate ) using 20 mm gauge hard broken stone jelly for plain cement works including laying, ramming, curing, finishing etc.complete for plugging (4.50 to 9.00m).	16.00	Cu.m	3288.50	Cu.m	52616.00
4	Supplying, fabricating and laying in position of MS or RTS rods for RCC works including cost steel, binding wire, cutting, bending , looping, cranking, assembling and tying in position with binding wire etc. complete for well curb, well steining and raft	14100.00	Kg	38.00	Kg	535800.00

Signature of Tenderer

SL.N O.	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
5	Providing point edge to the well curb with					
	a)MS L angle section of ISA 100X100X10mm thick	260.00	Kg	47.00	Kg	12220.00
	b)MS plate 500X10mm thick	680.00	Kg	47.00	Kg	31960.00
6	Sinking of suction well of size 4.00 m dia internal in all kinds of soil and in all depth under water including all incidental charges complete viz. bailing and pumping water using special tools and plants charges etc.complete (depth reckoning from 2.00 m below)					
	(i)First depth of 2 m(2 to 4m from GL)	2.00	m	2898.00	m	5796.00
	(ii)Second depth of 2m(4 to 6 from GL)	2.00	m	5548.75	m	11097.50
	(iii)Third depth of 2 m (6 to 8 from GL)	2.00	m	11084.85	m	22169.70
	(iii)Third depth of 2 m (8 to 10 from GL)	2.00	m	20766.70	m	41533.40
7	Plastering with cement mortar 1:3 for 20 mm thick using sulphate resistant cement including curing etc. complete(Internal)	126.00	Sq.m	132.00	Sq.m	16632.00
8	Plastering with cement mortar 1:3 for 12mm thick including curing etc. complete(external)	45.00	Sq.m	71.00	Sq.m	3195.00
9	Supplying and fixing CI steps etc. complete	28.00	Nos	177.00	Each	4956.00
10	Refilling with excavated earth (other than sand complying with standard specification) for filling in foundation and basement etc.complete.	22.00	Cu.m	10.10	Cu.m	222.20
11	Disposal of surplus earth including loading and unloading carting etc. complete to the place as directed at site.	230.00	Cu.m	56.05	Cu.m	12891.50
12	White washing two coats	15.00	Sq.m	8.00	Sq.m	120.00
13	Colour washing two coats	15.00	Sq.m	11.00	Sq.m	165.00
	<b>Total</b>					<b>1288789.80</b>

Signature of Tenderer

**SCHEDULE**

**NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYING  
250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU IN DEPOT - 65 / AREA - V.  
CNT/SEW/MWB/1999/2009-10.**

SL. NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
<b>BILL II: MISCELLANEOUS ITEMS OF WORKS</b>						
1	Supplying, laying, jointing and testing 500 mm dia D.I. K7 Pipes as per conforming to ISI specifications for the following sizes and depths including earthwork excavation for trenches in hard stiff clay, stiff clay, stiff black cotton, hard red earth, shales, murams, gravel, stoney earth and earth mixed with small size boulders and hard gravelley soil, depositing the earth on banks with initial lead of 10 meters and carting of pipes from any of the Board 's stores to the site of work, lowering into trenches including the cost for timbering for the trenches, refilling the trenches with the excavated soils and aligning etc., complete including the cost of cement and sand at an average depth of 6.00 m.	6.00	m	11796.00	m	70776.00
2	Cement concrete 1:3:6 (One cement, three sand and six aggregate) using 40 mm gauge hard broken stone jelly for plain cement concrete works including laying in layers of not more than 15cm thick, remming, consolidation curing etc. complete for end concrete and road crossing.	2.00	cu.m	2079.00	cu.m	4158.00
3	Disposal of surplus earth including loading and unloading carting etc. complete to the place as directed at site for sewer pipe laying and manholes.	62.00	cu.m	56.05	cu.m	3475.10
4	Supplying and fixing S.S. Screen in the well including the cost of materials, fabrication, welding charges, transportation and fixing charges etc. complete (Data-II enclosed)	1.00	No.	39375.00	Each	39375.00
5	Hire charges for 5 H.P. Diesel engine for pumping out the sewage water and subsoil water including the cost of fuel charges, technician for running the machine and transportation charges etc. complete for 2 engines at 10.00 hours per day for 10 days.	200.00	Hours	110.00	Hour	22000.00

Signature of Tenderer

CNT/SEW/MWB/1999/2009-10.

SL. NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
6	Provision for making dummies with gunny bags and clayey soil in deep manholes and removing the dummies after the completion of work etc. complete.	3.00	Nos	3300.00	Each	9900.00
7	Construction of Random Rubble Masonry Compound wall with Barbed wire fencing for Mini Sewage Pumping Station (Data-I enclosed)	35.00	m	4558.05	m	159531.75
8	Supplying and fixing M.S.GATE for a size of 2.00m x 2.10m for Sewage Pumping Station with M.S. Angles of 50mm x 50mm x 10mm, M.S. Sheets and G.I. Pipes including the cost of materials, fabrication, welding charges, transportation and labour charges for fixing in position etc., complete (Data IIII enclosed)	1.00	No.	18110.00	Each	18110.00
	<b>TOTAL</b>					<b>327325.85</b>

Signature of Tenderer

**SCHEDULE**

NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYING 250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU IN DEPOT - 65 / AREA - V.

CNT/SEW/MWB/1999/2009-10.

SL.NO	DESCRIPTION	NO.	OR QTY	RATE Rs.P	PER	AMOUNT Rs.P
	<b>BILL III: ELECTRICAL AND ALLIED WORKS</b>					
1	Supply, delivery, erection, testing and commissioning of electrically driven non clog sewage submersible pumpset capable of discharging 50 lps against a total head of 20m, speed 1450 rpm with suitable weather proof cable of length 20m, Guide pipe of length 10m, lifting chain (SS) 10m length with suitable pedestal coupling, control panel, float type switches, necessary fasteners including incidental civil works etc, complete.(Market rate)	3	Sets.	512000.00	Set	1536000.00
2	Supply, delivery, erection, testing and commissioning of power capacitor suitable to operate on 415V, 3Ph,50Hz A/C supply for motor and lighting loads on suitable angle iron frame-works including earthing and incidental civil works etc. to maintain the power factor not less than 0.95.	45	Kvar	421.00	Kvar	18945.00
3	Supplying and fixing of 200 Amps Triple Pole FSU HRC fuses on suitable angle iron frame work with earth connection	1	Set.	9696.00	Set	9696.00
4	Supply, delivery, erection, testing and commissioning of floor mounted M.V. panel with aluminium bus bars and consisting of the following accessories with necessary interconnections between busbars, switches and trunking box, measuring instruments such as Ammeter, Voltmeter with selector switch, PF meter etc., complete. (Data enclosed)					
	<b>Capacity of M.V. Panel - 200 Amps</b>					
	2 Nos. 200 A- 415V 4P MCCB 25 kA (for EB & proposed DG set) with interlocking arrangement to avoid paralleling of TNEB & DG )					
	3 Nos. 100 A- 415V 4P MCCB 25 kA (for Main pumpsets)					
	3 Nos. 63 A- 415V TPN MCCB 25 kA (for Capacitors)					

Signature of Tenderer

SL.N O	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
	2 Nos. 32 A- 415V TPN MCCB 25 kA (for lighting and 1No as spare)	1	Set.	125000.00	Set	125000.00
5	Supplying and clamping of various sizes of PVC insulated PVC sheathed armoured aluminium LT UG cable by MS clamps on wall or in a trench to be excavated at a depth of 2 ½ ' putting 6" layer of sand and covering the cable with brick and sand refilling to make good.					
	a) 3.5C X 50 Sqmm Aluminium cable	60	m	414.00	m	24840.00
	b) 3.5C X 35 Sqmm Aluminium cable	30	m	341.00	m	10230.00
	c) 4C X 6 Sqmm Aluminium cable	20	m	229.00	m	4580.00
	d) 2C X 4 Sqmm Aluminium cable	30	m	149.00	m	4470.00
6	Supplying and fixing of cable gland and termination with Al. cable lugs for the following sizes of PVC insulated PVC sheathed armoured aluminium LT UG cable and with earth connection.					
	a) 3.5C X 50 Sqmm Aluminium cable	6	Nos	355.00	E	2130.00
	b) 3.5C X 35 Sqmm Aluminium cable	6	Nos	345.00	E	2070.00
	c) 4C X 6 Sqmm Aluminium cable	4	Nos	211.00	E	844.00
	d) 2C X 4 Sqmm Aluminium cable	4	Nos	207.00	m	828.00
7	Run of 2 of 2.5 sq mm PVC unsheathed Copper single core cable in PVC pipe for mains with continuous earth connection by 14 SWG wire From the MCB DB to the Switch boards.(SR pg -79 item 2.2)	20	m	84.00	m	1680.00
8	Wiring with 2.5 sq mm PVC insulated single core Copper cable in MS conduit pipe with MS joint box and PVC accessories, MS switch box covered with 3 mm thick hylam sheet with continous earth wire connection of 14 SWG TC.					
	a) Light points	6	points	1491.00	Point	8946.00
	b) Fan Points	1	point	1731.00	Point	1731.00
9	Supply, delivery and erection of 4 way TP DB 32 Amps/way with fuse and neutral link TWAD	2	No	2400.00	E	4800.00

Signature of Tenderer

SL.N O	DESCRIPTION	NO. OR QTY	RATE Rs.P	PER	AMOUNT Rs.P
10	<b>Lighting Fixtures</b>				
(a)	Supply and fixing of 230 V - 1 x 40 W Flouresent TL fitting box type with all accessories - choke, starter, tube, etc. suitable for wall mounting or roof mounting on conduit tube.	2 Nos	488.00	No	976.00
(b)	Supply and fixing of CFL lamp( 23 W)	1 Nos	200.00	No	200.00
(c)	Supply and fixing of 48" sweep AC ceiling fan complete with electronic regulator, 1m down rod including supply and fixing of fan clamp with side plates and cross arm.	1 Nos	2075.00	No	2075.00
(d)	Supply and fixing of 12" exhaust fan as per specification (SR pg-80 item 6)	1 No	1512.00	No	1512.00
(e)	Supply and fixing of water tight bulk head fitting suitable for 100W bulb with lamp guard and lamp.	2 No	359.00	E	718.00
(f)	Supply and erection of 1 No. 3" dia tubular lamp post with 2 Nos. 40W Tube Light fitting with bulb.	2 No	7037.00	E	14074.00
11	Earthing as per ISI specifications with necessary masonry work	4 Nos	1409.00	E	5636.00
12	Supply and fixing of local push button stations for emergency operation of the pumpsets with ON/ OFF and locable in OFF position.(Market rate)	3 Sets.	900.00	Set	2700.00
13	Supply and fixing of LT metering box	1 Set.	14700.00	Set	14700.00
14	Supply and delivery of safety items .				
a)	11 KV grade rubber gloves	2 Nos.	273.00	E	546.00
b)	Electrical quality 6mm thick rubber mat	1 No.	392.00	E	392.00
c)	5 kg capacity ISI marked Dry chemical powder fire extinguisher	3 Nos.	1860.00	E	5580.00
d)	Fire Bucket-3 Nos Hooked to MS stand	1 No.	1020.00	E	1020.00
e)	Laminated shock treatment chart	2 No.	843.00	E	1686.00
f)	Wooden First aid box	2 Pair	595.00	pair	1190.00
g)	Rechargeable emergency lamp (600mm Flourescent lamp)	1 No	2430.00	E	2430.00
15	Supply and delivery of tools.				
a)	300mm Screw driver	1 No	75.00	E	75.00
b)	400mm Screw driver	1 No	124.00	E	124.00
c)	200mm Cutting plier	1 No	159.00	E	159.00
d)	800gm Ball pane hammer with handle	1 No	198.00	E	198.00
e)	Digital Tong Tester	1 No	2528.00	E	2528.00

Signature of Tenderer

SL.N O	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
f)	DE Spanner set 6 to 32	1	No	480.00	E	480.00
g)	Ring spanner set 5 to 32	1	No	1125.00	E	1125.00
h)	Pipe wrinch 24 inches	1	No	694.00	E	694.00
i)	Pipe wrinch 14 inches	1	No	248.00	E	248.00
16	Operation and maintenance run at 2 shifts per day ( Existing O & M rate )	6	months	23490.00	day	140940.00
	<b>Total</b>					<b>1958796.00</b>

Signature of Tenderer

**SCHEDULE**

NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYING 250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU IN DEPOT - 65 / AREA - V.						
CNT/SEW/MWB/1999/2009-10.						
SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
<b>BILL IV:CONSTRUCTION OF PUMP ROOM</b>						
1	Providing under reamed piles 0.3m dia @ 3.00m deep.	4.00	Nos	1305.00	E	5220.00
2	Cement concrete work 1:2:4 using 20mm gauge hard broken stone jelly for reinforced concrete works excluding centering, shuttering and cost of steel reinforcement but including laying in position, compacting, curing, finishing, etc., complete	3.50	cu.m	3010.00	cu.m	10535.00
3	Providing form work with centering for soffits of reinforced cement concrete slabs or plain surfaces including strutting upto 3m high	20.00	sq.m	428.00	sq.m	8560.00
4	Supplying, fabricating and laying in position MS rounds or RTS rods for RCC works including cost of reinforcement, binding wire, cutting bending, cranking and tying in position with binding wire assembly, etc.					
	For mild steel/RTS(all sizes)	280.00	Kg.	38.00	Kg.	10640.00
5	Stock brick work with II class bricks in C.M. 1:4 for 23 cm thick wall including curing etc.complete	12.00	cu.m	2753.00	cu.m	33036.00
6	Laying C.C. 1:2:4 for RCC sunshade work using 20mm hard broken stone jelly 80mm thick at wall end and 50mm thick at free end projecting 600mm from wall face moulded along with RC lintels and tailed into the full thickness of wall where there are no lintels excluding cost of reinforcement but including centering, shuttering, compacting, curing and finishing, etc., complete	6.00	cu.m	514.00	cu.m	3084.00
7	Plastering with cement mortar 1:3 for 15mm thick including curing, etc.,	105.00	sq.m	79.00	cu.m	8295.00
8	Special ceiling plastering for RCC slabs, and beams in CM 1:3 – 10mm thick including hacking and curing, etc., complete	9.00	Sq.m	68.00	Sq.m	612.00

SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
9	Flooring with 100mm thick base cement concrete 1:4:10 using 40mm gauge, hard broken stone jelly including laying ramming, curing, etc., complete.	9.00	Sq.m	166.00	Sq.m	1494.00
10	Flooring rendered smooth with 10Kg./10sqm of cement including curing, etc., complete.	9.00	Sq.m	32.00	Sq.m	288.00
11	Stock brick work with II class bricks in cement mortar 1:3 for over 23 cm thick wall including curing etc. complete	0.60	Cu.m	2570.00	Cu.m	1542.00
12	Supplying and filling sand for foundations and basement including watering consolidating ramming, etc., complete	6.00	Cu.m	361.00	Cu.m	2166.00
13	Supplying and fabrication and fixing in position of anodised natural colour matt finish <b><u>sliding window in two track</u></b> in all floors with following sizes. All the three shutters with slinding arrangements, the bottom section should have Gutter arrangements so as to drain the water entering and made with extruded aluminium section for outer frames as shown below with necessary accessories such rubber beading. Aluminium clips, rubber beading,handle and fixing 4mm thick clear sheet glass including all required for fabrication etc., complete.Necessary dismantling making holes in RCC columns, beams, masonry wherever necessary with power drill to the extent required and made good to the original conditions after fixing as directed by the Board officers.The Al.Surfaces is to be anodised with matt finish under electrically condition in accordance with ISI 1868/1962 specification for an average anodic film thick of not less than 15 microns. (All materials should be got approved by the Site Engineer before fixing in position)	3.25	Sq.m	2104.00	Sq.m	6838.00

SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
14	Supplying, fabricating and fixing in position of <b>Alumi.Anod.natural colour matt finish door half glazed and half PLB board using 12 mm thick PLB board and 5.5 mm thick glazed door</b> using rectangular Alu.Box section of following sizes for frame and shutter with necessary accessories such as rubber beading, Al. Clips, Best double action floor springs, Aluminium Handles on both sides, floor stopper, Tower bolt, Locks and glass including all materials, Labour, power consumption charges required for fabrication if necessary chipping, dismantling making necessary holes in RCC Coloums, Beams or Masonry wherever necessary with power drill to the extent required and made good to the original conditions after fixing etc., complete. The Alumi. surface must be anodised with matt finish under electrically controlled condition in accordance with IS specification 1868 / 1962 of Anodic filthickness of not less than 15 Microns (Fifteen) for all sections. All the materials should be got approved by the Site Engineer before fixing as directed.	2.00	Sq.m	4864.00	Sq.m	9728.00
15	Supplying & fixing M.S. grills for window and gate including one coat of primer with red lead etc. complete as directed.	45.00	Kg	46.20	Kg	2079.00
16	Painting primary coat on new plaster surface	105.00	Sqm	22.00	Sqm	2310.00
17	Painting two coats with approved cement paint over cement plastered wall surface, ceiling and other new surfaces including cleaning preparing the surface and curing, etc., complete	105.00	Sqm	36.00	Sqm	3780.00

Signature of Tenderer

SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
18	Concrete with broken brick jelly 20mm gauge in pure slacked lime over R.C.C. roof slab in the proportion of 32:12 ½ (No sand to be used )well beaten with wooden beaters to the required depth of 80mm thick and giving required slope and thickness to roof as required, etc., complete.	9.00	Cu.m	1269.00	Cu.m	11421.00
19	Terrace flooring with two course of flat tiles of 15cmx15cmx12mm using CM 1:3 mixed with crude oil 10% by weight of cement and pointed with same oiled mortar	9.00	Sqm	257.00	Sqm	2313.00
20	Best Indian T.W. cupboard with frames 100 x 60mm alround and shutters 40mm thick with moulded panels in 20mm thick planks and 4 Nos.of iron hold fasts fixed in C.C.1:2:4using 3 to 10mm chips 6 Nos.of butt hinges 100mm long including necessary fittings brass padlock 100mm long of suitable size and suitable brass handles, screws etc. complete.The cupboard will have 4 Nos.of R.C.C. precast slab 40mm thick and 40mm bearing at sides neatly packed with C.M.etc. and firmly fixed in position .The R.C.C. work will be 1:2:4 mix using stone jelly 6 to 10mm gauge with necessary reinforcement and rendered smooth with C.M.on all faces,curing etc.complete.The rear face of the cupboard will be 50mm thick using country bricks in C.M.1:4.	3.20	Sqm	4181.00	Sqm	13379.20
21	Painting with superior quality ready mixed paint of chocolate, light green, grey or any other approved colour.	3.50	Sq m	60.00	Sq m	210.00
22	Supplying and fixing 100mm dia A.C. down fall pipe including cost of 100mm dia A.C. pipe, shoe bend, brackets and teak wood plugs, gratings, etc., complete without door arrangements	4.00	m	143.00	m	572.00
	<b>Total</b>					<b>138102.20</b>

Signature of Tenderer

**SCHEDULE**

NAME OF WORK: CONSTRUCTION OF MINI SEWAGE PUMPING STATION AND LAYING 250MM DIA DI PIPE PUMPING MAIN AT KOYAMBEDU IN DEPOT - 65 / AREA - V.

CNT/SEW/MWB/1999/2009-10.

SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
BILL V: PIPES AND SPECIALS FOR SUCTION WELLAND DELIVERY PIPE LINES.						
1	Supply, delivery, laying and fixing the following pipes and specials for suction and delivery pipe line for submersible pump sets including necessary earth excavation in all files except the hard rock etc., at an average depth of 2m and also inside the suction well etc., complete.					
i)	150mm dia C.I double flanged duck foot 90 degree bend weighing at 47Kg/No .	3	Nos.	2115.00	each	6345.00
ii)	200mmX150mm dia C.I double flanged taper 37kg/No	3	Nos.	1665.00	each	4995.00
iii)	200mm dia C.I double flanged pipe of length 2.00m - (2.00x52.10+2x11.40)	12	Nos.	5715.00	each	68580.00
iv)	200mm dia C.I double flanged 90degree bend weighing at 49Kg/No .	3	Nos.	2205.00	each	6615.00
vi)	200mm dia C.I DF Reflux Valve.	1	Nos.	10573.00	each	10573.00
vii)	200mm dia C.I D F Sluice Valve.	1	Nos.	8019.00	each	8019.00
viii)	200mm dia M.S double flanged pipe for making connection with header main	3	Nos.	3100.00	each	9300.00
ix)	250mmx250mmx200mm dia C.I all flanged tee weighing at 102 Kg/No .	3	Nos.	4590.00	each	13770.00
x)	250mmx250mmx150mm dia C.I all flanged tee weighing at 96Kg/No .	2	No.	4320.00	each	8640.00
xi)	150mm dia C.I double flanged Sluice Valve.	2	No.	4593.00	each	9186.00
	150mm dia C.I double flanged pipe of length 2.00m - (2.00x35.9+2x6.7)	1	No.	3834.00	each	3834.00
xii)	150mm dia C.I double Air Valve.	1	No.	14047.00	each	14047.00
xiii)	250mm dia C.I double flanged Sluice Valve.	1	No.	12795.00	each	12795.00
xiv)	250mm dia dismantling joint	1	No.	4863.00	each	4863.00
xv)	200mm dia dismantling joint	3	No.	3906.00	each	11718.00
xvi)	250mm dia Blank Flange	1	No.	1035.00	each	1035.00

Signature of Tenderer

SL.NO	DESCRIPTION	NO. OR QTY		RATE Rs.P	PER	AMOUNT Rs.P
xix)	250mm dia M.S double flanged pipe for making connection with header main	1	Nos.	3933.00	each	3933.00
2	Materials required for making the flanged joints including the cost of materials like Rubber insertions,Bolts and Nuts etc.and also for the following sizes					
	a) 250mm dia	35	Nos.	271.69	each	9509.15
	a) 200mm dia	35	Nos.	190.31	each	6660.85
	b) 150mm dia	20	Nos.	171.94	each	3438.80
3	Construction of sluice valve chamber for 250mm dia sluice valve as per the type design of CMWSS Board and as directed	1	No.	15715.00	each	15715.00
4	Construction of combined sluice valve chamber for reflux valve and sluice valve of delivery line of submersible pump set for size of 4.50mX2.00m including the work of earth work excavation, stock brick work with cement mortar, plastering with cement matter, reinforced cement concrete precast loose cover slab in cement concrete 1:2:4 using 20mm gauge hard broken stone jellyfor operating the valves etc., complete and as directed	1	No.	46000.00	each	46000.00
	Supply, delivery and fixing of stainless steel penstock and CI stock for 500mm dia etc. complete	1	No.	175000.00	each	175000.00
	<b>Total</b>					<b>454571.80</b>

Signature of Tenderer

Name of Work : Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V.

Contract No : CNT/SEW/MWB/1999/2009-10.

**MILE STONE**

SI No	Description of work	Mile Stone period				
		Qty	Upto 30 days	Upto 30 days	Upto 30 days	Upto 30 days
1.	CONSTRUCTION OF SUCTION WELL		30%	70%	100%	100%
2.	MISCELLANEOUS ITEMS OF WORKS		-	40%	80%	100%
3.	CONSTRUCTION OF PUMP ROOM		30%	70%	100%	100%
4.	PIPES AND SPECIALS FOR SUCTION AND DELIVERY PIPE LINES		-	40%	100%	100%
5.	ELECTRICAL AND ITS ALLIED WORKS		-	40%	80%	100%

**LIQUIDATED DAMAGES**

- I Mile Stone - Rs.214/- per day
- II Mile Stone - Rs.840/- per day
- III Mile Stone - Rs.770/- per day
- IV Mile Stone - Rs.264/- per day

Signature of Tenderer

**DATA - I**

NAME OF WORK: Construction of mini sewage pumping station at Koyambedu STP in Depot-65, Area-V.

CONSTRUCTION OF R.R.MASONRY COMPOUND WALL - RATE FOR 2.50 M LENGTH

**ABSTRACT OF THE FOREGOING ESTIMATE**

Sl.No.	Description of works	Quantity	Unit	Rates	Per	Amount
1	Excavation in hard stiff clay, stiff black cotton, hard red earth, shales, muram, gravel, stoney earth and earth mixed with small size boulders and hard gravelly soil as per SS 20B with initial lead of 10m and lift of 2.0m.	4.00	cu.m	57.50	cu.m	230.00
2	Supplying and filling sand for foundations and basement including watering consolidation, ramming etc., complete.	0.40	cu.m	361.00	cu.m	144.40
3	Cement concrete 1:3:6(one cement, three sand, six aggregate) using 40mm gauge hard broken stone jelly for plain cement concrete works including laying in layers of not more than 15cm thick including ramming, curing etc., complete.	0.40	cu.m	2079.00	cu.m	831.60
4	Random Rubble Masonry in Cement mortar 1:3 including etc., complete.	4.00	cu.m	1981.00	cu.m	7924.00
5	Pointing to the Random Rubble Masonry work with cement mortar 1:3 etc., complete.	15.00	sq.m	65.00	sq.m	975.00
6	Band course work flat 10 mm to 12 mm thick and 75 mm deep with cement mortar 1:3 including curing etc., complete.	6.00	m	52.00	m	312.00
7	Supplying and fixing 0.43 cu. m. of broken glass pieces on the coping of the compound wall with cement mortar 1:3, 20 mm thick including curing etc., complete as directed.	1.00	sq.m	105.00	sq.m	105.00
8	Supplying and fixing barbed wire fencing over the proposed compound wall with 'L' angle iron 50 mm x 50 mm x 6 mm and 1.45 m posts bent to shape at 2.50 m centres with 6 rows of barbed wire and also in a zig zag manner at 25 cm centre to centre connecting all the rows with barbed wire will be of 2 ply and 12 gauge or other approved size including drilling hole in 'L' iron posts and fixing the posts in cement concrete 1:2:4 of size 15x15x45 cm etc., as directed.	3.00	m	287.00	m	861.00
9	Refilling with excavated soils (other than sand) complying with standard specifications for filling in foundations and basement.	1.20	cu.m	10.10	cu.m	12.12
<b>Total for 2.50 m Length</b>						<b>11395.12</b>
<b>Therefore, Rate per metre length of compound wall = Rs.11395.12 / 2.50 = Rs. 4558.05</b>						

Signature of the Tenderer

Contract No : CNT/SEW/MWB/1999/2009-10.

DATA - II

SUPPLYING AND FIXING S.S. (Stainless Steel) SCREEN IN MANHOLE

1" X 1/4" stainless steel  
 steel flat spaced at 50 mm C/C

Horizontal Screen:

Length of S.S. flat required	
1 Ordinary Flat	1.05 m
1 Arc Flat:	1.52 m
Cross Pieces:	
0.3 x 7 Nos.	2.10 m
0.25 x 6 Nos.	1.50 m
0.20 x 4 Nos.	0.80 m
0.15 x 4 Nos.	0.60 m
	-----
	7.52 m
	-----

Vertical Screen:

1" x 1/4 " flat at 50 mm C/C

Length of flats required	
Long flats	2 x 1.05 m = 2.10 m
Cross flats	22 x 0.45 m = 9.90 m
	-----
	12.00m
	-----

Total length required	-	7.57 m
		12.00 m
		-----
		19.57 m
		-----

Weight of flat (S.S) = size 1" x 1/4" is 3.40 Kg / m

Therefore weight of materials required = 20 x 3.40 Kg = 68 Kg

Add 7 Kg for Clamps and Hinges = 7 Kg

75 Kg

Therefore, Cost of flats (s S) at the rate of Rs.350.00/Kg

= 75\*350.00 = Rs26,250.00

Fabrication charges including cutting,  
 S S welding, bolts (Brass) Transportation  
 and charges Labour charges for fixing etc

=75\*175 =Rs. 13,125.00

Total =Rs. 39,375.00

Signature of Tenderer



Contract No : CNT/SEW/MWB/1999/2009-10.

DATA - III

SUPPLYING, FABRICATION AND FIXING M.S. GATE OF SIZE 2.00m x 2.10m  
INCLUDING COST OF MATERIALS, LABOUR FOR FABRICATION, FIXING ETC.

1. M.S. Angles made of ISA 50 x 50 x 10 mm @ 4.50 Kg/m  
Length required:

Horizontal	=	2 Nos. x 2.00 m	=	8.00 m
Vertical	=	1 No. x 2.10 m	=	2.10 m
				-----
				10.10 m
				-----
Weight	=	10.10 x 4.50 Kg/m	=	45.45 Kg

2. M.S. Sheet 12 gauge (2.5 mm thick) @ weight of 19.6 Kg / Sq.m

Gate	=	2.00 m x 2.10 m	=	4.20 sq.m
Weight	=	4.20 sq.m x 19.6 Kg/sq.m	=	82.32 Kg
Total weight:	=		=	127.77 Kg

Add : 5% for Bolts & nuts, hinges for lock arrangements  
splays, wind appliances for swing ventilator, wastages etc.

	=	6.39 Kg.	-----
	=	134.16 Kg.	-----

3. 32 mm dia G.I. pipe for fixing MS Sheet for the Gate  
Length required =  $2(2.00 + 2.10) = 8.2m$

Cost of 32 mm dia G.I. Pipe	=		
including the required specials @ 10 m x 261.00	=		Rs. 2610.00
Cost for materials @ Rs.80.00/Kg = 140 x 80.00	=		Rs.11200.00
Transportation charges	=		Rs. 1500.00
Labour for Fixing charges including welding	=		
@ Rs.20.00/Kg = 140 x 20.00	=		Rs. 2800.00
	=		-----
Total	=		Rs.18110.00
			-----

Signature of Tenderer

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## SPECIFICATION OF CONTROL PANEL SUITABLE FOR SUBMERSIBLE SEWAGE PUMPS

### 1. Construction details :

The panel is made – up of Sheet Steel of 1.6 mm thickness, pre-treated by degreasing, derusting, phosphating etc., and thereafter painted nicely with 631 enamel stoving light grayshed as per Indian standards. All wires and links are of electric grade copper conductor.

### 2. Operating conditions :

Power circuit is operating at 3 phase, 415 volts, 50 Hz supply. For incoming supply, 4 core cable should be provided. (3 cores for phases and one core for neutral)

### 3. Type of starter shall be as under :

1. Upto 10 HP - Direct on line
2. From 12 HP to 40 HP - Star-Delta
3. 50 HP and above - Auto Transformer Starter

### 4. Following protections will be provided in the panel :

Overload protection,  
Single phasing preventor,  
Ammeter & voltmeter of suitable range with selector switch,  
auto-manual change over switch,  
pump on (running) indication lamp,  
pump fault indicating lamps (separate for each fault)  
supply on (for each phase) indicating lamps,  
indication of low level,  
liquid level controller,

### 5. In addition to the above, provisions for following safety features which are incorporated in our pump design will be provided in the control panel.

#### a) Seal monitor relay:

This will trip the motor in case of ingress of moisture into the oil chamber with the help of electrode situated in the oil chamber. This prevents the entry of the liquid into the motor and prevents it from further damage.

b) winding overheating protection :

Bi-metallic thermic switches are provided in the motor winding which are set at 140 +/- 5% degree C and are connected in control circuit of the control panels. This will trip the motor in case of over heating due to temporary clogging of the impeller or excessive fall in the supply voltage.

c) Reverse rotation protection:

Reverse rotation protection to cut off supply to motor in case of reverse phasing

6. In auto mode, pump will start at high level and stop at low level and in manual mode at high level pump is required to start manually and pump will stop at low level automatically

Name of Work : Construction of mini sewage pumping station at Koyambedu STP in Depot – 65, Area-V.

Contract No : CNT/SEW/MWB/1999/2009-10.

Equipment No./Pumping Station	Kulasekarapuram – AREA 5
Liquid	Sewage
Discharge m <sup>3</sup> /hr	180 m <sup>3</sup> /hr (50 lps)
Sp.Gravity/Liq.Temp. Deg.C	1.05 (ASSU) / 40°C
Solid size mm	100 mm
Head m	20

*Technical Specification*

### Pump Selection

Rated Head m	20
Discharge m <sup>3</sup> /hr	180 m <sup>3</sup> /hr (50 lps)
Delivery Nozzle size (NB) mm	100 mm
Pump Efficiency +/-2 pts/BKW	70 / 14.71
Motor Output rating @ 40°C	25 HP
Speed (Nominal) rpm	1450
Supply 3Ph, 50 Hz.Volts	415 +6, -10 %
Solid Passage mm diameter	100 mm
Casing	2% NiCl
Impeller	CF8M
Shaft	SS 410
Fasteners	BHT Steel
Motor Parts	C.I
Cable (copper) insulation	PVC 20 Mtrs
Method of Starting	Star Delta

**Scope of Supply :** Pump with 20m cable length, Pedestal Coupling , Guide Pipe(SS) 10m, Lifting Chain (SS) 10m , Control Panel