

**RASHTRIYA SANSKRIT VIDYAPEETHA**

**TIRUPATI – 517 507. (A.P)**

**TENDER NOTICE**

Sealed tenders are invited from contractors / firms who can provide Conventional Mode 200 KLD Sewage Treatment Plant. Site visit at 11 a.m on 23/11/18 and bids received from the bidders without participating in site visit will be rejected. Due date and time for receiving sealed Tenders is on or before 10/12/18 - 3.00 pm.

Please visit our website <http://rsvidyapeetha.ac.in> for detailed Tender Document.

**F.No.RSVP/STP/2018-19 dated 1/11/18**

**REGISTRAR i/c**

# RASHTRIYA SANSKRIT VIDYAPEETHA

## PRE-AMBLE

The Rashtriya Sanskrit Vidyapeetha (RSVP), Tirupati was established under Section 3 of the UGC Act, in 1956. It is an autonomous body under the Ministry of Human Resources Department, Government of India and a deemed to be University located at Tirupati which is recently graded as " Special Category ".

The RSVP would like to have a 200 KLD Sewage Treatment Plant (STP) in their campus for treatment of Sewage water and utilise the treated water for their Horticulture purpose alone. The Treatment shall comprise Primary Treatment, Secondary Treatment and Tertiary Treatment. The total execution of the project shall be strictly in line with the specifications enclosed at Annexure-A and four matrix. No deviations are acceptable. Since the estimated cost is high, the procurement is being done through an advertised tender on Two Part Bid System. The detailed terms and conditions and instructions to the bidders are spelt out clearly in the following paras.

### Important abbreviations:

RSVP or Vidyapeetha – Rashtriya Sanskrit Vidyapeetha, Tirupati;

Bid – Tender or Quotation

Bidder –Tenderer or Bidder

BG- Bank Guarantee

Contractor– Successful bidder who is awarded with the Contract.

EMD – Earnest Money Deposit

TDF – Tender Document Fee

SD – Security Deposit

NSIC – National Small Scale Industries Corporation

MSME – Micro Small Medium Enterprise.

## **GENERAL INSTRUCTIONS – cum- TERMS & CONDITIONS**

### **1. Site Visit:**

**All the bidders who are interested to participate in the bid are requested to participate in the "site visit" at 11.00 am on 23/11/2018 at Rashtriya Sanskrit Vidyapeetha, Near Ramakrishna Deluxe Circle, Tirupati, before submitting their bid (Contact Person – Sri KV Sarma – 81379 30333). This is a mandatory requirement. Attendance will be taken for the bidders visited the site. **Bids received from the bidders, who have not visited the site, will be outrightly rejected.****

**2. VALIDITY :** Bid shall be valid for a period of 90 days from the date of Technical Bid opening.

**3. Tender Document Fee :** The bidder shall enclose a DD for Rs.2500/- (Rupees two thousand five hundred only) drawn in favour of The Registrar, Rashtriya Sanskrit Vidyapeetha, Tirupati towards Tender Document Fee. Bidders registered with MSME/NSIC are exempted from TDF. However, they shall enclose a valid Registration Certificate without which the tender will be rejected. **The DD for TDF shall be put in Cover 1.**

**4. Earnest Money Deposit :** The bidder shall enclose a DD for Rs.2,00,000/- (Rupees two lakhs only) drawn in favour of The Registrar, Rashtriya Sanskrit Vidyapeetha, Tirupati towards Earnest Money Deposit. It is a non-interest bearing deposit and will be returned to the bidders after issue of the Contract to the successful bidder. Bidders registered with MSME/NSIC are exempted from EMD. However, they shall enclose a valid Registration Certificate without which the bid will be rejected. **The DD for EMD shall be put in Cover 1.**

**5. Delivery:** The total work including Civil Works, Electro-Mechanical Equipment Installation etc. related to STP shall be completed within 5-6 months from the date of Purchase Order. In exceptional cases, on force majeure conditions, the delivery date will be extended suitably.

**6. Liquidated Damages (LD):** LD @ 0.5% per week subject to a maximum of 5% of the total value of the order will be imposed for the delay in completion of task beyond scheduled delivery date. For this purpose 6 months will be taken as scheduled delivery date.

**7. Warranty and Responsibility for Seepages :** All Electro-Mechanical Equipment shall be warranted for at least 1 year. As far as Civil Works are concerned, the bidder shall take responsibility for all seepages for a period of 10 years from the date of handing-over of the plant to RSVP.

**8. Un-conditional Bank Guarantee for warranty:** The successful bidder shall furnish an unconditional BG issued by Nationalised/Scheduled bank in favour of the Registrar, Rashtriya Sanskrit Vidyapeetha, Tirupati towards the security deposit equal to 5 % value of the quoted price excluding AMC. The BG will be returned to the Contractor on completion of one year period successfully.

In case, the Contractor fails to attend the repairs during the warranty period, the RSVP is at liberty to get the repairs done by a third party and meet the expenditure by invoking the BG under intimation to the Contractor.

**9. All Inclusive Price for Civil Works:** The Bidder shall mention the total value of the Civil Works (Inclusive of all incidental Expenses like packing, forwarding, transportation etc.) and 12 % GST separately at serial No.1 of Annexure-B. However, The details of Civil Works shall be mentioned in a separate sheet and enclose to Annexure-B.

**10. All Inclusive Price for Electro-Mechanical Items :** The cost of all other items including Electro-Mechanical items (Inclusive of all incidental Expenses like packing, forwarding, transportation etc.) and installation charges etc. and GST shall be put at Sl.No.2 of Annexure-B. However, the details of Electro-Mechanical equipments and items shall be mentioned in a separate sheet with value and enclosed to Annexure-B.

**11. Lumpsum Annual Comprehensive Maintenance Cost for 7 Years:** Annual Maintenance Cost for a period of 7 years from the date of Commissioning shall be shown as a lumpsum figure at Sl.No.3 of Annexure B and GST separately.

**12. Total Value of the Bid:** The Grand Total of Sl.No. 1 to 6 of Annexure-B shall be shown at Sl.No.7 of Annexure-B. This grand total shall be shown in figures and words invariably. If there is any difference between the figures and words, the value shown in words will be considered as correct.

The amount shown in words at Sl.No.7 of Annexure-B shall be the quoted amount of the bidder and same will be taken for comparison purpose to find out L1 bidder.

**13. Terms of Payment:**

- A. 50% of the cost of Electro-Mechanical items will be paid upon receipt of all the items;
- B. 50% of the cost of Civil Works will be paid on completion of 75% of the Civil Works;
- C. Balance amount due to the contractor will be paid on completion of all works related to STP and acceptance of the total plant in all aspects;
- D. No other new payment terms shall be mentioned by the bidders. If do so such quotation will be summarily rejected.**

Note : The Contractor shall produce an invoice for Electro-Mechanical items and the Contractor shall submit a certificate on their letter head stating that the 75% of Civil Works have been completed and vetted by the University Engineer of RSVP to enable RSVP to arrange payments shown at A & B above.

**14. Imparting Training to RSVP person:** The bidder shall provide training on Operational Maintenance to one person identified by RSVP.

**BID PREPARATION AND SUBMISSION: This is a two-part bid**

**COVER 1: Shall be super-scribed as "Technical & Commercial Bid for 200 KLD STP"**

The bidder shall make a covering letter on their company letter head addressed to the Registrar, Rashtriya Sanskrit Vidyapeetha, Tirupati referring to our Tender Notification and enclose Annexure-A(Along with required documents as mentioned in Annexure-A) and the four matrix duly filled-in.

There are 4 Matrix enclosed to the Annexure-A which have to be filled-in by the bidder in such a way saying "Yes" or "No" against each element/parameter. The bidders shall thoroughly read the data enclosed to each matrix before filling the matrix.

The bidders shall invariably submit their Technical and Commercial Bid only in the prescribed format i.e Matrix – I, II, III & IV only. **Bids submitted in any other form shall be summarily rejected.**

The Bidder shall provide all the information and enclose all the relevant documents mentioned in **Annexure A** without fail. Non-submission of any Information / Documents / Affidavits / Certificates / DDs for TDF & EMD, **will be considered as unresponsive and entail for rejection of their bid.**

Any information furnished / certificates enclosed, found to be false, the quotation will be rejected besides legal action for such offence.

Therefore, the Annexure-A and Matrix – I, II, III & IV duly filled-in, signed & affix the stamp enclosing all Certificates / Documents / Affidavits mentioned therein and the Demand Drafts for TDF and EMD/valid MSME / NSIC Registration Certificate, shall be put in Cover 1 and sealed.

**COVER 2 : Shall be super-scribed as "Price bid for 200 KLD STP"**

- **All Inclusive Price for Civil Works:** The Bidder shall mention the total value of the Civil Works (Inclusive of all incidental Expenses like packing, forwarding, transportation etc.) and 12 % GST separately at serial No.1 of Annexure-B. However, The details of Civil Works shall be mentioned in a separate sheet and enclose to Annexure-B.
- **All Inclusive Price for Electro-Mechanical Items :** The cost of all other items including Electro-Mechanical items (Inclusive of all incidental Expenses like packing, forwarding, transportation etc.) and installation charges etc. and GST shall be put at Sl.No.2 of Annexure-B. However, the details of Electro-Mechanical equipments and items shall be mentioned in a separate sheet with value and enclosed to Annexure-B.
- **Lumpsum Annual Comprehensive Maintenance Cost for 7 Years:** Annual Maintenance Cost for a period of 7 years from the date of Commissioning shall be shown as a lumpsum figure at Sl.No.3 of Annexure B and GST separately.
- **Total Value of the Bid:** The Grand Total of Sl.No. 1 to 6 of Annexure-B shall be shown at Sl.No.7 of Annexure-B. This grand total shall be shown in figures and words invariably. If there is any difference between the figures and words, the value shown in words will be considered as correct.

In other words, the amount shown at Sl.No. 7 of Annexure-B is the total and final cost quoted by the bidder and the same will be taken as the value while comparing the prices to ascertain the L1 bidder.

Since the value of Civil Works, Electro-Mechanical items, Installation Charges, Annual Comprehensive items etc. are huge in value, the bidder shall take high care in calculation and ensure NIL Arithmetical Errors.

**Annexure-B is the format for " Price Bid "** which has to be typed on the bidders company letter head and filled-in. The quotation on the letter head in the format of Annexure – B duly filled-in shall be signed by the authorised signatory and affix the rubber stamp of the company. This quotation and the required enclosures as mentioned above shall be put in Cover No.2 which has to be sealed.

**DUE DATE AND TIME:** Sealed Cover 1 and 2 shall be put in Cover 3 and sealed and super-scribed as "**Bid for 200 KLD STP Plant against Tender No. RSVT/STP/2018** " and drop in the tender box located in the Office of the Registrar, RSVP between 9.00 a.m. to 03.00 p.m. on or before 10-12-2018. The Vidyapeetha shall not be responsible for postal delay, non-receipt / non-delivery of tender documents in transit etc. Bids once submitted are final and bidders are not permitted to make any changes in the bids.

All the interested bidders are requested to read the tender document carefully and understand clearly. Then, prepare the two part bid with utmost care duly following the instructions given above and submit the tender before due date and time. In case of any clarifications required, please contact Sri KV Sarma, Consultant (F&A), RSVP either in person or on mobile bearing No. 81379 30333.

**BID REJECTION:** The following bids will be rejected out rightly:

- Late bids; Unsigned bids & bids without the seal of the Company / firm / agency; Incomplete bids; Conditional bids;
- bids received from the bidders who have not participated in the said visit scheduled at 11.00 am on 23/11/2018.
- bids without enclosing DD towards TDF and EMD;
- bids without enclosing valid MSME / NSIC registration certificates, if the bidder registered with them;
- bids without enclosing required documents;
- bids enclosing false documents / information;
- bids where both Technical Bid and Price Bid are put in one cover instead of putting them in Cover 1 and Cover 2 separately as specified above;
- Bids not in conformity with our prescribed format, specifications, terms and conditions;
- If the bidder mentions any other payment terms other than proposed by RSVP.

**TENDER OPENING:** Technical Bids put in Cover 1 will be opened at **04.00 pm on 10/12/2018** in the Conference Hall of the Administrative Building of the Vidyapeetha, in the presence of the bidders or their representatives. Subsequently, Tender Evaluation Committee shall evaluate the Technical Bids and offer their recommendations regarding the qualified bidders. Once, the recommendations are approved, the date and time for the price bid opening will be intimated to the qualified bidders. Then, the price bids of the qualified technical bids only will be opened in the presence of respective bidders. One person from each Agency only will be allowed to participate in technical / price bid opening.

In the event of 2 bidders quoted same price and stood lowest, the latest financial year turn-over of those bidders will be taken into account and the contract will be awarded to that bidder whose turn-over is high. No other method will be acceptable.

## **SCOPE OF WORK**

### **RESPONSIBILITIES OF RSVP:**

- Laying sewer lines up to the inlet of Bar Screen Chamber
- Laying pipe lines and making arrangements for reuse of treated water from the sewage treatment plant.
- 3 phase power supply up to the control panel in the machine room.
- The Civil Works shall be monitored by the Engineering Section of RSVP as per the drawings during the execution of the task.

### **RESPONSIBILITIES OF BIDDER**

- Scope of work starts from the "Site visit on the date and time mentioned in the Tender Document";
- Preparation of detailed engineering drawings (plans) for the Equalisation Tank, CBG Reactor Tank, Treated Water Collection Tank, Machine Room, Shed Over Reactor Tank and Fencing around the STP;
- To undertake and execute the above Civil Works which includes construction of Reactor Tank, Treated Water Tank, Equalisation Tank, Machine Room, Shed Over Reactor Tank and Fencing around the STP with 2 feet non skid tiles as per the specifications mentioned in the Tender Document;
- The Reactor Tank and the Machine Room shall be neatly painted for a good look;
- Installation of Electro-Mechanical Items etc. and
- Complete the STP in all aspects including Electrical wiring, Installation of blowers, Ozone Circulation pump, Ozone Circulation Tank etc as mentioned in the Detailed Technical Specifications and make it operational and hand-over the STP to RSVP in writing;
- Submission of Invoices for mile-stone payments along with required bank guarantees;
- Submission of BG towards warranty for Electro-Mechanical items for an amount equal to the 10% value of Electro-Mechanical items;
- Submission of final bill for settlement;
- To provide training on Operational Maintenance to one person of RSVP;
- From the bar Screen Chamber (Inlet point of sewage treatment plant) to the Activated Carbon Filter (Final disposal point of treated water) as shown in the Schematic Design of STP with CBG Reactor / Treatment Flow Chart.
- Six meters pipe line extension from the Activated Carbon Filter outlet (As shown in the Schematic Design of STP with CBG Reactor / Treatment Flow Chart) for the disposal of treated wastewater.

### **TAX DEDUCTED AT SOURCE:**

According to the Section 194 (C) of the Income Tax Act, the present rate of income-tax deduction at source is 2% for a company and 1% for an individual sole proprietor. The income-tax will be deducted on the gross value of the bill and the Tax Deducted at Source Certificate will be issued by the Accounts Section to that effect.

### **EXPERIENCE & FINANCIAL CREDIBILITY:**

The interested bidder shall have sufficient experience in the field of Construction and Installation of STPs in the past;

The bidder shall have an annual turnover of Rs.50.00 lakhs in the latest financial year.

The bidder must have successfully completed at least one Contract worth Rs.50.00 lakhs during the last one year period.

### **EXECUTION OF THE AGREEMENT:**

The successful bidder shall execute an Agreement on Rs.100/- Non-judicial stamp paper, wherein the full details of all important points are mentioned. This Agreement shall be signed by the successful Bidder and the authorised representative of RSVP. The bidder shall submit a Declaration in the format enclosed along with Annexure A. Stating that the successful bidder will execute the agreement as said above.

### **THE RESPONSIBILITIES OF ALL BIDDERS:**

- To ensure site visit on given date and time;
- To be very careful in preparing the bid/filling the matrix and do not forget to enclose all the documents which are called for in Annexure-A;
- Deeply and thoroughly study the Annexure-A, four matrix and Annexure-B and prepare the bid in two covers as mentioned above and submit the sealed cover before due date and time at the given address without fail;
- To ensure participation of Technical Bid, if the bid is qualified for consideration. Bidders whose bids are rejected on any ground, need not participate the Technical bid opening;
- To ensure participation in the price bid, if the bid is Technically qualified;
- To contact the official of RSVP as referred above, in case of any clarification pertaining to this advertisement.

### **THE RESPONSIBILITIES OF THE SUCCESSFUL BIDDER:**

- The quality of treated water should meet the requirements as per Current Stringent Central Pollution Control Board (CPCB) norms;
- The samples of treated water should be analyzed in APPCB approved lab on monthly basis;
- The treated water should be odorless and colorless;
- The entire STP should not give any type of foul smell / bad smell;
- All the tanks should be maintained neat and whenever required they should be got cleaned;



- The Contractor / agency should provide Personnel Protective Equipment (PPD) to the personnel working with the STP;
- The agency/Contractor has to make arrangements for getting approvals from the AP Pollution Control Board for STP;
- The Contractor/agency shall provide required chemicals and consumables for the maintenance and operation of STP;
- The treated water should be checked by the approved labs of APPCB, MoEF and NABL on monthly basis;
- All liaisoning works in connection with installation of STP project shall be carried out by the contractor/agency;
- To Submit the Bank Guarantee for Rs.5,00,000/- (Rupees five lakhs only) towards Security Deposit;
- To prepare the Engineering Drawings for the Civil Works immediately on the receipt of Purchase Order;
- To make arrangements for construction of Civil Works;
- To make arrangements for procurement and receipt of Electro-Mechanical items required for the STP;
- To ensure keen supervision of the Civil Works and the installation of Electro-Mechanical equipment;
- To keep informed the RSVP management about the progress of the project at every stage;
- To submit the invoice for mile-stone payments to Civil Works and Electro-Mechanical items;
- To submit the BG towards the warranty for Electro-Mechanical equipment;
- To impart training to the person identified by RSVP on operational maintenance of STP;
- To address the repairs of the STP as and when called for besides periodical reviews, for a period of 7 years from the date of handing over of STP to RSVP;
- To ensure that the Contract is not sub-contracted;
- To ensure no inconvenience or disturbance to the Vidyapeetha during the construction work of STP plant;
- To ensure that the Contractor shall make arrangements for removal of all garbage etc. at the end of the project and handover the STP in a clean manner;
- The Contractor shall make his own arrangements for all equipments/tools etc. that are required for construction of an STP. However, electricity and water as required will be provided by RSVP for the construction of STP at free of cost.

## **ANNUAL MAINTENANCE CONTRACT**

### **SCOPE OF SERVICES (VENDOR)**

1. Supply of required chemicals (For pH correction, Coagulation, Disinfection, Filter media top up/replacement if any)
2. Maintenance of equipment by supply of Spares, Change of Oils and Grease, Repairs if any.
3. Monthly one visit of technical staff.
4. Monthly one treated water sample analysis by third party laboratory.

5. Training for operating staff during visit.
6. Inspecting statutory documentation and records.
7. Evaluating performance and maintenance position by inspection of log books and advising corrective measures/actions.

#### **SCOPE OF WORK (CLIENT)**

1. Providing manpower to operate the plant.
2. Providing electrical supply to run the plant.
3. Arrangements to reuse of treated water.
4. Grass cutting and gardening activities.
5. Disposal of solid waste and sludge generated in Sewage Treatment Plant.

#### **NON-LIABILITY OF THE RSVP:**

RSVP shall not be responsible for any injury caused to any worker engaged in the construction of STP deployed by the contractor in the course of performing their duties;

#### **Non-compliance :**

If the technical, commercial and price bids are submitted in any format other than that which is given in Annexure A, four Matrix & Annexure B, the bid will be treated as non-responsive and rejected summarily.

#### **TERMINATION OF THE CONTRACT:**

The REGISTRAR, RASHTRIYA SANSKRIT VIDYAPEETHA reserves the right to cancel the Contract on the following grounds, by giving one month's Notice:

- if there shall be any breach of any terms and conditions laid down in the Contract by the Contractor to any extent;
- Submission of false information / documents ;
- if the Contractor becomes insolvent;

#### **ARBITRATION:**

Any dispute / difference arising out of or relating to this agreement including interpretation of the terms will be resolved through joint discussions of the concerned parties in amicable manner.

However, if disputes are not resolved amicably, the matter to be referred to the Arbitrator, where the Vice –Chancellor or his nominee will be the sole Arbitrator. Arbitrator shall not be below the rank of a Joint Secretary in Government of India.

**Legal Issues :** All the Legal issues will be under the jurisdiction of Tirupati only.

**NO DEVIATION TO THE TECHNICAL SPECIFICATIONS WILL BE ACCEPTED.**

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**DECLARATION**

I, \_\_\_\_\_ son / daughter / wife of Shri \_\_\_\_\_ Proprietor / Director, authorised signatory of the bidder, mentioned above, is competent to sign this Declaration and execute this Tender Document.

I have carefully read and understood all the terms and conditions of the tender form and undertake to abide by them.

The information furnished / documents enclosed along with the above application are true and authentic to the best of my knowledge and belief. I / We, am / are well aware of the fact that furnishing of any false information / fabricated document would lead to rejection of my tender at any stage besides liabilities towards prosecution under appropriate law.

**Signature of the authorised person**  
**Full Name**

**Date:**

**Place:**

**CERTIFICATE**

I/ We \_\_\_\_\_ the undersigned certify that the terms and conditions of the Tender Document are acceptable to me and that in the event of awarding Contract to us, the Agreement in the prescribed format on Rs.100/- Non-judicial Stamp Paper will be executed.

**SEAL**

**SIGNATURE OF THE TENDERER**

**DATE:**

**Technical Bid For Construction of 200 KLD Sewage Treatment Plant in  
Rashtriya Sanskrit Vidyapeetha, Tirupati**

1. Name of the Tenderer / Bidder:
2. Status of the Organization : Partnership/Pvt.Ltd.Co/Public Ltd. Co.
3. Registration No. (copy attached):
4. Name of the Proprietor / Director of the Firm / Agency
5. Phone No./ Fax No.
6. E-mail id:
7. PAN (copy attached):
8. GST No. (Copy attached):
9. Financial turn- over of the Bidder for the Financial year 2017-18 (Assesment year 2018-19 - copy of IT Return enclosed):

Financial year	Amount (Rs. in lakhs)	Remarks, if any
2017-18		

10. Details of experience in construction of Sewage Treatment Plant:

Name of the organisation	Value of Contract	Year of Construction

11. Affidavit stating that the Bidder has not been black listed by Central / State Government / Autonomous / PSU organisations at any point of time;
12. Banker of the Bidder with full address ( last six months bank statement of account attached):
13. Name of the Authorised signatory with designation in the firm / agency:

14. Details of Tender Document Fee DD:

Name of the Bank & branch	DD Number	Date	Amount Rs.	Drawn in favour of

15. Details of Earnest Money Deposit:

Name of the Bank & branch	DD Number	Date	Amount Rs.	Drawn in favour of

16:Details of MSME or NSIC Registration:

MSME/NSIC Registration No. and Date	
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17. Year of Commencement of Business :  
in this field:

18. Profile of the Company :

Date:

Signature of the authorised person (s) with seal.

**Note: All the relevant documents mentioned above shall be put in Cover 1 along with this Form duly filled in.**

**TECHNICAL MATRIX FOR SEWAGE TREATMENT METHODOLOGY**

<b>Sl.No</b>	<b>Description</b>	<b>Yes</b>	<b>No</b>
1	Primary Treatment		
2	Secondary Treatment		
3	Tertiary Treatment		

**Signature of the Bidder**

**Place :**

**Date :**

**NOTE: Bidders are requested to go through the detailed specifications enclosed thoroughly, before filling the format above.**

## RASTRIYA SANSKRIT VIDYA PEETHA - 200 KLD STP

### SEWAGE TREATMENT METHODOLOGY

Sewage treatment involves three stages.

1. Primary Treatment
2. Secondary Treatment
3. Tertiary Treatment

**1. PRIMARY TREATMENT :** The raw effluent (200 KLD or 8.5 m<sup>3</sup>/hour approx.) containing BOD around 300 ppm will be collected in a collection tank (Equalization Tank) through a bar screen, grit chamber and oil and grease trap. pH of the effluent gets corrected to near neutral before it enters equalization tank with the help of dosing pumps. Equalization tank is equipped with special coarse bubble air diffusers which allow air flow downward towards the floor to ensure that solids are not settled on the floor. Air is pumped through the diffusers with the help of twin lobe air blowers (one working and one stand by) to create turbulence and continuous mixing thereby to avoid stagnation of water and anaerobic condition.

The Equalization tank is provided with 2 pumps (one working and one stand by). Tank is also equipped with Level Control Switch to protect the pumps from dry running. The sewage is pumped into the CBG Reactor tank. Flow meter is used to regulate and monitor the designed flow rate.

**2. SECONDARY TREATMENT :** The sewage water pumped from the Equalization Tank enters the specially designed CBG Reactor Tank in which sewage is kept in aerobic condition by supplying suitable quantity of air through Fine bubble diffusers. CBG Reactor Tank is specially designed with optimum dimensions for maximum possible SOTE and also to accommodate most beneficial features of various treatment processes. High quality Fine Bubble Diffusers are used in the CBG Reactor Tank to create finer air bubbles for maximum solubility of Oxygen. Air is supplied by a Twin lobe blower (one working and one stand by). CBG Reactor is also equipped with SF-BAG Medium with very high void ratio for free passage of air bubbles and very high surface area to maintain optimum MLSS. The organic matter is aerobically stabilized and effluent is sent to a Clarifier.



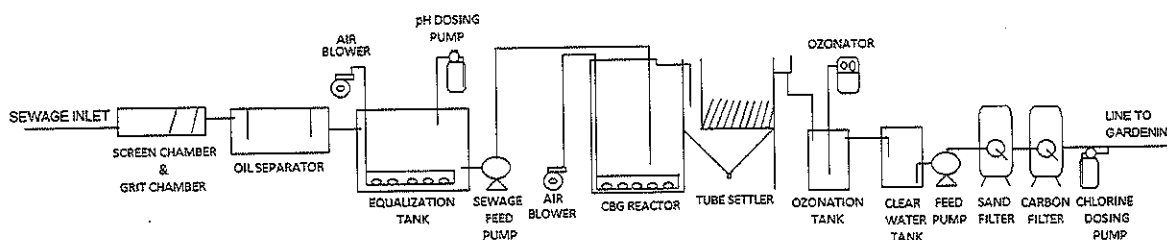
The effluent from CBG Reactor Tank overflows into the sedimentation tank (clarifier tank or Tube Settler). Coagulation chemicals like Alum/Ferric salts/Poly Aluminum Chloride (PAC) are used to facilitate the sedimentation. These chemicals are pumped with the help of dosing pumps..

Then effluent enters Sedimentation tank (Tube Settler) designed for long retention time. Tube Settler is equipped with special Inclined Tube Medium to offer large surface area and also the shorter travel time for particulate matter to settle down. Particulate matter settles at the bottom of sedimentation tank which is removed at time intervals. Supernatant water is collected in a clear water tank.

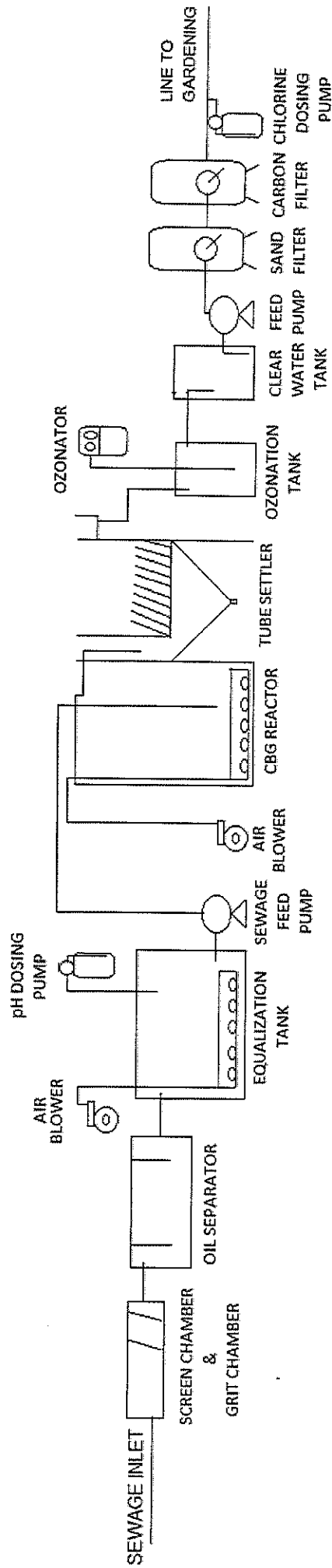
The washed out sludge from CBG Reactor Tank will be settled in the Sedimentation tank (Tube Settler) and a part of the sludge is recycled back to CBG Reactor and part of the sludge will be sent to the sludge drying beds as required. The clarified water is collected in a collection tank for tertiary treatment.

**3. TERTIARY TREATMENT :** Clear water over flowing the Sedimentation tank is collected in an intermediate tank for Ozonation purpose. Ozone gas generated at the site breaks down COD further to achieve better treatment results. After ozonation clear water is collected in a tank and pumped through Pressure sand filter and Activated carbon filter. Finally the treated water is discharged for inland irrigation purpose after chlorination.

**TREATMENT SCHEME:** BAR SCREEN >> GRIT CHAMBER >> EQUALIZATION TANK >> CBG REACTOR >> SEDIMENTATION TANK (TUBE SETTLER) >> OZONATION TANK >> COLLECTION TANK >> PRESSURE SAND FILTER >> ACTIVATED CARBON FILTER >> CLORINATION >> FOR GARDENING USE



Schematic Design of STP with CBG Reactor



Schematic Design of STP with CBG Reactor

**TECHNICAL MATRIX FOR ELECTRO-MECHANICAL ITEMS - SPECIFICATIONS**

Sl.No	Description	Yes	No
<b>1</b>	<b>Bar Screens (Coarse &amp; Fine)</b>		
<b>2</b>	<b>Equalization Tank</b>		
a.	Air Blowers		
b.	Coarse Bubble Air Diffusers		
c.	Pipe Lines & Valves		
d.	pH Dosing Pumps		
<b>3</b>	<b>CBG Reactor</b>		
a.	Fine Bubble Air Diffusers		
b.	Feed Pumps		
c.	Pipe Lines & Valves		
d.	SF-Bag Medium		
e.	Microbial Culture		
f.	Air Blowers		
<b>4</b>	<b>Tube Settler</b>		
a.	Tube Medium		
b.	Sludge Drain Pump		
c.	Alum Dosing Pumps		
<b>5</b>	<b>Tertiary Treatment</b>		
a.	Feed Pumps		
b.	Pressure Sand Filter		
c.	Activated Carbon Filter		
d.	Ozone Generation System		
e.	Ozone Circulation Pump		
f.	Ozone Circulation Tank		
g.	HYPO Chlorite Dosing Pumps		
<b>6</b>	<b>Electrical Works Control Panel</b>		
<b>7</b>	<b>Electrical Wiring</b>		
<b>8</b>	<b>Lighting &amp; Fans</b>		
<b>9</b>	<b>Inter Connecting Pipe Lines &amp; Valves</b>		
<b>10</b>	<b>Instrumentation</b>		
<b>11</b>	<b>Water Level Control Switches</b>		

**Signature of the Bidder**

**Place :**

**Date :**

**NOTE: Bidders are requested to go through the detailed specifications enclosed thoroughly before filling the format above.**

## **SPECIAL TECHNICAL INSTRUCTIONS TO BE FOLLOWED FOR CERTAIN ITEMS IN MATRIX II**

1. Equalization tank should be equipped with special high density silicon coarse bubble air diffusers equipped with support plate material made of PP GF which allow air flow downward towards the floor to ensure that solids are not settled on the floor due to sweeping action of air bubbles – MATRIX II 2(b).
2. High density EPDM Fine Bubble Diffusers equipped with support plate material made of PP GF should be used in the CBG Reactor Tank to create finer air bubbles for maximum solubility of Oxygen – MATRIX II 3(a).
3. CBG Reactor should be equipped with Braided Polymer Fiber SF-BAG Medium stitched as sheets with voids with high void ratio (>9) for free passage of air bubbles and very high surface area (3000 to 6000 m<sup>2</sup>/m<sup>3</sup> ) to maintain optimum MLSS – MATRIX II 3(d).
4. Two stage oxidation and disinfection process should be incorporated with the help of Ozone and Chlorine – MATRIX II 5(d,e,f &g).
5. Ozone gas should be generated and used at the site to break down COD further to achieve better treatment results – MATRIX II 5(e & f).
6. Part of onsite generated Ozone should be used for air ozonation to oxidise bad odour – MATRIX II 5(d).
7. Finally the treated water should meet prescribed standards for inland horticulture purpose after chlorination – MATRIX II 5(b,c &g).

**RASHTRIYA SANSKRIT VIDYAPEETHA - TIRUPATI**  
**200 KLD STP**  
**ELECTRO-MECHANICAL ITEMS - SPECIFICATIONS**

<b>1. BAR SCREENS (COARSE &amp; FINE)</b>	
Quantity	1 Each (TOTAL: 2 Nos )
MOC	SS 304
Length	1000 mm (OR) As per site suitability)
Width	1000 mm (OR) As per site suitability)
Flat Width	25 mm
Flat Thickness	5 mm
Gap Between Flats	12 mm for Coarse screen & 5 mm for Fine screen
Make	Fabricated by the Vendor
<b>2. EQUALIZATION TANK</b>	
<b>a) AIR BLOWERS</b>	
Quantity	2 Nos (1W+1S) Placed in Acoustic Enclosure
Make	Akash / Everest / Swam / Pristair (or) Equivalent
Blower Capacity	50 M <sup>3</sup> /Hr. @ 0.3 Kg/Cm <sup>2</sup>
Blower type	Air Cooled
Service	Air
Operation	Continuous
Air Flow	50 M <sup>3</sup> /Hr.
Inlet Pressure	Atmospheric
Discharge / Differential Pressure	3000 MMWC
Blower Speed	1210 RPM
Power at shaft	1.16 BHP
Recommended Motor	1.50 KW or 2 HP / 1500 RPM
Motor Make	Crompton / Kirloskar / Siemens (or) Equivalent
Inlet temperature	Ambient
Outlet temperature	36°C rise above ambient
Specific gravity	1
Inlet & Outlet Size	40 NB
<b>Material of Construction</b>	
Casing, End Cover & Rotor	CIFG-260, IS:210
Shaft	EN -19, BS: 970
Spur Timing Gears	16MnCr5E (Teeth Hardened & Ground)
Side plates, Covers & Pulley	CIFG-260, IS:210
Sealing	Lip Seal
Flanges	As per IS 6392/6418 standard
<b>Arrangement</b>	
Bearings	Anti Friction
Lubrication	Grease for drive end & Oil for non drive end
Direction of Flow	Top to Bottom
Direction of Rotation	Clockwise from drive end
Power Transmission	Through V-Belt

<b>Standard Accessories</b>	
a) Twin Lobe Bare Blower	b) Common Base Frame for blower & electric motor
c) Suction Silencer with Flange	d) Interconnecting Pipe Line
e) Suction Air Filter	f) Non Return Valve
g) V-Belt	h) Extra Flange for Discharge Pipe Line
i) Belt Guard	j) First Oil Fill
k) Pressure Relief Valve	l) Installation Guide
m) Pressure Gauge	n) Studs, Washer & Nuts to tighten all accessories.
<b>b) COARSE BUBBLE AIR DIFFUSERS</b>	
Quantity	6 Nos
Make	Jaeger / SSI
Membrane MOC	Silicon
Body MOC	PP-GF with 3/4 inch external tapered thread
Type	Disc
Total & Effective Diameter	101.6 / 95.6 mm
Flow Rate	8 -10 m <sup>3</sup> /hr
Air Flow Direction	Downward
<b>c) PIPE LINES &amp; VALVES</b>	
Quantity	Sufficient as per site requirement
Pipe line MOC	SS 304 SCH-40
Header Size	3 inches
Laterals Size	2 inches
Valve Type	CI Butterfly Valves
Valve Size	2 inches
Pipe Make	Any Reputed make
Valve Make	Aira / CRI / Kranti / Inter Valve /
<b>d) pH DOSING PUMPS</b>	
Quantity	2 Nos (1W + 1S)
Make	Milton Roy / Prominent / Positive / EMEC(or) Equivalent
Capacity	4 - 6 LPH
Head MOC	Poly Propelene
Diaphragm MOC	Teflon / EPDM
Suction/Discharge/ Foot Valves MOC	PVC
Tubing MOC	LDPE
Dosing Control	Stroke length / Speed
<b>3. CBG REACTOR</b>	
<b>a) FINE BUBBLE AIR DIFFUSERS</b>	
Quantity	30 Nos
Membrane MOC	EPDM
Body MOC	PP-GF with 3/4 inch External thread
Type	Disc
Size	12 Inches
Total & Effective Diameter	346 / 295 mm
Perforated Area	0.06 m <sup>2</sup>

Orifice	10 mm
Flow Rate	7 m <sup>3</sup> /hr
Air Flow Direction	Upward
Accessories	Saddles & Clamps etc. as per installation requirement
Make	Jaeger / SSI
<b>b) FEED PUMPS</b>	
Quantity	2 Nos (1W + 1S)
Type	Self-priming, Single stage, Centrifugal, End-suction pumps
Pump alignment	Horizontal, Close coupled
Impeller	Non clogging, Open type impeller
MOC	Cast Iron
Rating	2 H.P / 3 Phase
Discharge	15 m <sup>3</sup> @ 14 meters Head
Suction/Delivery	40 NB / 40 NB
RPM	2900
Make	Lubi / Kirloskar (or) Equivalent
<b>c) PIPE LINES &amp; VALVES</b>	
Pipe line MOC	SS 304 SCH-40
Header Size	4 inches
Laterals Size	2.5 inches
Valve Type	CI Butterfly Valves
Valve Size	2.5 inches
Valves Make	Aira / CRI / Kranti / Inter Valve /
<b>d) SF-BAG MEDIUM</b>	
Quantity	2 m <sup>3</sup> (40 mm Braid-625 rmt/ m <sup>3</sup> or 50 mm Braid-400 rmt/ m <sup>3</sup> )
Medium MOC	Polymer Fibre
Braid diameter	40 / 50 mm
Braid Spacing	100 - 200 mm
Line Spacing	100 - 300 mm
Specific Surface Area	3000 - 6000 m <sup>2</sup> / m <sup>3</sup>
Void Ratio	>9
Fixing Frame MOC	SS 304
Frame Size	2 Inches
<b>e) MICROBIAL CULTURE</b>	
Quantity of Culture Medium	40 Kgs
Quantity of Nutrient	40 Kgs
Incubation Tank Capacity & MOC	300 Litres HDPE Tank
Make	Bionics / Amalgam (or) Equivalent
<b>f) AIR BLOWERS</b>	
Quantity	2 Nos (1W+1S) Placed in Acoustic Enclosure
Make	Akash / Everest / Swam / Pristair (or) Equivalent
Blower Capacity	200 M <sup>3</sup> /Hr. @ 0.4 Kg/Cm <sup>2</sup>
Blower type	Air Cooled
Service	Air
Operation	Continuous

Air Flow	200 M <sup>3</sup> /Hr.
Inlet Pressure	Atmospheric
Discharge / Differential Pressure	4000 MMWC
Blower Speed	1210 RPM
Power at shaft	5.49 BHP
Recommended Motor	5.50 KW or 7.5 HP / 1500 RPM
Motor Make	Crompton / Kirloskar /Siemens (or) Equivalent
Inlet temperature / Outlet temperature	Ambient / 48°C rise above ambient
Specific gravity	1
Inlet & Outlet Size	80 NB
<b>Material of Construction</b>	
Casing, End Cover & Rotor	CIFG-260, IS:210
Shaft	EN -19, BS: 970
Spur Timing Gears	16MnCr5E (Teeth Hardened & Ground)
Side plates, Covers & Pulley	CIFG-260, IS:210
Sealing	Lip Seal
Flanges	As per IS 6392/6418 standard
<b>Arrangement</b>	
Bearings	Anti Friction
Lubrication	Grease for drive end & Oil for non drive end
Direction of Flow	Top to Bottom
Direction of Rotation	Clockwise from drive end
Power Transmission	Through V-Belt
<b>Standard Accessories</b>	
a) Twin Lobe Bare Blower	b) Common Base Frame for blower & electric motor
c) Suction Silencer with Flange	d) Interconnecting Pipe Line
e) Suction Air Filter	f) Non Return Valve
g) V-Belt	h) Extra Flange for Discharge Pipe Line
i) Belt Guard	j) First Oil Fill
k) Pressure Relief Valve	l) Installation Guide
m) Pressure Gauge	n) Studs, Washer & Nuts to tighten all accessories.
<b>4. TUBE SETTLER</b>	
<b>a) TUBE MEDIUM</b>	
Tube Medium Quantity	4.5 m <sup>3</sup>
Tube Medium MOC	PVC
Tube Medium Shape	Hexagonal - Chevron
Cross sectional Area	120 x 44 mm
Tube Medium Vertical Height	750 mm
Settling Area	11 m <sup>2</sup> / m <sup>3</sup> at 60 <sup>0</sup> slope
Distance Between 'T' Supports	500 mm
'T' Support Width	75 mm
'T' Supports MOC	SS 304
Sludge Drain	6 inch SS 304 Pipe with slotted openings
Tube Medium Make	Cooldek / MM Aqua



<b>b) SLUDGE DRAIN PUMP</b>	
Quantity	1 Nos
Type	Self-priming, Single stage, Centrifugal, End-suction pumps
Pump alignment	Horizontal, Close coupled
Impeller	Non clogging, Open type impeller
MOC	Cast Iron
Rating	2 H.P / 3 Phase
RPM	2900
Make	Lubi / Kirloskar (or) Equivalent
<b>c) ALUM DOSING PUMPS</b>	
Quantity	2 Nos (1W + 1S)
Capacity	4 - 6 LPH
Head MOC	Poly Propelene
Diaphragm MOC	Teflon / EPDM
Suction/Discharge/ Foot Valves MOC	PVC
Tubing MOC	LDPE
Dosing Control	Stroke length / Speed
Make	Milton Roy / Prominent / Positive / EMEC(or) Equivalent
<b>5. TERTIARY TREATMENT</b>	
<b>a) FEED PUMPS</b>	
Quantity	Two (1W + 1S)
Flow Rate	10 m <sup>3</sup> /hr
Head	35 meters max.
Pump Type	End Suction, Monobloc
Pump MOC	Cast Iron
Pump Rating	2 H.P
Make	Kirloskar / Lubi / Shakti
<b>b) PRESSURE SAND FILTER</b>	
Quantity	One
Vessel MOC	MS Epoxy coated internal & External
Flow Rate	10 Cu.mtr/hr
Vessel Dimensions	1000 mm dia / 2000 mm HOS
Shell Thickness	6 mm
Dish Thickness	8 mm
Filter Medium	Multi Grade Quartz Sand & Anthracite
Filter Medium Quantity	1000 Kgs of Quartz Sand & 300 Kgs of Anthracite
Frontal pipe line	40 NB Pipe line with Butterfly Valves
Internals	Bell mouth distribution & Radial hub collection
<b>c) ACTIVATED CARBON FILTER</b>	
Quantity	One
Vessel MOC	MS Epoxy coated internal & External
Flow Rate	10 Cu.mtr/hr
Vessel Dimensions	1000 mm dia / 2000 mm HOS
Shell Thickness	5 mm

Dish Thickness	6 mm
Filter Medium	Multi Grade Quartz Pebbles & Activated Carbon
Activated Carbon Quantity	1000 Kgs
Bed Support Medium Quantity	500 Kgs of Multi Grade Quartz Pebbles
Frontal pipe line	40 NB Pipe line with Butterfly Valves
Internals	Bell mouth distribution & Radial hub collection
<b>d) OZONE GENERATION SYSTEM</b>	
Quantity	One
Ozone Output	50 grams/hour
Feed Gas	Dry, Filtered Oxygen
Method of Feed Gas Generation	Pressure Swing Adsorption
Oxygen Purity	> 90%
Oxygen input	10 LPM
Power Rating	700 Watts
Power Supply Frequency	15 - 25 KHz
Ozone Generation Technology	Corona Discharge Technology
Type of Electrode	Water Cooled
Number of Electrodes	Two
MOC of Electrode	SS 304
Dielectric material	Quartz Glass
Power Supply Type	IGBT High Voltage High Frequency
Transformer	High Frequency Forced Air Cooled Ferrite Core
Power Amplifier	IGBT Technology
Safety Features	High & Low Voltage Shutdown
	In built NRV for Electrode Protection
	NO OZONE Buzzer Warning
	Electrode Cooling Water Flow Switch
Make	CECON / Aurozone / Faraday/Ozonetek
<b>e) OZONE CIRCULATION PUMP</b>	
Quantity	2 Nos (1W + 1S)
Pump Rating	1 H.P
Pump Type	End Suction, Monobloc, Close Coupled
Pump MOC	Stainless Steel (All Wetted Parts)
Motor Body Moc	Cast Iron
Insulation / Protection	F Class / IP 55
Make	Kirloskar / Shakti / Lubi
<b>f) OZONE CIRCULATION TANK</b>	
Quantity	One
Capacity	2000 L
Tank MOC	HDPE Tank
Make	Nandi/Sintex/Sudhakar (or) Equivalent
<b>g) HYPO CHLORITE DOSING PUMPS</b>	
Quantity	2 Nos (1W + 1S)
Capacity	4 - 6 LPH
Head MOC	Poly Propelene

Diaphragm MOC	Teflon / EPDM
Suction/Discharge/ Foot Valves MOC	PVC
Tubing MOC	LDPE
Dosing Control	Stroke length / Speed
Make	Milton Roy / Prominent / Positive / EMEC(or) Equivalent
<b>6. ELECTRICAL WORKS</b>	
<b>CONTROL PANEL</b>	
Box MOC	MS Powder Coated
Contactors& MCCBs Make	Siemens/L&T
Busbar	Yes
Relays	Yes
On Indicators	Yes
Trip Indicators	Yes
Single Phase Preventer	Yes
Auto Changeover	Yes
Volt Meter	Yes
Ampere Meter	Yes
<b>7. ELECTRICAL WIRING</b>	
Make	Finolex / Havels / Finocab
Cable Type	Multi Conductor
Conductor Material	Copper
Cable Jacket/Insulation	PVC
<b>8. LIGHTING &amp; FANS</b>	
Philips / Crompton / Havels / Bajaj (or) Equivalent	
No. of LED Bulbs	20 Nos
LED Bulb Rating	9W
No. of Fans	2 Nos
<b>9. INTER CONNECTING PIPE LINES &amp; VALVES</b>	
Pipe Lines MOC	UPVC
Quantity	As required
Sizes	As required
Pipe Line Make	Ajay/Supreme/Finolex/Sudhakar
Valves Type	Butterfly Valves
Valves Make	Aira / CRI / Kranti / Inter Valve
Valves Size	As required
<b>10. INSTRUMENTATION</b>	
No. of Pressure Gauges	3 Nos
Make of Pressure Gauges	KI/H.Guru/Baumer
MOC	SS Glycerine filled
Range	0 to 7 kg/cm <sup>2</sup>
Dial Size	100 mm
<b>11. WATER LEVEL CONTROL SWITCHES</b>	
Quantity	2 Nos
Make	Sinicon / Pune Techtrol / Nivelco
Controller Type	Switchmate
Activator	Float

**MATRIX-III****TECHNICAL MATRIX FOR CIVIL STRUCTURES-SPECIFICATIONS**

<b>Sl.No</b>	<b>Description</b>	<b>Yes</b>	<b>No</b>
1	Grit & Oil Chamber (RCC)		
2	Equalization Tank		
3	CBG Reactor Tank		
4	Tube Settler		
5	Treated Water Tank		
6	Shed Over Reactor Tank		
7	Machine Room		
8	Fence Around The STP		

**Signature of the Bidder**

**Place :**

**Date :**

**NOTE :** Bidders are requested to go through the detailed specifications enclosed thoroughly before filling the format above.

**IMPORTANT NOTE:** CBG Reactor Tank should be designed with optimum dimensions for maximum possible SOTE and also to accommodate most beneficial features of both suspended and attached growth processes – **MATRIX III 3.**

**RASHTRIYA SANSKRIT VIDYAPEETHA - TIRUPATI**  
**200 KLD STP**  
**CIVIL STRUCTURES - SPECIFICATIONS**

1. GRIT & OIL CHAMBER (RCC)	QUANTITY: 1 Nos
MOC	RCC
Concrete Mix Design	M30 Grade
Steel Reinforcement	As per Standard & Approved Design
Length	2500 mm mm in to in (OR) As per site suitability)
Width	1000 mm mm in to in (OR) As per site suitability)
Depth	1000 mm + 500 mm Free Board (OR) As per site suitability)
Number Of Baffles	2
Chamber Wall Thickness	150 mm
2. EQUALIZATION TANK	QUANTITY: 1 Nos
MOC	RCC
Concrete Mix Design	M30 Grade
Steel Reinforcement	As per Standard & Approved Design
Length	4000 mm mm in to in (OR) As per site suitability)
Width	4000 mm mm in to in (OR) As per site suitability)
Depth	3000 mm + 500 mm Free Board (OR) As per site suitability)
Wall Thickness	250 mm
3. <b>CBG REACTOR</b> TANK	QUANTITY: 1 Nos
MOC	RCC
Concrete Mix Design	M30 Grade
Steel Reinforcement	As per Standard & Approved Design
Length	6000 mm in to in
Width	4000 mm in to in
Depth	4000 mm + 500 mm Free Board
Outer Wall Thickness	350 mm at top / 450 mm at bottom
Outlet Overflow Partition Wall Thickness	300 mm
Floor Thickness	300 mm
Haunch Size	12 inches at all joints
<b>Rail Guard</b>	
Rail Guard Height	1 meter
Rail Guard Length	10 meters $\pm$ 250 mm as per site requirement
Rail Guard Width	4 meters $\pm$ 250 mm as per site requirement
Rail Guard Total Running Length	28 meters $\pm$ 1 meter as per site requirement
Pipe Size	2 inches
Ladder MOC	MS Pipes
Ladder Type	Rigid & Fixed Ladder

<b>4. TUBE SETTLER</b>	
Quantity	1 Nos (Combined with CBG Reactor
Structure	Combined with Aeration Tank
MOC	RCC
Concrete Mix Design	M30 Grade
Inlet Baffle Wall Thickness	300 mm
Outer Wall Thickness	350 mm
Haunch Size	12 inches at all joints
Steel Reinforcement	As per Standard & Approved Design
Length	2300 mm in to in (Including 500 mm Inlet & 300 mm Baffle)
Width	4000 mm in to in
Tank Depth	2600 mm
Hopper Depth	500 mm
<b>5. TREATED WATER TANK</b>	<b>QUANTITY: 1 Nos</b>
MOC	RCC
Concrete Mix Design	M30 Grade
Steel Reinforcement	As per Standard & Approved Design
Length	4000 mm mm in to in (OR) As per site suitability)
Width	4000 mm mm in to in (OR) As per site suitability)
Depth	3000 mm + 500 mm Free Board (OR) As per site suitability)
Wall Thickness	250 mm
<b>6. SHED OVER REACTOR TANK</b>	
Roofing Material MOC	Pre Coated/Coloured GI Corrugated Sheet
Sheet Thickness	0.5 mm
Structure MOC	Fabricated with MS Pipes
Pipe Size	2 inches
Side Post Height	2 meters
Distance Between Side Posts	2 meters max
Shed Length	11 meters
Shed Width	7.5 meters
Shed Shape	Two side slope (Inverted 'V')
<b>7. MACHINE ROOM</b>	
Structure MOC	Plastered & Painted Brick Walls with RCC Slab
Wall Thickness	9 inches
Room Size	6 meters (L) x 3 meters (W)
Flooring	Ceramic - Non glazed (or) Vitrified
No. of Windows & MOC	5 Nos UPVC Windows
Window Size & Type	3 x 4 Feet / Double Shutter
No. of Doors & MOC	1 Nos UPVC
Door Size	2 m Height x 1.5 m Width (or) 2 m Wide Rolling Shutter

<b>8. FENCE AROUND THE STP</b>	
Length	Structures + 3 meters max.
Width	Structures + 3 meters max.
Height	8 Feet
MOC	GI Chain link Mesh
GI Wire Diameter	2.5 mm
Pitch	2½ inches
'L' Angle (or) Pipe Size & MOC	2 inch MS
Distance Between Posts	3 meters max.
Walkway around the facility	1 meter wide
Paving Material	Kadapa Black Stone

**COMMERCIAL TERMS & CONDITIONS**

<b>Sl.No</b>	<b>Description</b>	<b>Yes</b>	<b>No</b>
1	Site Visit		
2	Validity		
3	DD for Tender Document Fee/Valid MSME/SSI Registration Certificate		
4	DD for Earnest Money Deposit		
5	Delivery		
6	Liquidated Damages		
7	Warranty and Responsibility for Seepages		
8	Un-conditional Bank Guarantee for Warranty		
9	All inclusive price for Civil Works		
10	All inclusive price for Electro-Mechanical Items		
11	Lump sum Comprehensive maintenance cost for 7 years		
12	Total Value of the Bid		
13	Terms of Payment		
14	Imparting training to RSVP person		

**Signature of the Bidder**

**Place :**

**Date :**



**PERFORMA OF THE PRICE BID  
TO BE SUBMITTED BY THE BIDDER  
ON THEIR LETTERHEAD**

Sl.No	Details of Work	Price including GST Rs.
1	Cost of Civil Works including all incidentals	
2	GST	
3	Cost of Electro-Mechanical & all other Equipment and items including packing, forwarding, transportation etc.	
4	GST	
5	Cost of Comprehensive AMC for the STP for 7 years (One lumpsum figure)	
6	GST	
7	Total quoted price of STP (Sl.No.1 to 6) Total quoted price in words (Rupees _____)	

**Seal of the Company**

**Signature of the Bidder**

**Date**

**Note 1: Please thoroughly read the terms and conditions at Sl.No.10,11,12 & 13 of general Instructions-cum-Terms and Conditions.**

**Note 2: However, the break-up figures with description for Sl.Nos.1, 3 & 5 shall be prepared and enclosed to Annexure-B**

### **SIGNATURE CHECK LIST**

The bidders shall check before submitting the bid that the following pages are signed by them:

<b>Sl.No</b>	<b>Subject</b>	<b>Page No.</b>
1	Declaration Form	10
2	Certificate	11
3	Annexure-A	13
4	Matrix I Statement	14
5	Matrix II Statement	18
6	Matrix III Statement	27
7	Matrix IV Statement	31
8	Annexure B	32

**NOTE: Bidders should note that any bid not signed on any of the above pages will be rejected summarily considering that the bid is "Un-signed".**