

## E-TENDER FORM



NEW OKHLA INDUSTRIAL  
DEVELOPMENT AUTHORITY

**Name of Works:**

M/o STP (Existing STP based on SBR Technology core Parts (Decanter core part, diffuser, PLC SCADA and Related work) (Renovation and Strengthening work of the existing 25 MLD STP Core Parts with MPS at Sector-50) Noida (PART-B)

OFFICER INVITING TENDER

GREEN NOIDA	CLEAN NOIDA	SAFE NOIDA
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**SAVE WATER FOR NATION**

**New Okhla Industrial Development Authority  
SR.MANAGER (JAL-OA), SECTOR-5, NOIDA**

**E-Tender Document**

*for*

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M/o STP (Existing STP based on SBR Technology core Parts (Decanter core part, diffuser, PLC SCADA and Related work) (Renovation and Strengthening work of the existing 25 MLD STP Core Parts with MPS at Sector-50) Noida (PART-B)

**JOB No: /SM(JAL-OA)/26-27**

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**Officer Inviting Tender**

## INSTRUCTIONS TO BIDDERS/TENDERERS (ITB)

### (A) THE TENDER DOCUMENT

#### 1 Cost of Bid Document/ e-Tender Processing Fee

a) The tenderer shall bear all costs associated with the preparation and submission of its e-Bid and U.P. Electronics Corporation Ltd, Lucknow/ Noida Authority hereinafter referred to as “the Department”, will in no case be responsible or liable for these costs, regardless of the conduct or outcome of the e-Bid process.

b) This tender document is available on the web site <http://etender.up.nic.in> on Noida Authority website at E-link and Corporation’s website [www.upclclko.in](http://www.upclclko.in) to enable the tenderers to view, download the e-Bid document and submit e-Bids online up to the last date and time mentioned in e-Tender notice/e-tender document against this e-Tender. The tenderers shall have to pay cost of bid document/ e-Tender processing fee of **Rs. 8260.00 (Rupees Eight thousand two hundred sixty Only) (Please refer attached user manual for paying Processing Fee & EMD Online on the web site <https://induscollect.indusind.com/pay/index.php>).** This cost of bid document/ e-Tender processing fee of **Rs. 8260/- (Including GST @18%)** will be non-refundable. Tender without cost of bid document/ e-Tender processing fee in the prescribed form, will not be accepted.

#### 2 Contents of e-Bid Document

2.1 The scope of work, e-Bid procedure and contract terms and conditions are prescribed in the e-Bid document. The e-Bid document includes:

- (a) Invitation for e-Bid
- (b) Section I : Instruction to tenderers;
- (c) Section II : Conditions of Contract;
- (d) Section III : Technical e-Bid;
- (e) Section IV : Financial e-Bid;

2.2 The tenderer is expected to examine all instructions, forms, terms and specifications in the e-Bid document. Failure to furnish all information required as per the e-Bid document or submission of e-Bid not responsive to the e-Bid document in every respect will be at the tenderer’s risk and may result in rejection of the said e-Bid.

#### 3 Amendment of e-Bid Document

3.1 At any time prior to the deadline for submission of e-Bid, the Department may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective tenderer, modify the e-Bid document by amendments. Such amendments shall be uploaded on the e-Procurement website [http:// etender.up.nic.in](http://etender.up.nic.in) , Noida Authority web site at E-link and Corporation’s website [www.upclclko.in](http://www.upclclko.in) through corrigendum and shall form an integral part of e-Bid document. The relevant clauses of the e-Bid document shall be treated as amended accordingly.

3.2 It shall be the sole responsibility of the prospective tenderers to check the web site <http://etender.up.nic.in> or Corporation’s website [www.upclclko.in](http://www.upclclko.in) from time to time for any amendment in the e-tender document. In case of failure to get the amendments, if any, the Department shall not be responsible for it.

- 3.3 In order to allow prospective e-Tenderers a reasonable time to take the amendment into account in preparing their e-Bids, the Department, at his discretion, may extend the deadline for the submission of e-Bids. Such extensions shall be uploaded on the e-Procurement website <http://etender.up.nic.in> and Corporation's website [www.upcllko.in](http://www.upcllko.in)

(B) PREPARATION OF e-Bid

**4 Language of e-Bid**

4.1 The e-Bid prepared by the tenderer, as well as all correspondence and documents relating to the e-Bid exchanged by the tenderer and the Department shall be written either in English or Hindi language. The correspondence and documents in Hindi must be accompanied by embedded/separate Hindi font files. Only English numerals shall be used in the e-Bid.

**5 Documents Constituting the e-Bid**

5.1 The e-Bid prepared by the tenderer shall comprise the following components:

(a) **Technical e-Bid** - Technical e-Bid will comprise of :

- (i) **Fee Details** – It will consist of the **cost of bid document/ e-Tender processing fee** document and prescribed earnest money in prescribed form.
- (ii) **Qualification Details** – includes copies of required documents in PDF format justifying that the tenderer is qualified to perform the contract if his/her bid is accepted and that the tenderer has financial & technical capability necessary to perform the contract and meets the criteria outlined in the Qualification Requirement and Technical Specification and fulfill all the conditions of the Contract.

(b) **Financial e-Bid** – Financial e-Bid will comprise of :

- (i) **Price Schedule/BOQ** – includes Price Schedule/BOQ in XLS format to be filled in after downloading from the e-Procurement website for this e-tender.

**6 e-Bid Form**

6.1 The tenderer shall complete the e-Bid Form and the appropriate Price Schedule/BOQ furnished in the e-Bid document.

**7 e-Bid Currencies**

Prices shall be quoted in Indian Rupees only.

**8 Documents establishing tenderer's Qualification**

- 8.1 The tenderer shall furnish, as part of its Technical e-Bid, documents establishing the tenderer's qualification to perform the Contract if its e-Bid is accepted. The documentary evidence should be submitted by the tenderer electronically in the PDF format.
- 8.2 The documentary evidence of tenderer's qualification to perform the Contract if its e-Bid is accepted shall be as per Qualification Requirements specified in e-tender document.

## **9 e-Bid Security/Earnest Money Deposit (EMD)**

- 9.1 The tenderer shall furnish, as part of its e-Bid, an e-Bid security/ EMD of **Rs.3939000/- (Rupees Thirty nine lac thirty nine thousand Only)** (Please refer attached user manual for paying Processing Fee & EMD Online on the web site <https://induscollect.indusind.com/pay/index.php>). **Tender without Earnest Money in the prescribed form, will not be accepted.**
- 9.2 Any e-Bid not secured in accordance with above shall be treated as non-responsive and rejected by the Department.
- 9.3 Unsuccessful tenderer's e-Bid security will be returned promptly as possible **after open the price bid.**
- 9.4 The successful tenderer's e-Bid EMD will be converted into security upon the tenderer signing the Contract.
- 9.5 The e-Bid security may be forfeited:
- (a) if a tenderer (i) withdraws its e-Bid during the period of e-Bid validity specified by the tenderer on the e-Bid Form; or (ii) does not accept the correction of errors or (iii) modifies its e-Bid price during the period of e-Bid validity specified by the tenderer on the e-Bid form or
  - (b) in case of a successful tenderer, if the tenderer fails:
    - (i) to sign the Contract with the Department.

## **10 Period of Validity of e-Bid**

- 10.1 e-Bid shall remain valid for 90 days after the date of e-Bid opening prescribed by the Department. An e-Bid valid for a shorter period shall be rejected by the Department as non-responsive.
- 10.2 In exceptional circumstances, the Department may solicit the tenderer's consent to an extension of the period of e-Bid validity. The request and the response thereto shall be made in writing. A tenderer may refuse the request without forfeiting its e-Bid security. A tenderer granting the request will not be required nor permitted to modify its e-Bid.

## **11 Format and signing of e-Bid**

- 11.1 The tenderer shall prepare one electronic copy each of the Technical e-Bid and Financial e-Bid separately.
- 11.2 The e-Bid document shall be digitally signed, at the time of uploading, by the tenderer or a person or persons duly authorized to bind the tenderer to the Contract. The later authorization shall be indicated by a scanned copy of written power-of-attorney accompanying the e-Bid. All the pages/ documents of the e-Bid that are to be uploaded shall be digitally signed by the person authorized to sign the e-Bid.

## 12 Submission of e-Bid

The Bid Submission module of e-Procurement website <http://etender.up.nic.in> enables the tenderers to submit the e-Bid online in response to this e-tender published by the Department. Bid Submission can be done only from the Bid Submission start date and time till the Bid Submission end date and time given in the e-tender. Tenderers should start the Bid Submission process well in advance so that they can submit their e-Bid in time. The tenderers should submit their e-Bid considering the server time displayed in the e-Procurement website. This server time is the time by which the e-Bid submission activity will be allowed till the permissible time on the last/end date of submission indicated in the e-tender schedule. Once the e-Bid submission date and time is over, the tenderers cannot submit their e-Bid. For delay in submission of e-Bid due to any reasons, the tenderers shall only be held responsible.

The tenderers have to follow the following instructions for submission of their e-Bid:

- 12.1 For participating in e-Bid through the e-tendering system, it is necessary for the tenderers to be the registered users of the e-Procurement website <http://etender.up.nic.in>. The tenderers must obtain a User Login Id and Password by registering themselves with U.P. Electronics Corporation Limited, Lucknow if they have not done so previously for registration.
- 12.2 In addition to the normal registration, the tenderer has to register with his/her **Digital Signature Certificate (DSC)** in the e-tendering system and subsequently he/she will be allowed to carry out his/her e-Bid submission activities. Registering the Digital Signature Certificate (DSC) is a one time activity. Before proceeding to register his/her DSC, the tenderer should first log on to the e-tendering system using the User Login option on the home page with the Login Id and Password with which he/ she has registered.

For successful registration of DSC on e-Procurement website <http://etender.up.nic.in> the tenderer must ensure that he/she should possess Class-2/ Class-3 DSC issued by any certifying authorities approved by Controller of Certifying Authorities, Government of India, as the e-Procurement website <http://etender.up.nic.in> is presently accepting DSCs issued by these authorities only. The tenderer can obtain User Login Id and perform DSC registration exercise above even before e-Bid submission date starts. The Department shall not be held responsible if the tenderer tries to submit his/her e-Bid at the last moment before end date of submission but could not submit due to DSC registration problem.

- 12.3 The tenderer can search for active tenders through "Search Active tenders" link, select a tender in which he/she is interested in and then move it to 'My Tenders' folder using the options available in the e-Bid Submission menu. After selecting and viewing the tender, for which the tenderer intends to e-Bid, from "My Tenders" folder, the tenderer can place his/her e-Bid by clicking "Pay Offline" option available at the end of the view tender details form. Before this, the tenderer should download the e-tender document and Price Schedule/Bill of Quantity (BOQ) and study them carefully. The tenderer should keep all the documents ready as per the requirements of e-tender document in the PDF format except the Price Schedule/Bill of Quantity (BOQ) which should be in the XLS format (Excel sheet).
- 12.4 After clicking the 'Pay Offline' option, the tenderer will be redirected to the Terms and Conditions page. The tenderer should read the Terms & Conditions before proceeding to fill in the **cost of bid document/ e-Tender processing fee** and EMD payment details. After entering and saving the **cost of bid document/ e-Tender processing fee** and EMD details, the tenderer should click "Encrypt & Upload" option given in the payment details form so that "Bid Document Preparation and Submission" window appears to upload the documents as per Technical (Fee details, Qualification details, e-Bid Form and Technical Specification details)

and financial (e-Bid Form and Price Schedule/BOQ) schedules/packets given in the tender details. The details available in the scanned copy of tender form cost and of EMD shall be verified by the department and in case of any discrepancy the e-bid shall be rejected.

- 12.5 Next the tenderer should upload the Technical e-Bid documents for Fee details (Cost of bid document/ e-Tender processing fee and EMD), Qualification details. Before uploading, the tenderer has to select the relevant Digital Signature Certificate. He may be prompted to enter the Digital Signature Certificate password, if necessary. For uploading, the tenderer should click "Browse" button against each document label in Technical and Financial schedules/packets and then upload the relevant PDF/XLS files already prepared and stored in the tenderer's computer. The required documents for each document label of Technical (Fee details, Qualification details, e-Bid Form and Technical Specification details) and financial (e-Bid Form and Price Schedule/BOQ) schedules/packets can be clubbed together to make single different files for each label.
- 12.6 The tenderer should click "Encrypt" next for successfully encrypting and uploading of required documents. During the above process, the e-Bid documents are digitally signed using the DSC of the tenderer and then the documents are encrypted/locked electronically with the DSC's of the bid openers to ensure that the e-Bid documents are protected, stored and opened by concerned bid openers only.
- 12.7 After successful submission of e-Bid document, a page giving the summary of e-Bid submission will be displayed confirming end of e-Bid submission process. The tenderer can take a printout of the bid summary using the "Print" option available in the window as an acknowledgement for future reference.
- 12.8 Department reserves the right to cancel any or all e-Bids without assigning any reason.

### **13 Deadline for Submission of e-Bid**

- 13.1 e-Bid (Technical and Financial) must be submitted by the tenderers at e-Procurement website <http://etender.up.nic.in> not later than the time 5.00 PM on the prescribed date (as the server time displayed in the e-Procurement website).
- 13.2 The Department may, at its discretion, extend this deadline for submission of e-Bid by amending the e-Bid document, in which case all rights and obligations of the Department and tenderers previously subject to the deadline will thereafter be subject to the deadline as extended.

### **14 Late e-Bid**

- 14.1 The server time indicated in the Bid Management window on the e-Procurement website <http://etender.up.nic.in> will be the time by which the e-Bid submission activity will be allowed till the permissible date and time scheduled in the e-tender. Once the e-Bid submission date and time is over, the tenderer cannot submit his/her e-Bid. Tenderer has to start the Bid Submission well in advance so that the submission process passes off smoothly. The tenderer will only be held responsible if his/her e-Bid is not submitted in time due to any of his/her problems/faults, for whatsoever reason, during e-Bid submission process.

### **15 Withdrawal and Resubmission of e-Bid**

- 15.1 At any point of time, a tenderer can withdraw his/her e-Bid submitted online before the bid submission end date and time. For withdrawing, the tenderer should first log in using his/ her Login Id and Password and subsequently by his/her Digital Signature Certificate on the e-Procurement website <http://etender.up.nic.in>. The tenderer should then select "My Bids" option

in the Bid Submission menu. The page listing all the bids submitted by the tenderer will be displayed. Click "View" to see the details of the e-Bid to be withdrawn. After selecting the "Bid Withdrawal" option, the tenderer has to click "Yes" to the message "Do you want to withdraw this bid?" displayed in the Bid Information window for the selected bid. The tenderer also has to enter the bid Withdrawing reasons and upload the letter giving the reasons for withdrawing before clicking the "Submit" button. The tenderer has to confirm again by pressing "Ok" button before finally withdrawing his/her selected e-Bid.

- 15.2 No e-Bid may be withdrawn in the interval between the deadline for submission of e-Bids and the expiration of period of e-Bid validity. Withdrawal of an e-Bid during this interval may result in the tenderer's forfeiture of his/her e-Bid security.
- 15.3 The tenderer can re-submit his/her e-Bid as and when required till the e-Bid submission end date and time. The e-Bid submitted earlier will be replaced by the new one. The payment made by the tenderer earlier will be used for revised e-Bid and the new e-Bid submission summary generated after the successful submission of the revised e-Bid will be considered for evaluation purposes. For resubmission, the tenderer should first log in using his/her Login Id and Password and subsequently by his/her Digital Signature Certificate on the e-Procurement website <http://etender.up.nic.in>. The tenderer should then select "My Bids" option in the Bid Submission menu. The page listing all the bids submitted by the tenderer will be displayed. Click "View" to see the details of the e-Bid to be resubmitted. After selecting the "Bid Resubmission" option, click "Encrypt & Upload" to upload the revised e-Bid documents.
- 15.4 The tenderers can submit their revised e-Bids as many times as possible by uploading their e-Bid documents within the scheduled date & time for submission of e-Bids.
- 15.5 No e-Bid can be resubmitted subsequently after the deadline for submission of e-Bids.

#### (C) e-Bid OPENING AND EVALUATION OF e-Bid

##### **16(A) Opening of Technical e-Bid by the Department**

- 16.A.1 The Department will open all technical e-Bids, in the presence of tenderers' representatives who choose to attend at 3.30 PM on the prescribed date of opening at Tender Cell office Sector-6, Noida. The tenderer's representatives who are present shall sign a register evidencing their attendance. In the event of the specified date of e-Bid opening being declared a holiday for the Department, the e-Bids shall be opened at the appointed time and place on the next working day.
- 16.A.2 The tenderer's names and the presence or absence of requisite e-Bid security and such other details as the Department at its discretion may consider appropriate, will be announced at the opening. The name of such tenderers not meeting the Technical Specifications and qualification requirement shall be notified subsequently.
- 16.A.3 The Department will prepare minutes of the e-Bid opening.

##### **16(B) Opening of Financial e-Bid**

- 16.B.1 After evaluation of technical e-Bid, through the evaluation committee the Department shall notify those tenderers whose technical e-Bids were considered non-responsive to the Conditions of the Contract and not meeting the technical specifications and Qualification Requirements indicating that their financial e-Bids will not be opened. The Department will simultaneously notify the tenderers, whose technical e-Bids were considered acceptable to the Department. The notification may be sent by e-mail provided by bidder.



- 16.B.2 The financial e-Bids of technically qualified tenderers shall be opened in the presence of tenderers who choose to attend, and date for opening of financial bids will be communicated to the Technically Qualified Tenderers subsequently after completion of technical bids evaluation through e-mail provided by the bidder. The name of tenderers, percentage Price quoted for various items etc will be announced at the meeting.
- 16.B.3 The Department will prepare the minutes of the e-Bid opening.

## **17 Clarification of e-Bid**

- 17.1 During evaluation of e-Bid, the Department may, at its discretion, ask the tenderer for a clarification of his/her e-Bid. The request for clarification and the response shall be in writing.

## **18 Evaluation of technical e-Bid and Evaluation Criteria**

The Department will examine the e-Bid to determine whether they are complete, whether they meet all the conditions of the Contract, whether required **cost of bid document/ e-Tender processing fee**, e-Bid security and other required documents have been furnished, whether the documents have been properly digitally signed, and whether the e-Bids are generally in order. Any e-Bid or e-Bids not fulfilling these requirements shall be rejected.

- 18.1 The tenderer should submit a notarized affidavit that the tenderer's firm has not been black listed from any State/Central Government Departments/Organisations. The e-Bids of the black-listed tenderers or those not submitting the required affidavit shall be rejected.

18.2 All e-Bids submitted shall also include the following:

- (i) Filled in form Capability Statement.
- (ii) Certified Copies of relevant pages of following documents:
  - a. Memorandum and Article of Association showing objectives of the Company/firm and authority to sign the e-Bid/contract or delegate the power to others for signing the e-Bid/contract.
  - b. Place of registration.
  - c. The power-of-attorney authorizing the tenderer to sign the e-Bid/ contract.
  - d. PAN certificate of the company/firm.
  - e. GST registration certificate of the company/firm.

The e-Bids of the tenderers not submitting certified copies mentioned above documents shall be rejected.

- 18.3 It shall be the discretion of the Department to decide as to whether an e-Bid fulfils the evaluation criterion mentioned in this e-tender or not.
- 18.4 The tenderers are advised not to mix financial bid documents with the PDF documents submitted for technical bid. The e-Bids of the tenderers having financial bid document in the technical bid will outrightly be rejected.

## **19. Contacting the Department**

- 19.1 No tenderer shall contact the Department on any matter relating to his/her e-Bid, from the time of the e-Bid opening to the time the Contract is awarded. If the tenderer wishes to bring additional information to the notice of the Department, he/she can do so in writing.

- 19.2 Any effort by a tenderer to influence the Department in its decisions on e-Bid evaluation, e-Bid comparison or contract award may result in rejection of the tenderer's e-Bid.
- 19.3 In the event of any information furnished by the agency is found false or fabricated the minimum punishment shall be debarred/blacklisting from Noida works and the legal proceeding can also be initiated.

#### **(D) AWARD OF CONTRACT**

##### **20. Award Criteria**

- 20.1 The Department will award the contract to the lowest evaluated successful Tenderer whose bid has been determined to be responsive to all the conditions of the contract and meeting the Technical specification and qualification requirement of the Bidding Document.

##### **21. Department's right to accept any e-Bid and to reject any or all e-Bids**

- 21.1 The Department reserves the right to accept or reject any e-Bid, and to annul the e-Bid process and reject all e-Bids at any time prior to contract award, without thereby incurring any liability to the affected tenderer or tenderers.

##### **22. Notification of Award**

- 22.1 Prior to the expiration of the period of e-Bid validity, the Department will notify the successful tenderer in writing by letter/e-mail/fax, that its e-Bid has been accepted.
- 22.2 The notification of award will constitute the formation of the Contract.

##### **23. Signing of Contract**

- 23.1 At the same time as the Department notifies the successful tenderer that its e-Bid has been accepted, the successful tenderer shall have to sign the contract agreement.

**Please read the following: -**

- 1. Senior Manager in place of Project Engineer**
- 2. Manager in place of Asstt. Project Engineer & S.D.O./Assistant Engineer**
- 3. Dy. General Manager in place of Chief Engineer & Chief Maintenance Engineer.**

## **For The Visiting Contractor's Of This Tender Document**

1. The Contractors/Firm/Bidders who are interested to participate in Tender are requested to get them registered and get their signature digitalized with UP Electronics Corporation, 10, Ashok Marg, Lucknow by depositing prescribed fee. However they shall be required to get their application forwarded from Chief Project Engineer, Noida whose office is situated at Main Administrative Block, Sector-6, Noida. The Agencies/Contractors registered shall be allowed to participate only in e-tenders floated after their registration.
2. The other important information are being mentioned below at a glance for the ease of e-tenderers :-
  - 1) Date of Inviting tender
  - 2) Date of opening tender
  - 3) **Cost of bid document/ e-Tender processing fee : Rs. 8260/- (Including GST @18%)**
  - 4) **Earnest money Rs. 3939000.00**
  - 5) **Validity period 90 days.**
  - 6) **Time of completion of work 365 Days**
  - 7) The Tender is percentage rate tender.

3. **Please refer attached user manual (Page-11 to 28) for paying “Processing Fee” & “EMD Online” on the web site <https://induscollect.indusind.com/pay/index.php>.**

### **Manual for paying processing Fee & EMD Payment Online**

- Bidder needs to go to <https://www.ebs.in/nda/>
- Fill the details in the form and select the payment type Tender Fee/ EMD with other details
- Post validating, Bidder needs to click on ”proceed” Button
- Bidder will get the options to pay through Credit card/ Debit Card/ Net Banking & NEFT/RTGS Challan Mode.
- For NEFT/ RTGS challan mode- after generating the challan, bidder needs to initiate NEFT/RTGS through their bank as per the beneficiary details provided in the challan
- Bidder can check the status of the payment. Screensort For Payment gateway For NEFT/ RTGS ChallanSample NEFT/RTGS Challan
- Bidder can check the status of the payment.

### **Screenshot**

#### **Instructions for bidder to do payment:**

1. Visit IndusCollect website: <https://induscollect.indusind.com/pay/index.php>
2. If you are a registered user of IndusCollect, then login click on LOGIN tab. If you are not registered user of IndusCollect then click on Express Payment tab.

## Search, Pay & Confirm

Pay bills and invoices from any bank account or any card



IndusCollect lets you pay your bills conveniently, be it your education, housing society maintenance or any other bills. You can pay your bills using RTGS, NEFT, IMPS, IFT, UPI, Net Banking or Cards.

Express Payment

Login

Registered user click LOGIN

Search by Merchant Name eg: Universal High

Non Registered user click here

OR

### Select a Category



Charitable  
Institutions and  
Trusts



Clubs and  
Associations



Distributors and  
Vendors



Education



E-tailers and E-  
commerce



E-tendering



Government Bodies



Housing  
Development &  
Societies

a. Select Category

c. Select type of payment:

The screenshot shows the IndusInd Bank website interface. At the top, there is a red header with the bank's logo and navigation links: Home, About us, and FAQs. Below the header, a breadcrumb trail reads: Home > E-tendering > NOIDA AUTHORITY. On the right side, there are three circular icons labeled Search, Pay, and Confirm, with a Back arrow below them. The main content area is titled "NOIDA AUTHORITY" and features a dropdown menu for "I want to make payment for:". The dropdown is open, showing three options: "Please select" (highlighted in blue), "EMD", and "Tender Fees".

d. Enter Data& Click Submit:

The screenshot shows the same IndusInd Bank website interface, but now the "EMD" option is selected in the dropdown menu. The form is populated with the following data: "Financial year" is FY 17-18; "Department" is WC I; "Job ID" is Please add value; "Tender type" is Re Tender; "Name" is Mr. Pandey; "Bid Submission Last Date" is 30/06/2018; "Mobile No" is 7045570455; "Email" is pandey@gmail.com; "Amount" is 100; and "Verify Code" is hfeva. At the bottom right, there is a "Generate New Code" link and a "Submit" button. The "hfeva" logo is also visible.

e. Select the payment mode:

**IndusInd Bank** INDUS COLLECT

Home > E-tendering > Noida AUTHORITY > Payment

**Noida AUTHORITY**

Reference No.: 111118178005401  
(Save For Future Reference)

Financial year  
FY 17-18  
Department  
WC I  
Job ID  
Please add value  
Mobile No  
7045570455  
Email  
pandey@gmail.com  
Base Amount  
100.00

**Payment Options**

- Internet Banking
- Credit Card
- Debit Card
- NEFT/RTGS/IMPS/Transfer Within Bank

f. If user clicks “Internet Banking” or “Credit Card” or “Debit Card”, then user will be redirected to Payment Gateway page. User has to enter authority details.

g. If user selects NEFT or RTGS or IMPS or Transfer within Bank, then

Reference No.: 111118178005401  
(Save For Future Reference)

Financial year  
FY 17-18  
Department  
WC I  
Job ID  
Please add value  
Mobile No  
7045570455  
Email  
pandey@gmail.com  
Base Amount  
100.00

Internet Banking

Credit Card

Debit Card

NEFT/RTGS/IMPS/Transfer Within Bank

NEFT IMPS Transfer within bank

Post generation of payment slip please initiate the remittance through your bank.

Beneficiary Account No.  
ZNDMD100045676953

Beneficiary Name  
Noida AUTHORITY

Beneficiary IFSC Code  
IND00006877

Beneficiary Bank  
IndusInd Bank

Base Amount Rs. 100.00  
Total Amount to be paid Rs. 100.00

**Generate Payment Slip**

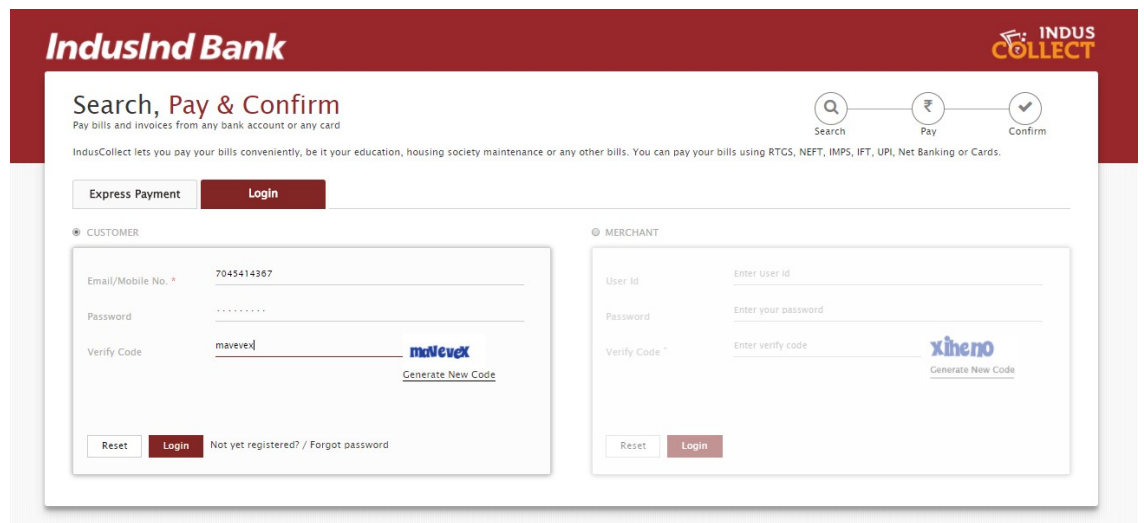
**Challan Details**

**Click on Generate Payment Slip**

- User has to click on Generate Payment Slip to generate challan. It will have beneficiary account number and IFSC code.
- User will then login to their own bank’s Netbanking or mobile app.
- User will add beneficiary basis the details on Challan.
- User will then make the payment to beneficiary

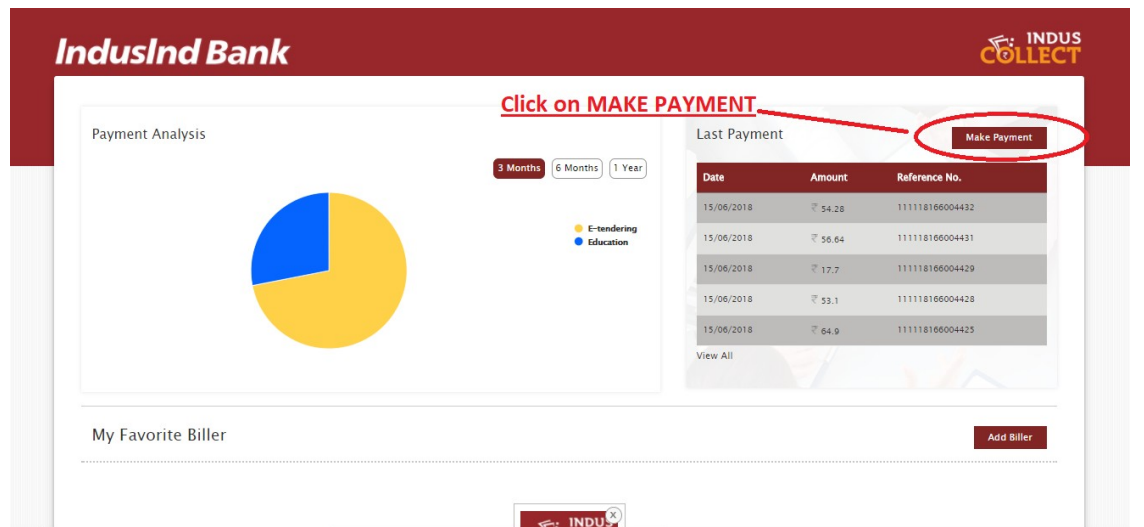
#### 4. Flow for Registered users of IndusCollect:

##### a. Login to IndusCollect



The login page for IndusInd Bank's IndusCollect service. It features a red header with the bank's logo and the 'INDUS COLLECT' branding. The main heading is 'Search, Pay & Confirm', followed by a sub-heading 'Pay bills and invoices from any bank account or any card'. A progress bar shows 'Search' (completed), 'Pay' (current step), and 'Confirm' (next step). Below this, a text line states: 'IndusCollect lets you pay your bills conveniently, be it your education, housing society maintenance or any other bills. You can pay your bills using RTGS, NEFT, IMPS, IFT, UPI, Net Banking or Cards.' There are two main login sections: 'CUSTOMER' and 'MERCHANT'. The 'CUSTOMER' section has fields for 'Email/Mobile No. \*' (with value 7045414387), 'Password', and 'Verify Code' (with value mavevex). It includes a 'Generate New Code' link for mavevex and buttons for 'Reset' and 'Login'. A link 'Not yet registered? / Forgot password' is also present. The 'MERCHANT' section has fields for 'User Id', 'Password', and 'Verify Code', with a 'Generate New Code' link for xiheno and 'Reset' and 'Login' buttons. At the top left of the login area are buttons for 'Express Payment' and 'Login'.

##### b. Click on MAKE PAYMENT



The dashboard for IndusInd Bank's IndusCollect service. It features a red header with the bank's logo and the 'INDUS COLLECT' branding. The main heading is 'Payment Analysis', followed by a sub-heading 'Pay bills and invoices from any bank account or any card'. A progress bar shows 'Search' (completed), 'Pay' (current step), and 'Confirm' (next step). Below this, a text line states: 'IndusCollect lets you pay your bills conveniently, be it your education, housing society maintenance or any other bills. You can pay your bills using RTGS, NEFT, IMPS, IFT, UPI, Net Banking or Cards.' There are two main sections: 'CUSTOMER' and 'MERCHANT'. The 'CUSTOMER' section has fields for 'Email/Mobile No. \*' (with value 7045414387), 'Password', and 'Verify Code' (with value mavevex). It includes a 'Generate New Code' link for mavevex and buttons for 'Reset' and 'Login'. A link 'Not yet registered? / Forgot password' is also present. The 'MERCHANT' section has fields for 'User Id', 'Password', and 'Verify Code', with a 'Generate New Code' link for xiheno and 'Reset' and 'Login' buttons. At the top left of the login area are buttons for 'Express Payment' and 'Login'.

**Click on MAKE PAYMENT**

**Payment Analysis**

3 Months 6 Months 1 Year

E-tendering Education

**Last Payment**

Date	Amount	Reference No.
15/06/2018	₹ 54.28	111118166004432
15/06/2018	₹ 56.64	111118166004431
15/06/2018	₹ 17.7	111118166004429
15/06/2018	₹ 53.1	111118166004428
15/06/2018	₹ 64.9	111118166004425

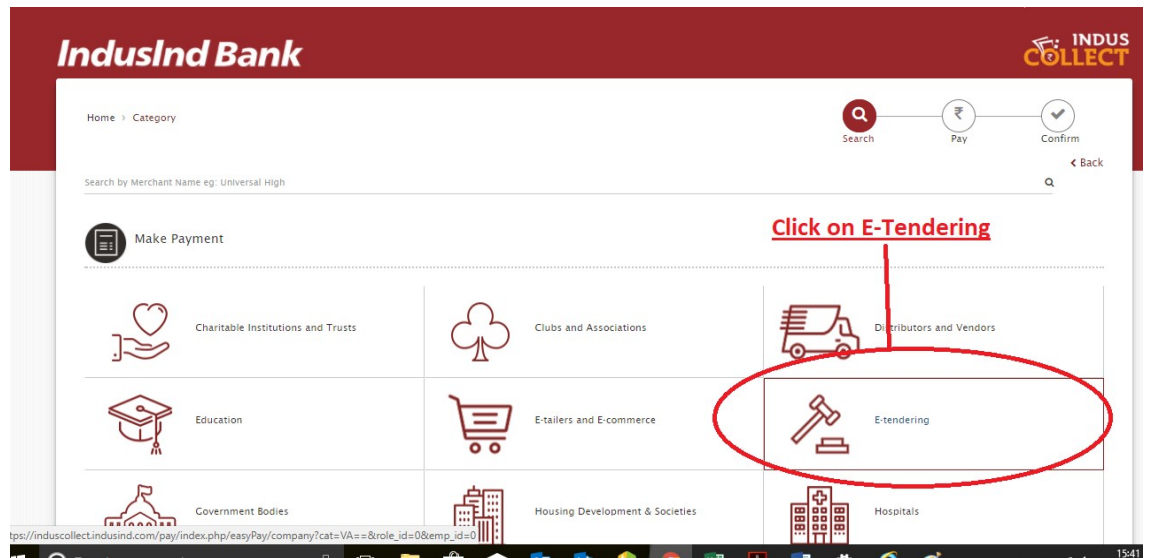
View All

**My Favorite Biller**

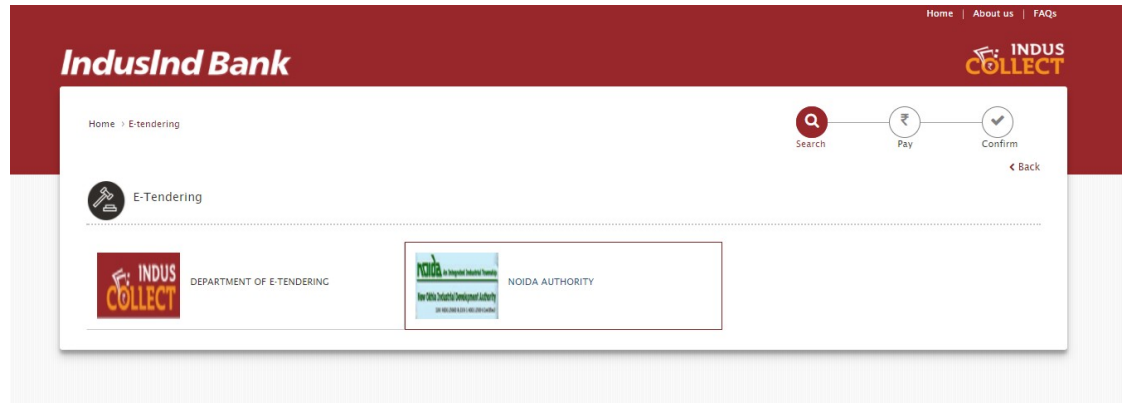
Add Biller



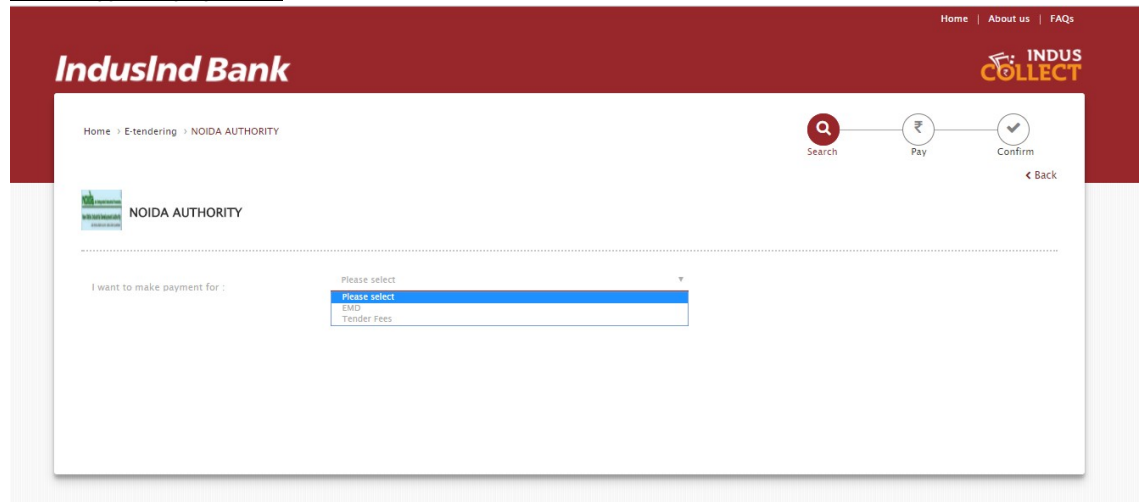
c. Select Category



d. Select NOIDA AUTHORITY:



e. Select type of payment:



f. **Enter Data & Click Submit:**

The screenshot shows a web form titled "NOIDA AUTHORITY" for entering payment details. The form includes the following fields:

- I want to make payment for: EMD
- Financial year: FY 17-18
- Department: WC I
- Job ID: Please add value
- Tender type: By Tender
- Name: Mr. Pandey
- Bid Submission Last Date: 30/06/2018
- Mobile No: 7045570455
- Email: pandey@gmail.com
- Amount: 100
- Verify Code: hefeva (with a "Generate New Code" link)

At the bottom of the form are "Submit" and "Cancel" buttons. The top navigation bar includes "Home", "Extendering", "NOIDA AUTHORITY", and "EMD". On the right, there are icons for "Search", "Pay", "Confirm", and a "Back" link.

g. **Select the payment mode:**

The screenshot shows the "IndusInd Bank" payment options screen. It features a "Payment Options" section with the following choices:

- Internet Banking
- Credit Card
- Debit Card
- NEFT/RTGS/IMPS/Transfer Within Bank

Each option has a radio button next to it. On the left, there is a summary box containing the following information:

- Reference No.: 111118178005401 (Gave for future reference)
- Financial year: FY 17-18
- Department: WC I
- Job ID: Please add value
- Mobile No: 7045570455
- Email: pandey@gmail.com
- Base Amount: 100.00

The top navigation bar includes "Home", "Extendering", "NOIDA AUTHORITY", and "Payment". On the right, there are icons for "Search", "Pay", "Confirm", and a "Back" link.

h. **If user clicks "Internet Banking" or "Credit Card" or "Debit Card", then user will be redirected to Payment Gateway page. User has to enter authority details.**

i. **If user selects NEFT or RTGS or IMPS or Transfer within Bank, then**

Reference No.: 111118178005401  
(Save for Future Reference)

Financial year  
FY 17-18  
Department  
WC I  
Job ID  
Please add value  
Mobile No  
7045570455  
Email  
pandey@gmail.com  
Base Amount  
100.00

Internet Banking  
Credit Card  
Debit Card  
NEFT/RTGS/IMPS/Transfer Within Bank

NEFT IMPS Transfer within bank

Post generation of payment slip please initiate the remittance through your bank.

Beneficiary Account No.  
ZNDMD100045676953

Beneficiary Name  
NOKA AUTHORITY

Beneficiary IFSC Code  
INDR0000877

Beneficiary Bank  
Indusind Bank

Base Amount Rs. 100.00  
Total Amount to be paid Rs. 100.00

Generate Payment Slip

**Challan Details**

**Click on Generate Payment Slip**

- i. User has to click on Generate Payment Slip to generate challan. It will have beneficiary account number and IFSC code.
- ii. User will then login to their own bank's Netbanking or mobile app.
- iii. User will add beneficiary basis the details on Challan.
- iv. User will then make the payment to beneficiary

## SPECIAL CONDITIONS AND SPECIFICATIONS

1. The tenderers are advised before bidding to see carefully the site of work & study architectural & structural drawings for the buildings/ Roads to be constructed under the scope of this tender, which can be seen in the office of the concern P.E. of Noida Office on any working day between 10.30 A.M. to 4.30 P.M.
2. No page(s) of the tender shall be removed and the entire set must be submitted, as its failure to comply the instructions may result in the rejection of the tender.
3. All entries by the tenderers should be written legible..
4. The tenderer should write full address and telephone no. on the Tender Form. Any letter sent by Regd. Post on that address will be treated as delivered.
5. Incomplete, irrelevant conditional tenders are liable to be rejected without assigning any reason. Tenders not submitted on proper prescribed form shall not be considered and are liable to be rejected.
6. No additions or alterations are permitted in the tender papers, if tenderer does so, the same shall not be considered and such tender is liable to be rejected.
7. Any tender not fulfilling all the conditions is likely to be ignored / rejected without assigning any reason.
8. Original Earnest Money RTGS receipt and cost of bid document/ e-Tender processing fee RTGS receipt shall not be required to drop in tender box. However the scanned copy of both RTGS receipt shall be verified by the department from the bank and in case of any discrepancy or wrong information furnished in the scanned copy, tender shall not be processed even for Technical Bid Evaluation and shall be rejected.
9. No refund of the cost of bid document/ e-Tender processing fee is claimable for tenders not accepted or for tenders not submitted.
10. NOIDA reserves the power to reject any or all tenders without assigning any reason or giving any explanation, power is also reserved to divide or subdivide the work among the contractors.
11. The earnest money deposited by the unsuccessful tenderer shall be returned after acceptance of the tender electronically contractor has to fill prescribed form attached with the tender.
12. After acceptance of the tender, the earnest money of the successful contractor shall be converted into the security.
13. The quantities given in the bill of quantity are approximate and variation up to 25% on either side on printed quantities may occur without entitling the contractor to any compensation or extra rate.
14. In giving their rates, the tenderers should take into account all fluctuations of market construction rates of materials, as no claim shall be entertained on this account during the acceptance of the tender and the currency of the contract.
15. The tendered rates shall be for all completed items of the work and shall include all quarry royalties, testing, screening, tools & plants, railways freight, carriage of materials to site, stacking, removal charge of any rejected material, Municipal Board Taxes, Octroi etc. GST & labour cess and all other taxes in force from time to time.
16. Within fifteen days of the registration to the contract bond, the contractor shall have to notify in writing the name of his two authorized representatives one of them will always be available at the site of work to receive the orders / instructions by Engineer in charge and the other for issue of materials and other miscellaneous works. The contractor shall be fully responsible for the orders / instructions received by his representatives regarding quality, progress and materials from the Engineer-in-charge or any higher officer of NOIDA.
17. All the materials collected by the contractor during execution of work shall be properly stacked and arranged as per directions of Engineer-in-charge.
18. Contractor shall have to make their own arrangement of water and electricity for construction work at site. All the building material for the work shall be arranged by the contractor at his own cost.
19. The contractor shall be fully responsible for setting out the works and for the correctness of the positions, levels, dimensions and alignments strictly according to the plan / architectural and structural drawings (shall

be provided without any charge) and all necessary instruments, pegs poles and other material required for the purpose, failing which the contractor will be penalized as applicable.

20. A Cement consumption register shall be maintained at the site by the department for material brought by contractor as per CPWD/UP PWD Manual/Specification. The contractor or his authorized representative / agent shall have to sign the register daily in token of the consumption of material consumed daily at work site.
21. The contractor (in self) shall give sufficient supervision to the work using his best skill and attention. He shall provide necessary qualified staff to supervise the execution of the work. The contractor or a competent authorized agent or representative should be got approved in writing by the Engineer-in-charge (whose approval at any time can be withdrawn or changed) for supervising the work and to receive directions and instructions from Engineer-in-charge of the work on the behalf of the contractor. The supervisory staff of the contractor will not be changed without the approval of Engineer-in-charge.
22. The contractor shall be responsible for the damage to any property or any injury to person whatsoever caused by him or anybody in his employment or caused in consequence of his work. He will indemnify and keep the Government un-indemnified against all claims, demands, proceedings, charges and expenses and compensation, whatsoever, in respect of the or in relation to any such injuries or damages. The contractor shall take all necessary precautions for the safety of his employees on the work site and shall comply with all applicable provisions of safety law and building codes to prevent accident or injuries to person on the work site.
23. The contractor shall keep at his own, whole of the excavated area free from water, however, if excavation is filled with water the contractor shall provide all pumping equipment temporary drain and such cuts / excavation shall be made good at the completion of work at his own cost.
24. The contractor shall confine his equipment storage of materials separately from his works and people to the limits as directed by the Engineer-in-charge and shall not unnecessarily spread the premises with his materials and hutment's.
25. A site order book shall be maintained at the site of the work in which instructions shall be given to the contractor as and when necessary. These orders shall have to be signed and complied by the contractor or in absence by his authorized representative or agent and in such case it will be presumed that same have been conveyed to him in time.
26. The contractor shall at all time keep the premise free from accumulated waste material or rubbish caused by his employees on the work and on completion of the work he shall clear away whole site from such material and fill up the borrow pits / cuts dug by him. He will leave whole of the site and work clear in a workman like. Nothing extra shall be paid to contractor for this clearing up.

The contractor shall maintain and keep the area in agreed sanitary condition for the use of men engaged in the work by him and shall remove and clear all structures etc. which may have been setup by the contractor for accommodating his staff / labour on the completion of work to the satisfaction of the Engineer in charge.

27. All the material and workmanship and it's working procedure shall be strictly as per specification of C.P.W.D./Morth/UPPWD as described in the contract and in case not covered in the contract then in accordance with the Engineer in charge / ISI code. Instructions shall be issued from time to time to tests the material as the Engineer in charge may direct at places of manufacture, at the work site or in NOIDA Laboratory or any recognized Laboratory in side or out side of NOIDA. Contractor shall provide conveyance, labour and material required for examining, measuring and testing for the work and quality of material used. Contractor shall supply sample of the material get them approved before using in the work. The cost of such, like conveyance, labour and material provide for testing purpose and for examining the work and for proper completion of the same shall be born by the contractor and no extra payment shall be made for the same. In addition to above, the contractor shall establish a field laboratory to carry out day to day tests of all material at his own cost. The contractor shall submit a list of the all the laboratory equipment's, quality control Engineer of the contractor who will work under direction and control of Engineer-in-charge.
28. Tenderer should be firms or contractor of repute who have carried out such works of similar magnitude satisfactorily, have sufficient material and T&P for construction work such as centering, shuttering and machinery tools and plants for mixing and transporting material for required height and depth and for other work they shall submit the details with tender.

29. The normal working hours shall be from 8.30 A.M. to 5.30 P.M. and no work shall be carried out on Sundays and on gazetted holidays without specific permission of the Engineer in charge. No claim, whatsoever, shall be entertained on this account.
30. All drawings and designs will be supplied according to the necessity of the particular work and the contractor will not have any claim for compensation in case of late supply of necessary design and drawings.
31. The contractor will have to remove any person employed on the work if so desired by the Engineer-in-charge for any reason.
32. The contractor shall not put hinderance to any person or to the contractor's authorized by the department to carry out the works of any nature entrusted to him in the sector, in the vicinity or itself inside the building, the works of water supply, sanitary and electric installation etc. The contractor shall have to allow the other party to work and adjust his work accordingly and no claim shall be entertained on this account. In case of any dispute the decision of the E/I shall be final and binding upon the all parties concerned.
33. The contractors shall have to make his own arrangements of water for construction work, for temporary accommodations for the office staff and for the labourers' residence at the site of work. The water should be fit for drinking. In case the water is supplied by the department, the contractor shall have to bear charges at rates fixed by the authority.
34. The contractor will have to follow all existing rules and regulations of the Government & labour department or as amended from time to time regarding the labour employed by him without entitling him for any extra claim on this account.
35. The contractor shall do his work in such a way that the work of other contractor is not hindered.
36. Any claim during the period of contract will be submitted in writing within the currency of the contract bond failing which the claim may not be entertained.
37. The contractor shall sign no claim certificate on running bills and in case of any claim or extra item he must mention the item, rate and quantity specifically otherwise no claim shall be entertained later. In case of any dispute the decision of the competent authority of NOIDA shall be final.
38. The contractor shall have to sign FARKATI at the time of submission of final bill to accounts branch.
39. The contractor must get acquainted with the proposed site for the work and study all the specifications and conditions carefully before tendering. The work shall be executed as per programme / dates drawn by the Engineer-in-charge. If part of the site is not available due to any reason the programme of the contractor shall be modified to suit the availability of site and the contractor shall have no claim for compensation on this account.
40. The security deposited of the contractor which will be deducted from his bills shall be refunded to the contractor after the expiry of Twelve months from the date of actual completion of work in full if no imperfections become apparent in the work up to Twelve months respectively.
41. Samples of materials and items of work shall have to be got approved by the contractor from Engineer in charge before execution. The approved samples of material shall be sealed under the signature of the contractor and Project Engineer and shall be kept in the office of the Project Engineer.
42. The contractor shall have to supply required Non-Judicial Stamp Papers for execution of contract bond at his own cost.
43. Works to be open to inspection.

All works under or in course of execution or executed in pursuance of the contractor shall at time be opened to the inspection and supervision of the Engineer-in-charge and other authority officials and the contractor shall present at work site at all times during the inspection and usual working hours. At all other times if notice for the inspection of site by the Engineer-in-charge or any other official is given to the contractor, contractor should either himself be present to receive orders and instructions of a responsible authorized agent be present for the purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself. The contractor shall also provide all facilities necessary for inspection of the work by the Engineer-in-charge or other officials for which no payment shall be made to the contractor.

44. The specifications to be followed for the execution of the works shall be-
- UPPWD for electrical works/Morth/CPWD/UP PWD specifications for work in Delhi with its up-to-date correction slip till date of tendering.
  - Relevant ISI/IRC standard for work not covered by the above.
  - Material bearing ISI mark shall be given first preference for using in works. For all articles with ISI marks the quality shall be judged by the relevant ISI specification.
45. After the completion of the work, the theoretical quantity of cement to be used on the works shall be calculated on the basis of C.P.W.D./UP PWD statement showing quantity of cement to be used in different items of work provided in the Delhi Schedule of Rates applicable to the agreement but for the item on which DSR is not applicable the consumption of cement shall be decided by the Engineer-in-charge of the work. Over this theoretical quantity of cement further variation on either side shall also be allowed as under: -
- PERMISSIBLE PERCENTAGE (ESTIMATED COST PUT TO TENDER)
- 2% (Two per cent) work more than Rs. 10.00 Lac.
- 3% (Three per cent) work up to Rs. 10.00 Lac.
- The variation in respect of other materials shall be as per noms in CPWD/UP PWD works. The Final Quantity of Cement, Steel, Bitumen or any other material less used than the theoretical quantity allowing variation of minus side shall be recovered from the contractor at double the rate used in justification.
46. The contractor is expected to well conversant with the conditions of GPW Form 9 as applicable to NOIDA works (General condition of the contract) which will be the part of the agreement.
47. If the contractor withdraw his offer / tender or modifies his offer / tender after closure date of tender which is not acceptable to the department before acceptance of the tender, his earnest money will be forfeited.
48. Any recovery pointed out by the Technical inspection wing/quality surveillance team appointed or authorized by NOIDA authority shall also be effected from the contractor's dues available with NOIDA and the contractor shall have no claim for such deduction of amount whatsoever. In case of any dispute the decision of PGM/GM, Sr.M, NOIDA shall be final and binding on the contractor.
49. The contractor will arrange the water for consolidation of stone ballast and compaction of earth and nothing extra will be paid for the same.
50. The contractor is to stack the metal at the road berms first according to the size of template with stack number as decided by the Engineer in charge and no metal shall be stocked on road embankment. The metal shall be only allowed to spread for consolidation after recording measurements and taken into road metal account register.
51. The quantity measured in stacks shall be final & binding on the contractor and no claim will be entertained thereafter.
52. A deduction of 7.5% (for voids) shall be made after stack measurements of stone aggregate for payment.
53. Deduction shall be made for earthwork in filling without compaction up to 95% proctor density as per C.P.W.D. specification.
54. The stone ballast and grit will be blue textured and free from soft stone pieces. The size / gauge of the ballast shall be as per detailed specification of C.P.W.D.
55. The consolidation, shall be done as laid down in C.P.W.D. detailed specifications amended up to date. The earth for making medhi & consolidation will be arranged by the contractor at his own cost and nothing shall be paid extra for the same.
56. In case of any dispute the decision of C.E.O., NOIDA shall be final and binding on the contractor.
57. Conditional tender may not be accepted.
58. Consolidation crust thickness at every 10 meter would be checked as per stipulation after execution of work.
59. The premixing of grit with maxphalt will be done by mixol or by hot mix plant.

60. Contractor has to sign the agreement after submission of stamp papers within Ten days from the date of award of the work. In case of delay on the part of the contractor beyond Ten days from the date of award of work, a penalty of Rs. **1000/-** per day will be imposed and shall be liable from contractor's payment, which will be deducted from any dues available of the contractor.
61. That the variation of the quantities of work shall not be allowed to be executed beyond the stipulated quantity in the agreement without prior approval of the competent authority.
62. **G.S.T. shall be deducted on the gross amount of the work done for all the payment made to the contractor according to the provision of G.S.T. Act as per amended time to time.**
63. Contractor should be registered in Goods & Service Tax (GST) Department.
64. Contractor has to quote his rate including Goods & Service Tax (GST).
65. The bidders should ensure that they are GST compliant and their quoted tax structure/rates are as per GST Law.

The bidders are required to indicate the rate of GST applicable for the tendered item in their bids separately.

The Lowest bidder has to submit the following declaration before signing the Agreement:-

*"We agree to pass on such additional set off/input tax credit as may become available in further under the GST provision in respect of all the inputs used in the manufacture of the tendered item on the date of supply, by way of reduction in price/GST Rate and the advice the purchaser accordingly"*

The Authority will not reimburse any GST paid the supplier/vendor/contractor due to misclassification.

66. Joint Ventures are not accepted.
67. The contractor is required to quote only one percentage. In case contractor quotes two or more percentages his tender shall be sealed invariably.
68. a) In case of earth work in filling is being done in layers of 20cm thickness, the compaction must be done with heavy machinery such as road roller of 8 tonne or above capacity at the optimum moisture content. The dry density must be achieved to the extent or not less than 95% of proctor's density. In this area when the compaction is achieved to the desired density no deduction shall be made from the measured cubical content.  
b) In case of patris (shoulder of road) the compaction should be done with road roller of 8 tonne capacity. However, 95% proctor's density at optimum moisture contents is not necessary. The deduction of this area must be made 10% on the measured cubical content of compacted earth.
69. For cement storage at work site, double lock system will have to be followed.
70. The contractor shall have to install the laboratory for testing of building material at site. In case of failure of contractor, the same shall be provided by the department on cost of contractor, which shall be recovered from the running bill.
71. Quantity for payment shall be the theoretical quantity (Based on Proposed formation level) or the actual quantity (based on actual finished level) whichever in less :-
72. In case it is found that the tender as submitted forced/fecitious documents along with the tenders, his offer will be cancelled and earnest money will be forfeited. Also the Contractor can be black listed for tendering for Noida work.
73. Ultratech, Ambuja, Bangur, Binani, Birla, Shakti & J.K., CCI, ACC, Shree or approved by competent authority, make gray cement shall be allowed to be used in the work.
74. The reinforcement steel shall be provided from the reputed manufacture like sail, Tisco, Rastriya Ispat Nigam Shyam Steel and shall confirm specification as per IS code 1786-19, The standard sectional weights reinforced all standard tables in para 5.3.3. in specification of works Vol-1 to be considered for conversion of length of various, size MS Bars and for bars into wt. as under.



Sl. No.	Size dia (in mm)	Wt./M	Sl. No.	Size dia (in mm)	Wt./M.
1	6	0.222 Kg.	6	18	2.00 Kg.
2	8	0.395 Kg.	7	20	2.97 Kg.
3	10	0.617 Kg.	8	22	2.98 Kg.
4	12	0.888 Kg.	9	25	3.85 Kg.
5	16	1.58 Kg.	10	28	4.83 Kg.

75. The payment of royalty levied by state/central/other institutions on minerals and other conditions issued time to time by the Government shall be the responsibility of the contractor. The authority shall be free to take appropriate action without any notice in case of non compliance/ non submission of documents of the said payment.

76. The contractor have to furnish his rates including Labour Cess @ 1% the same shall be deducted from the bills of the contractor. The royalty charges levied by stats/central govt. on & other terms and conditions issued time to time by govt. shall abide by and shall be paid by contractors and its proof shall have to be submitted to Noida.

77. The Security amount shall be deducted @ 10% from each running bill and the maximum limit shall be on contract bond amount @ 5% including earnest money.

In case security period is two years the 50% security money shall be refunded after one year on satisfactory performance and remaining 50% security amount shall be refunded after satisfactory performance of two years from actual date of completion.

78. The minimum density of D.B.M. BM & AC work with their permissible tolerance based on job mix formula be as under :-

Type of <u>Mix</u>	Minimum <u>Density</u>
B.M	2.20 Gram/CC
D.B.M	2.36 Gram/CC
D.B.C	2.36 Gram/CC

The job mix formula of bitumen mixes shall be determined from the following test houses only.

1. CRRI, Mathura Road, New Delhi.
2. CPWD,ITO, New Delhi.
3. Shri Ram Institute of Industrial Research, University Road, Delhi.
4. I.I.T., Hauz Khas, New Delhi-110016
5. Delhi Test House, A-62/3, Karnal Road, Industrial Area, Opposite Hans Cinema , Azadpur New Delhi.

79. Escalation shall be admissible as per 10 CC clause of CPWD/UP PWD for the projects having its cost Rs. Ten Crore & above along with its stipulated period of construction more than 18 months. However no price variation shall be paid to the contractor for such extended period for which department in not liable.

80. Mobilization advance shall be admissible as per CPWD/ UP PWD norms/manual clause no. 31.5 to the projects of specialized nature having its cost 25 Crore and above.

81. Material like pipes, pumps, motors, transformer, L.T. Panels, Cables and any other Electrical/Mechanical Equipment shall be only of approved makes and shall also be duly tested at factory.

82. All required laboratory, factory & field test must be carried out as per respective IS Code amended up to date time to time.

83. I. यह कि प्राधिकरण द्वारा प्रदत्त निविदा के अंतर्गत कार्य प्रारम्भ होने के दो माह के भीतर संविदाकार का दायित्व होगा कि वह निर्धारित अवधि में उत्तर प्रदेश भवन एवं अन्य सन्निर्माण कर्मकार कल्याण अधिनियम की धारा-7 के अंतर्गत श्रम कार्यालय नौएडा में पंजीकरण सुनिश्चित कराते हुए उसकी प्रति प्राधिकरण को उपलब्ध करायेंगे।
- II. यह कि संविदाकार द्वारा निर्माण कार्य में नियोजित शत प्रतिशत पात्र श्रमिकों का पंजीकरण भी श्रम विभाग में कराया जाये और उसकी सूचना यथासमय प्राधिकरण को उपलब्ध करायी जाये। उक्त शर्तों के अनुपालन न होने की दशा में संविदाकार को आवंटित कार्य निरस्त किये जाने का कार्यवाही भी की जा सकती है।

### **ELECTRO CHLORINATION PLANT WORKS WITH NEW TECHNOLOGY**

84. The tenderer should write full address and telephone No. on the tender form. Any letter sent by Regd. Post on that address will be treated as delivered and multiple addresses is likely to be ignored/rejected without assigning any reason.
85. Only those tenderer will be entertained who are registered with GST & labour department.
86. The tenderer/ company should have service center in Noida. The tenderer/company will get the service center inspected by the concerned Project Engineer or the team authorized by him, before opening the price bid.
87. Approved makes for Electro Chlorination Plants are Chloromak, pristine, metito, pennwalt and perfect chloro system, tenderer while submitting the tender should clearly mention on his Letter head which of the above five(5) makes, he/she will supply to the department. No other make will be acceptable to the department.
88. A tenderer/ firm should have ISO certificate.
89. Any tenderer not fulfilling all the conditions is likely to be ignored/disqualified without assigning any reason.

### **SEWER CLEANING WORKS WITH NEW TECHNOLOGY**

90. Agency will be required to submit the detailed report on survey before start of work & CCTV survey after completion of work. All these survey will be done in presence of JE/AE from NOIDA for which agency will give advance notice. Wherever prevailing conditions allow, the CCTV shall be positioned to reduce the risk of picture distortion, and as all sewers are avoid or circular or rectangular shaped in this contract, the CCTV lens shall be positioned centrally (i.e. in prime position) within the sewer. In all instances the camera lens shall be positioned looking along the axis of the sewer when in the prime position. When photograph is taken to illustrate a lateral or a specific structure defect if any, it shall occupy the central part of the photograph and be clearly in focus and accurately reflect the lateral or structure defect.
91. Inspection results of the CCTV survey after de-silting for each sewer length between manholes shall be reported in accordance with the sample format to be submitted by the contractor and approved by the Engineer in charge. Following the completion of a sewer line survey and not later than three days following survey, a copy of the video CD/DVD and original photographs showing Structure defects if any must be submitted to the Engineer in charge for approval. Any errors in recording, CCTV imagery and/or unclear photograph shall be rejected and the Contractor would be required to correct the errors at his own cost. CCTV Photographs must clearly and accurately show what is displayed on the monitor which shall be in proper adjustment. Photographs shall be clearly identified in relation to the street location, sewer dimensions and shape, material of the sewer (e.g. brick, concrete), manhole start and finish numbers, survey direction, chain-age and date when the photograph was taken, CD/DVD, etc. taken under the Contractor shall remain the property of the (O&M) cell of the Municipal Corporation.
92. Adequate number of stacking /plugging at upstream and downstream or at intermediate points of the peripheral sewer shall have to be made by the contractor at suitable locations plugged/stacked manholes shall have to be restored and be de-silted after the completion of work and nothing shall be paid extra to the contractor on this account.
93. In the event of provision of stacking/plugs/rockas or any other act of the contractor due to which there is a possibility of overflowing of sewage at any point, the contractor shall be responsible for keeping this sewage level well below the present level of sewage till completion of work. Contractor shall deploy sufficient number of pumps along with power backup of adequate capacity for dewatering and pumping out of sewage from the existing sewer so that no flooding or surcharging of sewers from the existing sewer on upstream takes place in the areas and its surrounding areas. The expenditure on this account of pumping of sewage and its proper disposal to the nearest drain/Nallah shall be borne by the contractor and nothing extra shall be paid on this account. Basically/principally, this work of de-silting of peripheral sewer is to be executed only by fast moving mechanical suction machines/equipment super sucker to avoid risk of life of the workers and also to complete the work of de-silting expeditiously. However, If it is unavoidable to sent the workers/labor inside the manhole sewer from removal of blockage/malba, debris or other material, the successful contractor has to abide by and follow all the safety precautions as mentioned in "MANUAL ON SEWERAGE AND SEWERAGE TREATMENT PLANT" prepared by NOIDA.
94. The Contractor shall be absolutely and solely responsible for any accident that may occur during the progress of work and for injury or damage to the persons of property and description. To achieve this end the contractor shall at this own expenses take every necessary and timely precautions against injury or accident to the work or any person of property and shall protect and support all such structures or properties or the things which may be damaged. In the event of the accident leading to death or injury of any description to any person or worker and for any damage to structure. Of things the contractor shall be solely responsible for the same and make good the

same at his own cost and shall indemnify NOIDA on whose behalf the works are being executed, by agency shall get insured all its employees/workers for appropriate amounts.

95. The contractor shall comply with the "Safety Guide for men working in sewer" as published by 'National Human Right Commission', National Safai Karamchari Commission and follow strictly to the Directions given by the Noida Office order - Noida/CE(JAL)/351/15 dt. 27.04.2015 and Office order - Noida/GM(JAL)/2026/817 dt. 06.03.2026 and Government Orders of Honorable Supreme Court Case - entering sewer line without safety gears should be made a crime even in emergency situation. For each such death, compensation of **Rs. 30.00 Lakhs** should be given to the family of the deceased,. He shall be fully responsible for any accident if occur during the work. NOIDA will not help in any occasion if he doesn't follow the guidelines.

#### **SPECIAL CONDITIONS FOR JAL/SEWER WORK**

96. Contractor is bound to execute maintenance work within schedule time given in citizen charter issued by Noida Authority.
97. All safety equipment must be followed by contractor.
98. Contractor shall execute all work only after due/required barricading to avoid any inconvenience to residents and from safety point of view also.
99. Contractor is bound to take N.O.C. (No Objection Certificate/ Clearance) from Concern work circle, Electrical Division/ EEEUDD/BSNL/GAIL/IGL/others related service division before execution of work and shall submit the same to engineer in charge. In case of any disobedience the contractor shall be liable for strict action as per agreement clause.
100. The Contractor is bound to execute the work as per respective I.S. code/ specification with latest amendment.
101. मा0 राष्ट्रीय हरित अधिकरण (NGT) द्वारा वायु प्रदूषण रोकने के लिए Guideline का पालन सम्बन्धित संविदाकार द्वारा कार्यस्थल पर किया जायेगा तथा इन आदेशों की अवहेलना पाये जाने पर उसके विरुद्ध दण्डात्मक कार्यवाही की जायेगी तथा पेनल्टी भी लगायी। इस हेतु Engineer-in-Charge का नोटिस अन्तिम माना जायेगा तथा तदनुसार कार्यवाही सुनिश्चित की जायेगी। अतः सभी संविदाकारों को निर्देशित किया जाता है कि मा0 राष्ट्रीय हरित अधिकरण (NGT) के दिशा-निर्देशों का पालन सुनिश्चित करें।
102. उप मुख्य कार्यपालक अधिकारी महोदय के कार्यालय आदेश संख्या पत्रांक- नौएडा/उ0मु0का0अ0(एस)/2016/195 दिनांक 09.03.2016 के अनुपालन में मा0 राष्ट्रीय हरित अधिकरण (NGT) नई दिल्ली में विचाराधीन एप्लीकेशन सं0-21/2014 वर्धमान कौशिक बनाम यनियन बैंक ऑफ इण्डिया व अन्य के अन्तर्गत दिनांक 10.04.2015 को बिल्डर्स के सन्दर्भ में दिये गये आदेश के अनुपालन में जिलाधिकारी, गौ0बु0 नगर के द्वारा पत्र सं0 1530/NGT-03/2016 dt. 05.01.2016 के द्वारा विभिन्न बिन्दुओं पर वायु प्रदूषण की रोकथाम हेतु विभिन्न शर्तें लागू करते हुए दिये गये आदेशों के क्रम में उक्त शर्तों को नौएडा प्राधिकरण में चल रहे विकास कार्यों के संविदाकारों पर लागू किया जाना आवश्यक है। अतः उक्त में प्राविधानित निम्न पर्यावरणीय सम्बन्धी दिशा निर्देशों को निविदा की शर्तों में शामिल किया जा रहा है, जो कि निम्न प्रकार है-
1. Every Project proponent shall put **tarpaulin** on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony.
  2. The construction material of any kind that is stored in the site will be fully covered in all respects so that it does not disperse in the air in any form.
  3. The dust emissions from the construction site should be completely controlled and all precautions taken in that behalf.
  4. Every worker working in the construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mask to prevent inhalation of dust particles.
  5. Every Project proponent shall be under obligation to provide all medical help, investigation and treatment to the worker involved in the construction of building and carry of construction material and debris relating to dust emission.
  6. All builders/owners should take appropriate measures and strictly comply with by fixing sprinklers and creations of green air barriers on construction site.
  7. Compulsory use of wet-jet in grinding and stone cutting.
  8. Wind breaking walls around construction site and proper maintenance of greenbelt should be answered.
  9. All builders shall ensure that C&D waste is transported and disposed to the C&D waste site only and due record in that behalf shall be maintained by the builders and transporters.
  10. It shall be the responsibility of every builder that all the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever.
  11. The vehicles carrying construction material and construction debris of any kind should be cleared before it is permitted to ply on the road after unloading of such material.
  12. Project proponent should demarcate transportation routes for vehicle in a well-planned manner to avoid traffic congestion in and around the construction site.
  13. The entry and exit points design is very important as it should not disturb the existing traffic. This clear demarcation of entry and exit points is important.
  14. Project proponent shall ensure that periodical auto maintenance report from the contractor to avoid vehicular

- pollution.
15. Fitness certification is a statutory requirement for commercial vehicles and public transport vehicle. Periodicity for certification is once in a Year.
  16. Pollution Under Control (PUC) certificates are required to be obtained every three months for all categories of vehicles and Life of vehicle should be inspected to avoid further air pollution.
  17. Viable emission control technologies exist to reduce diesel exhaust emissions designed to control particulate matter (PM) should be installed/used such as Diesel oxidation catalysts (DOCs), Diesel particulate filters (DPFs), Exhaust gas recirculation (EGR), Selective catalytic reduction (SCR), Lean Nox catalysts (LNCs), Lean traps (LNTs).
  18. The Vehicles carrying garbage should be covered with polythene/Tripal otherwise contractor will be suitable penalized.
  19. Garbage, dry leafs burning is a serious offence. If it is found at site, respective contractor will be suitably penalized.
103. जिन निर्माण कार्यों में पूर्व में निर्मित सड़क के Right of way में खुदाई की जानी है उसमें संविदाकार यूटिलिटी डिटेक्टर मशीन से विभिन्न यूटिलिटी को चिन्हीत करने के पश्चात Engineer-in-Charge से अनुमति लेकर कार्य प्रारम्भ करायेंगे।
  104. निविदा के अंतर्गत यदि किसी प्राईवेट लिमिटेड/साझेदार फर्म द्वारा भाग लिया जाता है तो प्री-क्वालीफिकेशन के अंतर्गत मांगे गये चरित्र प्रमाण पत्र केवल फर्म के प्राधिकृत व्यक्ति का ही मान्य होगा।
  105. ई-निविदा प्रक्रिया के अन्तर्गत निविदा की धरोहर राशि/निविदा प्रपत्र मूल्य की नेट-बैंकिंग (online payment) के माध्यम से जमा धनराशि मान्य होगी।
  106. जिन कार्यों में बी0एम0 एवं ए0सी0 के कार्य संयुक्त रूप से सम्मिलित होते हैं, उनमें रुपये 1.00 करोड़ से अधिक लागत के बी0एम0, ए0सी0 के कार्य के प्रकरण में संविदाकार यह शपथ पत्र देगा कि संविदाकार हॉट मिक्स प्लान्ट के स्वामित्व के प्रमाण के रूप में क्रय करने सम्बंधी प्रपत्र भी ई-पोर्टल पर अपलोड करने होंगे।
  107. प्राधिकरण में पर्यावरण/मितव्ययता को दृष्टिगत रखते हुए पार्क/ग्रीन बेल्टों व प्राधिकरण की भूमि को अतिक्रमण से बचाने हेतु चारदिवारी के निर्माण को प्री-कास्ट तकनीकी से बनाये जाने के निर्णय के फलस्वरूप केवल प्री-कास्ट आर0सी0सी0 (फैक्टरी निर्मित) के कार्यों की निविदा में प्रतिस्पर्द्धा बढ़ाने के लिए निविदाओं में भाग लेने वाले निविदाकारों को सरकारी/अर्द्धसरकारी विभागों के अनुभव के साथ-साथ निजी संस्थाओं जिनके पास इस निर्माण हेतु अपना स्वयं का प्लान्ट हो, के कार्यों का अनुभव भी मान्य होगा। अनुभव की सीवर व टर्न ओवर आदि शर्तें पूर्ववत् ही रहेगी।
  108. निविदा में पुनः प्रकाशन के प्रकरण में यदि पहले किसी निविदाकार द्वारा निविदा का शुल्क जमा किया गया है, तो पुनः प्रत्येक प्रकाशन के उपरांत निविदा शुल्क भी पुनः जमा कराया जाना आवश्यक है।
  109. विभिन्न निविदाकारों द्वारा ई-पोर्टल पर अपने अनुभव प्रमाण पत्र, सोलवेंसी प्रमाण पत्र लगाये जा रहे हैं। अनुभव प्रमाण पत्रों व अन्य समस्त आवश्यक अर्हता सम्बन्धी प्रपत्रों की प्राईस बिड खुलने से पूर्व सम्बन्धित विभाग से सत्यापन जरूरी है, जिनका सम्बन्धित परियोजना अभियन्ता, वर्क सर्किल द्वारा सत्यापन कराया जायेगा तथा समस्त प्रमाण पत्रों के सत्यापन के पश्चात ही पत्रावली निविदा समिति को प्रस्तुत की जायेगी। ई-पोर्टल पर जमा किये गये कोई भी प्रमाण पत्र सत्यापन पर यदि झूठे/Fake पाये जाते हैं तो उसे प्री-क्वालीफिकेशन में अयोग्य तो किया ही जायेगा तथा साथ-साथ सम्बन्धित संविदाकार को प्राधिकरण में निविदा में भाग लेने से कम से कम दो वर्ष के लिए वंचित किया जायेगा।
  110. मा0 राष्ट्रीय हरित अधिकरण (NGT) के आदेश दिनांक 11.01.2013 व Central Ground Water Authority द्वारा जल दोहन रोकने के लिए Ministry of Environment and Forest के नोटिफिकेशन नं0 S.O.38(E), dated 14.01.1997 व नोटिफिकेशन नं0 S.O.1121(E), dated 13-05-2010 के द्वारा जल दोहन प्रतिबंधित करने की Guideline का पालन सम्बन्धित संविदाकार द्वारा कार्यस्थल पर किया जायेगा। अतः सभी संविदाकार कार्यस्थल पर जल दोहन प्रतिबंधित करने सम्बंधी मा0 राष्ट्रीय हरित अधिकरण (NGT) व Central Ground Water Authority के दिशा-निर्देशों का पालन सुनिश्चित करेंगे।
  111. राजाज्ञा सं0 194/36-3-2014-07(न्यू0वे0)/04 दिनांक 28.01.2014 के अनुपालन में न्यूनतम मजदूरी अधिनियम 1948 के अन्तर्गत वांछित देय परिवर्तनीय मंहगाई भत्ता समय-समय पर दिये गये निर्देशों का अनुपालन संविदाकार द्वारा किया जाना आवश्यक होगा।
  112. जल नलिकाएँ फटने, नलिकाओं के अन्य किसी कारण से अवरूद्ध होने, सीवर लाईन ओवर-फ्लो, सीवर लाईन ब्लॉकेज, मैनहोल क्षतिग्रस्त, मैनहोल के कवर/ फ्रेम क्षतिग्रस्त, मैन होल सड़क सतह के ऊपर/ नीचे होने व अन्य अनुरक्षण/ प्रोजेक्ट ग्रामों से इन्जीनियर इन्चार्ज द्वारा तय की गयी समय सीमा के अन्तर्गत मरम्मत-कार्य/कार्य करना होगा। जिसकी सूचना संविदाकार को दूरभाष, एम0एम0एस0 अथवा ई-मेल के माध्यम से दी जायेगी। अन्यथा की स्थिति में आपातकालीन कार्य विभाग द्वारा अन्य फर्म द्वारा संविदाकार के खर्च पर करा लिया जायेगा। जिसकी कटौती संविदाकार के बीजक से कर ली जायेगी।
  113. रु0 50.00 करोड़ की धनराशि तक के कार्यों की सम्पूर्ण धरोहर राशि आर0टी0जी0एस0 के द्वारा जमा कराई जायेगी, जिससे उक्त राशि तक के निविदाकारों को बैंक गारन्टी/एफ0डी0आर प्राधिकरण में जमा नहीं करना पड़ेगा। रु. 50.00 करोड़ से अधिक धनराशि के कार्यों के प्रकरणों में धरोहर राशि की रु. 1.00 करोड़ आर0टी0जी0एस0 के रूप में वअवशेष धरोहर राशि को बैंक गारन्टी/एफ0डी0आर0/जमा करने की तिथि निविदा प्राप्ति की तिथि के पश्चात रखी जायेगी।
  114. ठेकेदारी की अर्हता प्रपत्रों में टर्न ओवर के संबंध में Chartered Accountant (CA) के प्रमाण पत्र को अर्हता प्रपत्रों का आधार माना जाता है, जिसको अधिक पुष्टि व पारदर्शी बनाने हेतु CA द्वारा दी जा रही सूचना के साथ-साथ ठेकेदारों द्वारा शपथ पत्र पर उक्त सूचना भी उपलब्ध करानी होगी तथा सी0ए0 द्वारा जारी किये जाने वाले समस्त प्रपत्रों तथा टर्न ओवर अथवा बैलेन्स शीट इत्यादि पर UDIN अंकित होना अनिवार्य है।

115. यदि किसी फर्म अथवा कम्पनी का मर्जर किसी अन्य फर्म अथवा कम्पनी में होता है, तो संबंधित पुरानी फर्म अथवा कम्पनी के संबंध में यह प्रमाण पत्र प्राप्त किया जाना आवश्यक है कि वह पुरानी फर्म अथवा कम्पनी के नाम से नये कार्य नहीं ले रहे हैं तथा जो भी टर्न ओवर, अनुभव पुरानी फर्म अथवा कम्पनी का मर्जर के बाद का है तभी नई कम्पनी में विभाग द्वारा नीतिगत रूप से मान्य किया जायेगा।
116. यदि किसी ठेकेदार द्वारा अपनी अर्हता के संबंध में जमा कराये गये प्रपत्रों में कभी भी कार्य के अंतिम भुगतान तक यह संज्ञानित होता है कि कार्य की अर्हता संबंधित में जमा कराये गये प्रपत्र फर्जी है, गलत सूचनाये दी गई हैं अथवा सूचनाये विभाग से छुपाई गई है, तो ऐसे प्रकरणों में संबंधित ठेकेदार का वह अनुबंध तत्काल निरस्त किया जाना, उस समय तक विभाग के पास उपलब्ध जमानत राशि को जब्त किया जाना तथा संबंधित को प्राधिकरण में कार्य लेने पर वंचित किया जायेगा तथा आवश्यकतानुसार ठेकेदार के विरुद्ध कानूनी कार्यवाही व काली सूची में भी डाला जायेगा।
117. ₹ 50.00 करोड़ की धनराशि तक के कार्यों की सम्पूर्ण धरोहर राशि आर0टी0जी0एस0 के द्वारा जमा कराई जायेगी, जिससे उक्त राशि तक के निविदाकारों को बैंक गारन्टी/एफ0डी0आर प्राधिकरण में जमा नहीं करना पड़ेगा। ₹. 50.00 करोड़ से अधिक धनराशि के कार्यों के प्रकरणों में धरोहर राशि की ₹. 1.00 करोड़ आर0टी0जी0एस0 के रूप में वअवशेष धरोहर राशि को बैंक गारन्टी/एफ0डी0आर0/जमा करने की तिथि निविदा प्राप्ति की तिथि के पश्चात रखी जायेगी।
118. बैंको द्वारा जारी सोल्वेंसी प्रमाण पत्र जो छह माह से अधिक के लिए जारी किये गये हैं, वो भी जारी होने के छह माह उपरान्त पुनः **Revalidate** कराना अनिवार्य होगा।
119. यदि किसी दो प्राइवेट लिमिटेड कम्पनी/साझेदारी फर्म में एक ही व्यक्ति निदेशक/साझेदार है एवं दोनों ही कम्पनियों एक ही जॉब की निविदा में टेण्डर डालती है तो ऐसी निविदाओं में प्रीक्वालिफिकेशन प्रपत्र खोलते समय एक ही निदेशक/साझेदार की निविदाओं को निरस्त कर दिया जायेगा।
120. सीवरेज कार्यों के अन्तर्गत सीवर लाइन सफाई के कार्यों में सफाई हेतु प्रयोग में आने वाली मशीन के संचालन हेतु फर्म द्वारा (निविदाकार) प्रमाण पत्र संलग्न किया जाना आवश्यक है। तथा कार्य के निष्पादन भुगतान के समय सफाई करते समय के फोटोग्राफ, सी0डी0 भी संलग्न करने के उपरान्त ही खण्डीय स्तर से भुगतान की संस्तुति की जायेगी।
121. निविदा के साथ संलग्न समस्त प्रपत्रों की वैधता, निविदा खोलने की निर्धारित तिथि तक होनी चाहिए।
122. न्यूनतम निविदाकार को स्वीकृति पत्र जारी होने के 10 दिनों की अवधि में वांछित प्रपत्र जमा करना अनिवार्य होगा। यदि उक्त अवधि में वांछित प्रपत्र जमा नहीं किया जाता है तो निविदा को निरस्त कर दिया जायेगा। केवल अपरिहार्य परिस्थितियों के दृष्टिगत अधोहस्ताक्षरी की स्वीकृति उपरान्त एक सप्ताह तक की अतिरिक्त अवधि संविदाकार को प्रदान की जा सकेगी।
123. कार्यालय आदेश संख्या-नौएडा/मु0अ0(सिविल)/2016/201 दिनांक-10.03.2016 के क्रम में निविदाकारों को स्पष्ट निर्देशित किया जाता है। कि अपने अपने कम्प्यूटर से ही निविदा डाले क्योंकि एक से अधिक निविदाकारों के एक समान आई0पी0 एड्रेस पाये जाने पर उक्त निविदाकारों की निविदा को निरस्त कर दिया जायेगा।
124. The only class one licensed Electrical Contractor approved by the electrical inspector to the U.P. Govt. are Entitled to submit their tender the photo state copy of approved license must be enclosed by the contractor along with the tender document at the time of submission of tender in support of award of approved license. (Condition No. 124 Only for Electrical Work)
125. जल नलिकार्यें फटने, पर संविदाकार द्वारा लीकेज की मरम्मत करने के उपरान्त यदि पुनः उसी स्थान पर लाइन लीकेज करती है तो संविदाकार द्वारा स्वयं खर्च पर लाइन की मरम्मत करनी होगी। जिसका कोई अलग से भुगतान नहीं किया जायेगा।
126. The contractor shall arrange the inspection of motor/ pump before rewinding of the same.
127. कार्यस्थल पर सभी सुरक्षा उपकरण (जैसे मानको के अनुरूप बेरीकेटिंग, मास्क, आक्सीजन सिलेण्डर, मजदूरों के लिये रैट्रो रिफ्लेक्टिव जैकेट, हेलमेट, सुरक्षा बैल्ट, बिलिंगम टार्च, दस्ताने, बूट, ट्रैफिक सीटी, सुरक्षा टेप, लाल रंग का झण्डा, कोन इत्यादि की व्यवस्था स्वयं अपनी लागत पर करेगा तथा इसके अभाव में घटित घटना का उत्तरदायी संविदाकार स्वयं होगा।
128. संविदाकार द्वारा मैनहोल को प्लग करना एवं प्लग तोड़ना, आवश्यकतानुसार उचित क्षमता के मोटर /पम्प का प्रयोग करके सीवर को लाइन से निकालकर मानक अनुरूप अविवादित /निर्धारित एवं सुरक्षित उचित दूरी पर डिस्पोजल करना इत्यादि कार्य पूर्ण सुरक्षा मानकों का प्रयोग करते हुए अपनी लागत पर किये जायेंगे।
129. वित्त नियंत्रक महोदय के कार्यालय आदेश पत्र सं0 नौएडा/वि0नि0/2020/3403 दिनांक 21.05.2020 के क्रम में (The Institute of Chartered Accountants of India द्वारा दिनांक 01.07.2019 से) निविदाओं में भाग लेने हेतु सनदी लेखाकार द्वारा जारी किये जाने वाले समस्त प्रपत्रों तथा Turn Over अथवा Balance sheet इत्यादि पर UDIN अंकित होना अनिवार्य होगा।
130. सुपर सकर मशीन से सफाई करने की स्थिति में समय-समय पर जारी नौएडा के आदेश पत्रों तथा सुरक्षा निर्देशों का पालन अनिवार्य रूप से निविदाकार द्वारा किया जायेगा।
131. सीवर टैंक/सीवेज कुआ/ सीवेज पाइप लाइन / सीवेज वेसिन/ रिजरवायर की सफाई में BOQ एवं NIT की शर्तों के अनुसार गैसीय स्थिति में सुरक्षा मानकों का अनुपालन करना संविदाकार के लिए अनिवार्य होगा।
132. सफाई कार्य में प्रयोग किये जाने वाले कैमिकल का प्रयोग नौएडा अधिकारियों से अनुमति प्राप्त करने के उपरान्त ही किया जायेगा जिसकी गुणवत्ता व मात्रा का समुचित रख रखाव संविदाकार को रखना होगा तथा मांग करने या बिल बनाने से पूर्व सत्यापन कराना अनिवार्य होगा।
133. नई मोटर /पम्प की सफाई की स्थिति में न्यूनतम 1 वर्ष, तथा स्टार्टर की वारंटी न्यूनतम 6 माह संविदाकार द्वारा स्वयं के खर्च पर दी जायेगी गारन्टी पीरियड में खराब होने की स्थिति में निकालने/ परिवर्तन या अन्य कोई टूट फूट का खर्चा संविदाकार को स्वयं वहन करना होगा।
134. मोटर पम्प बाइंडिंग कार्य की स्थिति में न्यूनतम वारंटी पीरियड का पालन संविदाकार को करना होगा जिसको पुनः निकालने/ परिवर्तन या अन्य कोई टूट फूट का खर्चा संविदाकार को स्वयं के खर्च पर वहन करना होगा। न्यूनतम वारंटी पीरियड का शपथपत्र संविदाकार द्वारा अनुबन्ध गठन के समय जमा कराया जाना अनिवार्य है।

135. सी0सी0 पहुँच मार्ग के साथ में सी0सी0 कार्य से पूर्व **job mix formula** मानक संस्था/ सक्षम स्तर से स्वीकृति/ अनुमोदित कर खण्ड में जमा कराने का दायित्व संविदाकार का होगा जिसके लिए अलग से कोई धनराशि देय नहीं होगी ।
136. OCEMS/Flow Meter/ CCTV के कार्य में आपूर्ति/स्थापना/टेस्टिंग/कमीशनिंग तथा बी0ओ0क्यू0 में दी गयी निर्धारित अवधि तक संचालन व मरम्मत का कार्य सम्मिलित है । नियमानुसार सभी लगाये गये फ्लो मीटर का नियमित रिकार्ड रखना अनिवार्य है तथा यह संचालन व मरम्मत के कार्य में शामिल है । इसके लिए अतिरिक्त कोई व्यय धनराशि देय नहीं है । OCEMS/Flow Meter/ CCTV की निर्माता कम्पनी के मेक यदि बी0ओ0क्यू0 या एन0आई0टी0 में प्रदर्शित नहीं है तो आपूर्ति से पूर्व सभी एन0जी0टी0 मानकों की गाइड लाइन/स्पेसिफिकेशन के अनुसार नौएडा प्राधिकरण से / इंजीनियर इन्चार्ज से **Approved** कराना अनिवार्य है ।
137. निविदा में भाग लेने वाले संविदाकार द्वारा रु. 100.00 के Non Judicial स्टाम्प पेपर पर नौट्राइज्ड शपथ पत्र निविदा में अपलोड किया जाना आवश्यक है कि उसका कोई निकट सम्बन्धी प्राधिकरण में कार्यरत नहीं है ।
138. उप महाप्रबन्धक (टी0ए0सी0) के कार्यालय आदेश सं0 :नौएडा/उ0म0प्र0(टी0ए0सी0)/2021/01 दिनांक 25.08.2021 के क्रम में नौएडा प्राधिकरण की निविदाओं के निष्पादन हेतु निम्न प्रक्रिया प्रभावी होगी :-

**निविदा आमंत्रण प्रक्रिया :-**

1. रुपये 10.00 लाख तक के कार्यों हेतु अनुभव की योग्यता अनिवार्य नहीं होगी ।
2. रुपये 10.00 लाख से अधिक के कार्यों में समान प्रकृति के निर्माण कार्यों की निम्नानुसार योग्यता आवश्यक होगी :-  
(क) कार्य की लागत के 80% लागत का कम से कम एक कार्य निविदाकार द्वारा अपने नाम से किया हुआ होना चाहिए ।  
(ख) कार्य की लागत के 60% लागत का कम से कम दो कार्य निविदाकार द्वारा अपने नाम से किये हुए होने चाहिए ।  
(ग) कार्य की लागत के 40% लागत का कम से कम तीन कार्य निविदाकार द्वारा अपने नाम से किये हुए होने चाहिए ।
3. नौएडा प्राधिकरण के मार्ग, सेतु भवन एवं विधुत/यांत्रिक सहित कार्यों/ निर्माण परियोजनाओं का ठेका किसी भी अपराधी व्यक्ति को नहीं दिया जायेगा । कोई भी व्यक्ति जिसका अपराधिक इतिहास हो या जिसके विरुद्ध आपराधिक मुकदमें दर्ज हो अथवा जो माफिया गतिविधियाँ, गैंगस्टर एवं गुण्डा गतिविधियों में संलग्न हो उसे ठेका नहीं दिया जायेगा । जो व्यक्ति संगठित अपराधों अथवा असामाजिक गतिविधियों में संलग्न हो उसे भी ठेका नहीं दिया जायेगा । ऐसे व्यक्तियों का ठेका प्रक्रिया में भाग लेना भी प्रतिबन्धित रहेगा जो ठेकेदार पूर्व में नौएडा प्राधिकरण अथवा राज्य सरकार के किसी अन्य विभाग में ब्लैकलिस्ट की श्रेणी में आते हैं वे भी ठेके में भाग नहीं ले सकेंगे और उन्हें कोई भी ठेका स्वीकृत नहीं किया जायेगा ।
4. ठेका स्वीकृत होने के पश्चात भी यदि यह तथ्य प्रमाणित होता है कि सम्बन्धित ठेकेदार द्वारा अन्य संभावित निविदाकर्ताओं को धमकाया जा रहा है अथवा उन्हें निविदा प्रक्रिया में भाग लेने एवं टेण्डर डालने से रोका गया है तो जिलाधिकारी अथवा पुलिस से जांच रिपोर्ट प्राप्त करने के पश्चात स्वीकृत ठेके को निरस्त कर दिया जायेगा और पुनः निविदा करके पूरी कार्यवाही की जायेगी । किसी ठेकेदार को ठेका स्वीकृत होने के पश्चात भी यदि यह तथ्य संज्ञान में आता है और जांच में प्रमाणित पाया जाता है कि संबन्धित ठेकेदार/व्यक्ति सक्रिय अपराधिक गतिविधियों/असामाजिक कार्यों तथा संगठित अपराधिक गतिविधियों में लिप्त है तो उसे प्रदान किया गया अनुबन्ध अथवा पट्टा का ठेका निरस्त कर दिया जायेगा ।
5. शासनादेश संख्या 6738/23-7-06-176(सा0)/06, दिनांक 05.01.2007 द्वारा लोक निर्माण विभाग में नये चरित्र प्रमाण पत्र और हैसियत प्रमाण पत्र जारी किये गये हैं । दोनों प्रमाण पत्र संबन्धित जनपद के जिला मजिस्ट्रेट/क्लेक्टर के स्वयं के हस्ताक्षर से जारी किये हुए ही मान्य होंगे । उनके स्थान पर किसी अन्य अधिकारी द्वारा निर्मित किये गये यह प्रमाण पत्र मान्य नहीं होंगे । उत्तर प्रदेश सहित भारत के दूसरे राज्यों एवं केन्द्र शासित प्रदेशों के जिलाधिकारियों/डिप्टी कमिश्नर/ समकक्ष अधिकारी द्वारा उपरोक्त प्रारूपों में निर्गत चरित्र प्रमाण पत्र व हैसियत प्रमाण पत्र मान्य होंगे । सभी का सत्यापन कराया जायेगा । फर्म/कम्पनी के नाम से पंजीकरण कराते समय फर्म/कम्पनी के नाम का हैसियत प्रमाण पत्र ही मान्य होगा । इस संबंध में महानिरीक्षक निबन्धक, उ0प्र0 के पत्र सं0501/शि0का0लख/2003 दिनांक 27.02.2003 द्वारा निर्गत निर्देशों के अनुसार कार्यवाही सुनिश्चित की जायेगी ।
6. नौएडा प्राधिकरण में जो भी व्यक्ति अथवा संस्था ठेकेदारी का कार्य करना चाहेंगी उसे स्वघोषणा पत्र देना अनिवार्य होगा । यह स्वघोषणा पत्र शपथ पत्र 100/- के स्टाम्प पेपर पर नोटरी द्वारा सत्यापित कराकर दिया जायेगा । यह स्वघोषणा शपथ-पत्र अनुबन्ध का अनिवार्य अंग है । बिना इसके कोई भी ठेका स्वीकृत नहीं किया जायेगा ।
7. किसी ठेकेदार/फर्म/कम्पनी को यदि नियमानुसार ब्लैकलिस्ट/डिबार किया गया है तो वह ठेकेदार स्वयं अथवा उस फर्म/कम्पनी का प्रत्येक पार्टनर/डायरेक्टर ब्लैकलिस्ट होता है तथा ऐसा कोई भी व्यक्ति अथवा उसका सगा संबंधी यदि पंजीकरण के लिए स्वयं अथवा किसी फर्म/कम्पनी के पार्टनर/निदेशक की हैसियत से पंजीकरण के लिए आवेदन करता है तो उस आवेदन पर विचार नहीं किया जायेगा ।

**निविदा का मूल्यांकन :-**

1. हैसियत प्रमाण पत्रों का बैंक से और जिलाधिकारी कार्यालय से सत्यापन कराया जायेगा तथा पुष्टि वित्त विभाग के लेखाधिकारी के माध्यम से भी करायी जायेगी । वित्त से सम्बन्धित समस्त अभिलेखों का सत्यापन वित्त विभाग द्वारा कराया जायेगा । गलत हैसियत प्रमाण पत्र के आधार पर ठेका नहीं दिया जायेगा ।
2. कमी-कमी ठेकेदारों के बीच अस्वस्थ प्रतिस्पर्धा (Unhealthy Competetion) के कारण कार्य की अनुमानित लागत से काफी नीचे की बोली/दरें दे दी जाती है । ऐसी दशा में यदि सक्षम अधिकारी को यह आशंका हो कि ठेकेदारों द्वारा जानबूझकर कम दरें दी जा रही हैं और इस प्रकार गुणवत्ता के साथ और मानकों के अनुरूप कार्य पूरा किया जाना संभव नहीं हो पायेगा तो सक्षम अधिकारी को यह अधिकार होगा कि वह ठेकेदार से इसका विस्तृत विवरण मांगे कि वह क्यों इतनी कम दरें दे रहा है और इतनी कम लागत पर उस परियोजना को कैसे पूरा कर सकेगा । यदि इस आशंका की पुष्टि हो जाती है कि ठेकेदारों द्वारा जानबूझकर ऐसा किया जा रहा है तो वह मेरिट के आधार पर टेण्डर को निरस्त कर सकते हैं ।
3. प्राईस बिड खोले जाने के उपरान्त यदि निविदाकार की दरें निविदित दरों से कम प्राप्त होती हैं तो न्यूनतम निविदाकार को अर्ह पाया जायेगा तथा उक्त निविदाकार की निविदा सक्षम स्तर से स्वीकृति सम्बन्धित अग्रिम आवश्यक कार्यवाही की जायेगी । अधिक दरें प्राप्त होने पर निविदा निरस्त करते हुए पुनः निविदा आमंत्रित की जायेगी ।

**निविदा में दरों के नेगोसिएशन के सम्बन्ध में :-**

1. सामान्य किसी भी निविदादाता से कोई भी नेगोसिएशन नहीं किया जायेगा एवं यदि अधिक दरें प्राप्त होती हैं तो पुनः निविदा आमंत्रित की जायेगी ।
2. अपरिहार्य परिस्थितियों में यातायात की सुरक्षा हेतु मरम्मत या अति विशिष्ट व्यक्तियों के आगमन हेतु निर्माण कार्य इत्यादि में केवल प्रथम निविदादाता से नेगोसिएशन किया जायेगा
3. किसी भी परिस्थिति में प्रथम न्यूनतम निविदाकार को छोड़कर किसी भी निविदादाता से किसी भी प्रकार का नेगोसिएशन नहीं किया जायेगा ।

#### **अनुबन्ध गठन प्रक्रिया :-**

1. नौएडा प्राधिकरण में अनुबन्ध गठन वित्तीय प्रतिनिधायन के अनुसार किया जायेगा ।

**कार्य की गुणवत्ता में कमी के कारण अर्थदण्ड :-** नौएडा प्राधिकरण में कराये जा रहे कार्यों में कही भी ठेकेदार के कार्य में क्वालिटी में कमी व मात्रा में कमी, कार्य पूर्ण होने के बाद भी जॉच में पाये जाने पर लोक निर्माण विभाग की भैंति ही प्राधिकरण को हुई हानि का 50 प्रतिशत ठेकेदारों से उनके बिलों से काटा जायेगा ।

**कार्य में विलम्ब के कारण अर्थदण्ड :-** नौएडा प्राधिकरण में कार्यों में विलम्ब होने पर लोक निर्माण विभाग की भैंति अनुबन्ध के GPW Form-9 की क्लॉज 2 के अनुसार निम्न व्यवस्था रहेगी ।

यदि संविदाकार द्वारा स्वीकृत समय सीमा के अन्तर्गत कार्य पूर्ण नहीं किया जाता है तो उस पर कार्य की कुल लागत का 1.0 प्रतिशत प्रतिदिन या सक्षम अधिकारी जो भी उक्त सीमा तक उचित समझे अर्थदण्ड लगा सकता है । उक्त अर्थदण्ड अनुबन्ध की कुल लागत का 10% तक हो सकता है ।

**Debarring/ Blacklistig की प्रक्रिया:-** नौएडा प्राधिकरण क्षेत्र में किसी भी संविदाकार/फर्म/पार्टनर/प्रोपराईटर को Debar/Blacklist हेतु निम्नानुसार व्यवस्था अपनायी जायेगी ।

**Debarring Contractor/ संविदाकारों को कार्यों में निषेध किया जाना:-** किसी भी संविदाकार/फर्म/पार्टनर/प्रोपराईटर को निम्नलिखित कारणों से किसी निश्चित अवधि जो कि महाप्रबन्धक स्तर/उच्च स्तर से निर्धारित की जा सकेगी, के लिए नौएडा प्राधिकरण के अन्तर्गत कार्यों हेतु प्रक्रियानुसार Debar/ निषेध किया जा सकता है ।

**नौएडा प्राधिकरण में निम्न कारणों से किसी भी संविदाकार को Debar/ निषेध करने की कार्यवाही की जायेगी ।**

1. संविदाकार द्वारा कार्य की गुणवत्ता सुनिश्चित ना करना ।
2. संविदाकार द्वारा किये गये कार्य पर विभिन्न तरह की निर्माण सम्बन्धी कमियाँ पाया जाना ।
3. कार्य की प्रगति संतोषजनक ना होना ।
4. अनुबन्ध की किसी विशेष शर्त का उल्लंघन करना ।
5. संविदाकार या उसके प्रतिनिधि द्वारा कार्यस्थल या कार्यालय पर दुर्व्यवहार किया जाना ।
6. संविदाकार द्वारा Labour Norms और Labour Rules का लगातार उल्लंघन किया जाना ।
7. किसी भी माननीय न्यायालय द्वारा ऐसे आदेश पारित करना जिस हेतु संविदाकार को निषेध किया जाना आवश्यक है ।
8. या ऐसा कोई भी कारण जिससे संविदाकार को निषेध किया जाना उचित प्रतीत होता हो ।

**Blacklisting of Contractor/ संविदाकारों को काली सूची में डालना:-** किसी भी (संविदाकार/फर्म/पार्टनर/प्रोपराईटर) को निम्नलिखित कारणों से किसी निश्चित अवधि जो कि महाप्रबन्धक स्तर/उच्च स्तर से निर्धारित की जा सकेगी, के लिए नौएडा प्राधिकरण के अन्तर्गत कार्यों हेतु काली सूची में डालने की कार्यवाही की जा सकती है ।

1. किसी भी संविदाकार को जिसके द्वारा ऐसे कारण प्रतीत हो जिससे उसके द्वारा या उनके किसी प्रतिनिधि/कर्मचारी निम्न कारणों से दोषी पाया जाता है । जैसे घूसखोरी, भ्रष्टाचार, धोखाधड़ी, निविदाओं में छेड़छाड़ या सरकारी सम्पत्ती का दुरुपयोग इत्यादि या ऐसे कृत्य जिसकी वजह से संविदाकार द्वारा अनुचित तरीके से लाभ प्राप्त करना एवं सरकार को क्षति पहुँचाना ।
2. संविदाकार द्वारा सरकारी देयकों का भुगतान न करना या विभाग के ऐसे आदेशों की अवहेलना करना जिसकी वजह से विवाद/ Arbitration उत्पन्न हो सकता है ।
3. ऐसे प्रकरण में जहाँ संविदाकार एवं उसके पार्टनर/प्रतिनिधि जिस पर किसी भी माननीय न्यायालय द्वारा उनके विरुद्ध कोई भ्रष्टाचार के आदेश निर्गत किये गये हो ।
4. सुरक्षा या सरकार के प्रति द्रोह की संभावना के कारण ।

**Debar/Blacklisting किये जाने के बाद की कार्यवाही:-**

1. किसी भी संविदाकार को Debar/Blacklist किए जाने के उपरान्त संबंधित संविदाकार द्वारा नौएडा प्राधिकरण के अन्तर्गत किसी भी अन्य नाम से भी प्रतिभाग नहीं किया जा सकेगा ।
2. संविदाकार को Debar/Blacklist किए जाने के उपरान्त सामान्यतः उसको रद्द (revoke) नहीं किया जायेगा । यद्यपि निम्न कारणों पर इस पर विचार किया जा सकता है ।
  - a. किसी भी समीक्षक अधिकारी द्वारा दिये गये दण्ड में यह पाया जाता है कि दण्ड अधिक है या दिया गया दण्ड उचित नहीं है ।

**Or**

- b. मा0 न्यायालय द्वारा उक्त आदेश के विरुद्ध कोई आदेश पारित किए गये हो ।
3. जिस संविदाकार को Debar/Blacklist किया जायेगा वह संविदाकार नौएडा प्राधिकरण के अन्तर्गत किसी भी कार्य को करने हेतु उक्त समय सीमा तक प्रतिबन्धित माना जायेगा ।
  4. किसी भी संविदाकार को Debar/Blacklist करने के उपरान्त उस संविदाकार के प्रगतिरत कार्यों को अनुबंधों की शर्तानुसार उसके समस्त कार्यों को उसी स्थिति में अन्तिमीकरण कर दिया जायेगा एवं उसकी धरोहर राशि को मुक्त कर दिया जायेगा ।
  5. Debar/Blacklist के आदेशों की प्रति सभी कार्यालय को प्रेषित की जायेगी एवं सभी कार्यालयाध्यक्ष अपने कार्यालय में एक रजिस्टर रखेंगे जिसमें Debar/Blacklist किये गये संविदाकारों का विवरण अंकित होगा ।

**अनुबन्ध का अन्तिमीकरण :-**

1. प्राधिकरण में विचलन/समयवृद्धि/अतिरिक्त मद/सब्टीट्यूट मद की स्वीकृति, वित्तीय प्रतिनिधायन के अनुसार सक्षम स्तर से प्रदान की जायेगी
2. नौएडा प्राधिकरण में वर्तमान में समस्त कार्यों में गुणवत्ता एवं तकनीकी पहलुओं के द्रष्टिगत रखते हुए कार्य में रह गयी कमियों के लिए तैयार किये गये कटौती प्रस्ताव को टी0ए0सी0 विभाग के माध्यम से परीक्षण कराते हुए सक्षम स्तर से स्वीकृत कराया जायेगा । तदोपरान्त वरिष्ठ प्रबन्धक/उपनिदेशक/परियोजना अभियन्ता स्तर से अन्तिमीकरण किया जायेगा ।
3. नौएडा प्राधिकरण में अनुबन्धों में मूल्यवृद्धि के सम्बन्ध में निम्नानुसार कार्यवाही की जायेगी ।
4. दिनांक 01.07.2021 के बाद उत्तर प्रदेश लोक निर्माण विभाग के अनुसार गठित होने वाले रु. 100.00 करोड तक की लागत के कार्यों में 10CC/Price Escalation की व्यवस्था नहीं रहेगी ।

5. रु. 100.00 करोड से अधिक लागत के कार्यो में भारत सरकार का स्टैण्डर्ड बिड डाक्यूमेंट का प्रयोग किया जायेगा जिसमें CPWD की भॉति 10 CC की व्यवस्था रहेगी ।

**PRFFERED MAKES**

CIVIL ITEM		
S NO	MATERIAL, WORK	SUPPLIER, MANUFACTURER, VENDOR, AGENCY
1	Cement (OPC) 43 Grade / 53 Grade	Ultratech, Ambuja, , Birla Super, J K , Lafarz , shri cement
2	Cement (SRC)	ACC, Ultratech, Birla, Ambuja
3	Cement (White)	Birla, JK
4	Cement (PPC)	ACC, Ultratech, Birla, Ambuja
5	Bricks	Ordinary Burnt Clay Bricks of any brand conforming to IS: 1877 with minimum Crushing Strength of 40 Kg/cm <sup>2</sup> and Water Absorption Ratio restricted to 25% for Bricks used in Panel Walls and 20% for Bricks used in Load Bearing Walls
6	Mild, Tor Steel, CRS Steel	TISCO, SAIL, RINL
7	Structural Steel	SAIL, TISCO, RINL
8	Screws (Stainless Steel only)	any brand conforming to SS304
9	Dash Bolt Fasteners (Stainless Steel only)	Fischer, Hilti or any brand conforming to SS304
10	Ceramic Tiles	Spartex, Kajaria, Nitco, Johnsons, Somany, Pedder, Orient
11	Glazed Tile(1st Quality)	H & R Johnson, Kajaria, Spartex, Somani Pilkington, ECL, Nitco,
12	Granite Tiles	Bell Granito, Naveen, H & R Johnson, RAK Ceramics – Dubai, Restile Ceramic, Nitco, Kajaria,
13	Glass Mosaic Tiles	Bisazza India, Pino Bisazza, Nitco, Kajaria, equivalent
14	Paver Blocks	Camwood Prefab, Hindustan Prefab, KK span or equivalent
15	Adhesives	Pidilite, Fairmate, Bal Adhesive, MC Bauchemie, Cementone India, Fosrock, Sunanda Speciality Coating
16	MS Door Frames & Shutters (With Galvanising)	Agew, Ferrosteel, Sen Harvic, Weldoors, Yashashri Polyextrusion, or equivalent in 16 Gauge powder coated.



17	Door Shutters with Formica top finish (Wooden)	Kutty, Anchor, Classic, Goyal, Timber Techniks, Sejpal Doors, Wood Designs, Yashashri Polyextrusion, Anand Wood Crafts, Northern Doors , Kitply
18	Door Shutters (FRP) & Plastic	Everest fibre glass Industries, Unipals India, Advance Marketing, Yashashri Polyextrusion, Sintex, equivalent
19	Hardware (Handles, Hinges, Mortice Locks)	Shalimar, Sobeet, Vijayan, Navbharat Brass Works, CIEF, Amarbhoy Dossaji
20	Aluminium Windows	Aluminite, Aluplex, Almech, Indrajit Associates, Aldoweit, Crystal Corporation, Indal, Jindal, Ajit India, equivalent
21	Night Latch	Godrej, Sobeet, Vijayan, Yale, equivalent
22	Paints:	
	a. Internal ( Royal paint)	Snowcem, Asian, ICI, British Paints, Shalimar, Nerolac, Berger, Jenson & Nicholson
	b. External (Apex ultima paint)	NITCO Paints, Killick Nixon, Hindustan Colors and Chemicals, Supreme, Shalimar, Berger, Jenson&Nicholson, Super Snowcem., Asian
23	Synthetic Plaster Finish	Nitco, Accro, Damani Dye Stuff, Supreme, Renova, Asian
24	Waterproofing Works	India Waterproofing Co., Likproof India, Overseas Waterproofing Co. or equivalent
25	Waterproofing Compound	Accoproof, Pediproof, CICO, Impermo, Vamiplas 302, Vamiproof 101 & 102 , Fosroc
26	Glazing	Float Glass of Modi , Asahi , Saint Gobain
27	M.S. Rolling Shutters (With Galvanising)	Swastik, Standard, Shudwar, equivalent with 18 Gauge GI sheet material
28	Aluminium Grills	DECO, Alumni grille, equivalent
29	Aluminium Joinery	Crystel Corporation, Alumlite, Aluplex, Alm
30	Anti-stripping Agent	Yuva, BE 100, equivalent
31	Chemical Admixtures Compounds for RCC and Mortar	MC Bauchemie, Krishna Conchem Products, Sunanda Chemicals, Pidilite, Fairmate, Fosroc, Sika Qualcrete
32	Anti-Corrosive Paint	Krishna Conchem Products, CICO Chemisol Adhesive, Shalimar, Burger, equivalent
33	Sanitary ware	Hindustan, Parry, Cera, John Gas, Jotisum, Jaguar
34	Flushing Cistern	Flush Line or equivalent Approved ISI Manufacturers

35	Sanitary Fittings and Fixtures	Mark, Jaguar, Gem, Dripless, Kingston, Essco, Metro, Ess Ess
36	Lead for Lead Joints	Approved ISI Manufacturers
37	Rubber Ring	Approved ISI Manufacturers
38	Stainless Steel Sink	Nirali, Tuff, Diamond, Kingston, Neel Kamal
39	SW Gully Trap and Stone ware Pipes	Perfect, Sonya, Girco, Elecon, Rajura, equivalent
40	Cast Iron Covers	RIFCO, Mohit Steel, Ashok Iron Works, Jayswal Neco
41	Piling Works	Kvaerner, Afcons, Michigan Engineering, Larsen & Toubro, DBM Geotechnics, Meher Foundations, Safe Foundations, Simplex
42	Fire-fighting Works	Monsher, Mather & Platt, Bells Controls, Nitin Fire, Rahul Fire
43	Elevators	Otis, Mitsubishi, Kone, Bharat Bijlee, Schindler
44	Sodium Nitrate	Devica Chemicals or equivalent Approved ISI Manufacturers
45	Sodium Silicate	Devica Chemicals or equivalent Approved ISI Manufacturers
46	Marine Plywood	Anchor, Kitply, equivalent
47	Neeru	Sakarni, Swastik Instant Neeru or equivalent Approved ISI Manufacturers
48	Lime for Whitewash	As directed by Engineer-in-charge if any
49	Tarfelt	Shalimar, Lloyds, equivalent
50	Lightening Conductor	Approved ISI Manufacturers
51	Teak Wood	C.P. Teakwood, First Quality with following Tolerances. Sap Wood to the extent of 25% Wrap to the extent of 10 mm in 3m Knots/meter
52	S.W. Pipes	Burn & Co., Perfect Potteries, Navroji Vakil, Kashimira
53	CI Soil Pipes & Fittings as per IS : 3989/84	NECO, CENTRI , equivalent
54	G.I. Pipes Class —CII	TATA, Zenith, Jindal, Suryaprakash
55	G.I. Fittings	Approved ISI Manufacturers

56	Gate Valve / Non Return Valve	Sant, Zoloto, Leader, equivalent
57	S.W. Pipes	Rajura or other Approved ISI Manufacturers
58	Flush Valve	Hind ware, Parry ware, Jaguar, Ess
59	Water Meter	Capstan or other Approved ISI Manufacturers

#### **ELECTRICAL ITEM**

S No	MATERIAL, WORK	SUPPLIER, MANUFACTURER, VENDOR
1	S.F.U., Breakers	L&T, Siemens, GE, Schneider, CHPL
2	Distribution Boards	MDS, Siemens, Schneider, Hager, Mitsubishi
3	Indicating Digital Meters	AE, Meco, L&T, Conzerv, Schneider, Mitsubishi
4	Crimping Lugs, Glands of Double Compression Type	Dowells, Jainson, Lotus, Braco
5	Jelly filled Telephone Cables	Finolex, Universal, RPG
6	Tag Block with Boxes	Krone
7	Rossets	ITL, Tele Connectors India
8	MCB, RCCB	MDS, Siemens, Schneider, Hager, Havells, HPL, E-Square Switchgears, Mitsubishi
9	Main L.T Panels, PDB, LDB	Incorporating L&T, Siemens, GEC, Schneider Switchgear Components, Evergreen Engitech
10	Switches and Sockets	MDS (Leagrand), Schneider, Anchor, Cona, ROMA
11	PVC Copper Wires (FRLS Grade)	Sundeeep, Finolex, RR Kabel, LAPP, Polycab
12	Motors	Siemens, ABB, Bharat Bijlee, Crompton, Kirloskar, Texmo, NGEF, Alstom, WEG, LHP
13	Cable Glands and Lugs	Dowell, Lotus, A.G. Electricals, Siemens
14	Cat-6 Lan Wire	Lucent, LAPP, AMP
15	PVC Pipe	Diamond, Precision (PPI), Asian, finolex, supreme
16	Lighting Fixtures	Wipro, Phillips, Clipsal, Crompton, Bajaj, K-Lite, Keselec Shredder
17	Fans & Air-Circulators	Crompton, Bajaj, Almonard, Usha, Cinni, Rallies, Orient, Khaitan
18	Distribution Transformer 11 KV, 433V	Crompton, Kirloskar, Emco, BHEL, Bharat Bijlee, Voltas, Andrew Xule, Pactil, NGEF, Voltamp, Servokon, Telawne, Schneider, Sonal

19	11 KV VCB Breaker & Panel	ABB, Schneider, Siemens, Alstom, Jyoti, Kirloskar, Crompton, E-Square Switchgears, Evergreen Engitech, UPAPL
20	Relays	ABB, Siemens, Alstom (AREVA), Schneider, L&T
21	11 KV SF6, Insulated 3Panel, 4-Panel extensible type RMU	Crompton, ABB, Siemens, Alstom, Schneider, L&T, E-Square Switchgears, Mitsubishi
22	ACB 8-Way, Feeder Pillar 6-Way, 4 Way & Mini Pillars	Popular Brass Metal Works, ABAK, Manish, Fitwell, Super Panel, Control & Switchgear, Evergreen Engitech.
23	Fuse Base	Siemens, L & T, Popular Brass Metal
24	Control Cables	LAPP, Finolex
25	Batteries	Amar Raja, HBL Knife, Exide, Emco
26	11 KV End Termination & Straight through Joint	Raychem, Xicon, Danson
27	Measuring Instruments	MECO, IMP, KEW, Rishiline (L&T), Konzerv
28	PVC Insulated Cable for Working Voltage up to 1.1 KV as per IS: 694: 1990	Finolex, Asian, Polycab, Reliance, Fixolite, Torrent, Universal, Fortgloster, Vardhaman, Fixolite, Macro, CCI
29	XLPE – LT Cables as per IS:7098 Part – I: 1988	CCI, Asian, Finolex, Torrent, Macro, Fixolite, KEI, Polycab with Nitrogen Corring, Gloster , Havells
30	XLPE – HT Cables as per IS:7098 Part II – 1985	CCI, Asian, Finolex, Torrent, Macro, Fixolite, Polycab, Vardhaman, Havells, Universal, Gloster
31	PVC Insulated (HD) Cable up to 1.1 KV as per IS:1554 Part I – 1988	Torrent, Macro, Vardhaman, Finolex, CCI, Asian, Polycab
32	Air Conditioners	Samsung, LG, Voltas, Carrier
33	Lamps HPMV, HPSV Metal Halide Lamps & Accessories	Vallient, Fixolite, Bajaj, Philips
34	MCB, ELCB, RCCB,HRC	Indo Asian, MDS, Datar, HLP
35	T. W. Boards & Blocks	Double Folding Polished Board shall be in one Piece. Block up to 8l x 10l shall be in two Pieces
36	T. Switch S.P. or 2-Way S.A. to I.S.A.	Khosla, Keycee, GNE, Modern, Kalki
37	Three Pin Socket: 5A to 15A	Khosla, Keycee, Standard, Ellora
38	Ceiling Rose	Khosla, Keycee, Ellora, Oshan, Modern

39	Ring Main Unit, HT, Switch and Fuse Unit	MEI, South Andrew Yule or Department approved
40	C.T. / P.T.	Department approved
41	Auto Transformer Starter	MEI, Kilburn, JMP, Siemens, Andrew Yule, GEC, KEC
42	Trivector Meter	Department approved
43	Measuring Instrument	IMP, AE, UE, MECO, FE, Rishiline (L&T), Konzerv
44	Current Transformer	AE, Gilbert & Maxwell, IMP, Siemens, SEGC (C.S.), VM Electric or Department approved
45	PVC Conduits, PVC Pipes, HDPE Pipes	Garware, Finolex, Shakti, Circlearc, Popular, Prince
46	GOD Switches and Dropout Fuse Outfit	Kiran, Pactil, Atas or Department approved
47	Chain Pulley Block	Elephants, Hercules, WMI
48	Lugs	Dowels, Lotus, AG Electricals
49	Motor Protection Relays	Universal, Threshold, E.E., L&T, Minilac, Siemens, C&S. Telemechanique, Indo-Asian
50	Feeder Pillar, Mini Pillar	Popular Brass Metal Works, Anil Electrical Industries or Department approved
51	MCB & MCB, D.B.	MDS, Siemens, EE, Telemechanique, Havells, IndoAsian, Standard, Versa Trip, Helcon, Safeline, Datar, Schneider
52	ELCB	Datar, MDS, Standard, GE, Telemechanique, Havells, Safex, HH-ELCON, Naptune, Gutts, Indo-Asian, Siemens, GE, Schneider
53	PVC Wires, Copper Aluminium Conductor, Flexible Cables	Philco, Phyroflux, Paragon, Polyplast, V-Plast, Apex, Silvex, Delta, Pagoda, Spacecab, HMT, Ralicab, Finolex
54	HRC Fuses	L&T, Indo Asian, Siemens, Havells, ARCON, Standard, Samrat, HPL
55	Fuse Switches, SW Fuse	L&T, Siemens, Crompton, Telemechanique, Indo-Asian, Havells, HH-ELCON, Standard, KEW, Kalki, Sentinel, Stenly, Samrat, Schneider
56	Switches, Sockets	Kalki, CPL, Anchor, Precision, MK, HME, EEW
57	Cable Glands	HME, EEW, Konzerv & Department approved,
58	HC Fuse Distribution Board	CPL, EE, Ess Ess, Stenly, KEW, Kalki, Standard

59	Air, Oil Circuit Breakers (HT,LT)	Kilburn, Easun, MEI, Jyoti, Andrew Yule, Siemens, L&T, GEC, Soutern, BHEL, Telemechanique, Crompton & Department approved
60	Energy Meters	Department approved
61	Capacitors	GEC, Khatau Junkar, Crompton, L&T, Momaya, Madhav, Atlanta, Prabhodhan, Maladay, Asian, Havells, Subhodhan Schneider, EPCOS, (S+M) or Department approved
62	Steel Tubular Poles	Indian Electric Poles, Bombay Tubes, Nityanand, Rajan Tubes or approved ISI Manufacturers
63	GI Pipes, Poles	Zenith, Tata, Bharat, Jindal, Suryaprakash
64	Terminal Box, Bracket, Junction Box, Control Pillar	ELM, United, DVK or Department approved
65	Street Lighting Luminaries	Bajaj, Crompton, Philips, Genelec, Keselac, ELM, Mysore, Wipro, GE-Apar, Canara, Glolite, Indo-Asian
66	Chokes, Ignitors	Bajaj, Crompton, Philips, Genlec, Keselac, GE-Apar, Glolite, ECE, Indo-Asian
67	Power Contactors	L&T, Siemens, Bharat Cutter & Hammer, Telemechanique, HH-ELCON, Kirloskar, Crompton
68	Lamps	Bajaj, Crompton, Philips, Cema, HMT, Electron, Surya, Mysore, Sylvania-Laxman, Solarson, ECE, Indo-Asian
69	Rotary Selector Switches	L&T, Siemens, Kaycee, EE, BISOONS (ELM), Schneider, HPL
70	Post Top Lantern	Philips, Crompton, Glolite, Bajaj, Parimal, Tulip, Keselec, ECE, Genlec, ELM, Wipro, Indo-Asian
71	Street Light Controller, Timer	L&T, (TSQ 100) 24 hrs. Dial, ELM, GIC
72	ASCR Conductors	Department approved
73	Alternators	Kirloskar, Jyoti, NGEF, AVK-SEGC, KEL, Caterpillar, Stamford, CG Newage
74	Diesel / CNG Engines	Kirloskar, Greaves Cotton, Cummins, Ashok Leyland, Cater Piller, Perkins, Volvo, Sterling Wilson, Mahendra & Mahendra Powerica
75	Cable Jointing Kit	Raychem, Xicon, Benson, Mahindra (Push on) M Seal
76	Pole Paint	Jenson & Nicholson, Asian (S+M), Nerolac
77	Fluorescent Fixtures	Bajaj, Crompton, Philips, GEC, Genelec, Mysore, Wipro, Glolite, Litwell, Prestolite, Indo-Asian
78	Soft Starters	Allen Bradly, Innovative Tecno, Schneider
79	Motors	ABB, Bharat Bijlee, Crompton, Kirloskar, Siemens

## ELETROMECHANICAL & INSTRUMENTATION WORKS

S No	MATERIAL, WORK	SUPPLIER, MANUFACTURER, VENDOR
1	Mechanical Screens – Coarse & Fine with conveyor	Dorr-Oliver, Huber, Jash, Johnson, Shivpad, HNB, Yashwant, Evergreen Engitech, Parchure, Triveni, Micro transmission, Voltas
2	Detritus Mechanism	Batliboi, Dorr-Oliver, Huber, Jash, Johnson, Shivpad, HNB, Triveni, Evergreen Engitech, Micro transmission, Voltas
3	Pumps: Horizontal Centrifugal	Grundfos, Johnson, Jyoti, Kirloskar, Kishor, Mather & Platt, Worthington, Aqua, Floromore, Ganjoo pump, JASCO, MBH
4	Pumps: Submersible	ABS, Aqua, Dharani, Flowmore, Flygt, Grundfos, Homa, Jyoti, Kirloskar, Kishor, KSB, MBH, JASCO
5	Pumps: Screw (Positive Displace/ Progressive Cavity Type)	Alfa Helical, Flosys, Netzsch, Ramo, Roto, Tushaco, PD pump, Risansi, Positive
6	Pumps: Chemical Dosing (Metering)	Milton Roy, Prominent, Sandur, Shapotoools, Swelore, positive metering, fontus
7	Air Blowers	Aerzen, Airvak, Everest, HIS, Kaeser, Kay International, Swam, turbo max, KFM, DaeHa Engg, Usha Neuros
8	Air Compressor	Ingersoll Rand, Elgi, Kay International, Swam, turbo max, KFM, Usha Neuros, Atlas cropo
9A	Fine Bubble Membrane Diffusers	EDI, OTT, Rehau, SII or equivalent as per Indian technology provider (if any)
9B	Decanting Unit	SFC /C-Tech, HNB, Micro transmission, Evergreen Engitech, P-tech, Xylem, Organica or equivalent as per Indian technology provider (if any)
10	Chlorinators	Chloro Control, Industrial Devices, Metito, Evergreen Engitech, Pennwalt, Total solution, Patho cleanser
11	Submersible Mixers	ABS, Fibre & Fibre, Flygt, Grundfos, HNB, Triveni Evergreen Engitech, Micro Transmission,
12	Agitators	Batliboi, Dorr-Oliver, Emco, Fibre & Fibre, KCP, Shivpad, Standard Engineers, Voltas, HNB, Triveni, Evergreen Engitech, Micro Transmission, Remi
13	Centrifuge	Alfa Laval, Hiller, Humboldt, Pennwalt Evergreen Engitech, Micro transmission
14	Chain Pulley Block, Electrical Hoist, JIB Crane	Elephant, Hercules, Indef, WMI, Evergreen Engitech HNB, Machinery Impex, Hafa Hoists, Sapex, Japs.
15	Pipes:	

	MS / GI Pipes	Indus Tubes, Jindal, Swastik, Tata, Zenith
	SS Pipes	Jindal, Lloyds, Prakash, Remi, Zenith
	CI Pipes	Electro steel / Electrotherm , ISSCO, Kesoram, RIFKO, SRIF, Kothari, Oriental casting, truform,
	DI Pipes	Electrosteel / Electrotherm , Jindal, Lanco,TATA , Kejariwal, Rasmimetalli
	PVC Pipes	Garware, Kissan,Premium,Prince,Reliance, Supreme,Astral, finolex,
	UPVC Pipes	Astral, Geroage Fisher, supreme
	HDPE Pipes	Hallmark, Sangir, Sriram Polymers, Vijay,supreme
	RCC Pipes	Indian Hume Pipes, Patel Hume Pipes , Premier Prestressed Concrete Product, parkash pipe
16	Sluice Gate	Batliboi, Dorr-Oliver, Durga, Emco, Jash, IVC, Voltas, Yeshwant, HNB, Evergreen Engitech, Triveni, Micro Transmission, BIC, Parchure Marsh, Jupiter
17	Valves: Butterfly, Nonreturn, Knife Gate, Gate, Globe, Diaphragm, Plug	Audco, Bray, Crane Process Control, Fouress, Intervolve, IVC, Jash, Kirloskar, Vaas, Weir BDK, Jupiter, auma, sigma flow
18	MCC	ABB, Chavare Engineering, Interlec, Jay Switchgear, L&T, Positronocs, Schneider, Siemens, Addaya power, EEE
19	Variable Frequency Drive (VFDs)	ABB, Mitsubishi, Nord, Donforce ,siemens
20	PLC	Allen Bradley, Messung, Mitsubishi, Schneider, Siemens, , Emerson, ABB, MCOM Technology, Technology provider
21	SCADA	Ellipse, GE Fanuc, Rockwell, Siemens, MCOM Technology
22	Personal Computer	Apple, Dell, HP, Lenovo, equivalent
22	Pressure Gauges	General Instruments, Gluck, H Guru, equivalent
23	Level Switches, Level Transmitters	Endress & Hauser, Fisher Rosemount, Fitzer, Forbes Marshall, Levcon, Revathi, S.B. Electro-Mechanical
24	PH / ORP Meters, Flow Meters, DO Meters etc.	Endress & Hauser, Fisher Rosemount, Forbes Marshall, Hach, Yokogawa
25	Solar Panel	Novasys Waaree Sun Automate, INA, Sonal Gautam Solar Brawn, Goldi or equivalent approved in govt sector project

**Note: - Process unit core parts mechanical & instruments will be based on technology adopted and it will be warranty for complete ten years.**



**LABOURATORY EQUIPMENT'S**

1	Analytical Balance	Citizen, Contach, Metter, Equivalent
2	Precision Balance	Citizen, Contach, Metter, Equivalent
3	Hot Water Bath	Global, Labline, Equivalent
4	Distillatory	Bhanu, Equivalent
5	Centrifuge	Biotech, Remi, Savant, Shivam, Equivalent
6	Shaker	MEW, Savant, Shivam, Equivalent, Jashwin, equivalent
7	Hot Air Oven	Biotech, DKK, Hach, Savant, Shivam, Sun, Equivalent
8	Muffle Furnace	Biotech, DKK, Hach, Savant, Shivam, Sun, Equivalent
9	pH Meter	Hach or WTW
10	BOD Incubator	Savant, Shivam, Newtronics, Equivalent, N S , Jashwin
11	DO meter	Hach or WTW
12	Dry Thermostat Reactor	DKK, Dr. Lange, Hach, Equivalent
13	Spectrophotometer	Hach DR-5000
14	Storage of Chemicals /Samples	Godrej, Whirpool, Equivalent

**NOTE:** Pre - Approval make under UP JAL NIGAM, DELHI JAL BOARD, NMCG and Existing make used in GNIDA /NOIDA STP will be consider, Subject to approval from engineer in charge.

**CONTRACTOR**

**OFFICER INVITING TENDER**

**139. नौएडा प्राधिकरण की 187वीं बैठक दिनांक 14.12.2015 के मद संख्या-15 के प्रस्ताव के अनुमोदनोपरान्त जारी किये गये कार्यालय आदेश सं०- नौएडा/उ०मु०का०अ०(एस)/2015/मु०प०अ०/1229 दिनांक 04.01.2015 के क्रम में निविदाओं में निम्न अतिरिक्त शर्तें तत्काल प्रभाव से सम्मिलित की जाये:-**

1. रु० 50.00 करोड़ की धनराशि तक के कार्यों की सम्पूर्ण धरोहर राशि आर०टी०जी०एस० के द्वारा जमा कराई जायेगी, जिससे उक्त राशि तक के निविदाकारों को बैंक गारन्टी/एफ०डी०आर० प्राधिकरण में जमा नहीं करना पड़ेगा। रु० 50.00 करोड़ से अधिक धनराशि के कार्यों के प्रकरणों में धरोहर राशि की रु० 1.00 करोड़ आर०टी०जी०एस० के रूप में व अवशेष धरोहर राशि के बैंक गारन्टी/एफ०डी०आर० के रूप में जमा कराया जायेगा तथा बैंक गारन्टी/एफ०डी०आर० जमा करने की तिथि निविदा प्राप्ति की तिथि के पश्चात रखी जायेगी।
2. ठेकेदारों की अर्हता प्रपत्रों में टर्न ओवर के सम्बन्ध में चार्टर्ड एकाउन्टेन्ट (सी.ए.) के प्रमाण पत्र को अर्हता का आधार माना जाता है, जिसको अधिक पुष्टि व पारदर्शी बनाने हेतु चार्टर्ड एकाउन्टेन्ट द्वारा दी जा रही सूचना के साथ-साथ ठेकेदारों के शपथ पत्र पर उक्त सूचना मांगी जाये।  
यदि किसी फर्म अथवा कम्पनी का मर्जर किसी अन्य फर्म अथवा कम्पनी में होता है, तो सम्बन्धित पुरानी फर्म अथवा कम्पनी के सम्बन्ध में यह प्रमाण पत्र प्राप्त किया जाना आवश्यक है कि वह पुरानी फर्म अथवा कम्पनी के नाम से नये कार्य नहीं ले रहे हैं तथा जो भी टर्न ओवर, अनुभव पुरानी फर्म अथवा कम्पनी का मर्जर के बाद का है तभी नई कम्पनी में विभाग द्वारा नीतिगत रूप से मान्य किया जायेगा।
3. यदि किसी ठेकेदार द्वारा अपनी अर्हता के सम्बन्ध में जमा कराये गये प्रपत्रों में कभी भी कार्य के अन्तिम भुगतान तक यह संज्ञानित होता है कि कार्य की अर्हता सम्बन्धी जमा कराये गये प्रपत्र फर्जी हैं, गलत सूचनायें दी गई हैं अथवा सूचनायें विभाग से छुपाई गई हैं, तो ऐसे प्रकरणों में सम्बन्धित ठेकेदार का वह अनुबन्ध तत्काल निरस्त किया जाना, उस समय तक विभाग के पास उपलब्ध ठेकेदार का वह अनुबन्ध तत्काल निरस्त किया जाना, उस समय तक विभाग के पास उपलब्ध जमानत राशि को जब्त किया जाना तथा सम्बन्धित को प्राधिकरण में कार्य लेने पर वंचित किया जायेगा तथा आवश्यकतानुसार ठेकेदार के विरुद्ध कानूनी कार्यवाही व काली सूची में भी डाला जायेगा।
4. रु० दस करोड़ से अधिक धनराशि के आगणनों व जस्टीफिकेशन का परीक्षण आई०आई०टी० द्वारा कराये जाने के प्राधिकरण की 167वीं बैठक दिनांक 28.04.2010 के मद सं० 25 के बिन्दु सं० 7 में लिये गये निर्णय का अनुपालन किया जा रहा है। अतः उक्त कार्यों के नॉन शैड्यूल (बाजार दर पर आधारित) अतिरिक्त मद/सब्सटीट्यूट मद का परीक्षण भी IIT से कराया जायेगा व सक्षम स्तर से स्वीकृति के उपरान्त ही भुगतान किया जायेगा।
5. प्राधिकरण बोर्ड की 167वीं बैठक दिनांक 28.04.2010 की मद सं० 25 के बिन्दु सं० 3 (छः) में यह निर्णय लिया गया था कि विशेष प्रकृति की परियोजनाएँ, जिसकी अनुमानित लागत रु० 25.00 करोड़ से अधिक है, उन कार्यों हेतु मुख्य कार्यपालक अधिकारी से प्रशासनिक एवं वित्तीय स्वीकृति निर्गत किये जाने के साथ-साथ मोबाइलाइजेशन एडवान्स का प्राविधान CPWD Manual के क्लॉज सं० 31.5 के अनुसार किया जायेगा। रु० 25.00 करोड़ से अधिक धनराशि के कार्यों हेतु CPWD Manual में प्राविधानित 5% परफॉर्मेंस गारन्टी भी अनुबन्ध बनने के पहले ठेकेदारों से प्राप्त की जायेगी।
6. संविदाकारों द्वारा सर्विस टैक्स की मद में जमा करायी गई राशि नौएडा प्राधिकरण द्वारा Reimburse की जायेगी।
7. CPWD Manual में प्राविधानित बैंक गारन्टी के प्रारूप में बैंक गारन्टी जमा करनी होगी।
8. विभिन्न कार्यों के अनुबन्धों में कार्य की ड्राईंग/लेआउट प्लान को अनुबन्ध का भाग बनाया जायेगा, ताकि काय सम्पादन का मिलान भी किया जा सके। अन्तिम बीजक में यह प्रमाण पत्र अभियंत्रण/खण्ड द्वारा दिया जायेगा कि अनुबन्ध में प्रमाणित स्थल पर ही अनुबन्ध के अनुरूप कार्य कराया गया है।
9. माप पुस्तिकाओं में मानकों के आधार पर आवश्यक टैस्ट चैक किये जायेंगे तथा मानकों के अनुसार भुगतान की संस्तुति की जायेगी।

**CONTRACTOR**

**OFFICER INVITING TENDER**

140. नौएडा प्राधिकरण के अन्तर्गत निर्माण कार्यों की गुणवत्ता के प्रभावी नियंत्रण हेतु प्रस्ताव के अनुमोदनोपरान्त जारी किये गये **कार्यालय आदेश सं०- नौएडा/ अ०मु०का०अ०(एस०के०)/ व०प्र०(टी०ए०सी०)/ 2024 / 2722** दिनांक **27.11.2024** के क्रम में निविदाओं में निम्न अतिरिक्त शर्तें तत्काल प्रभाव से **लागू होंगी।**

1. निविदा प्रपत्र की **Special Condition and Speciafication** की क्लॉज 27 के अनुरूप एक करोड से अधिक के कार्यों में गुणवत्ता के प्रभावी नियंत्रण हेतु संविदाकार द्वारा कार्यस्थल पर लैब स्थापित की जायेगी एवं सभी लागत के निर्माण कार्यों में प्रयुक्त होने वाली निर्माण सामग्रियों को कार्य में प्रयुक्त करने से पूर्व उनकी जाँच करायेंगे। जिन सामग्रियों की टैस्टिंग कार्यस्थल पर स्थापित लैब में नहीं हो सकती है उन सामग्रियों की जाँच नौएडा में अधिकृत प्रयोगशालाओं से संविदाकार के खर्चे पर टैस्टिंग करायी जायेगी।
2. यदि थर्ड पार्टी द्वारा स्थल निरीक्षण के दौरान यह पाया जाता है कि संविदाकार द्वारा स्थल पर आपूर्ति की गयी निर्माण सामग्री की टैस्टिंग नहीं करायी गयी है तब इस परिस्थिति में कार्यदायी एजेन्सी एवं सम्बन्धित वर्क खण्ड के प्रतिनिधि की उपस्थिति में थर्ड पार्टी एजेन्सी के माध्यम से सामग्रियों के नमूने एकत्रित किये जायेंगे तथा उनकी टैस्टिंग टी०ए०सी० कार्यालय के माध्यम से प्राधिकरण से अधिकृत लैब से करायी जायेगी। टी०ए०सी० कार्यालय द्वारा टैस्टिंग चार्ज का भुगतान अपने स्तर से करते हुए सम्बन्धित खण्ड को संविदाकार के बीजक से टैस्टिंग चार्ज की कटौती हेतु पत्र प्रेषित किये जायेंगे एवं सम्बन्धित खण्ड संविदाकार के आगामी बीजक से टैस्टिंग चार्ज की कटौती किया जाना सुनिश्चित करेंगे तथा कटौती करने के उपरान्त टी०ए०सी० कार्यालय को साक्ष्यों सहित अवगत करायेंगे। यदि सामग्री जाँच में फेल पायी जाती है तो सम्बन्धित वर्क खण्ड द्वारा अधोमानक निर्माण सामग्री को स्थल से हटाया जाना सुनिश्चित किया जायेगा एवं यदि निर्माण सामग्री प्रयोग में लायी गयी है तो इस निर्माण को ध्वस्त करते हुए पुनः निर्माण कराया जाना सुनिश्चित करेगा एवं इस आषय का प्रमाण पत्र भी खण्ड के वरिष्ठ प्रबन्धक स्तर से दिया जायेगा।

**CONTRACTOR**

**OFFICER INVITING TENDER**

# **New Okhla Industrial Development Authority**

## **G.P.W. FORM -9**

**Approved U.P. Govt. vide D.O.**

**No. 6628-A-C-23-S.N.**

**Anubhag 9-19**

**AC/1969 Dated 09-03-72**

**and also**

**AMMENDED VIDE CE'S LETTER 1921/MT62/1973/Dt. 30-03-74**

### **- NOTE -**

Please read the following: -

1. NOIDA in place of Governor, U.P.
2. Chief Executive Officer in place of Chief Engineer, UPPWD.
3. Dy. General Manager in place of Superintending Engineer.
4. Manager in place of S.D.O./Assistant Engineer.

## CHAPTER: VII; PARA 371

### GENERAL CONDITIONS OF CONTRACT

- (1) The 'Contract' means the document forming the tender and acceptance thereof and the formal agreement executed between the Governor of Uttar Pradesh and the Contractor together with the documents referred to therein including these condition, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together shall be deemed to form on contract and shall be complementary to another.
- (2) In the contract, the following expressions shall unless the context otherwise requires have the meaning herewith respectively assigned to them: -
  - (a) The 'Work or Works' shall unless there be something either in the subject or context repugnant to such construction, shall be construed and taken to mean the work by or by virtue of the context to be executed whether temporary of permanent and whether original, altered substituted or additional.
  - (b) The 'Site' shall mean the land and/or the other places on, into or through which works is to be executed under the contract or any adjacent land path or street which may be allotted or used for the purpose of carrying out the contract.
  - (c) The 'Contractor' shall mean the individual or firm company whether incorporated or not undertaking the works and shall include the legal personal representative of such firm or company and the permitted assign of such individual or firm or company.
  - (d) The 'Governor' shall mean the Governor of Uttar Pradesh.
  - (e) The 'Engineer-in-Charge' shall mean the Divisional Officer, the District Engineer, the S.D.O., the Assistant Engineer as the case may be who shall supervise and in charge of the work.
  - (f) The 'Government' shall mean the Government of Uttar Pradesh
  - (g) The 'Chief Engineer' shall mean Chief Executive Officer.
  - (h) The 'Estimated Cost' shall mean the cost of the work or work as estimated on the basis of the tendered rate or rates agreed upon to between the parties to contract.
  - (i) The 'Department' shall mean NOIDA, U.P., words imparting the number include the plural number and vice-versa.

**CLAUSE 1:** The Contractor shall permit Government at the time of making any payment to him for work done under the contract to deduct 10% or all money as payable on account of security deposit until such deduction as along with the sum already deposited as earnest money (to be adjusted in the last deduction) will mount.

Security  
Deposit

- (i) In case of works estimated to cost up to Rs. 1,00,000/- to 10% of estimated cost.
- (ii) In case of works estimated to cost up to more than Rs. 1,00,000/- and up to Rs. 2,00,000/- to 10% on the first Rs. 1,00,000/- and 7.5% on the balance.
- (iii) In case of works estimated to cost more than Rs. 2,00,000/- 10% on the first Rs. 1,00,000/- 7.5% on the another Rs. 1,00,000/- and 5% on the balance but rate of deduction from each running bill shall be @ 10% till full recovery of full security amount. He is/they are excepted from payment of security deposit on individual case or has/ have deposited the security at rates mentioned above in case or in the form of government securities or fixed deposit receipt or guarantee bond of any scheduled bank in India. If the security is furnished in the form of guarantee bonds, the contractor undertakes to renew to furnish fresh guarantee to cover the period of time extension, if any, and failure on his part to do so shall be considered as a breach of this contract and without prejudice to any other remedy provided in the conditions the Engineer-in-Charge shall have the right to withhold payment and deduct the entire security amount from any money becoming payable to the Contractor.

The amount of the security money shall, if not withheld on account of breach of contract, be refunded after Twelve months from the date of the completion of the works or after payment of the final bill, whichever later provided that in case that payment of the final bill, is not made within Twelve months of the completion of the work 75% of the amount of the security money can be refunded with the prior approval of the authority next higher to the person accepting the contract on behalf of the Government.

All compensation or other sum of money payable by the Contractor to Government under the terms

this contract may be deducted from or paid by sale of a sufficient part his security deposit, or from the interest arising there from or from any sums which may be due to or may become due to contractor by Government on any account whatsoever, and the event of his security deposit being reduced by reason of any such deduction or sale as aforesaid, the contractor shall within ten days thereafter make good in cash or Government securities endorsed as aforesaid any sum or sum which they may have been deducted, from or raised by sale of his security deposit or any part thereof.

#### **COMPENSATION FOR DELAY**

#### **CLAUSE 2:**

The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the date on which the order to commence work is given to the contractor. The work shall throughout the stipulated period of the contract be proceeded with all due diligence [time being deemed to be the essence of the contract on the part of Contractor [and the Contractor shall pay as compensation an amount equal to one per cent of such smaller amount as the authority next higher to the officer accepting the contract on behalf of the Govt. [whose decision in writing shall be final may decide on the amount of the estimated cost of the whole work shown by the tender for every day that the work remains uncommenced or finished after the proper dates and further to ensure good progress during the execution of the work, the Contractor shall be bound, in all cases in which the time allowed for any work exceeds one month to complete one fourth the value of the whole of the work within **92 Days** from the date of written order to commence the work, on half the value of the work within **183 Days** from such date and three fourth the value of the work within **274 Days** from such date. In the event of the Contractor failing to comply with this condition, he shall be liable to pay as compensation an amount equal to one per cent or such smaller as the Competent Authority [whose decision in writing shall be final] may decide on the said estimated cost of the whole work for every day that the due quantity of work remains incomplete. Provided that before taking action under this clause Competent Authority shall give a notice of 15 days in writing to the Contractor and provided always that the entire amount of compensation to be paid under the provision of this clause shall not exceed the maximum amount or security as specified in clause]

[To be stuck off in all cases when the time allowed for completion does not exceed one month.]

#### **CLAUSE 3:**

Action when  
whole of  
security deposit  
is forfeited

The officer accepting the contract on behalf of the Government or the Engineer-in-Charge shall have the power without prejudice to his right against the contractor in any respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provision of this contract otherwise and whether the date of completion has or has not lapsed by notice in writing, to determine the contract in any of the following cases:

1. (a) If the Contractor has been given by the Engineer-in-Charge a notice in writing [which notice under the hand of the Engineer-in-Charge] communicated through the Sub-Divisional Officer / Distt. Engineer / Assistant Engineer shall be conclusive evidence to rectify, reconstruct or replace any defective work or any work damaged by any reason whatsoever or that the work is being performed in any inefficient or otherwise improper or un-workman like manner shall omit to comply with the requirements of such notice of a period of seven days of such notice or if the Contractor shall delay or suspend the execution of work so that other in the judgement of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date of completion or he has already failed to complete the work by the date.
- (b) If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or it circumstances shall arise which entitle the court or creditor to appoint a receiver or Manager or which entitle the court make a winding up order.
- (c) If the Contractor commits breach of any of the terms and conditions of this contract other than those mentioned in Sub Clause (a) above.
- (d) If the Contractor commits any facts mentioned in Clause 21 hereof.
- (e) When the Contractor has made himself liable of action under any of the cases aforesaid the officer accepting the contract on behalf of the Govt. or the Engineer-in-Charge shall have powers to adopt any one or more of the following courses as he may deem best suited to the interest of the Govt.
2. (i) To determine or rescind the contract as aforesaid (of which termination rescission notice in writing to the Contractor under the hand of the Engineer-in-Charge or communicated through S.D.O. / Distt. Engineer / Assistant Engineer shall be conclusive evidence upon such determination or rescission the security deposit of Contractor shall be liable to be forfeited and shall be absolutely

at the disposal of the Govt.

(ii) To employ labour paid by the department and so supply materials to carry out the works or any part of the work debiting the Contractor with the cost of the labour and price of the materials of the amount of which cost and price the certificate under the hand of the Engineer-in-Charge communicated through the Sub Divisional Officer / Distt. Engineer / Assistant Engineer shall be final and conclusive against the Contractor) and crediting him with the value of the work done in all respects in the same manner terms of his contract. The certificate of the Engineer-in-Charge as to the value of the work done shall be final and conclusive against the Contractor provided always that action under this Sub Clause shall only be taken after giving notice in writing to the Contractor provided also that if the expenses incurred by the Department are less than the amount, payable to the Contractor at his agreement rates, the difference shall be paid to the Contractor.

(iii) After giving notice to the contract to measure up the work of the contractor and to take such part thereof as shall be unexecuted out of his hands and to give to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-Charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by the Government under this contract or on any other account whatsoever or from his security deposit or the proceeds sales thereof or a sufficient part thereof as the case may be.

(3) In the event of any one or more of the courses mentioned in Sub Clause (2) above being adopted by the Engineer-in-Charge the Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any material or entered into any engagement or made any advances on account or with a view to the execution of the work or the performance of contract and in case action is taken under any of the provisions aforesaid the Contractor shall not be entitled to recover or be paid any sum for any work thereof actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

**CLAUSE 4:**

Contractor  
remains liable  
to pay  
compensation of  
action not taken  
under Clause  
(3)

power to take  
possession of or  
require removal  
of or sell  
contractor's  
plant

In any case, in which any of the powers conferred upon the officer accepting the contract on behalf of the Govt. or the Engineer-in-Charge by Clause (3) hereof shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such power shall notwithstanding be exercisable in the event of any future case of default by Contractor for which by any clause or clauses hereof he is declared liable to pay compensation and the liability of the contractor for past and future compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the power vested in him under the proceeding Clause the Engineer-in-Charge may if he so desires take possession of all or and tools, plant, materials or and stores in or upon the works or the site thereof or belonging to the contractor or procured by him and intended to be used for execution of the work or any part thereof paying or allowing for the same in account at the contract rates in the case of these not being applicable at current market rates to be certified by the Engineer-in-Charge whose certificate thereof shall be final otherwise the Engineer-in-Charge may by notice in writing to the Contractor or his clerk of the works, foreman or other authorized agent require him to remove such tools, plants, materials or stores from the premises (within a time to be specified in such notice), and in the event of the Contractor failing to comply, with any such requisition the Engineer-in-Charge may remove at Contractor's expenses or sell them by auction or private sale on the account of the Contractor and at his risk in all respects, and the certificate of the Engineer-in-Charge as to be expense of any such removal and the amount of the proceeds and expense of any sale shall be final and conclusive against the Contractor.

**CLAUSE 5:**

Extension of  
Time

If the contractor shall desire an extension of the time for completion of the work on the grounds of his having been unavoidable hindered in its execution or any other grounds, he shall apply in writing to the officer accepting the contract on behalf of the Govt. through the Engineer-in-Charge and a copy thereof is sent to the Engineer-in-Charge within 30 days of the date of the hindrance of account of which he desires such extension as aforesaid, and the competent authority shall if in his opinion (which shall be final) reasonable grounds be shown therefore authorize such extension of time if any as may, in his opinion be necessary or proper. Provided always that if the contractor extended date, as the case may be without obtaining approval for extension as aforesaid the right of the Govt. to claim compensation under Clause 3 shall not be deemed to have been waived.

**CLAUSE 6:**

Final Certificate

On completion of the works, the contractor shall send a registered notice to the Engineer-in-Charge giving the date of completion and sending a copy of it to the officer accepting the contract on behalf of the Govt. and shall request the Engineer-in-Charge to give him a certificate of completion but no such certificate shall be given nor shall the work be considered to be completed until the

contractor shall have removed from the site on which the work shall be executed, all scaffolding, surplus materials and rubbish and cleared of the dirt from all wood work, doors, windows, walls, floors, or other parts of any building in, upon or about which the work is to be executed or of which he may have possession thereof he had filled upon the pits. If the Contractor shall fail to comply with the requirements of this clauses as to removal of scaffolding, surplus materials & rubbish and cleaning of dirt and filling of pits on or before the date fixed for completion of the work the Engineer-in-Charge may at the expense of the Contractor remove such scaffolding, surplus materials & the rubbish and dispose of the same as he thinks fit and clean off such dirt and fill the pits as aforesaid and the contractor shall forthwith pay the amount of all expenses so incurred and shall have claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof. On completion, the work shall be measured by the Engineer-in-Charge himself or through his subordinates whose measurement shall be binding and conclusive against the Contractor, provided that if subsequent to the taking of measurement by the subordinate as aforesaid the Engineer-in-Charge had reason to believe that the measurement taken by his subordinates are not correct, the Engineer-in-Charge shall have the power to cancel the measurement already taken by his subordinates and acknowledged by the contractor and to take measurement again after giving reasonable notice to the Contractor and such re-measurements shall be binding on the Contractor (Ten days will apply towards delete whichever not applicable)

Within ten/thirty days of the receipt of the notice Engineer-in-Charge shall inspect the work and if there is visible no defect the face of the work, shall give the Contractor a certificate of completion. If the Engineer-in-Charge finds that the work has been fully completed, it shall be mentioned in the certificate so granted if on the other hand it is found that there are certain visible defects to be removed the certificate to be granted by Engineer-in-Charge shall specifically mention the details of the visible along with the estimate of the cost for removing these defects. The final certificate of work shall be given after the visible defect pointed out above has been removed.

**CLAUSE 7:**

Payment on intermediate certificate to be regarded as advance

No payment shall be made for works estimated to cost less than rupees **FIVE HUNDRED** till after the whole of the work shall have been completed and a certificate of completion given, but in the case of weeks estimated to cost more than rupees one thousand, the contractor shall on submitting the bill thereof be entitled to receive a monthly payment proportionate to the part thereof than approved and passed by the Engineer-in-Charge whose certificate of such approval & passing of the same so payable shall be final and conclusive against the Contractor but all such intermediate payments shall be regarded as payments by way of advance against the final payments and only not as payments for work actually done and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed, or re-erected, or it shall not be considered as an admission of the due performance of the contract or any part thereof in any way in respect of the occurring of any claim nor shall it conclude, determine or affect in any way the powers of the Engineer-in-Charge under these conditions or any of them as to the settlement and adjustment of the accounts or otherwise or in any way other vary or effect the contract.

The final bill shall be submitted by the Contractor within one month of the date fixed for completion of the work or on the date of the certificate of completion furnished by the Engineer-in-Charge and payment shall be made within three months of the submission of such bills if the amount of the contract plus that of the additional items is up to Rs. 2 Lac and in six months if the same exceeds Rs. 2 Lac. If there shall be any dispute about any item or items of the work than the undisputed item or items only shall be paid within the said period of three months or six months or as the case may be. The Contractor shall submit a list of the disputed items within 30 days from the disallowance thereof and if he fails to do so his claim shall be deemed to have been fully waived and absolutely extinguished.

**CLAUSE 8:**

Bill to be submitted monthly

A bill shall be submitted by the Contractor each month on or before the date fixed by the Engineer-in-Charge for all works executed in the previous months and the Engineer-in-Charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified, and the claim as far as admissible, adjusted if possible before the expiry of ten days from the presentation of the bill if the Contractor does not submit the bill within the time fixed as aforesaid the Engineer-in-Charge get the said work measured up in the presence of the Contractor whose countersignature to the measurement list will be sufficient warrant, and the Engineer-in-Charge may prepare a bill from such list which shall be binding on the Contractor in all respects.

**CLAUSE 9:**

Contractor to be given a week to file objection to

Before taking any measurement of any work as has been referred to in Clause 6, 7 and 9 hereof the Engineer-in-Charge or a subordinate deputed by him shall give reasonable notice to the Contractor. If the Contractor fails to attend at the time of measurements after such notice or fails to countersign or to record to difference within a week from the date of measurement in the manner required by



the measurements recorded by the dept.	the Engineer-in-Charge or by the subordinated deputed by him as the case may be shall not withstand the provision in Clause 8 be final and binding on the Contractor and the Contractor shall have no right to dispute the same.
<b>CLAUSE 10:</b> Bill to be on printed form	The Contractor shall submit all bills on the printed forms to be had on applications at the office of the Engineer-in-Charge and the charges in the bills shall always be entered at the rates specified in the tender or in the case of any extra work ordered in pursuance of these conditions and not mentioned or provided for in the tender at the rates thereafter provided for such work.
<b>CLAUSE 11:</b> Store supplied by Govt.	If the specification of estimate of the work provides for the use of any special description of materials to be supplied from the Engineer-in-Charge's store or if it is required that the Contractor shall use certain stores to be provided by the Engineer-in-Charge (such materials and stores and the price to be charged, therefore, as hereinafter mentioned being so far as practicable for convenience of the Contractor, but not so as in any way to control the meaning or effect of this contract, specified in the schedule or memorandum hereto annexed) the Contractor shall be supplied with such materials and stores as are required from time to time to be used by him for the purpose of the contract only and the value the full quantity of materials and stores so supplied at the rates specific in the said schedule or memorandum may be set off or deducted from any sums then due, or thereafter to become due to the Contractor under the contract or otherwise or against or from the security deposit, or the proceeds of sale thereof if the same is held in Government securities, the same or a sufficient portion thereof being in this case sold for the purpose. It shall be the responsibility of the Contractor to ascertain from time to time from the Engineer-in-Charge about the position of the availability of the materials as aforementioned and any delay on the part of the Engineer-in-Charge to arrange supplies of the same shall not entitle the Contractor to any compensation but in the event of all such delays the Contractor shall be granted reasonable extension of time. All materials supplied to the Contractor are the property of the Contractor but shall not on any account be removed from the site of the work except with the written permission of the Engineer-in-Charge or under his order and shall at all times be open to inspection by the Engineer-in-Charge and such materials unused and in perfectly good condition at the time of the un-completion or determination of the contract may, by special arrangement, be taken over by Government at the prevailing market rates if required for use on other works in progress provided that the price allowed shall not exceed the amount charged to the contractor.
<b>CLAUSE 12:</b> Work to be executed in accordance with specifications drawings orders etc.	The contractor shall execute the whole and very part of the work in the most substantial and workman like manner and both as regards materials and otherwise in very respect in strict accordance with the specifications. The Contractor shall also confirm exactly fully and faithfully to the designs drawings and instructions in writing relating to the work signed by the Engineer-in-Charge and lodged in his office, and to which the Contractor shall be entitled to have access to such office for the purpose of inspecting during office hours, and the Contractor shall be furnished free of charge one copy, or the specifications and of all such designs, drawings and instructions as are not included in the detailed P.W.D. specifications for building and roads enforced from time to time or any other printed publications on general specifications referred to elsewhere in the contract.
<b>CLAUSE 13:</b> Alteration in specifications and designs do not invalidate contract.	The Engineer-in-Charge shall have power to make any alteration in, omission from, additions to or substitutions for the original specifications drawings, designs, instructions that may appear to him be necessary during the progress of the work and the Contractor all carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which have the Contractor may be directed to do in the manner above specified as part of the work shall be carried out by the Contractor on the same conditions in all respects in which he agreed to do the main work.
Extension of time inconsequence of alterations	<p>The time of the completion of the work shall be extended in the proportion the altered, additional or substituted work bears to the original contract work and the certificate of the Engineer-in-Charge shall be conclusive as to such proportion over and above this, a further period to the extent of 25% of the time so extended may be allowed to the Contractor. The rate for such additional, altered or substituted work under this Clause shall be worked out in accordance with the following provisions in their respective order.</p> <ol style="list-style-type: none"> <li>(i) If the rates for the additional, altered or substituted work are not specified in the contract for the work, the Contractor is bound to carry out the additional, altered or substituted work of the same rates as are specified in the contract for the work.</li> <li>(ii) If the altered, additional or substituted work included any work for which no rates are</li> </ol>

specified in the contract for the work or cannot be derived from the similar class of work in the contract then such work shall be carried out at the rates entered in the Schedule of Rates for D.S.R.-2012 excluding the cost of cement and steel. District minus/plus percentage which the total tendered amount bears to the estimated cost of the entire work put to tender.

- (iii) If the rates for the additional, altered or substituted works are not specifically provided in the contract for the work, the rates will be derived from the rates similar Class of work as are specified in the contract for the work.
- (iv) If the rates for the altered, additional or substituted work cannot determine the manner specified in such Clauses (i) to (iii) above then the rates for such work shall be worked out on the basis of the schedule of rates of the District specified above minus/plus the percentage with the total tendered amount bears to the estimated cost of the entire work put to tender provided always that the rate for a particular part or parts will be determined by the officer accepting the contract on behalf of Government on the basis of the prevailing market rates when the work was done.
- (v) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in sub clause (i) to (iv) above the Contractor shall within 7 days of the date of receipt of the order to carry out the work inform the officer accepting the contract on behalf of the Government of the rate which it is his intention to charge for such class of work supported by analysis of rates or rates claimed and the Superintending Engineer shall determine the rate or rates on the basis of the prevailing market rates and pay the contractor accordingly. However, the officer accepting the contract on behalf of the Government by the notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry out in such manner as he may consider advisable but under no circumstances, the Contractor shall suspend the work on the plea of non-settlement of rates of items falling under the clause.

The rates sub clause (i), (ii) and (iii) shall be worked out by the officer accepting the contract on behalf of the Government.

#### **CLAUSE 14:**

No  
compensation or  
alteration in or  
restriction work  
to carried out.

If at any time after the commencement of the work the Government of Uttar Pradesh or Chief Engineer for reason whatsoever not require the whole work or part work thereof as specified in the tender to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the contractor who shall have no claim to any payment or compensation whatsoever on account of any profit or advantage, which he might have derived from the execution of the work in full, but which he did not derive in consequence of the full amount of the work not having been carried out, neither shall he have any claim for compensation by reason of any alteration have been made in the original specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated nor shall he have any claim to compensation by reason of his having purchased or procured materials with a view to execution of the work or the performance of the contract but the Engineer-in-Charge shall have the option either to take over the materials at site, of approved quantity and not in excess of the requirements of the work and to pay to Contractor the actual cost thereof the amount of which cost a certificate by the Engineer-in-Charge shall be binding on the Contractor in the event of this option not being exercised the Contractor may submit to the Engineer-in-Charge within one month of the date of the order closing down the work a detailed statement of the loss that the estimates he will sustain by removing, selling or otherwise disposing of the materials. The estimate will be forwarded to the Chief Engineer who will decide what sum if any should as matter of grace be paid to the Contractor to compensate him for the loss suffered by him and the decision of Chief Engineer shall be final and binding on the Contractor.

#### **CLAUSE 15:**

Action &  
compensation  
payable in case  
of bad work

If it shall appear to the Engineer-in-Charge or his subordinate in charge of the work that any work has been executed with unsound, imperfect or unskilled workmanship or with materials of any inferior description or that any materials or articles provided by him for the execution of the work are unsound or of quantity inferior to that Contractor shall on demand in writing from the Engineer-in-Charge specifying the work, material or articles complained/of not withstanding that same may have been inadvertently passed, certified and paid for forthwith rectify or removed and reconstruct the work so specified in whole or in part, as the case may require or as the case may be remove the materials or articles so specified and provide other proper and suitable materials or articles at his own proper charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid then the Contractor shall be liable to pay compensation at the rate of one per cent on the amount of the estimate for every day not exceeding ten days, while his failure to do so shall continue, and in the case of such failure the Engineer-in-Charge may rectify or remove and re-execute the work or remove any replace with

others the materials or articles complained of as the case may be at the risk and expenses in all respects of the Contractor.

**CLAUSE 16:**

Acceptance of sub-standard work and causing technical examination of work.

Government shall have the right to accept at reduced rate, sub-standard or defective work and to cause an audit and technical examination of the works and the running & final bills of the Contractor including all.

Supporting vouchers, abstracts etc. to be made before or after the payment of the final bills and if as a result of such acceptance of substandard or defective work, audit and technical examination, any sum is found to have been over paid in respect of any work done by the Contractor under the contract or any work claimed to have been done by him under the contract, but found not to have been actually executed the contractor shall be liable to refund the amount of the over payment and that shall be lawful for Government to recover the same from him in the manner prescribed in clause (i) above or in any other manner legally permissible, and if it is found that the Contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment may be duly paid by the Government to the Contractor.

**CLAUSE 17:**

Work to be opened to inspection. Contractor or responsible agent to be present.

Provided that the sub standard or defective work accepted is not considered to be seriously defective by the Engineer-in-Charge and the rate of the work so accepted is suitably reduced by him to compensate the Government and such reduction is binding on the Contractor.

All works under or in the course of execution or executed in pursuance of the contract shall at all times be open to the inspections and supervision of the Engineer-in-Charge and his subordinates and the contractor shall at all times during the usual working hours and at all other time at, which reasonable notice of intention of the Engineer-in-Charge or his subordinate to visit the works shall have been given to the Contractor either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for that purpose. Order given to the Contractor's agent shall be considered to have same force as if they had been given to the Contractor himself.

**CLAUSE 18:**

Notice to be given before work is covered up.

The Contractor shall give not less than five days notice in writing to the Engineer-in-Charge or his subordinate in charge of the work before covering up or other wise placing beyond the reach of the measurement any work in order that the same may be measured any correct dimension thereof be taken before the same is so covered up or placed beyond the reach measurement and work without the consent in writing of the Engineer-in-Charge or his subordinate in charge of the work, and if any work shall be covered up or place beyond the reach of measurement without such notice having been given or consent obtained the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the material with which the same was executed.

**CLAUSE 19:**

Contractor liable for damage done & for imperfections for Twelve months after certificate

If the Contractor or his work people or servants shall break, deface or destroy any part of a building on or in which they may be working or any building road, fence enclosure or grass land or cultivated ground contiguous to the premises on which the work or any part thereof is being executed or if any damage shall happen to the work while in progress from any case whatsoever, or any defect shrinkage or other faults appear in it within Twelve months after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid the Contractor shall make the same good at his own expense or in default the Engineer-in-Charge may cause the same to be made good by other workman and deduct the expense [of which the certificate of the Engineer-in-Charge shall be final from any same that may than or at any time thereafter become due to the Contractor or from his security deposit or the proceeds of sale thereof a sufficient portion thereof or any other manner legally permissible.

**CLAUSE 20:**

Contractor to supply plant, ladders, scaffolding etc.

The Contractor shall supply at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores) plant, tools, appliances, implements, ladders, cordage, tackle scaffolding and temporary works requisite for the proper execution of the work, whether original, altered substituted and whether included in the specifications or other documents forming part of the contract referred to in these conditions or not which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage, therefore, to and from the work. The Contractor shall also supply without charge the requisite under of persons with the means and materials also necessary for the purpose of setting out works and counting, weighing and assisting in the measurement or examination at any time and from time to time the work or materials. Failing his so doing the same may be provided by the Engineer-in-Charge at the expense of the Contractor and the expenses may be deducted from any money due to the Contractor under the contract or from his security deposit or the proceeds of sale thereof or of a sufficient portion

thereof.

The Contractor shall also provide all necessary fencing, lights required to protect arising from the public from accident, and shall be bound to bear the expenses of defence of every suit action or other proceedings at law what may be brought by any person for injury sustained owing to neglect of the above precautions, and to any such person, or which may with consent of the Contractor be paid to compromise any claim by any such person. If any equipment is issued departmentally rent will be recovered from the contractor's bill at current rates fixed by the Chief Engineer. The terms of such issue to be ascertained by the Contractor from the Engineer-in-Charge in writing in advance.

- CLAUSE 21:** The contract shall not be assigned or subject without the written approval of the officer accepting the contract on behalf of the Government and if the Contractor shall assign or subject his contract or attempt so to do, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt so to do, or if bribe, gratuity, gift, loan perquisite, reward or advantage pecuniary or otherwise shall either directly or indirectly be given, promised or offered by the Contractor or nay of his servants or agents to any public office or person in the employ of Government in any way relating to his officer or employment or if any such officer or person shall become in any way directly or indirectly interested in the contract, the officer accepting the contract on behalf of the Government may thereupon by notice in writing rescind the contract and the security deposit of the Contractor shall thereupon stand forfeited and be absolutely at the disposal of Government and the same consequence shall ensue as if the contract had been rescind under Clause 3 hereof, and in addition the Contractor shall not be entitled to recover or be paid for any work thereto or actually performed under the contract.
- Work not to be sublet contract may be rescind & security deposit forfeited for subletting, bribing or if Contractor becomes insolvent.
- CLAUSE 22:** The Contractor shall not for the execution of the work employ labour under 18 years of age and, within the limits of any cantonment, any female labourer for every breach of this covenant the Contractor shall be liable to pay by way of liquidated damages such sum not exceeding fifty rupees as the Engineer-in-Charge may fix and the Engineer-in-Charge may recover such sum by deduction from and sums which may be due or may at any time thereafter become due to the Contractor.
- CLAUSE 23:** (a) The Contractor shall pay to his labourers a fair wage and supply every labourer employed by him with a wage card on which the rate of wages, the attendance and payments will be entered.
- (b) The Contractor, before he commences work, shall past in a conspicuous place of the work a notice giving the rates of wages, which shall not be less than the minimum wages and where no minimum wage are applicable and wages will be such as may be certified as fair wages by the Engineer-in-Charge and shall send a copy of the notice to the Engineer-in-Charge.
- CLAUSE 24:** The Contractor shall be bound by all statutory provisions with regard to the period for which wages shall be paid and deduction from wages.
- CLAUSE 25:** The Contractor shall comply with all labour laws as applicable at the site of the work.
- CLAUSE 26:** In respect of all labour directly or indirectly employed in the work for the performance of the Contractor's part of this agreement the Contractor shall comply with or cause to be complied with all the directions issued by Government from time to time for the protection of health and sanitary arrangements for workers employed by the department and its Contractor.
- CLAUSE 27:** Leave and pay during leave of all labour employed by the Contractor shall be regulated as follows.
- Maternity benefit rules for female workers employed by Contractors
- (I) Leave
- (i) In case of delivery, maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day.
- (ii) In the case of miscarriage up to 3 weeks from the date of miscarriage.
- Pay (i)** In case of delivery leave pay during maternity leave will at the rate of women's average daily earning calculated on the total wages earned on the days when full time work done during a period of 3 months immediately preceding the date on which she gives notice that she expects to be confined or at rate of seventy five paise a day whichever is greater.
- (ii)** In the case of miscarriage leave pay the rates of average daily earning calculated on the total wages earned on the day when full time work was done during a period of three months immediately preceding the date of such miscarriage.
- (iii)** Conditions for the grant of maternity leave: - No maternity leave benefit shall be admissible to woman unless she has/shall employed for a total period not less than 6 months immediately

preceding the date on which she proceeds on leave.

In the event of the Contractor committing a default or breach of any of the provisions of C.P.W.D. direction to Contractor for the protection of health and sanitary arrangements for the workers or furnishing any information or submitting or filling any statement under the provisions of the above directions which is materially incorrect, the Contractor shall without prejudice to any other liability pay to Government a sum not exceeding Rs. 50/- for every default or breach and in the event of the Contractor defaulting continuously in this respect the penalty may be enhanced to Rs. 50/- per day for each day of default subject to a maximum of 5% of the estimated cost of the work put to tender. The decisions of the Engineer-in-Charge shall be final and binding on the parties

Should it appear to the Engineer-in-Charge that the Contractor is not properly observing and complying with the said directions for the protection of health and sanitary arrangement for work people employed by the Contractor (herein referred as the said direction) the Engineer-in-Charge shall have power to give notice in writing to the contractor requiring that the said directions be complied with and the amenities prescribed therein be provided to the work people within a reasonable time to be specified in the notice. If the Contractor fails, within the period specified in the notice, to comply as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities therein before mentioned at the cost of the Contractor. The Contractor shall erect, make and maintain at his expense and according to approved standards all necessary huts and sanitary arrangements required for his work people on the site in connection with the execution of the work and if the same do not have been erected or constructed according to the approved standards the Engineer-in-Charge shall have power to give notice in writing to the Contractor (requiring that the said huts and sanitary arrangements be remodeled and or reconstructed according to the approved standards and if the Contractor fails to remodel or reconstruct such huts and sanitary arrangements according to the approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to the approved standards at the cost of the Contractor.

**CLAUSE 28:** The Contractor shall, at his own cost, provide his labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

- 1 (a)** The minimum height of each hut at the eye level shall be 7 feet and floor areas to be provided will be at the rate of the 30 sq.ft. for each member of the workers' family staying with the labour.
- (b)** The Contractor shall, in addition, construct suitably cooking place having a minimum area 6'x5' adjacent to the hut for the family.
- (c)** The Contractor shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength separate latrines and urinals being provided for woman.
- (d)** The Contractor shall construct sufficient number of bathing and washing places one unit for every 25 persons residing in the camp. These bathing and washing shall be suitably screened.
- 2 (a)** All the huts shall have walls of sun-dried or burnt bricks laid in mud mortar or other suitable local materials, as may be approved by the Engineer-in-Charge. In case of sun dried bricks the wall should be plastered with mud gobi on both sides. The floor may be kachcha but plastered with mud gobi and shall be at least 6 ft. above the surrounding ground. The roofs shall be laid with thatched or any other materials as may be approved by the Engineer-in-charge and the Contractor shall ensure that through the period of their occupation the roofs remain watertight.
- (b)** The Contractor shall provide each hut with proper ventilation.
- (c)** All doors, windows and ventilators shall be provided with suitable leaves for security purposes.
- (d)** There shall be kept an open space of at least 8 yards between the rows of huts which may be reduced to 20 ft. according to the availability of size with the approval of the Engineer-in-Charge back to back construction will be allowed.

**3. Water Supply**

The Contractor shall provide adequate supply of water for the use of labourers. The provisions shall not less than 2 gallons of pure and wholesome water per head per day for drinking purposes and 3 gallons of clean water per head for bathing and washing purposes. Where pipe water supply is available, the supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry shall be provided. The Contractor shall also at his own cost,

make arrangements for laying pipe lines for water supply to his labour camp from the existing main where available and shall pay all fees and charge thereof.

- 4. Site** The site selected for the camp shall be high ground, removed from jungle.
- 5. Disposal of excreta** The Contractor shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration, which shall be according to the requirements laid down by the Local Health Authority. If trenching or incineration is not allowed, the Contractor shall make arrangements for the removal of excreta through the Municipal Committee/Authority and inform about the number of labourers employed so that arrangement may be such Committee/Authority of the removal of the excreta. All charges on this account shall be borne by the Contractor and paid directly by him to Municipal Authority. The Contractor shall provide one sweeper for every eight seats in case of dry system.
- 6. Drainage** The Contractor shall provide efficient arrangements for drainage away sludge water so as to keep the camp neat and tidy.
- 7. Light** The Contractor shall make necessary arrangements keeping the camp area sufficiently lighted to avoid any accident to the workers.
- 8. Sanitation** The Contractor shall make arrangement for conservancy and sanitation in the labour camp according to the rules of the Local Public Health and Medical Authorities.
- CLAUSE 29:** All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Government without reference to the actual loss or damages sustained and whether or not any damage shall have been sustained.  
Sum payable by way of compensation to be considered as reasonable compensation without reference to actual fees.
- CLAUSE 30:** In the case of a tender by partners any change in the constitution of the firm shall be forthwith notified by the Contractor to the Engineer-in-Charge for his information.  
Change in constitution of firm
- CLAUSE 31:** All works to be executed under the contract shall be executed under the direction and subject to the approval in all respect of the Engineer-in-Charge for time being who shall be entitled to direct at what point or points in what manner they are to be commenced and from time to time carried on.  
Works to be under direction of Engineer-in-Charge
- CLAUSE 32:** (a) If the Contractor considers any work demanded of him to be outside the requirement of contract or considers any record or ruling of the Engineer-in-Charge or of his subordinates be unfair, he shall immediately upon such work being demanded or such record or ruling being made ask in writing for written instructions or decisions, whereupon he shall proceed without delay to perform the work or conform to the procedure or ruling and within twenty days after date of receipt of the written instructions or decision he shall file a written protest with the Engineer-in-Charge stating clearly in detail the basis of his objections. Except for such protests or objections as are made on record in the manner herein specified, and within the time limit, limit stated the recorded rulings instructions or decisions of the Engineer-in-Charge shall be final and conclusive. Instructions and/or decisions of the Engineer-in-Charge contained in letters transmitting drawings to the Contractor shall be considered as written instructions or decisions subject to protest or objection as wherein provided.  
Protest
- (b) If the Contractor is dissatisfied with the final decision of the Engineer-in-Charge in pursuance of Clause 32 (a), the Contractor may within twenty eight days after receiving notice of such decision give notice in writing requiring that the matter be submitted to arbitration and furnishing detailed particulars of the dispute or difference specifying clearly the point at the issue. If the Contractor fails to give such notice within the period of twenty eight days as stipulated above, the decision of the Engineer-in-Charge shall be conclusive and binding on the Contractor.
- (c) Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein before mentioned and to the quality of workmanship or materials used in the work or as to any other question, claim, right or rates for extra items sanctioned and decided or not by the competent authority under the conditions, of this contract matter or thing whatsoever in any was arising out of or relating

to the contract designs, drawings, specifications, estimates, instructions or order on these conditions or otherwise concerning the work or the execution of failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof, shall be referred to the sole arbitration of the person or persons appointed by the C.E.O. NOIDA. It will be no objection to any such appointment that the arbitrator so appointed is a Government servant that he had to deal with the matter to which contract relates and that in the course of his duties as Government servant, he had expressed views on all or any of the matters in dispute or differences. The arbitrator to whom the matter is originally or subsequently referred being incapacitated to act, the C.E.O. shall appoint another person to act as arbitrator in accordance with the term of contract. It is also a term of this contract that no person other than a person appointed by the C.E.O. as aforesaid/shall act as arbitrator and if for any reason, that is not possible, the matter is not to be referred to the arbitration at all. The arbitrator(s) may from time to time with consent of the parties enlarge the time for making and publishing the award.

Subject as aforesaid the provisions of the Conciliation Act, 1996 or any statutory modification or re-enactment thereof and the rules made thereunder and for time being in force shall to the arbitration proceeding under this clause.

The sole arbitrators shall be appointed by the C.E.O., NOIDA.

All dispute between the parties to the contract arising out of relating to the contract shall after written notice by either party to the contract to the other party be referred to arbitration as above. Unless the parties otherwise agree such reference shall not take place until after the completion, alleged completion or abandonment of the work of the determination of the contract. The value of arbitration shall be such a place or places as may be fixed by an arbitrator in his/theirs sole discretion. Any suit or application for the enforcement of this arbitration clause shall be filed in the competent court at Gautam Budh Nagar, no other court or any other district or Pradesh or outside Uttar Pradesh shall have any jurisdiction in the matter. The award of the arbitrator shall be final, conclusive and binding on both the parties to the contract.

**CLAUSE 33:**

Store imported  
from Europe to  
be obtained  
from  
Government.

The Contractor shall obtain from the stores of the Engineer-in-Charge all stores and all imported materials, if required to any considerable extent for the work or any part thereof or in making articles required, therefore, or in connection therewith. The value of such stores and articles as may be supplied to the Contractor by the Engineer-in-Charge will be debited to the Contractor in his account at the rate shown in the schedule attached to the contract and if they are not entered in the schedule, they will be debited at a cost price, which for the purpose of contract shall include the cost of carriage and all other expenses whatsoever which shall have been incurred in obtaining delivery of the same at stores aforesaid. The Engineer-in-Charge may issue materials to Contractor from existing stock if he asks for any in excess of those entered in the schedule. In such cases the price charged must be stock rate or market rate whichever is greater.

**CLAUSE 34:**

Arbitrator

Except where otherwise provided in contract, all questions and disputes relating to the meaning of the specifications, designs, drawings and instructions herein mentioned and as the quality of workmanship of materials used on the work or as to any other questions, claim, right, materials used or things whatsoever, in any way arising out or relating to the contract, designs, drawings, specifications, estimates, instructions, under or these conditions or otherwise concerning the work or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the person appointed by the C.E.O. of the work at the time of dispute. It will be no objection to any such appointment that the arbitrator so appointed is a Government or Public servant that, he had to deal with matters to which the contract relates and that in the course of his duties as Government/Public servant he had expressed views on all or any of the matters in dispute of difference. In the event of the arbitrator to who the matter is originally referred being transferred or vacating his office of being unable to act for any such reason C.E.O. at the time such transfer, vacation of office or inability to act shall appoint another person to act as arbitrator in accordance with the terms of the contract such person shall be entitled to proceed with reference from the stage at which it was left by his predecessors, it is also a term of his contract that no person other than a person appointed by the C.E.O. should act as arbitrator and if for any reason that is not possible the matter is not to be referred to arbitration at all.

The arbitration may from time to time with the consent of the parties enlarge the time for making and publishing the reward.

Subject as aforesaid the provision of the Conciliation Act, 1996 or and statutory modification more enactment thereof and the rules made there under and for the time being in force shall apply to the arbitration proceeding under this clause.

- CLAUSE 35:** In the case of any class of work for which there is no specification in the contract or such work shall be carried out in accordance with the detailed C.P.W.D. specification and in the event of there being no detailed specifications for the same work the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.
- Action where no specification is given
- CLAUSE 36:** The addition and deduction on account of the percentage referred to at page of the accepted tender will be calculated on the gross and not the net amount of bills for work done.
- Contractor's percentage
- CLAUSE 37:** In every case in which by virtue of the provision of section 12 subsection (i) of workmen's Compensation Act, 1923, Government is obliged to pay compensation to a workman employed by the Contractor or by any sub-contractor from him in the execution of the said work. Government will recover from the Contractor the amount of the compensation so paid and without prejudice to the rights of Government under section 2 sub section (2) of the said Act. Government shall be at liberty to recover such amount or any part thereof by deducting it either from the security deposited by the Contractor to his credit under clause (i) of these conditions or from any other sum due to Government from the Contractor whether under this contract or otherwise (2) Government shall not be bound to contest any claim made against it, under section 12 sub section (1) of the said Act except on the written request of the Contractor and upon his giving to Government full security for all costs for which Government might become liable in consequence of contesting the claim.
- Whether applied to net or gross amount of bills strike out this clause of an item rate contract
- CLAUSE 38:** NO bricks for use on the work shall be manufactured within the limit of a Municipal, Cantonment or Notified Area within half a mile of the site of work any bricks so manufactured may be rejected by the Engineer-in-Charge.
- CLAUSE 39:** NO earth for filling or for any other purpose, shall be executed within half a mile of the site of work except with the written permission of the Engineer-in-Charge and then only on condition that the area in which such excavation is made shall be leveled and dressed by the Contractor at his own expense in accordance with the instructions of the Engineer-in-Charge and in such a manner as to prevent the formation of pool of stagnant water.
- If the Contractor fails to comply with this condition the Engineer-in-Charge may cause the ground to be leveled and dressed by other workmen and deduct expense (of which the certificate of the Engineer-in-Charge shall be final)
- CLAUSE 40:** Without prejudice to any other remedy provided by NOIDA may recover all dues hereunder agreement from the Contractor as arrears of land revenue.

**CONTRACTOR**

**OFFICER INVITING TENDER**



## E-TENDER NOTICE

E-Tenders are invited on behalf of Chief Executive Officer, Noida for the following works in Noida, Distt.- Gautam Buddha Nagar. From contractors/firm of registered with Noida Authority, State PWD, CPWD, other govt./public sector undertaking etc. by the undersigned. Earnest money is required in the shape of RTGS in prescribed bank accounts in favour of Noida only. The cost of bid document/ e-Tender processing fee document with GST is required in shape of RTGS in prescribed bank accounts in favour of Noida and payable at Noida.

The tender shall be on two bid system, where techno-commercial details such as experience certificates, qualification document etc. shall be verified first. The Tender of contractors who do not qualify the pre-qualification requirements shall be summarily rejected and their price bids shall not be opened. The price bid of contractors who are found eligible in prequalification shall be downloaded through E-Tender procurement solution after filling their details on the E-Tender portal.

As per office order No. Noida/ACEO/2013/CPE/1226 Dt. 02-09-13 contractor has to deposit additional performance Guarantee/Security in shape of FDR/CDR/Bank Guarantee/NSC in case rate quoted below of Bill of Quantity (B.O.Q)@0.5% per one percent upto 10% below rate and @1% per one percent on rate quoted beyond 10% below rate, valid for the complete contract period by the Contractor before entering into contract bond.

Noida Authority can reject any or all tenders without assigning any reason. For taking part in E-Procurement Solution the contractors are required to visit the E-Tender link on [www.noidaauthorityonline.com](http://www.noidaauthorityonline.com).

S. No.	Job No./ Name of work	Estimate cost, cost of bid document / e-Tender processing fee, Earnest Money (Rs. In Lacs)	Date of Release of E-tender in E-Precurement Solution	Last date/ time of receipt E-procurement with scan copy of RTGS receipt with transaction Id for cost of bid document/ e-Tender processing fee and EMD	Date/Time of opening Pre-qualification part through E-tender procurement solution	Date/Time of opening of price bid through E-tender procurement solution	Place of opening of E-tender
1.	<b>JobNo.</b> /SM(JAL-OA) / 26-27  Name of Work : M/o STP (Existing STP based on SBR Technology core Parts (Decanter core part, diffuser, PLC SCADA and Related work) (Renovation and Strengthening work of the existing 25 MLD STP Core Parts with MPS at Sector-50) Noida. PART-B	<b>Rs.166895724.00</b>  <b>Rs. 8260/-</b> (including GST)  <b>Rs.3939000/-</b>		Up to 17.00 PM	At 11.00 AM	This information shall be displayed on the website after two working days of opening of prequalification documents.	Office of Tender Cell administrative Office Sector-06 Noida

The Tender document shall be available at the E-tender link on website of Noida Authority at [www.noidaauthorityonline.com](http://www.noidaauthorityonline.com) and at UP Electronics Corporation website <https://etender.up.nic.in> Interested bidders are requested to regularly visit the websites and update themselves with regard to any change or additional information related to the tender.

( General Manager)  
Noida

**Office:-**  
**Tender Cell**  
**Sector-6, Noida**  
**G.B. Nagar, (U.P.)**

## ई.निविदा आमंत्रण सूचना

मुख्य कार्यपालक अधिकारी, नौएडा की ओर से नौएडा जिला गौतमबुद्ध नगर के क्षेत्र में निम्न कार्यों के लिए नौएडा, राज्य लोक निर्माण विभाग, केन्द्रीय लोक निर्माण विभाग तथा अन्य शासकीय/सार्वजनिक उपक्रमों में सूचीबद्ध ठेकेदारों से अघोहस्ताक्षरी द्वारा ई-निविदायें आमंत्रित की जाती हैं। आवश्यक धरोहर राशि नौएडा के नाम संबंधित बैंक में आर.टी.जी.एस. कराकर स्वीकार की जायेगी। निविदा प्रपत्र का मूल्य संबंधित बैंक में आर.टी.जी.एस. कराकर नौएडा के पक्ष में तथा नौएडा द्वारा अधिकृत बैंक अकाउन्ट में जमा किया गया हो, स्वीकार किया जायेगा।

निविदायें द्विस्तरीय पद्धति से खोली जायेगी। निविदाकार द्वारा तकनीकी एवं व्यवसायिक जानकारी से सम्बन्धित प्रपत्र में अनुभव, आदि तथा प्री-क्वालिफिकेशन प्रपत्र पहले डाउनलोड किए जायेंगे तथा जिन निविदाकारों की आवश्यक अहतायें पूरी नहीं होगी, उनकी दरें डाउनलोड नहीं की जायेगी। जो निविदाकार प्रीक्वालिफिकेशन में उपयुक्त पाये जायेंगे उनका विवरण E-Tender Portal में भरते हुए प्राईस बिड का भाग खोला जायेगा। सक्षम अधिकारी को किसी भी निविदा अथवा समस्त निविदाओं को बिना कारण बताये निरस्त करने का अधिकार सुरक्षित है। E-Procurement Solution में भाग लेने के लिए ठेकेदारों को noidaauthority.com के E-Tender link को विजिट करना होगा।

कार्यालय आदेश संख्या नौएडा/अ0मु0का0अ0/2013 दिनांक 02.09.2013 के अनुपालन में नौएडा प्राधिकरण के कार्यों में संविदाकार द्वारा बिल ऑफ क्वान्टिटी (बी0ओ0क्यू0) पर डाले गये 10 प्रतिशत कम दरों तक 0.5 प्रतिशत प्रति एक प्रतिशत कम दर पर तथा उसके पश्चात 10 प्रतिशत से अधिक कम दरों पर 1.00 प्रतिशत प्रति एक प्रतिशत कम दर पर अतिरिक्त सिक्योरिटी /परफॉर्मन्स गारन्टी प्राप्त की जायेगी यह परफॉर्मन्स गारन्टी एफ0डी0आर0/सी0डी0आर0/बैंक गारन्टी/एन0एस0सी0 के रूप में संविदाकार द्वारा अनुबंध गठन से पूर्व देनी होगी, जो कार्य की समापन तिथि तक वैध हो ।

क्र.स.	जॉब सं0/कार्य का नाम	अनुमानित लागत निविदा प्रपत्र का मूल्य/ टेण्डर प्रोसेसिंग फीस धरोहर राशि	ई- प्रीक्वोरमेंट सोल्यूशन में ई-निविदा जारी करने की तिथि	ई-प्रीक्वोरमेंट द्वारा निविदा प्राप्ति की अन्तिम तिथि तथा समय, जिसके साथ टेण्डर मूल्य व धरोहर राशि की RTGS की रसीद संलग्न करनी है।	ई-प्रीक्वोरमेंट सोल्यूशन द्वारा ई-निविदा के प्रीक्वालीफिकेशन न खोलने की तिथि तथा समय	ई-प्रीक्वोरमेंट सोल्यूशन द्वारा ई-निविदा की प्राईस-बिड खोलने की तिथि तथा समय	ई-निविदा खोलने का स्थान
1	जॉब /एस0एम0 (जल-बां0सं0) / 26-27 कार्य का नाम: 25 एमएलडी एसटीपी (SBR टेक्नोलॉजी आधारित) के कोर पार्ट्स जैसे डिक्लेन्टर कोर पार्ट, डिफ्यूज़र, PLC, SCADA एवं संबंधित कार्यों का संचालन एवं अनुरक्षण (M/O), तथा सेक्टर-50, नौएडा स्थित मौजूदा एसटीपी के कोर पार्ट्स के नवीनीकरण एवं सुदृढीकरण कार्य (MPS सहित) — भाग-B	<b>Rs.166895724.00</b> <b>Rs. 8260/-</b> (including GST) <b>Rs.3939000/-</b>		Up to 17.00 PM	At 11.00 AM	इसकी सूचना वेब साईट पर प्री-क्वालिफिकेशन खुलने की तिथि के बाद दो कार्य दिवसों के बाद देखी जा सकती है।	कार्यालय निविदा सैल, प्रशासनिक भवन, सेक्टर-6, नौएडा

निविदा प्रपत्र प्राधिकरण की वेब साईट [www.noidaauthority.com](http://www.noidaauthority.com) के निविदा लिंक पर तथा उत्तर प्रदेश इलेक्ट्रॉनिक कारपोरेशन की वेबसाईट <https://etender.up.nic.in> पर देखे जा सकते हैं। इच्छुक ठेकेदारों से अनुरोध है कि वे नियमित रूप से उक्त वेब साईटों पर देखते रहें क्योंकि निविदाओं के संबंध में कोई बदलाव अथवा अतिरिक्त सूचना वेबसाईट पर उपलब्ध कराई जायेगी।

**महाप्रबन्धक (जल)**  
**नौएडा**

कार्यालय:-  
निविदा सैल  
सेक्टर-5, नौएडा  
जिला - गौतमबुद्ध नगर (उ0प्र0)

# **NEW OKHLA INDUSTRIAL DEVELOPMENT AUTHORITY**

## **REQUIREMENTS**

**for**

## **PREQUALIFICATION OF TENDER**

**Name of Works:**

**M/o STP (Existing STP based on SBR Technology core Parts  
(Decanter core part, diffuser, PLC SCADA and Related work)  
(Renovation and Strengthening work of the existing 25 MLD STP  
Core Parts with MPS at Sector-50) Noida. PART-B**

**JOB No:            /SM(JAL-OA)/26-27**

## REQUIREMENTS FOR PREQUALIFICATION OF TENDER

1. The details regarding pre-qualification and tender containing rates are to be uploaded as per up to due date & time in the prescribed format. Non furnishing of required details/ incomplete details will lead to rejection of tender. In case it is found that the details furnished are fake/false/fabricated the form shall be blacklisted without any notice.
2. Contractor will have to submit the character certificate issued by the District Magistrate in the name of partners in case it is the partnership firm, proprietor, in case it is proprietorship firm/contractor, Directors in case it is Pvt. Limited Firm etc. without character certificate the tender shall be rejected.
3. The contractor will have to submit their Id proof of self, partners, Directors etc. as the case may be.
4. The contractors will have to submit their address proof of self, partners, Directors etc. as the cash may be.
5. The tenderer should submit the notarized affidavit that the tenderer/firm has not been blacklisted any state/central government department/ organization. The e-bid of blacklisted contractor or not submitting the required affidavit shall be rejected.
6. The rates of only those contractors will be opened and recorded on comparative statement who pre-qualify as per requirements mentioned hereinafter.
7. Proof of solvency: Minimum solvency required is 40% of total estimated cost put to tender (issued within a period of minimum six months).
  - (i) In case individuals, firms and Undivided Hindu Families, proof of solvency of the applicant will consist of a certificate signed by the District Magistrate or Manager of the bank in the form given in Appendix 'A' regarding the cash assets of the applicant.
  - (ii) In case of private limited company the proof of the company solvency will be its last balance sheet audited and certified by the Chartered Accountant or certificate/reference of a Schedule bank.
8. Proof of employment of technical staff will consist of a declaration by the contractor as given below. The declaration by the contractor will be given in the form attached Appendix 'B' (in the presence of Notary Public giving details of the required staff)

### GENERAL GUIDELINES FOR FIXING REQUIREMENT OF TECHNICAL STAFF FOR A WORK

Cost of work (Rs. In Lac)	Requirement of Technical staff		Minimum experience (Years)	Designation
	Qualification	Number		
More than 1000	i) Project Manager with degree in corresponding discipline of Engineering.	1	10	Principal Technical Representative
	ii) Graduate Engineer	1	5	Technical represents Technical Representative
	iii) Graduate Engineer	2	Nil	
	<b>Or</b> Diploma Engineer	2	5	

500 to <b>1000</b>	i) Graduate Engineer	1	5	Principal Technical Representative
	ii) Graduate Engineer	2	Nil	
	<b>Or</b> Diploma Engineer	2	5	Technical represents
200 to 500	i) Graduate Engineer	1	5	Principal Technical Representative
	ii) Graduate Engineer	1	Nil	
	<b>Or</b> Diploma Engineer	1	5	Technical represents
50 to 200	Graduate Engineer	1	2	Principal Technical Representative
10 to 50	Graduate Engineer	1	Nil	Principal Technical Representative
	<b>Or</b> Diploma Engineer	1	5	

Notes: 1. Rate of Recovery in case of non compliance of above be stipulated at following rates:-

S.No	Qualification	Experience (years)	Rate of recovery
i)	Project Manager with Degree	10	Rs. 20,000/- p.m.
ii)	Graduate Engineer	5	Rs. 15,000/- p.m.
iii)	Graduate Engineer Diploma Engineer	Nil 5	Rs. 10,000/- p.m.

9. Proof of possession of required machinery, tools, plant, centering & shuttering will consist of a declaration in shape of an affidavit duly verified by the Notary in the Proforma as per Appendix 'C'.

The minimum requirement of T&P possessed by the firm shall be follows:

- (1) Dewatering pumps - **01**
- (2) Truck/Tipper - **01**
- (3) Water Tanker - **01**
- (4) Water Pumps - **01**
- (5) Organ welding machine - **01**
- (6) Excavator/JCB - **01**
- (7) Concrete Mixture with hopper - **01**
- (8) Vibrator - Needle - **01** Surface - **01**
- (9) Concrete batch mix plant of capacity 15 Cum/Hr.- **01**
- (10) Generator Set. - **01**
- (11) Welding set . - **03**
- (12) Hydra / Loader . - **01**
- (13) Gas cutter set . - **03**

#### 10. Proof of previous experience :(For works amounting to more than 10.00 Lacs)

- (1) Experience of having successfully completed works during the last 7 years ending last day of the month previous to the one in which applications are invited with Govt./Semi Govt./ PSU only :

Three similar completed works costing not less than the amount equal to 40% of estimated cost put to tender

Or

Two similar completed works costing not less than the amount equal to 60% of estimated cost put to tender

Or

One similar completed works of aggregate cost not less than the amount equal to 80% of estimated cost put to tender

(2) Experience of having successfully completed works during the last 7 years ending last day of the month previous to the one in which applications are invited :

11. Latest income tax clearance certificate.
12. In case of firm, duly certified copy of partnership deed and registration certificate; in case of company, deed for article of association and power of attorney for the person concerned to authorize to sign the tender and agreement.
13. In case of any change in solvency, technical staff, tools and plants or change in partners of the constitution of a company after submission of documents, the same shall be intimated to the Project Engineer.
14. The decision regarding pre-qualifying the contractor for the above referred will rest with the competent authority of NOIDA whose decision will be final.
15. Average annual financial turnover on Construction works should be at least 30% of the estimated cost during the immediate LAST 3 consecutive financial years.
16. Tender should participate only if they have GSB/WMM Plant (pug mill), paver machine, Mortar grader, & Vibratory road roller etc for road work of similar nature.
17. Contractor will have to submit the registration certificate of G.S.T.
18. All e-Bids submitted shall also include the following :
  - I. Filled in form Capability Statement.
  - II. Certified Copies of relevant pages of following documents:
    - i. Memorandum and Article of Association showing objectives of the Company/firm and authority to sign the e-Bid/contract or delegate the power to others for signing the e-Bid/contract.
    - ii. Place of registration.
    - iii. The power-of –attorney authorizing the tenderer to sign the e-Bid contract.
    - iv. PAN certificate of the company/firm.
    - v. G.S.T. registration certificate of the company/firm.
19. Internet Protocol ( I.P.) address similar to one found on a tender will be canceled.

**20. Goods & Services Tax (G.S.T.)**

- i) The bidders should ensure that they are GST compliant and their quoted tax structure/rates are as per GST Law.
- ii) The bidders are required to indicate the rate of GST applicable for the tendered item in their bids separately.
- iii) The lowest bidder has to submit the following declaration before signing the Agreement:-

“ We agree to pass on such additional set off /input tax credit as may become available in further under the GST provision in respect of all the inputs used in the manufacture of the tendered item on the date of supply, by way of reduction in price/G.S.T. rate and the advice the purchaser accordingly.”
- iv) The authority will not reimburse any GST paid the supplier/vender/contractor due to misclassification.
- v) At any place VAT has been written that has to read as GST.
- vi) Contractor has to quote his rate including Goods & Service Tax (GST).

21. As per Order No. Noida/F.C./2020/3403 Date 31.05.2020, It is mandatory that all document issued by Chartered

Accountant must be written UDIN on Document (i.e. turn Over / Balance sheet etc.)

**CONTRACTOR SIGNATURE**

**OFFICER INVITING TENDER**

**WITH SEAL**

# New Okhla Industrial Development Authority

Job no. ....

The required fee of tender form has been deposited in \_\_\_\_\_ Bank A/c No. \_\_\_\_\_ RTGS and the scanned copy of UTR receipt with Transaction Id is being enclosed with E-tender documents. If the copy of UTR receipt is not uploaded with the E-tender the tender shall be rejected.

## **DETAILS OF ERNEST MONEY ATTACHED**

The required amount of Earnest money has been deposited in \_\_\_\_\_ Bank A/c No. \_\_\_\_\_ RTGS and the scanned copy of UTR receipt with transaction Id is being enclosed with E-tender documents. If the copy of UTR receipt is not uploaded with the E-tender the tender shall be rejected.

## **CONTRACOR**

**Note :** Out of two Banks Account given by Noida Authority, Contractors are requested to mentioned that in which bank account he/they have deposited the cost of bid document/ e-Tender processing fee and Earnest Money.





### **Declaration For Refund of Earnest Money**

**For Office Use Only**

The above provided information is true to the best of my knowledge.

**Signature**

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## CAPABILITY STATEMENT

**\*(Please refer to attached Capability statement excel file)**

**\* It is compulsory for the bidder to fill this statement and the bidder must upload only those document that support this statement**

**TENDER REFERENCE No. - /SM(JAL-OA)/26-27**

**Name of Work :** M/o STP (Existing STP based on SBR Technology core Parts (Decanter core part, diffuser, PLC SCADA and Related work) (Renovation and Strengthening work of the existing 25 MLD STP Core Parts with MPS at Sector-50) Noida (PART-B)

**Name of Tenderer**

<b>TOTAL NIT COST OF PROJECT (In Rs.) (In lacs)</b>			166895724.00	
S. NO.	<b>ELIGIBILITY CRITERIA</b>			<b>(Value To Be Filled By the Tenderer In Indian Rs.)</b>
			Minimum Value	
1	SOLVENCY (Issued within a period of minimum six months).	40% OF TOTAL ESTIMATED COST	66758300.00	
2	Experience with Government / Semi- Government / PSUs for the works completed during the last 7 years in India, ending last day of the month previous to the one in which applications are invited: —Similar Completed Works means experience of Design, Detailed Engineering, Procuring, Construction, Testing and Commissioning of Sewage / Effluent Treatment Plants on SBR technology (Cyclic Activated Sludge Process) and same must be in operation <i>Note: For consideration of previous STP/ETP project certificate, the concerned STP/ETP should be operating with outlet parameter of BOD,TSS,COD,TN,TP as ≤10,≤10,≤50, ≤10, ≤1 mg/l respectively</i>	Three similar completed works each costing not less than the amount equal to 40% of estimated cost put to tender	66758300.00	
			66758300.00	
			66758300.00	
		OR		
		Two similar completed works each costing not less than the amount equal to 60% of estimated cost put to tender	100137500.00	
			100137500.00	
		OR		
		One similar completed works costing not less than the amount equal to 80% of estimated cost put to tender	133516600.00	
3	Experience with Government/Semi-Government/PSUs for the works completed during the last 7 years in India, ending last day of the month previous to the one in which applications are invited: —Similar Completed Works   means experience of Design, Detailed Engineering,	Three SBR based sewage treatment plant completed works each of the capacity not less than 40% capacity of the proposed plant.	10 MLD	
		OR		
		Two SBR based sewage treatment plant completed works each of	15 MLD	

4	<p>Procuring, Construction, Testing and Commissioning of Sewage / Effluent Treatment Plants on SBR technology (Cyclic Activated Sludge Process) and same must be in operation</p> <p><b>Note: For consideration of previous STP/ETP project certificate, the concerned STP/ETP should be operating with outlet parameter of BOD,TSS,COD,TN,TP as <math>\leq 10, \leq 10, \leq 50, \leq 10, \leq 1</math> mg/l respectively</b></p>	<p>the capacity not less than 60% capacity of the proposed plant.</p> <hr/> <p>OR</p> <hr/> <p>One SBR based sewage treatment plant completed works of the capacity not less than 80% capacity of the proposed plant.</p> <hr/>	20 MLD	
	<p>Experience of operation &amp; aintenance with Government/Semi-Government/PSUs for the works completed during the last 7 years in India, ending last day of the month previous to the one in which applications are invited: —Similar Completed Works   means experience of Operation &amp; Maintenance of Sewage / Effluent Treatment Plants on SBR technology (Cyclic Activated Sludge Process):</p> <p><b>Note: For consideration of previous STP/ETP O&amp;M project certificate, commissioning date can be before or within last 7 years also but period of O&amp;M performed experience shall be within last 7 years.</b></p>	<p>Three SBR based sewage treatment plant completed works each of capacity not less than the capacity equal to 40% capacity of the proposed plant for 3 years</p> <hr/> <p>OR</p> <hr/> <p>Two SBR based sewage treatment plant completed works each of capacity not less than the capacity equal to 60% capacity of the proposed plant for 3 years</p> <hr/>	10 MLD	
		<hr/> <p>OR</p> <hr/> <p>One SBR based sewage treatment plant completed work of capacity not less than the capacity equal to 80% of plant capacity for 3 years.</p> <hr/>	15 MLD	
			20 MLD	
5	<p>TRUN OVER DETAIL (DURING THE IMMEDIATE LAST 3 CONSECUTIVE FINANCIAL YEARS) WITH NOATRY)</p>	YEAR1	50068800.00	
		YEAR2	50068800.00	
		YEAR3	50068800.00	
6	<p>Average annual financial turnover on construction works should be atleast 30% of the estimate cost during the immediate last 3 consecutive financial years.</p>		50068800.00	
7	<p>The bidder shall necessarily have a tie-up with a existing STP technology Provider for specific this NIT only. The Technology Provider should be providing technology / performance guarantee / key equipment for SBR Technology &amp; also overall supervision of the project by deputing well qualified engineers for execution of the project from technology point of view and also supervision of operation &amp; maintenance for at least 02 years by providing a notarized MOU on Rs. 100/- stamp paper. The technology provider must have a registered company in India, fully equipped with trained manpower to extend services as and when required.</p>			Select
8	<p>Experience of similar work company must have ISO 9001 and ISO 14001 certification</p>			Select

9	Audited financial statement clearly showing turnover, profit & loss account and TDS duly counter signed by CA for last 3 financial year. Turnover shown in Indian incometax return acknowledge will also be acceptable.	Select
10	Bidders JV not allowed for this project.	Select
11	All certificates of previous projects submitted for purpose of qualification of this tender shall be signed by officer not below the rank of Executive Engineer. Certificates not matching these criteria shall not be accepted.	Select
12	In the eligibility documents of contractors, the certificate issued by a Chartered Accountant (CA) regarding turnover is considered as the basis for eligibility, which is a widely accepted practice. Along with the CA certificate, contractors shall also be required to submit an affidavit in Appendix-F format.	Select
13	List of tools and plants, Affidavit by Notary on minimum Rs. 100/ non judicial stamp paper (Attested) (Appendix-D).	Select
14	List of Technical staff with their qualification professional experience and length of the service with the firm Affidavit by Notary on min. Rs. 100/- non judicial stamp paper (Attested) (Appendix-C).	Select
15	Original copy/Attested copy of the partnership deed if it is a partnership firm and Attested copy of registration certificate in case of company, sole proprietorship declaration in case of sole proprietorship firm.	Select
16	Authority letter in original or attested by Notary not more than six months old of the firm/tenderer in favour of the person who has signed the tender documents with telephone No. and complete postal address.	Select
17	Non judicial stamp paper of Rs. 100.00 (Rupees one hundred only) of U.P. along with Rs. 1.00 revenue stamp.	Select
18	EPF & ESI registration copy of the company/firm	Select
19	Address Proof/Id. Proof As per Govt. Rules. (Company, Director) &, Valid character certificates issued by district magistrate or related competent authority.	Select
20	Affidavit for relatives not working in Noida Industrial Development Authority on Rs. 100/- Stamp paper (Appendix-E).	Select
21	Black list / Debarment affidavit on stamp paper (notarized)	Select
22	Geotagging of the project site is required, if bidder have not visited the site, then No claim will be attend by the department at the time of execution	Select
23	Filled in from capability Statement	Select
24	Certified Copies of relevant pages of following documents	Select
a	Memorandum and Article of Association showing objectives of the Company/firm and authority to sign the e-Bid/ contract or delegate the power to others for signing the e-Bid/contract.	Select
b	Place of registration.	Select
c	The power-of-attorney authorizing the tenderer to sign the e-bid/ contract.	Select
d	PAN certificate of the company/ firm.	Select
e	GST registration certificate of the company/firm	Select
f	Electrical license as per Clause No.124	Select

**APPENDIX 'A'**

This is to certify that M/s.....  
.....  
have been dealing with us for last... .. years, satisfactorily. The balance lying in the his/her accounts with us is Rs. ... .. The turnover during the year ... .. in the accounts have been to the turnover Rs. ... .. Lac, on the basis of information available with us we assess their solvency is not less than Rs. ... .. Lac.

Dated:

**Manager**  
Seal of the Bank

**APPENDIX 'B'**

I/We .....

S/o Shri .....

Karta/Partners/Authorized person of M/s.....

.....  
resident of .....

.....  
applicant for pre-qualification hereby declare that following person/persons are in my/our regular employee on the post and from the dates mentioned against them.

<b>S. No.</b>	<b>Name &amp; Address</b>	<b>Technical Qualification</b>	<b>Post Held</b>	<b>Date of regular continuous employee</b>
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I/We undertake that if any of the post falls vacant or left unfilled for more than one month during the execution of the work entrusted to me/us by NOIDA, I/we shall inform the authority to whom the application for pre-qualification is being made.

**SEAL**  
(Notary Public)

**APPLICANT**

**APPENDIX 'C'**

I/We .....

S/o Shri .....

Karta/Partners/Authorized person of M/s.....

.....

applicant for pre-qualification for this job to be executed, hereby, declare that I/we possess the following machinery, tools & plants, centering & shuttering.

<b>Particulars of Machinery Tools &amp; Plant Centering &amp; Shuttering</b>	<b>Estimated Cost (Rs.)</b>	<b>Approximate Age (Yrs.)</b>
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I/We undertake that if there is any reduction in the equipment below the limit required for pre-qualification, I/we will inform Project Engineer/Chief Project Engineer to whom application for pre-qualification is being made.

**Seal**  
(Notary Public)

**Signature of Applicant**

**APPENDIX 'D'**

Certified that following works awarded to M/s.....

.....

has / have been carried out satisfactorily and completed in all respects.

<b>S. No.</b>	<b>Name of Work</b>	<b>Date of Start</b>	<b>Date of Completion</b>	<b>Total Value of work done ( Rs.)</b>
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The performance of the firm has been found good and they are considered capable of execution of project of large magnitude more than Rs. ... .. Lac.

The financial position of the firm appears to be sound and they are capable of executing the works in accordance with the specifications and within specified time schedule provided to them.

The dealings of the firms have been observed to be cordial and reasonable.

**Signature of Officer/ Incharge of work**



## APPENDIX 'E'

### शपथ-पत्र

(रूपये 100/- के स्टॉम्प पेपर पर)

मैं..... उम्र.....पुत्र/पुत्री श्री ..... निवासी .....  
आधार कार्ड संख्या .....व पैनकार्ड संख्या ..... जो.....  
.....(फर्म का नाम) का प्रोपराटर/पार्टनर/डायरेक्टर हूँ, शपथपूर्वक यह कथन करता हूँ कि मेरा कोई  
सगा सम्बन्धी/नजदीकी रिश्तेदार/ब्लड रिलेशन (Hindu succession act के सैक्शन-8 के अन्तर्गत Class-II द्वारा  
परिभाषित एवं कर्मचारी/अधिकारी स्वयं के अथवा पत्नी/पति के दादा-दादी, माता-पिता, भाई-भाभी, बहन-जीजा  
(Vice-Versa), चाचा-चाची, ताऊ-तायी, मामा-मामी, बुआ-फूफा, मौसा-मौसी तथा उनके पुत्र एवं पुत्री) का कोई व्यक्ति  
नौएडा औद्योगिक विकास प्राधिकरण में स्थायी/ अस्थायी/ दैनिक वेतन/मानवशक्ति आपूर्तिदाता के माध्यम से किसी भी  
पद पर कार्यरत नहीं है ।

उपर्युक्त सूचना मेरे द्वारा निजी ज्ञान एवं वास्तविकता के आधार पर दी जा रही है । यदि उक्त शपथ पत्र  
दाखिल करने के बाद भविष्य में कभी भी इस प्रकार का तथ्य संज्ञान में आता है कि मेरे द्वारा उपलब्ध करायी गयी  
सूचना/शपथ गलत है और कोई व्यक्ति उक्त प्रकार से नौएडा प्राधिकरण में कार्य करता हुआ पाया जाता है तो मेरे सारे  
अवार्ड निरस्त करके मेरी कार्यदायी संस्था को काली सूची में डालते हुए आई.पी.सी. की सुसंगत धारा में प्राथमिकी दर्ज  
करते हुए मेरे विरुद्ध विधि की परिधि में कठोरतम कार्यवाही की जाए, जिस पर मुझे अथवा मेरे परिवार को कभी भी कोई  
आपत्ति नहीं होगी ।

शपथकर्ता

(फर्म का नाम)

मोबाइल नं0.....

### शपथ-पत्र

यह है कि मैं ..... प्रोपराईटर/पार्टनर/निदेशक, मैसर्स ..... पता..... के अन्तर्गत अधिकृत हस्ताक्षरी की हैसियत से निम्न बयान करता हूँ कि :-

1. यह है उपरोक्त फर्म का नाम व पता सत्य है ।
  2. यह है कि शपथकर्ता के द्वारा जॉब सं० ..... के अन्तर्गत नौएडा प्राधिकरण की निविदा में प्रतिभाग किया जा रहा है ।
  3. यह है कि मैं निविदा में डाली गयी अपनी दरों पर स्थिर रहूँगा। दरों का वापिस लेने अथवा उन्हें संशोधित करने का अधिकार मेरा या मेरी फर्म/कम्पनी का नहीं होगा । यदि मैं अथवा मेरी फर्म/कम्पनी न्यूनतम निविदाकार निर्धारित होने के पश्चात् निविदा में डाली गयी दरों पर कार्य करने से इन्कार करते हैं तो प्राधिकरण द्वारा निर्धारित नियम एवं शर्तों के अनुसार कार्यवाही हेतु बाध्य रहूँगा ।
  4. यह कि मैं एवं मेरी फर्म/कम्पनी को यह सज्जन में है कि यदि मैं अथवा मेरी फर्म/कम्पनी न्यूनतम निविदाकार निर्धारित होने के पश्चात् निविदा में डाली गयी दरों पर कार्य करने से इन्कार करते हैं तो निविदाकार को काली सूची में सूचीबद्ध किया जायेगा एवं उक्त निविदाकार को प्राधिकरण की निविदाओं में दो वर्ष तक प्रतिभाग करने हेतु प्रतिबन्धित किया जायेगा एवं निविदाकार से बिड सिक्योरिटी (**Earnest Money Deposit**) की धनराशि को राजस्व वसूली के अन्तर्गत वसूल किया जायेगा । मैं एवं मेरी फर्म/कम्पनी उक्त हेतु पूर्ण रूप से सहमत है ।
  5. यह है कि उपरोक्त के अन्तर्गत यदि कोई विवाद होता है तो उस हेतु मैं एवं मेरी फर्म/कम्पनी मैसर्स..... पता..... पूर्णतया जिम्मेदार होगी एवं उक्त सम्बन्ध में नौएडा प्राधिकरण का निर्णय अन्तिम एवं सर्वमान्य होगा ।
- अतः यह शपथ पत्र निम्न साक्षियों की उपस्थिति में शपथकर्ता द्वारा प्राधिकरण के पक्ष में निष्पादित किया जाता है ।

साक्षीगण

नाम.....

पता.....

शपथकर्ता

## शपथ-पत्र

मैं ..... पुत्र श्री..... निवासी (स्थायी पता).....  
.....(अस्थायी पता).....

...का निवासी हूँ ।

मैं शपथपूर्वक निम्न घोषणा करता हूँ ।

- मेरे पास पर्याप्त चल और अचल सम्पत्ति है और व्यवसायिक रूप से मैं नौएडा प्राधिकरण के कार्यों को पूरा करने के लिए सक्षम और समर्थ हूँ । मेरे पास आवश्यक मशीनें और उपकरण आदि भी हैं तथा मुझे इस कार्य का पर्याप्त अनुभव है ।
- नौएडा प्राधिकरण द्वारा जो (कार्य का विवरण लिखा जाय) ..... कराने की निविदा निर्गत की गई है उसके लिए मैं विभाग द्वारा निर्धारित प्रारूप पर निविदा भर रहा हूँ ।
- मेरे द्वारा दिये जा रहे प्रमाण पत्र, चरित्र प्रमाण पत्र/हैसियत प्रमाण पत्र/आयकर प्रमाण पत्र/जी0एस0टी0 प्रमाण-पत्र/बिड सिक्वोरिटी प्रमाण-पत्र/बिड कैपिसिटी प्रमाण-पत्र/जमानत धनराशि आदि का प्रमाण पत्र तथा अन्य संसंगत अभिलेख आदि मूलरूप में निविदा प्रपत्र के साथ संलग्न कर दिये गये हैं ।
- मेरा पैन नं० ..... है (आयकर विभाग द्वारा प्रदत्त प्रमाण-पत्र संलग्न किया जाय)
- मेरे विरुद्ध अपराधिक मुकदमों का विवरण निम्न प्रकार है । यहाँ पूरा विवरण दिया जाये ।  
क. मुकदमा नम्बर .....  
ख. धारार्यें.....  
ग. थाना.....  
ड. जनपद .....  
च. न्यायालय (जहाँ मुकदमा चल रहा है )
- मैं नौएडा प्राधिकरण अथवा राज्य सरकार के अन्य विभागों द्वारा ब्लैक लिस्टेड ठेकेदार की श्रेणी में नहीं आता हूँ । मैं अपराधिक गतिविधियों, माफिया तथा गैंगेस्टर गतिविधियों और संगठित अपराध करने की गतिविधियों और असामाजिक कार्यों आदि में लिप्त नहीं हूँ मैं माफिया और अपराधी नहीं हूँ । मेरा चाल-चलन, कार्य तथा आचरण उत्तम है ।
- मेरे विरुद्ध जनपद में तथा प्रदेश में कोई भी मुकदमा दर्ज नहीं है ।
- यदि ठेका प्राप्त करने के पश्चात मेरे विरुद्ध माफिया गतिविधियों/ असामाजिक गतिविधियों एवं संगठित अपराधिक गतिविधियों में लिप्त होने के बारे में कोई शिकायत प्रमाणित पायी जाती है तो सक्षम अधिकारी को यह अधिकार होगा कि वह मेरा ठेका/ अनुबन्ध निरस्त कर दें । इस पर मुझे कोई आपत्ति नहीं होगी । मेरे द्वारा यदि विभाग / राज्य सरकार के विरुद्ध कोई अपराधिक कृत्य किया जाता है अथवा सरकारी धन का गबन किया जाता है तो सक्षम अधिकारी को यह अधिकार होगा कि वह मेरे विरुद्ध अपराधिक मुकदमा नियमों के अन्तर्गत दर्ज करायें ।
- मैं अनुबन्ध की शर्तों के अनुसार समय से पूरी गुणवत्ता के साथ तथा निर्धारित विशिष्टियों के अनुरूप कार्य पूरा करूंगा और विभाग को पूरा सहयोग प्रदान करूंगा ।
- मेरा कार्य एवं आचरण उत्तम है ।
- मैं शपथपूर्वक घोषणा करता हूँ कि मेरा स्थाई पता और अस्थायी पता निम्न प्रकार है :-  
अ. स्थायी पता (दूरभाष सहित).....  
ब. अस्थायी पता (दूरभाष सहित).....
- मैं शपथपूर्वक घोषणा करता हूँ कि मैं उपरोक्त पते पर रहता हूँ तथा विभाग द्वारा प्रदान किये गये कार्य के पूरा होने तक मेरे किसी पते में सामान्यतः कोई परिवर्तन नहीं होगा । यदि अपरिहार्य परिस्थितियों में किसी पते में परिवर्तन होता है तो इसकी सूचना में तत्काल नौएडा प्राधिकरण जिला मजिस्ट्रेट/ कलेक्टर को दूंगा ।
- मैं यह भी घोषणा करता हूँ कि विभाग के जिस कार्य के लिए मेरे द्वारा ठेका लिया जा रहा है उसके सापेक्ष चल एवं अचल सम्पत्ति का हैसियत प्रमाण पत्र जिला मजिस्ट्रेट/कलेक्टर (जनपद का नाम लिखा जाय)..... द्वारा प्राप्त करके मूलरूप से संलग्न किया जा रहा है । यह भी घोषणा करता हूँ कि इस हैसियत प्रमाण-पत्र का उपयोग अन्य कार्यों के लिए नहीं किया जायेगा ।
- मैं अपनी पूर्ण जानकारी में पूरे होशों-हवास में, स्वस्थचित्त से, पूरी सत्यनिष्ठा से तथा स्वेच्छा से यह शपथ-पत्र लिखकर दे रहा हूँ । ईश्वर मेरी मदद करें ।

दिनांक :

शपथी का पूरा हस्ताक्षर  
पूरा नाम -  
पता-

नोट:-

- यह स्वघोषणा शपथपत्र रु.100.00 (रु० एक सौ) के Stamp Paper पर नोटरी द्वारा साक्ष्यों की उपस्थिति में सत्यापित कराते हुए दिया जायेगा ।
- असत्य शपथ-पत्र देना एक संगीन और संज्ञेय अपराध है ।  
संबंधित व्यक्ति द्वारा पासपोर्ट साईज का अपना फोटोग्राफ, जो राजपत्रित अधिकारी द्वारा प्रमाणित हो, शपथ-पत्र के ऊपर निर्धारित स्थान पर चस्पा किया जायेगा ।

### 1.1 Existing Status of NOIDA Sewage Treatment Plant

The existing STP was designed for following influent & treated waste water parameters.

#### Design Parameters Adopted

Sr. No.	Parameter	Value	
		For untreated influent	For secondary treated effluent
1	pH	7.0-7.6	7.0-8.0
2	Total Suspended Solids	250 mg/l(160-440mg/l)	≤ 20 mg/l
3	BOD at 20°C	200 mg/l (100-300mg/l)	≤ 10 mg/l
4	COD	400 mg/l (200-600mg/l)	≤ 50 mg/l
5	Total Kjeldahi Nitrogen	50 mg/l 50-60 mg/l	≤ 10 mg/l
6	PO <sub>4</sub> -P	10 mg/l (7-10 mg/l)	≤ 1 mg/l
7	Fecal Coliform	10X10 <sup>6</sup> Nos/100ml	≤ 100 nos/100 ml

The above data is based on wastewater quality analyzed by NOIDA. However, the contractor may conduct the sampling and tests of raw sewage by himself to ascertain the raw sewage quality for treatment process. The Employer (NOIDA) will not be responsible for the above and no relaxation will be given to the guarantee conditions of desired treated effluent quality. For design purposes, values higher of the two i.e. as given above or as per test got conducted by the contractor shall be considered.

A perusal of the treated waste water parameters given in Table indicates above that the existing STP based on SBR technology is meeting out the designed treated waste water parameters excepted Fecal Coliform & revised effluent standards as prescribed by CPCB/DPCC.

In view of the above facts, it has been proposed to renovate and upgrade the existing STP with the addition/renovation of structures for increasing removal efficiency with respect to BOD, COD, TSS, Faecal coliforms etc. as well for achieving nutrients removal i.e. phosphorus removal, nitrogen removal through nitrification, de-nitrification and process up-gradation followed by Tertiary Treatment, disinfection so as to achieve the treated waste water parameters prescribed by CPCB/UPPCC.

### **Existing status of various units:**

**This STP was constructed and commissioned in year 2011 and most of the Electro-mechanical equipment's or its components are damaged and are in need of immediate repairs/replacement as below process units:**

#### **I. Inlet Chamber:**

The Inlet Chamber, though presently functional, exhibits distress and deterioration of RCC surfaces, including erosion of the side walls and bottom slab. The existing inlet gate (01 No.) is non-operative and is required to be dismantled and replaced with a new motorized gate assembly, complete with actuator, control system, and all appurtenant fixtures, in compliance with the specifications.

The online analyzers, indicators, and transmitters for inlet monitoring are in a non-functional state and shall be replaced with new calibrated instruments conforming to statutory requirements for influent quality monitoring and as per tender technical specifications.

## **II. Coarse Screen Chambers and Screens:**

All Coarse Screen Chambers (1 Nos. Manual + 2 Nos. Mechanical) are in non-operational condition. The concrete surfaces of walls and bottom slabs are eroded and structurally distressed, requiring rehabilitation as per standard civil repair specifications (including polymer mortar, epoxy grouting, etc.).

The mechanical screens, screen panels, conveyor belts, and associated control panels are rusted, damaged, and beyond economical repair. All three (03 Nos.) inlet isolation gates are non-functional and must be replaced with new motorized gates including actuator, limit switches, and compatible control wiring, in accordance with contract specifications.

The entire coarse screening system is deemed defective and unserviceable, requiring replacement to restore functionality as per performance criteria laid down in the tender

## **III. Wet Well Sump**

Out of five (05 Nos.) installed submersible sewage pumps, only one unit is functional. The remaining pumps along with their duck-foot bend assemblies, guide rails, cable systems, and lifting arrangements are non-functional and must be replaced in full.

The RCC surfaces of the wet well sump show erosion and chemical deterioration requiring structural rehabilitation.

All related electrical panels, actuator valve panels, and junction boxes are corroded, damaged, and non-serviceable, necessitating replacement in totality.

The installed Hoist (HOT) is non-functional and must be replaced with a complete Electric Overhead Travelling Crane (EOT) or equivalent hoisting system as per tender specifications to enable safe lifting and maintenance of pump sets.

The entire pumping system is to be restored to full operational capacity in compliance with contractual performance guarantees.

## **IV. Fine Screen Chambers:**

All Fine Screen Chambers with 1 Manual + 2 Mechanical Fine Screens are operational; however, the RCC surfaces (walls and bottom) exhibit measurable erosion and need civil rehabilitation.

The motorized gates at inlet and outlet points are functional; however, the screen control panels are rusted and damaged, requiring refurbishment or replacement.

The existing hydraulic power pack, though functioning, has aged components and does not conform to modern OEM standards. It shall be replaced with a new hydraulic unit, complete with compatible valves, hoses, and safety components.

All fine bar screens are required to be repaired, overhauled, and restored as per OEM recommendations. Alternatively, complete replacement with new fine bar screens of the latest

design and efficiency standard may be undertaken in accordance with tender specifications for operational reliability.

**V. Distribution Chamber for Grit Chambers:**

The Distribution Chambers provided for the Grit Removal System are found in structurally distressed condition, with erosion of RCC surfaces and exposed reinforcement at several locations. Although the motorized gates at the inlets and bypass lines are presently operational, the gates and their actuators exhibit aging, corrosion, and mechanical deterioration. Accordingly, all gates shall be subjected to comprehensive overhauling, and wherever required, complete replacement with new motorized gates shall be carried out. The replacement shall include actuators, limit switches, cable terminations, testing, and commissioning as per the Technical Specifications and relevant IS/IEC standards

**VI. Grit Chamber:**

All four Grit Chambers exhibit severe degradation of concrete surfaces in grit pits and scum pits, including exposed reinforcement steel, indicating chemical attack and structural deterioration. The grit removal process is not meeting the performance requirements, and only one (01) grit mechanism is functional.

The following equipment are non-functional and beyond economical repair:

Organic pumps

Screw classifiers (02 Nos.)

Valves, actuators, and interconnecting fittings and All measuring/instrumentation components. The entire grit removal system is deemed non-serviceable and requires major rehabilitation or complete replacement.

All repairs/replacements shall comply with the performance criteria, mechanical specifications, and reliability standards stipulated in the tender, and shall restore the system to full operational efficiency.

**VII. Distribution Chamber for SBR:**

The Distribution Chamber serving the SBR basins shows concrete erosion and exposure of reinforcement at multiple points, indicating structural deficiency. The four (04) motorized inlet gates are functional but require complete repair, overhauling, and replacement with new motorized gates of approved make to ensure long-term reliability and compliance with tender requirements.

**Common Channel /Pipe line**

The RCC channel /Pipeline exhibits leakage through expansion and contraction joints, and the bottom slab and side walls show erosion, requiring immediate structural rehabilitation, joint sealing, and waterproofing in accordance with IS:456 and tender specifications.

#### **VIII. SBR Basin Tanks:**

All SBR basins are in a deteriorated structural state, with eroded concrete surfaces on walls and floors and exposed reinforcement in aeration basins. The existing system operates with a cycle time of approximately 45 minutes and an SRT of 10–15 days, but major process and mechanical deficiencies are noted, including:

- Non-functional DO analyzer
- Majority of diffusers damaged or broken
- Choked or corroded sludge and air pipelines
- Decanter mechanism in faulty condition
- Required Tender-Compliant Scope of Rehabilitation
- **Structural Rehabilitation**
  - Polymer-modified mortar, anti-corrosive treatment of exposed reinforcement, and epoxy-based waterproof lining.
  - Replacement of damaged walkways, platforms, ladders, and handrails with SS Grade 304 / handrails.
- **Aeration System Restoration**
  - Replacement of all damaged diffusers.
  - Cleaning/replacement of choked air grids and laterals.
  - Verification and calibration of blower air supply for required pressure and airflow.
  - Pumping and Piping System
  - Repair/replacement of RAS and SAS pumps.
  - Flushing, hydro-testing, or replacement of sludge and air pipelines found corroded or leaking.
- **Decanter Mechanism Rehabilitation**
  - Repair/replacement of decanter arm, float, actuator, sensors, and control components.
  - Recalibration of PLC for proper fill–aerate–settle–decant operations.
  - Instrumentation & Electrical System Upgradation
  - Replacement of DO analyzer, faulty sensors, level transmitters, and flow meters.
  - Replacement of corroded cables, trays, junction boxes; ensuring compliant earthing as

per IS standards.

➤ **Process and Safety Compliance**

- Optimization of SBR cycle time and SRT values.
- Implementation of PPE, LOTO, and safety signage.

All works shall be executed in strict accordance with the Technical Specifications, OEM recommendations, IS/IEC codes, and contractual performance guarantees.

**Blower Room:**

The civil structure of the Blower Room is serviceable, but the installed mechanical and electrical equipment require major overhaul and replacement. Out of Six (06) blowers, only four (06) units are functional, and these are operating under unreliable and critically stressed conditions. I

The PAV and SAV valves and actuators fitted on blower outlets are non-functional and shall be replaced with new valves and actuators conforming to tender specifications.

Considering the deteriorated performance, high energy consumption, and mechanical aging of existing blowers, the **entire 06 blower motors** shall be replaced and **high-efficiency Turbo Blowers 02 number** will be provided as extra arrangements inclusive of necessary civil modifications, foundations, cable routing, and ventilation arrangements required for their installation.

**IX. RCC Channel / RCC Pipeline To CCT**

The RCC channel directing flow to the CCT shows:

Leakage from expansion and contraction joints, and Concrete erosion at the side walls and bottom slab, indicating deterioration and loss of structural integrity.

**Repair works shall include:**

Complete joint rehabilitation using approved joint sealing compounds

Polymer-modified mortar for surface repairs

Internal waterproofing lining

Structural strengthening where required

All works must comply with IS codes, tender technical specifications, and applicable safety and performance requirements.

**X. Chlorine Contact Tank & Chlorination Room**

The civil structure of the CCT (Chlorine Contact Tank) and the chlorination room is in serviceable condition; however, several components require refurbishment. The internal surface of the CCT is proposed to be lined with blue tiles, but several sections of the tank require re-tiling and waterproofing to prevent leakage and to ensure proper chlorine contact time.



The mechanical and electrical equipment installed in the chlorination room is also in poor condition. The chlorine dosing pumps, rotameters, ejectors, and associated pipelines are either non-functional or operating in an unreliable manner. Most of the chemical dosing pipelines are corroded and leaking, and therefore require complete replacement. The ventilation and exhaust systems within the chlorination room are not functioning effectively, creating safety concerns during chlorine handling. The electrical panels, wiring, and control systems are old, corroded, and need to be replaced with upgraded E&M components. The lighting and earthing arrangements are inadequate and must be rectified in accordance with standard safety requirements.

Overall, the chlorination system and the CCT require comprehensive rehabilitation, including lining of the proposed blue-tiled surface, replacement of all damaged electrical and mechanical components, and improvement of the civil, mechanical, and safety systems to ensure reliable and continuous chlorination operations.

#### **XI. Sludge sump and pump house:**

The civil structure of the sludge sump is in working condition, but the electrical and mechanical equipment is not performing properly. The diffusers are completely choked and require replacement, as they are not providing the required air distribution. The sludge feed pump is also not operating correctly and appears to have mechanical and electrical faults, affecting its discharge and performance. The pump control panel and associated electrical boards are in non-functional condition, with damaged wiring and non-functional components, and need complete repair or refurbishment. Overall, the sludge sump requires rehabilitation of its E&M components, including replacement of choked diffusers, overhauling or replacing pumps, Blower (02Nos), and repairing the electrical panels, to restore reliable and continuous operation of the system..

#### **XII. Centrifuge & Building :**

Out of the two installed centrifuges, only one unit is currently in working order, while the remaining one centrifuge is non-functional due to mechanical and electrical issues. The control panels of all centrifuges are of fuse-less construction, and several components appear to be outdated, worn out, or not in serviceable condition, which affects safe and reliable operation. The civil structure of the centrifuge building is generally in working condition with no major structural damage observed; however, minor repairs such as sealing cracks, repainting surfaces, and improving the floor finish may be required for long-term durability. Proper ventilation and housekeeping inside the building also need improvement to support equipment performance and operator safety. Overall, the centrifuge system requires comprehensive E&M rehabilitation, including repair or replacement of non-working centrifuge units, refurbishment of their panels, renewal of associated piping, and minor civil improvements to ensure reliable and continuous sludge dewatering operations.

#### **XIII. Poly Dosing System**

The Poly Dosing System requires complete rehabilitation of its civil and E&M components to restore proper dosing performance. The civil tank used for solution preparation and storage needs cleaning, repairing of surface cracks, renewing damaged plaster, and applying a protective chemical-resistant coating for long-term durability. The mechanical components, including the

dosing pumps, agitator, suction–delivery piping, valves, and fittings, are either partially functional or non-functional and require overhauling or replacement. The dosing pumps need inspection for mechanical wear, seal leakage, and motor issues, followed by repair or installation of new pumps as required. The associated pipelines are corroded and choked at several locations, and therefore need to be cleaned, pressure-tested, or replaced with new chemical-resistant pipes. The electrical system of the dosing unit, including control panels, switches, wiring, and earthing, is in poor condition and needs refurbishment to ensure safe and reliable operation. After rehabilitation, the Poly Dosing System will operate efficiently, providing accurate polymer dosing required for smooth sludge handling and centrifuge performance..

#### **XIV. Non-Process Building :**

The non-process building is structurally in working and serviceable condition, with no major defects or damage observed. The overall civil structure, including walls, columns, beams, and roofing, appears stable; however, the building requires minor repairs to restore it to optimal condition. Small cracks on wall surfaces need patching, damaged plaster areas require renewal, and some portions of the flooring may need levelling or replacement. Doors, windows, and ventilators may require tightening, minor carpentry work, or replacement of rusted fittings. The building also needs complete internal and external painting to protect the surfaces from weathering and to improve the overall appearance. Basic housekeeping, cleaning of drains, and removal of vegetation around the building will further enhance its durability. With these minor repairs and fresh painting, the non-operational building can be restored to a fully functional and well-maintained condition.

##### **1.1.1 Treatment Objective: -**

Considering the raw sewage quality and the required treated effluent quality, the process train proposed by the contractor shall achieve the following objectives:

1. To ensure process design meets optimum flow requirements.
2. To achieve guaranteed treated effluent quality or even better.
3. To ensure that the offered treatment process is Biological, the most appropriate and state of the art in terms of both efficiency of treatment, performance and operating cost.
4. To ensure that the process is cost effective from both capital and running costs considering land requirement, power consumed & generated.
5. To ensure that the sludge produced is dewatered, by open body truckable consistency, so that it can be easily disposed off for use as manure.
6. No toxic chemical shall be used by the contractor. He will submit the toxicity test report from any government recognized laboratory at its own cost before using such chemical.
7. Oils / Lubes / Fuels / Filter Media / Chemicals etc. to be used will be defined by bidder.

The contractor is to maintain guarantee parameters for treated effluent quality, as listed above, during defect liability period and O&M period.

Demonstration of the treated effluent quality parameters measurement incident, sampling, analyzing in laboratory and liquidated damages/penalty for non-conformance etc.

## 1.2 Brief Scope of Work:

The brief scope of work comprises of the following major heads:

- 1) Interim Operation of the existing & partly rehabilitated STP during construction & rehabilitation period.
- 2) Existing operator and this NIT bidder must tie up with the handing over of each process unit in phase manners per direction of Engineer In charge.
- 3) Rehabilitation and up-gradation of existing STP will be pallel activity.
- 4) Integration of rehabilitated STP & Trial Run in phase manner
- 5) Operation of Plant replaced equipments during Defect Liability Period of two year.
- 6) Removed E/M equipments will be handed over to Noida authority store as and were basis with joint inspection of engineer incharge.
- 7) Exising units like WETWELL, PTU, SBR sludge cleaning will be part of this contact, existing operator will help him to diversion of flow to keep plant operational.
- 8) Electrical load during the rehabilitation and retrofir work will be optional to use.
- 9) Existing operator needs to control proper flow with the help of avilable gates, if needs repair, he has to do for divesion of flow to keep plant operational.
- 10) Demolition of structures of existing STP, if any. The Duration of the work execution shall be as follows:

Sl. No.	Description	Period
a)	Construction, rehabilitation & up-gradation period along with integration of rehabilitated plant including Trial run	12 months
b)	Defect Liability Period (DLP)	24 months after successful completion of Trial run.
c)	O&M period	NIL

### 1) Interim Operation of the existing & partly rehabilitated STP during construction & rehabilitation period:

The Contractor shall have to plan the Rehabilitation & Up-gradation of the plant in such a manner that optimum capacity as designed STP of wastewater can be treated through the plant during rehabilitation & up gradation period. The Contractor shall take over the operation of the existing wastewater treatment plant within 28 days from the effective date of contract. The Contractor shall continue to operate the plant in such a manner that it would be capable of treating optimum capacity as designed STP or wastewater available, and at the same time take up the work of rehabilitation and upgrading the liquid and sludge streams of the STP. This phase of operation (partial or full) of STP until completion of rehabilitation, up-gradation of full plant is termed as “Interim Operation”.

It is envisaged that the rehabilitation including integration of the liquid stream & sludge stream of the plant should be completed in a period of 12 months and the same could be put into service and be capable of achieving treated effluent standards mentioned above. In case it exceeds, the Contractor shall be liable to keep on operating the plant at his own cost and the employer will only provide fuel i.e. HSD and electricity.

During the interim operation, disposing of the sludge will also be responsibility of Contractor within plant premises as per the prevailing practice of NOIDA.

The operation and maintenance of STP during the interim period shall be undertaken by the contractor as per the “Interim Operation & Maintenance Service level Agreement” which is available of this agreement)

During Interim operation period, it shall be the responsibility of the Contractor to maintain all the existing electrical & Mechanical equipment and instruments in proper working condition and no extra payment shall be made for this purpose.

The rehabilitation is to be carried out in such a manner, either adopting the help of pumping or any other alternate method without disturbing the treated effluent flow to outfall drain.

## **2. Integration of rehabilitated STP & Trial Run**

Trial run shall start after complete Integration of Rehabilitated units & plants. The trial run after commissioning period shall be three months from the date of completion of construction works, during which the contractor shall demonstrate satisfactory performance to the Engineer-in-charge.

No payment on account of manpower, consumable & preventive maintenance / replacement is admissible to the contractor during Trial run & commissioning period of the STP.

The cost of electricity / Power supplies shall be paid directly by NOIDA to electricity supply company as per the similar provision of O&M period on the condition that firm should maintain PF not less than 0.98 i.e. minimum of the power consumption guaranteed by the contractor or actual consumed at site. However any excess power consumed than the guaranteed power and not maintain PF 0.98 during three months trial run period then the excess power charges shall be borne by the Contractor.

Further during extended period of Trial run of the Plant, all expenses such as manpower, consumable, Electricity charges etc. will have to be completely borne by the contractor.

All commissioning tests shall be carried out in the presence of Employer's representative and approval for the same shall be obtained in writing before commissioning and installation. All instruments and accessories required for testing and commissioning of the equipment specified herein shall be provided by the Contractor at no extra cost to the Employer.

## **3. Operation of Plant replaced equipments (optional) during Defect Liability Period of two year**

The Contractor shall be responsible to operate the Plant and all other allied works under this Contract for the Twenty four (24) Calendar months (two year) defect liability period following successful completion of the Trial Run and Commissioning Period.

For this period, the scope of work shall include, but not be limited to the operation of the complete Plant from the inlet chamber up to the treated effluent channel & solid handling units.

The Contractor's Personnel shall be fully experienced in managing and operating all aspects of the plant and shall be fully responsible to monitor and ensure the successful performance of the Plant throughout the DLP.

All the routine operating cost for manpower and consumables (like chemicals, laboratory glassware, oil/lubricants, fuel etc.), transportation, disposal of treated effluent, transportation & disposal of sludge within of plant premises, disposal of screenings and grit, maintenance of Civil / Electrical / Mechanical / Pipeline / Automation, etc shall be in the scope of the Contractor.

If during the Defect Liability Period any defect is found in the design, Engineering, materials and workmanship of the Site, Plant, Goods or Materials supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer rectify, repair, replace or otherwise make good such defect as well as any damage to the Plant caused by such defect at its own cost.

If the repair, replacement or making good is of such a character that it may affect the efficiency of the Plant or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Plant shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests on its own.

If such part fails the tests, the Contractor shall carry out further repair, replacement or making good, as the case may be, until that part of the Plant passes such tests. The tests shall be agreed upon by the Employer.

If the New Facility or any part thereof cannot be used by reason of such defect or making good of such defect, the Defect Liability Period of the New Facility or such part, as the case may be, shall be extended by a period equal to the period during which the New Facility or such part cannot be used by the Employer because of any of the aforesaid reasons. During the Defect Liability Period, disposing of sludge will also be the responsibility of the contractor.

#### **General Obligations**

The Contractor shall carry out, and be responsible for the design of the Works. Design shall be prepared by qualified designers/professionals and the Contractor shall ensure that the designer is available to attend discussions with the Engineer-in-Charge and consultant appointed by the employer at all reasonable times during the Contract Period. Contractor shall be responsible for approval of design, construction documents and drawings from the Engineer-in-Charge.

#### **4. Design, Drawings, Documents and Data (Rehabilitation Documents)**

The Construction/rehabilitation drawings and documents are to be prepared by the Contractor and submitted to the Engineer during the course of the Contract for approval and based on which the construction/rehabilitation and erection works shall be carried out. The Engineer will not permit construction/rehabilitation and erection activities to start on any part or section of the works unless Construction /rehabilitation Documents for that part or section have been submitted by the Contractor and approved by the Engineer-in-Charge.

The contractor shall prepare construction/rehabilitation documents in sufficient detail to satisfy all regulatory approvals, to provide suppliers and construction personnel sufficient instructions to execute the works as well as operation of the completed works. The construction or rehabilitation documents shall form the agreed basis for the execution of the Works. If changes are made in the approved construction/rehabilitation documents then the same shall be rectified / revised and shall be submitted to Engineer for approval and the earlier copy of the drawings held by the Employer shall be marked 'superseded'. The revised copies shall be submitted by the contractor at no cost to the employer. Only the final approved design and drawings by the Employer shall be used for the purpose of the Contract.

• **Basic Designs and Drawings for Approval**

After signing the contract, within 30 days from the date intimated by the NOIDA to proceed with the work, the contractor shall submit to the Engineer-in-Charge, the detailed methodology and sequence for carrying out the work, basic designs and drawings having sufficient detailing so that Employer and its representative can clearly understand the Contractor's proposal for proceeding with rehabilitation and up gradation of the STP.

The basic designs and drawings shall inter alia comprise of:

- 1) Contractor's plan for rehabilitation & upgrading of the STP facilities considering the requirement of simultaneously operating a part of the plant to treat the incoming flow and rehabilitation/ up gradation of the plant. The work plan should include a detailed unit / structure wise procedure clearly specific which units shall be under operation and which shall be rehabilitated.
- 2) Basic Design Engineering should comprise of,
  - a) Description of the treatment process, process design and layout of the plant with process & hydraulic system design calculations
  - b) Process flow diagram, and hydraulic flow diagram;
  - c) Chemical / biological process and process mass flow calculations including organic / hydraulic loadings
  - d) Control philosophy clearly indicating the online instruments required for
    - i) Plant Operation
    - ii) Plant Quality control
  - e) Process and Instrumentation Diagrams (P&IDs); the diagrams shall indicate in symbolic form the process, plant and systems of measurement, control and automation;

Layout plan and section drawings showing general arrangement of all the treatment units and buildings along with levels / contours for civil as well as E & M components

## **5. Detailed Engineering Designs and Drawings**

After approval of the basic designs and drawings, the contractor shall submit detailed engineering designs and drawings and shall inter alia comprise of:

### **A. Civil Works**

- a) Civil general arrangement drawings and hydraulic & structural design of all structures vetted by IIT hired by Bidder.
- b) GA of all New Buildings if any
- c) Rehabilitation Methodology, Planning with existing drawings along with the rehabilitation of works to be done.
- d) Architecture designs and concepts for treatment units, buildings, landscaping, etc.;
- e) Construction drawings of all new & major rehabilitation of existing structures with plan and elevation; with structural design calculations for all structures and buildings; and reinforcement drawings and Bar bending schedule;
- f) Ancillary Works like
  - i) Transformer fencing; Design of roads;
  - ii) Plant storm water Drainage system;
  - iii) Water supply, Sewerage and Plumbing drawings for buildings;
  - iv) Drawing showing buried pipelines and other utilities along with N&E coordinates and offsets from permanent structures;
  - v) Cable trenches;

### **B. Mechanical Works**

- 1) Mechanical general arrangement drawings of all structures;
- 2) Outline Dimensional and sectional Drawings with MOC for:
  - a) Pipeline sizes and materials;
  - b) Sluice Valve - Motorised and Manually Operated
  - c) Non-Return Valve
  - d) Dismantling joint
  - e) H.O.T Crane & E.O.T Crane
  - f) Sluice Gates both Motorized & Manually Operated
  - g) Mechanical Fine Screens
  - h) Pumps (Centrifugal, Progressive cavity, submersible, etc)
  - i) Grit Removal equipment
  - j) Primary treatment unit Mechanism GA drawings
  - k) Diffusers with piping detail and its anchoring
  - l) Chlorination system with accessories
  - m) Process Air Blowers
  - n) Mechanical Sludge Dewatering

- o) Chemical Dosing System
- p) Flow control valve
- 3) All Rotating equipment with adequate details of their performance
  - a) Performance Curves: for Pump, Blowers, etc. Q vs. H, P, Efficiency and NPSH
  - b) ISO-Efficiency curves of the pump model proposed
  - c) Catalogues for all equipments
  - d) Details of modular units

### **C. Electrical Works**

#### **1) Drawings:**

- a) General Arrangement drawings;
- b) Composite Single Line Diagram for electrical system for the STP;
- c) Schematic drawings<sup>1</sup> for each HV / LV switchboard;
- d) Internal and external<sup>2</sup> general arrangement for each switchboard;

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<sup>1</sup>Schematic drawings shall include a comprehensive schedule of the components used in each switchboard, MCC and control panel including details of the type, manufacturer and rating of each component.

- e) Bill of quantities of each switch board;
- f) Transformer schematic and general arrangement drawings;
- g) Cable block diagrams;
- h) Cable connection diagrams (or schedules);
- i) Cable routing/installation drawings;
- j) Foundation and fixing details drawings;
- k) Transformer enclosure drawings;
- l) Earthing system general arrangement drawing.
- m) Lighting drawings.

#### **2) Schedules:**

- a) Cable Schedules;
- b) Load and Power consumption schedule;
- c) Junction Box schedule;
- d) Protection relay setting schedule.

#### **3) Calculations for:**

- a) Transformer sizing
- b) Fault level;
- c) Cable sizing ;
- d) Coordinated protection study;
- e) Earthing calculations;
- f) Battery sizing.
- g) Lighting calculations.



## **D. Control and Instrumentation**

### **1) Drawings:**

- a) Power supply distribution single line and schematics diagrams<sup>3</sup> for each control panel;
- b) Internal and external<sup>4</sup> general arrangement for each control panel (dimensional);
- c) Control panel wiring diagram, relay logic diagram along with terminal block details;
- d) System configuration and layout diagram along with bill of material, program listings, block logic diagram and control logic write up for PLC;
- e) UPS and battery sizing calculations;

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<sup>2</sup>The external arrangement of each switchboard, MCC and control panel shall show the arrangement of all components including details of panel section, switch and instrument labels.

<sup>3</sup>Schematic drawings shall include a comprehensive schedule of the components used in each switchboard, MCC and control panel including details of the type, manufacturer and rating of each component.

<sup>4</sup> The external arrangement of each switchboard, MCC and control panel shall show the arrangement of all components including details of panel section, switch and instrument labels.

- f) Control and instrumentation loop drawings<sup>5</sup>;
- g) Catalogues for all instruments;
- h) Control and Instrumentation system configurations diagrams;
- i) Instrument installation detail drawing<sup>6</sup>;
- j) Cable block diagrams;
- k) Cable routing/installation drawings;
- l) Foundation and fixing details and trenches drawings;
- m) Mimic general arrangement (full colour copies shall be provided);
- n) Loop Diagrams and Interconnection Diagrams.

### **2) Schedules:**

- a) Cable schedule;
- b) Cable interconnection schedule;
- c) Control and instrumentation load schedule for each control panel;
- d) I/O schedule;
- e) Junction box schedule;
- f) Instrument schedule with tag nos;
- g) Instrumentation, process control set point schedule;
- h) Instrument data sheets;

### **3) Documentation:**

- a) Functional design specification (FDS);
- b) Factory acceptance test document (FAT);
- c) Site Acceptance Test document (SAT).

The contractor shall also submit for all material / product / equipment / system the manufacturer's data including samples, catalog, brochures, circular, specifications, equipment operations and maintenance manuals and other printed information in sufficient detail and scope to verify compliance to the requirements. These shall include certified curves of equipment responses and performance characteristics as required. All material / product / equipment / system shall be accompanied by manufacturer's certificate of compliance stating that the supplied items conform to the specifications.

In addition to above any drawing/document/schedule not mentioned but essential as desired by Engineer-In – Charge shall be submitted by bidder

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<sup>5</sup> Control and instrumentation loop drawings shall show on a single drawing the complete circuit associated with an instrument or device including details and location of power supplies, cabling and terminations.

<sup>6</sup> Hook up drawings shall detail how an instrument or device is installed.

## **6. Manufacturer's Data**

The contractor shall also submit for all material / product / equipment / system the manufacturer's data including samples, catalog, brochures, circular, specifications, equipment operations and maintenance manuals and other printed information and scope to verify compliance to the requirements. These shall include certified curves of equipment responses and performance characteristics as required. All material / product / equipment / system shall be accompanied by manufacturer's certificate of compliance stating that the supplied items conform to the specifications.

## **7. Equipment and Interconnection Diagrams**

Equipment room layout drawings shall be based on actual requirements of equipment furnished and be consolidated for all trades, shall be to scale and shall show all pertinent structural and penetration features and other items, such as electrical cabinets, which affect available space. All mechanical and electrical equipments including electrical conduits, accessories, ductwork and piping shall be shown to scale in plan and also in elevation and / or section and resolve any conflicts or clearance problems. Physical descriptions of the various mechanical and electrical items shown on these drawings shall be submitted concurrently.

## **8. As-Built Records**

The Contractor shall prepare, and keep up-to-date, a complete set of 'as-built' records of the execution of the Works, showing the exact "as-built" locations, sizes and details of the work as executed, with cross references to relevant specifications and data sheets. As-built records shall include all such drawings, schedules, documentation and calculations as necessary for the complete understanding of the designs, sizing and capacities of the structures and equipments and operation and maintenance.

The 'As-Built' records shall consist of the fully up-dated versions of the approved Construction Documents incorporating any additional information which will assist the Employer in operating,

maintaining and if necessary modifying or extending the works at a later date. These records should extend and supplement the information given in the Operation and Maintenance Manuals.

The contractor shall submit three hard copies of the Draft 'As-Built' records to the Engineer-in-charge for approval 30 days prior to the start of trial run of the plant.

On approval from the Engineer-in-Charge, the contractor shall submit six sets in Hard and two sets in Soft (CD's) of approved 'As-built' records to the engineer out of which one copy shall be kept at site always.

#### **9. Work Program**

The contractor shall submit within 15 days of award of work a detailed work program pertaining to civil construction, procurement, supply, erection, installation, testing and commissioning of all equipments clearly identifying how to rehabilitate and simultaneously operate the plant in the form of BAR and CPM / PERT chart in six (6) hard copies and two (2) soft copies (CDs). The plan has to be in adequate detail with unit / structure wise procedure with time line clearly specifying which units shall be under operation and which shall be rehabilitated. The work program shall be reviewed on quarterly basis by the Engineer-in-Charge. Any slippages, if occurred during the preceding quarter, shall be covered up by reallocating resources, putting depending activities on fast track, etc and by applying other project management techniques. The contractor after taking into account these measures, shall submit the revised work program to the Engineer-in-Charge for approval.

#### **10. Notice of Operations**

The Contractor shall give full and complete written notice of all important operations to the Engineer sufficiently in advance to enable the Engineer-in-Charge to make such arrangements as the Engineer-in-Charge may consider necessary for inspection and for any other purpose. The Contractor shall not start any important operation without the written approval of the Engineer-in-Charge.

#### **11. Access for other Contractors**

The Contractor shall allow reasonable access to other Contractors engaged on the site or on areas adjoining the site to carry out their works.

In the event of disputes over access or priority between Contractors, the Employer's Representative shall be informed in writing. The Employer's Representative shall inform all parties concerned in writing of his decision.

Where any part of the plant is associated with or is in physical contact with plant supplied under a separate contract, the Contractor shall be satisfied that the works carried out by the other Contractors are consistent with the correct operation of the plant. In the event of the Contractor considering any work being carried out or any work already completed to be detrimental to the ultimate operation of the plant, he shall report the matter at once to the Employer's Representative.

#### **12. Interface with other Contracts**

The Contractors of various works taking place at the proposed site shall co-ordinate with Employer as applicable and make all efforts to satisfy the requirements of the necessary interface.

## **Material, Construction/Rehabilitation and Erection of Plant**

### **13. Material**

The Engineer-in-Charge shall have the right at all times to inspect the sources of all materials. Such an inspection shall be arranged and the Engineer-in-Charge's approval obtained, prior to starting of construction, rehabilitation, modification and erection of the plant. Materials complying with codes/standards shall generally be used. Other materials may be used after approval of the Engineer-in-Charge and after establishing their performance suitability based on previous data, experience or tests. As soon as practicable after receiving the order to commence the Works, the Contractor shall inform the Engineer-in-Charge of the names of the suppliers from whom he proposes to obtain any material but he shall not place any order without the approval of the Engineer-in-Charge which may be withheld until samples have been submitted and satisfactorily tested. The Contractor shall thereafter keep the Engineer-in-Charge informed of orders for and delivery dates of all materials.

All materials cement, aggregate, water, admixtures, structural steel and steel for reinforcement shall be of best quality and subject to mandatory test. These tests shall be got done from Sri Ram Institute of Industrial Research or any other laboratory duly approved by DJB. All the testing charges including sampling, conveyance, packaging etc., shall be borne by the contractor himself. Each delivery / lot of cement and steel shall be accompanied by manufacturer / producer certificate conforming that the supplied cement and steel conforms to relevant specifications. These certificates shall be endorsed to the Engineer-in-Charge for his record. From each lot sample shall also be taken and got tested. Cost of such tests shall be borne by the contractor. In case the test results indicate that the cement and steel arranged by the contractor does not conform to standards specified, the whole lot shall be rejected and material removed from the site by the Contractor at his cost within a week's time after written orders from the Engineer-in-Charge.

All materials which do not conform to the Employer's Requirements shall be rejected.

### **14. Construction or Rehabilitation or Modification and Erection of Plant**

Construction or rehabilitation or modification and Erection of Plant shall be phased in such a manner as not to obstruct the work being done by other contractors.

Plant shall be erected in a neat and workmanlike manner on the foundations and at the locations shown on the approved drawings. Unless otherwise directed by the Engineer-in-Charge, the Contractor shall adhere strictly to the aforesaid drawings.

The Contractor shall be responsible for setting up and erecting the Plant to the line and level required and shall ensure that the Plant is securely held and remains in correct alignment before, during and after grouting-in.

Any damage caused by the Contractor during the course of erection to new or existing plant or building or any part thereto, the Contractor shall at his own cost, make good, repair or replace the damage, promptly and effectively to the entire satisfaction of the Engineer-in-Charge.

### **15. Packing and Protection during Transportation**

Materials shall be transported, handled and stored in such a manner as to prevent deterioration, damage or contamination failing which such damaged materials will be rejected and shall not be used on any part of the Works under this contract. Before any equipment/ material is dispatched from a manufacturer's factory, it shall be adequately protected and packed to ensure that it is delivered to

Site safely and without any damage. The methods employed for protection and packing must be suitable for withstanding the conditions which may be experienced during shipment, delivery to the Site and prolonged periods of storage in the open, whether the items are shipped in packing cases, crates or only partially protected according to their nature.

Bright parts and bearing surfaces shall be protected from corrosion by applying a rust preventive lacquer, high melting point grease or similar temporary protection. A sufficient quantity of solvent shall be supplied with the plant to enable this coating to be removed on the Site. All machined flanges and other mating surfaces shall be protected by means of wood templates. The bolts for securing these templates shall not be reused in the final installation.

No crate or package shall contain items of Plant intended for incorporation in more than one part of the Works.

All items of Plant shall be clearly marked for identification against the packing list, which shall be placed in a waterproof envelope inside every packing case or crate.

Every packing case and crate shall be indelibly marked to show its weight, serial number, top and bottom, shipping marks and handling instructions or sling marks.

Electrical Plant shall be enclosed in sealed airtight packages with dehydrating material, before being placed in packing cases on shock-absorbent material and secured by means of battens. Also the NGT guidelines are to be followed strictly.

## **16. Spare Parts**

The spares shall comprise an adequate stock of the parts likely to be needed as routine replacements together with any major items or components which it may be desirable to hold in order to facilitate or expedite timely repair.

Spare parts shall be new and shall be packed separately in packages or containers designed to preserve the spares from the effects of long term storage under the ambient conditions specified. Any items that cannot be packed in this way must be protected from corrosion by applying temporary protective coatings and shielded from mechanical damage. All spares shall be clearly labeled with brief descriptions and part numbers. The Contractor may use spare parts maintained in the stock to replace failed parts during the entire contract period. However, the Contractor shall be responsible for replacing those parts used with identical parts at no cost to the Employer.

Spare parts to be supplied under this contract shall be interchangeable where possible within the treatment plants rehabilitated under this contract and shall be adequate for a period of five years after handing over the plant to Employer.

## **17. NGT Guidelines**

NGT issued guidelines to the various departments for the information of the builders and general public.

The Hon'ble Green Tribunal has directed as follows:-

1. No government, authority, contractor, builders or any person would be permitted to store/dump construction material or debris on the metalled road.
2. Beyond the metalled road, the area where such construction material or debris can be stored shall be physically demarcated by the officers of all the concerned Authorities/Corporation. It

shall be ensured that such storage does not cause any obstruction to the free flow of traffic and/or inconvenience to the pedestrians. It should be ensured that no accidents occur on account of such permissible storage.

3. Every Builder or owner shall put tarpaulin on scaffolding around the area of construction and the building. No person including builder, owner can be permitted to store any construction material particularly sand on any part of the street, roads in any colony.
4. The construction material of any kind that is stored at the site will be fully covered in all respects so that it does not disperse in the Air in any form.
5. All the construction material and debris shall be carried in the trucks or other vehicles which are fully covered and protected so as to ensure that the construction debris or the construction material does not get dispersed into the air or atmosphere, in any form whatsoever.
6. The dust emissions from the construction site should be completely controlled and all precautions taken in that behalf.
7. Every worker working at the construction site and involved in loading, unloading and carriage of construction material and construction debris shall be provided with mask to prevent inhalation of dust particles.
8. Every owner and or builder shall be under obligation to provide all medical help, investigation and treatment to the workers, involved in the construction of building and carry of construction material and debris relating to dust emission.
9. It shall be the responsibility of every builder to transport construction material and debris waste to construction site, dumping site or any other place in accordance with rules and in terms of this order.
10. All to take appropriate measures and to ensure that the terms and conditions of the earlier order and these orders should strictly comply with by fixing sprinklers, creations of green air barriers.
11. Compulsory use of wet jet in grinding and stone cutting.
12. Wind breaking walls around construction in site.
13. In the event of default they shall be liable to pay compensation for such environmental degradation or for pollution of ambient air quality in NCR particularly.
14. If any person, owner and or builders is found to be violating any of the conditions stated in this order and or for their non-compliance such person, owner, builder shall be liable to pay compensation of Rs. 50,000/- per default in relation to construction activity at its site and Rs. 5,000/- for each violation during carriage and transportation of construction material, debris through trucks or other vehicles, in terms of section 15 of the NCT Act on the principle of polluter Pay. Such action would be in addition not in derogation to the other action that the Authority made take against such builder, owner, person and transporter under the laws in force.

## **DETAIL SCOPE OF ELECTROMECHANICAL WORK:**

S.N.	Ref.N	Description of Item
1		<b>PUMP HOUSE</b>
	a)-	<p><b>Replacement of pumps 3 Nos</b>  PUMPING STATION Sump well size- 11.0 m Dia. x 2.50 m SWD  Capacity 1042 m<sup>3</sup>/hr @ 25 m head,  Type Submersible Non Clog  Speed - Less than 1000 RPM  Handle Solid Size mm  Specific Gravity - 1.05  Operation start and stop automatically based on the level in the wet well (VFD Suitable)  Motor Cooling System - Cooling Jacket  Accessories Lifting Chain Bow Shackle at every 1m -15m Length each Pump Guide Pipe with square Guide rail bar each Pump  Cable Length - Min 15m required  All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Scal Detector etc &amp; all complete work as above items. direction by Engineer-in-charge</p>
	b)	<p><b>Replacement of pumps 2 Nos</b>  PUMPING STATION Sump well size- 11.0 m Dia. x 2.50 m SWD  Capacity 521 m<sup>3</sup>/hr @ 25 m head,  Type Submersible Non Clog  Speed - Less than 1000 RPM  Handle Solid Size mm  Specific Gravity - 1.05  Operation start and stop automatically based on the level in the wet well (VFD Suitable)  Motor Cooling System - Cooling Jacket  Accessories Lifting Chain Bow Shackle at every 1m -15m Length each Pump Guide Pipe with square Guide rail bar each Pump  Cable Length - Min 15m required &amp; All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Scal Detector etc &amp; all complete work as above items. direction by Engineer-in-charge .</p>
	c)-	<p><b>Replacement of Coarse Screens 2 Nos</b>  Screen Chamber Size : 0.8 m wide x 4.0m Long x 0.8 mSWD + 0.5 m FB  Avg. Flow to Each Screen-12.50 MLD  Peak Flow to Each Screen-28.125 MLD  Type Inclined Multi Rake Bar Screen  Angle of Inclination - 75 deg.  Clear Opening -20mm  Flat Size 20x 10mm  Bar Profile Rectangular  Operating Height/Chanel Depth - 5 m, &amp; all complete work as above items. direction by Engineer-in-charge</p>
	d)-	Cleaning & Desilting of Sump well size- 11.0 m Dia. x 2.50 m SWD & all complete work as above items. direction by Engineer-in-charge
	e)-	Replacement/Repairing of Electrical Control Panel along with Cabel & Cabel Trays & all complete work as above items. direction by Engineer-in-charge
	f)-	Repair and overhauling work of inlet, outlet & Bipass gate Valves, Belt Conveyars & Eot Crane & all complete work as above items. direction by Engineer-in-charge

2	<p><b>PRIMARY UNIT</b></p> <p>a)- Replacement of Existing Flow Meter &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b)- Replacement of Fine Bar Screens 2 Nos with hydraulic power pack system Screen Chamber Size: 0.8 m wide x 6.0m Long x 0.8 mSWD + 0.5 m FB Avg. Flow to Each Screen-12.50 MLD Peak Flow to Each Screen-28.125 MLD Type - Step Angle of Inclination - 45 deg. Clear Opening -6mm Flat Size- 2mm Bar Profile: Rectangular Operation: Automatic. &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>c)- Cleaning &amp; Desilting of Grit Chamber size 6.2m x 6.2m x 0.9m SWD &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>d)- Replacement of Grit Scrapping Mechanism, Screw Conveyor, Organic return pump &amp; Gear Box of Grit mechanism unit –2 Nos  Grit Chamber Size: 6.2 m x 6.2 m x 0.9 mSWD + 0.5 m FB Avg. Flow -12.50 MLD Peak Flow -28.125 MLD Type of mechanism - Mechanical Scraper &amp; Screw Classifier.</p> <p>e)- Repair work Gate Valves, Cleaning of Grit Chamber &amp; other miscellaneous works etc &amp; all complete work as above items. direction by Engineer-in-charge</p>
3	<p><b>SBR UNIT</b></p> <p>a)- Replacement of Decanter Screw Jack + Core parts+ Diffuser membranes &amp; SS Clamps+PLC/SCADA System (non-redundant) &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b)- Cleaning of SBR Basin &amp; Selector Zones 4 nos. Size of 27.4m (L) x 27.4m (W) x 5m (SWD) , all complete work as above items. direction by Engineer-in-charge</p> <p>c)- Provision of DO Analyzer's at each basin  Diaphragm covered, amperometric, potentiostatic operating 3 electrode system or Photometric sensor also acceptable. • Fast calibration • Automatic diaphragm break alarm • No zero point adjustment necessary • Minimum measuring range 0.01 mg O<sub>2</sub>/l • Diaphragm easy to replace • Electrolyte reservoir for 1.5 year of operation • Integrated Temperature sensor Reaction time: 30 sec. (for 90% of total value) Temperature 100 sec. (for 99% of total value) 5- 35 deg C Protection class: IP 68 • Measuring range : 0-10 mg O<sub>2</sub>/l • Resolution of data: &lt;/ = 0.5% of total value &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>d)- Replacement/Repairing of air line from blower discharge to SBR Unit &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>e)- Replacement of RAS/SAS Pumps unit –8 Nos</p>



		<p>RAS Pump Capacity - 200 m<sup>3</sup>/hr @0.50 Kg/cm<sup>2</sup> @ 10m head  SAS Pump Capacity - 40 m<sup>3</sup>/hr @ 10m head  Type-Submersible Non Clog  Speed-Less than 1000 RPM  Handle Solid Size 100mm  Specific Gravity - 1.05  Operation start and stop automatically based on the level in the wet well (VFD Suitable)  Motor Cooling System - Cooling Jacket  Accessories Lifting Chain Bow Shackle at every 1m -10m  Length each Pump  Guide Pipe with square Guide rail bar 10m Length each Pump  Cable Length - Min. 20m  All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Seal Detector etc &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>f)- Replacement/Repairing of corroded cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>g)- Repair work of Actuators, Provision of pump lifting arrangement &amp; other miscellaneous works &amp; all complete work as above items. direction by Engineer-in-charge</p>
4	<b>BLOWER HOUSE</b>	<p>a)- Replacement of 2 Nos of Turbo Blowers as a stand by arrangement</p> <p>Capacity - 4200 Nm<sup>3</sup>/h @0.70 Kg/cm<sup>2</sup> &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b)- Replacement of Twin Lobe Blower Motors Unit – 4 Nos</p> <p>Air mixing rate - 1.2 m<sup>3</sup> / hr /m<sup>3</sup> of liquid volume  Min. Blower Capacity - 4200Nm<sup>3</sup> / hr  Head - 0.65 Kg/cm<sup>2</sup> &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>c)- Modification of air transfer pipeline &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>e)- Retrofitting/Replacement of Electrical control panel with cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>f)- Repair work of Blower Discharge valves, repair of EOT crane &amp; other miscellaneous works &amp; all complete work as above items. direction by Engineer-in-charge.</p>
5	<b>CENTRIFUGE WORKS</b>	<p>a)- Replacement of existing centrifuge with the supply of screw press unit – 2 Nos</p> <p>Sludge Volume - 507.81 m<sup>3</sup>/day  Capacity - 10m<sup>3</sup>/hr.  Sludge flow rate - 20.96 m<sup>3</sup>/hr  Sludge Consistency - 0.80%  Sludge loading rate - 239.68 Kg/hr &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b)- Replacement of Sludge Feed pumps unit –6 Nos Sludge Sump size -7.1 m x 4.0 m x 3.0 m SWD + 0.5 m FB capacity-10 m<sup>3</sup>/hr. @ 15m &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>c)- Replacement of Polyelectrolyte dosing pumps unit –6 Nos</p>

		<p>Weight of Dry Solids discharged by Centrifuge-100Kg/hr.Poly Concentrain-0.1% Poly Dose required at rate of-0.2kg/hr.= 200gm/hr. Tank size -1.1 m x 1.1 m x 2.0 m SWD, Pump Capacity - 270 Litre/hr. Model - GS 404-380 lph &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>e)- Retrofitting/Replacement of Electrical control panel with cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>f)- Repair work sludge transfer pumps, poly dosing pumps, repair of EOT crane &amp; cleaning of sludge settling tank etc &amp; all complete work as above items. direction by Engineer-in-charge</p>
6	<b>CHLORINATION ZONE, DG SET &amp; LABORATORY</b>	
	a)-	<p>Replacement of Laboratory Equipment's, Chemicals &amp; Glassware's etc.</p> <p>Entire set as per standard &amp; all complete work as above items. direction by Engineer-in-charge</p>
	b)-	<p>Replacement of Chlorination System with the supply of Chlorinators, Leak Detection System, Neutralization unit etc</p> <p>CCT Tank size - 15m x 10m x 3.5 SWD+0.5 FB Chlorine dose - 5.0 ppm, Chlorine dosage rate - 5.208 kg/hr.Chlorinator capacity - 7 kg/hr.&amp; all complete work as above items. direction by Engineer-in-charge</p>
	c)-	Retrofitting/Replacement of Electrical control panel with cable & cable trays & all complete work as above items. direction by Engineer-in-charge
	e)-	Repair work of chlorine booster pumps, EOT crane, major overhauling of DG set etc & all complete work as above items. direction by Engineer-in-charge
7	<b>MISCELLANEOUS WORKS</b>	
	a)-	Replacement of AC units 4 nos. of 2 Ton capacity each & all complete work as above items. direction by Engineer-in-charge
	b)-	Minor road repair & painting of all existing campus boundary wall & gate/grill, leakproof plaster works, staircase repair, etc & all complete work as above items. direction by Engineer-in-charge
	c)-	Internal/External painting & all complete work as above items. direction by Engineer-in-charge

**SPECIAL TECHNICAL SPECIFICATION FOR ELECTRO – MECHANICAL WORK (SEWAGE TREATMENT PLANT)**

STATUS OF EQUIPMENT 25 MLD STP AT SEC. 50 NOIDA					
SL NO AS PER LETTER	SL NO	DESCRIPTION	QTY	UNIT	AS PER NIT
					STATUS
1.00	1.00	Mechanical & Manual coarse screen and its control panel			
	1.01	Mechanical coarse screen-1 &2	2	Nos	
	1.02	Manual coarse screen	1	Nos	
2.00	2.00	Belt conveyor for coarse screen	1	Nos	
3.00	3.00	Level Transmitter in MPS	1	Nos	
4.00	4.00	RAW SEWAGE Transfer Pumps and its control panel			
	4.01	Pumps no-1	1	Nos	
	4.02	Pumps no-2	1	Nos	
	4.03	Pumps no-3	1	Nos	
	4.04	Pumps no-4	1	Nos	
	4.05	Pumps no-5	1	Nos	
5.00	5.00	Organic return pumps for grit chamber	2	Nos	
6.00	6.00	Process Air Valve	4	Nos	
7.00	7.00	SCADA Monitor display	1	Nos	
8.00	8.00	Air Blower and its control panel	4	Nos	
	8.01	Blower -1	1	Nos	
	8.02	Blower -2	1	Nos	
	8.03	Blower -3	1	Nos	
	8.04	Blower -4	1	Nos	
	8.05	Blower -5	1	Nos	
	8.06	Blower -6	1	Nos	
9.00	9.00	Blower discharge pipe	1	Lot	
10.00	10.00	Pressure gauge on blower discharge	6	Nos	
11.00	11.00	DO meter in all C-Tech Basins	4	Nos	
12.00	12.00	Diffusers	4	Basins	
13.00	13.00	Level transmitter in C-Tech Basins	4	Nos	
14.00	14.00	Aeration grit in selector zone	4	Set	
15.00	15.00	Solenoid Valve in C- Tech Basin 2 & 3	2	Nos	
16.00	16.00	Decanter & Decanter related accessories	4	Nos	
17.00	17.00	Level transmitter in sluge sump	1	Nos	
18.00	18.00	Centriuge Machine and its control panel	4	Nos	
19.00	19.00	Painting for electro-mechanical equipment	1	lot	

## **1.8 General Requirements**

### **1.8.1 Material**

All materials incorporated in the Work shall be the most suitable for the service conditions and duty concerned. They shall be new and of reputed make / approved quality, free from imperfections and selected for long life and minimum maintenance. Non-destructive tests, if called for in the Specification, shall be carried out. All submerged moving parts of the Plant, or shafts and spindles or faces etc. in contact with them shall be of corrosion resistant materials. All parts in direct contact with various chemicals, shall be completely resistant to corrosion, or abrasion by these chemicals, and shall maintain their properties without aging due to the passages of time, exposure to light or any other cause. All materials shall conform to the material standards as per BIS or any equivalent standard.

### **1.8.2 Workmanship**

Workmanship and general finish shall be of first class quality and in accordance with best workshop practice. All welds shall be as per IS, BS, ASME standards. All tolerances and clearances shall be as per good and sound engineering practices. Should the Employer's representative not consider any material acceptable, it shall be replaced.

### **1.8.3 Design Features**

As far as practicable, all designs shall be as per latest concept and practices. The equipment shall be new, of robust design for a long reliable operating life. These shall be capable of 24 hours per day continuous operation for prolonged period in the climatic and working conditions prevailing at the site and with a minimum of maintenance. Particular attention shall be given to extra temperature and the rating of electrical and mechanical equipment, cooling systems and the choice of lubricants shall be for the temperatures as specified.

Paints used shall be the manufacturers' standard and shall be suitable for duty as described. The equipment shall be designed to provide easy access to and replacement of component parts which are subject to wear without the need to replace whole units. All parts in contact with water shall have a life from new to replacement for 5 years minimum and new to repair of not less than five years.

Design features shall include the protection of equipment against damage caused by vermin, dirt, dust and dampness and to reduce risk of fire. Equipment shall operate without undue vibration. Noise reduction measures shall be adopted such that levels of 75 dB (A) at 3 meters are not exceeded. Parts shall be designed to withstand the maximum stresses under the most severe conditions of normal service. Materials shall have a high resistance to change in their properties due to the passage of time, exposure to light, temperature and any other cause which may have a detrimental effect upon the performance or life of the Plant.

All rotating elements shall be dynamically and statically balanced.

All equipment shall have name plates specifying the makes, model, rating and other pertinent information.

### **1.8.4 Lubrication**

The equipment shall be lubricated by long life lubricants such that working life is not less than 3000 operation hours or as recommended by equipment manufacturer.

A complete schedule of recommended oils and other lubricants shall be furnished by the Contractor. The number of different types of lubricants shall be kept to a minimum. The schedule and the name of the supplier of the lubricants shall be submitted to the Employer's representative for approval.

Lubricants shall be oil and grease. The Contractor shall indicate indigenously available equivalent lubricants, with complete specification.

Where the lubricant is grease, preference shall be given to a pressure system which does not require frequent adjustment or recharging. Preferably, life lubricated grease packed bearings shall be used.

Where more than one special grease is required, a grease gun for each special type shall be supplied and permanently labelled.

### **1.8.5 Name Plates**

Each equipment of the Plant shall have permanently attached to it a nameplate and rating plate in a conspicuous position. Upon these shall be engraved or stamped, the manufacturers name, type and serial number of the equipment, details of the loading and duty at which the equipment has been designed to operate, and such diagrams as may be required by the Employer's representative. All indicating and operating devices shall have securely attached to them or marked upon them designations as to their functions and proper manner of use.

### **1.8.6 Painting**

#### **At Manufacturer's Works:**

The Contractor shall be responsible for the cleaning, preparation for painting, and priming or otherwise protecting, as specified, all parts of the Plant/ Equipment at the place of manufacture prior to packing.

Parts may be cleaned but surface defects may not be filled in before testing at the manufacturer's works. Parts subject to hydraulic test shall be tested before any surface treatment. After testing, all surfaces shall be thoroughly cleaned and dried out, if necessary by washing with an approved de-watering fluid prior to surface treatment. Except where the specification provides to the contrary, all painting materials shall be applied in strict accordance with the paint manufacturer's instructions.

Steel and cast iron parts shall be sand blasted to near white cleaning before painting. Edges, sharp corners etc. shall be ground to a curve before sand blasting. A primer coat of a zinc rich epoxy resin based coating with at least 75 microns dry film thickness is to be provided. In addition, the parts for wet duty are to be provided with an adequate number of coats of coal tar epoxy polyamine coating to a dry film thickness of 175 microns excluding primer coating.

#### **At Site:**

Immediately on arrival at the site, all items of Plant shall be examined for damage to the paint coat applied at the manufacturer's works. Any damaged portions shall be cleaned down to the bare metal, all rust removed, and the paint coat made good with similar paint.

After erection, such equipment/ items which are not finish painted shall be done so. Items that have been finish painted at the manufacturer's works shall be touched up for any damaged paint work. For finish painting, two coats of synthetic enamel conforming to IS: 2932 shall be applied. Dry film thickness of each coat shall be at least 25 microns.

The dry paint film thickness shall be measured by Elcometer or other instruments approved by the Employer's representative. In order to obtain the dry film thickness specified, the Contractor shall ensure that the coverage rate given by the paint manufacturer will enable this thickness to be obtained. Strength of adhesion shall be measured with an adhesion tester and this value shall not be less than 10 kg/cm<sup>2</sup>. Painted fabricated steel work which is to be stored prior to erection shall be kept clear of the ground and shall be laid out or stacked in an orderly manner that will ensure that no water or dirt can accumulate on the surface. Suitable packing shall be laid between the stacked materials. Where cover is provided, it shall be ventilated.

Acceptable Makes: - Berger/ Shalimar/Asian/Woodlas/Neroalc

### **1.8.7 Galvanising**

Wherever galvanizing has been specified the hot dip process shall be used And electro-galvanized parts, equipment shall not be permitted. The galvanized coating shall be of uniform thickness. Weight of zinc coatings for various applications shall not be less than those indicated below:

- a) Fabricated steel : 460 gms/sq. m
- b) Fasteners : 300 gms/ sq. m

Galvanising shall be carried out, after all drilling, punching, cutting, bending and welding operations have been carried out. Burrs shall be removed before galvanizing. Any site modification of galvanized parts should be covered well by zinc rich primer and aluminium paint.

### **1.8.8 Supports for Pipe Work & Valves**

All necessary supports, saddles, slings, fixing bolts & foundation bolts shall be provided to support the pipe work. Valve and other equipment mounted in the pipe work shall be supported independently of the pipes to which they connect.

All valves to be installed in straight lines shall be installed between the flanges with a dismantling joint or SS expansion bellow at one side of the valve. The dismantling joint must allow a minimum clearance

of 20 mm. The pressure rating of the dismantling joint / expansion below shall be same as that of the valve.

#### **1.8.9.1 Mechanical & Manual Coarse Screens & Compactor (PUMP HOUSE)**

##### **1. Purpose & Scope:**

- a. Mechanized screens should be suitable for installation in Sewage pumping stations for removal of floating wastes coming along with sewage. These screens should be capable to screen out most of the medium and large floating material such as plastic bags, floating debris, weeds, paper wastes, clothes and rags etc. which are generally clogging the impellers of the pumps installed downstream of the screens.
- b. The operation of the screen shall be automatic. An ultrasonic type differential level controller shall be provided to sense the head loss through the bar and give the signal to the traveling raking mechanism to start its operation. The sensor will signal the raking mechanism to operate continuously till the head loss is reduced to a preset level.
- c. A complete electrical control system shall be supplied with each screen and shall be mounted independently near to the screen installation. The system shall provide for total automatic operation of the screen with the feedback from the level controller.

##### **2. General Material and Equipment Requirements:**

- a. Fabrication and design features:
  - (i) Use power grinder to dull and produce smooth edges.
  - (ii) Use bolted field connections. Field welding will not be allowed.
  - (iii) Design all components for continuous 24 hours per day service.
- b. The screen shall be so constructed so as to mechanically remove the waste from the bottom most portion of the bar portion using a traveling type raking mechanism without shutting the water flow through the screen. The raking mechanism shall then travel up to the top of operating platform and automatically discharge the waste through a discharge chute.
- c. The screen shall have protection against overload conditions, which might damage the equipment.
- d. All screens shall be constructed and shipped as an integrated product comprising of frame structure and guides, rake and rake arm mechanism, dead plates, cog wheels, sprockets and chains, discharge chute, drive unit and cover apron.
- e. The screen shall be supplied factory assembled and duly tested at manufacturer's works before dispatch. This integrated and factory assembled screen shall involve minimum dismantling and assembly at site for erection.
- f. Upon receipt at site these shall be installed resting on the channel floor and mechanically or chemically anchored to the parallel sidewalls of the channel (without making grooves in concrete or breaking open the concrete side walls and thereby weakening the civil structure) in a way that there are minimum chances of misalignment.
- g. All parts shall be designed to withstand the stresses that will be imposed upon them during handling, shipping, erection and operation.
- h. All stainless steel fabricated materials will be pickled and passivated before dispatch to remove ferrous contamination, if any.

##### **3. Specifications :**

###### **• Material of construction:**

All parts of screen including fixed bars, raking mechanism, screen frame and guide rails, dead plate and discharge chute shall be constructed from stainless steel material SS304 for long life in aggressive sewage environment. Suitable measures should be taken to ensure long life of parts like bearing, chains, sprocket and cogwheels etc, which are not made from stainless steel material.

###### **• Drawings & Documents:**

Drawings for the following shall be submitted for approval before taking up manufacturing of Screens:  
General Arrangement drawing of screens.  
Bill of Materials (BoM) & Wiring diagram of control panels.  
Quality Assurance Plan.

All drawings shall be submitted in 3 copies of which one will be returned duly commented / approved.

Approval of manufacturer's drawings shall not relieve the manufacturer of his responsibility for supplying equipment confirming to the Technical Specification laid herein for any mistakes, errors or omissions in his drawings.

- **Screen Construction:**

- The bars shall be designed to have a tear drop profile so that they are wider on the upstream side and narrower on the downstream side. This is required to ensure that choking of bars due to stones and other hard material does not take place. The tear drop profile shall be 12 mm wide in the front and 10mm wide at the back and the depth of bars should be at least 60 mm.
- The bar rack shall be firmly anchored to the channel floor and supported by a dead plate at the top.
- The face of bars towards the incoming water should be half round (dia 12 mm) to ensure minimum resistance to the flow and avoid turbulence and also to offer guide and support to the rake during its travel.
- The rake shall be made of Ultra High Molecular Weight Poly Ethylene (UHMWPE) so as to avoid the Galling between rake and bars. Further to this the rake should be provided with rounded off cavity to match the bars with a view to avoid sharp corner contact between the rake and bars thereby minimizing wear and tear.
- The rake arm shall ride on a cogwheel / roller in a single guide channel (min. thickness 5 mm in stainless steel) on each side of the rake and will be lifted away from the dead plate on the downward travel direction. Upon reaching the bottom of its travel the rake would be rotated/ swung into the bar screen to remove the collected debris.
- To effectively remove the debris from the bottom most part of the bar screen, the rake should engage with the bars from the start of its inwards rotating motion. To achieve this, the fixed bars should be curved at the bottom and taken forward so as to enable the rake to engage from the start of its inwards rotating motion.
- The rake arrangement shall be spring loaded to ensure that the rake is always pushed on to the dead plate.
- The dead plate shall be minimum 3 mm thick in stainless steel shall be suitably braced to ensure rigidity and prevent caving / bending due to increased water flow in monsoon.
- The sprocket for screen chains shall have chilled tooth bearing surfaces and the chain and sprocket shall be of the same material.
- The cogwheel and chains should be so located that these generally remain out of the flow of water during normal plant operation. An exception to this would be allowed only in case when water depth is greater than 2 m.
- The screen should have integrated scraper for discharging the screenings to discharge chute. The scraper / wiper shall be cushioned during travel to the rest position by a shock absorber.
- The rake mechanism should be operated by an Electro brake motor and be suitable for automatic operation controlled by a level sensor and electric control cabinet. Torque switch should be provided to protect the screen from damages resulting from excessive torque.
- The screen shall be provided with non-corrosive apron and enclosure at the top above the platform.
- After fabrication and assembly the stainless steel parts and all welded joints are to be further cleaned by acid pickling and after that they should be passivated to remove any ferrous contamination that might have taken place during manufacturing / handling / movement of raw and fabricated material.

- **Level controller**

The level controller shall be of ultrasonic differential type.

- **Electrical motor**

The motor shall be of TEFC type with IP 55 protection and suitable for operation on 415V $\pm$  10% and frequency of 50 Hz  $\pm$  5%.

- **Control Panel**

The control panel shall have IP 65 protection, painted with epoxy paint and shall be comprising of

- Mushroom head emergency stop.
- Overload relays for motor protection.
- Circuitry to operate the screen with ultrasonic level sensor.
- Selector switch to operate the screen in Auto, off and JOG mode.
- Provision to run the screen on timer in case of failure of level sensor.

• **Shop Testing**

The screen should be completely manufactured and offered for inspection at the plant of the manufacture confirming the above mentioned eligibility criteria. A screen assembled by a vendor and offered for inspection at the plant of a vendor / sub contractor shall not be accepted. The screen shall be subjected to following tests at manufacturer's premises by third party inspection and / or Municipal Corporation representative(s):

- **Dimensional Check:** The overall dimension of the screen shall be conforming to the approved drawings.
- **Operational Test:** The complete screen including its carriage, rake, drive system and brake motor shall be mechanically operated and tested to verify interference free movement and satisfactory operation.

**5.0 Miscellaneous:**

Any type of work, either supply and or erection of material / equipment which have not been specifically mentioned in this specification, but are necessary to complete the works for trouble free and efficient operation and guaranteed performance of the entire plant system and equipment offered shall be deemed as included with in the scope of this specification and shall be provided by tenderer with out any extra price to purchaser.

The installation and commissioning of screens has to be done in the presence of manufacturer's representative(s) so as to avoid any possibility of misalignment and faulty installation. Minimum two (2) working days of training has to be imparted to the concerned authority people by the manufacturer's representative(s). Packing of screens and allied accessories shall be transit worthy to avoid any possibility of damage during the transportation to the site(s).

**Manual Bar screen**

The manual bar screen will be of opening not more than 20 mm for coarse screen and 10 mm for Fine screen and inclination about 55° with respect to horizontal. Specifications for Manually raked screen shall be as under.

The trash screen shall be rectangular in shape. The screen shall be fabricated out of stainless steel SS 304 of not less than 10mm thick and 75 mm wide in section. The screen shall be rigidly fixed to the frame and provided with 2 sets of cleaning rakes.

**1.8.9.1.1 Mechanical fine Screens (PRIMARY TREATMENT UNIT)**

**1. General :**

- Mechanically operated step Screen completely made of Stainless Steel having 6 mm clear spacing between the bars shall be provided in inlet screen channel for screening out floating materials such as plastic pouches, bags, rags, floating debris, weeds, paper wastes and other floating materials from the raw sewage coming from the pumping station / gravity mains.
- The screen shall include discharge chute as required to discharge the screenings on the belt / screw conveyor without employing any external mechanism / rake mechanism.
- The screen shall be factory assembled & movement tested at plant before dispatch to site & shall only be installed at the site in factory assembled condition thereby avoiding chances of misalignments.



**2. Scope :**

Design, Supply, Installation, Testing & Commissioning of screening equipment consisting of following:

- (a) Mechanized step screen having 6mm spacing between bars and suitable for installation at an inclination of 40 degrees in channel.
- (b) Level sensing instrument connected to control panel for automatic operation of screen mechanism and allied accessories.
- (c) Local control panel installed near screen.
- (d) screw Compactor to discharge the screened material of the screen to the waste bin.

**3. Specification**

- **Material of construction:**

The fixed as well as movable bars, mechanism, support frame, fixings discharge chute shall be manufactured from stainless steel for long life in the aggressive sewage environment. No component of the screen assembly shall be made of carbon steel or any other material, which can get corroded in sewage environment.

- **Screen Construction**

- The step screen shall be a complete unit comprising of main frame with an integral mechanism containing movable bars located in between fixed bars without engagement of external mechanism / rake mechanism for pulling out the screened material ensuring minimum movement of the mechanism.
- The mechanism comprising of movable bars located between fixed bars shall gradually move the screened material upward in the form of a mat and deliver on the up to the discharge chute.
- The fixed as well as movable bars shall contain a series of steps to prevent the screenings from falling back into the main flow.
- The mechanism shall be mechanically operated by Electro-motor or hydraulic system and shall be suitable for automatic operation controlled by a level sensor.
- The screen shall operate automatically when the upstream water level of the screen increases beyond a pre-set limit and it shall stop when the upstream level decreases to a preset low level due to upward travel of screened material.
- The fine bar screen shall be capable of being tilted out of the sewage flow up to horizontal position for the purpose of cleaning & maintenance.
- The base of the screen shall be fitted with a specially profiled stainless steel plate to direct any grit that may be present towards the screen and taken out along with other screened material thus reducing the possibility of building up of grit in front of the screen.

- **Level Controller**

The level controller shall be differential type Ultrasonic level transmitter.

- **Electrical Motor**

The motor shall be TEFC type with IP 55 protection and shall be suitable for operation on 415V  $\pm$  10% and frequency of 50Hz  $\pm$  5%.

- **Control Panel**

The Control Panel shall have IP 55 protection, painted with Epoxy paint and shall be comprising of

- Mushroom Head Emergency stop
- Overload relays for motor protection
- MCB's, HRC Fuses and Glass Fuses
- Circuitry to operate the screen with level sensors.
- Selector Switch to operate the screen on JOG mode

## 1. Shop Testing

The screen should be completely manufactured and offered for inspection at the plant of the manufacture confirming the above mentioned eligibility criteria. A screen assembled by a vendor and offered for inspection at the plant of a vendor / sub contractor shall not be accepted. The screen shall be subjected to following tests at manufacturer's premises by third party inspection and / or NDA representative(s):

- **Dimensional Check:** The overall dimension of the screen shall be conforming to the approved drawings.
- **Operational Test:** The complete screen including its carriage, rake, drive system and brake motor shall be mechanically operated and tested to verify interference free movement and satisfactory operation.

### 1.8.10 Mechanical grit separator

The grit separator shall be square in size and twin unit construction. A Central drive mechanism of worm reduction type driven through helical gear and motor or by geared motor shall be mounted on the RCC platform spanning the tank. All exposed steel parts shall be sand blasted and painted with epoxy. All wetted parts shall be in stain steel 304. The drive shall be provided with electro-mechanical device, torque indicating arrangement and mechanical trip contacts with electrical overload relays. Flow regulating vanes shall be provided at the inlet side of the collection chamber and shall be of FRP. The vanes shall be adjusted as per the flow requirement. The weirs at the outlet of grit chamber shall be SS 304 with minimum 3-mm thickness or FRP with minimum thickness of 6 mm. The spacing of anchor bolts of SS 304 for the fixing of the weir shall not be more than 450 mm.

The classifier mechanism shall comprise of a screw driven by a suitable motor. The material of construction of the mechanism shall be SS 304 of suitable dia. The length of screw shall be such that the grit can be elevated up to the discharge end. SS puddle pipe shall be provided in the concrete trough at the discharge point of wet grit. An organic return pump with wetted parts in SS304 shall be provided.

### 1.8.11 Turbo Air blowers for Oxygenation (SBR UNIT / BLOWER ROOM)

- The Air Blower Arrangement shall be capable of handling Total Water Level and Bottom Water Level operation conditions controlled by process sensors such as DO, Temperature and Level. Minimum turndown of 50% shall be achieved at lowest operating pressure as per process requirement.
- Each set of Air Blowers shall have dedicated standby. All Air Blowers shall operate via VFD.
- Air Blower shall be Single Stage, Direct Drive, CE/UL certified, Centrifugal type Turbo Blower consisting of Air Bearings, Impeller, high-speed PMSM Motor, Inverter, Controller and Cooling System. Blower RPM shall be minimum 20,000. It shall be able to operate under varying pressure and flow conditions as per process requirement. The maximum idle time between OFF and ON shall not exceed 30 seconds.

- It shall be composed of Casing, Suction Filter, Reducer, Acoustic Hood, Blow-Off Valve, Inverter, Electrical Panel and Controller etc. Noise level should be less than 85 dBA at 1.00 m from Blower whereas Vibration level should be less than 2 mm/sec.
- Casing shall be of high-quality Aluminium Alloy and able to resist thermal expansion, vibration and air leakage.
- Air Bearings shall be non-contact type, bump type foil air bearings with oil free lubrication, low noise and no vibration. The wearing surfaces shall be made of Inconel. Air Bearings should be able to withstand minimum of 20,000 On/Off in its life time.
- The Air Foil Bearings should be Bi-rotational type. The same shall be witnessed during inspection of the Turbo Blowers without which the Turbo Blowers shall not be approved.
- The bearing consists of top foil and bump foil. Top foil material is nickel alloy coated with Teflon and bump foil is nickel alloy. It is designed to maintain high load bearing capability to sustain the weight of the rotating assembly.
- Impeller shall be of high strength Aluminium Alloy (AL7075). It shall have high compression efficiency, high surge stability and wide flow range. It shall be capable to keep dynamic balance in high speed revolution and shall be suitable for transmission of power and safety factor at critical speed. It shall be directly connected with the motor shaft without any coupling. The inlet to the Impeller Compartment shall be open without any restrictions like fins etc.
- Integral Variable Frequency Drive shall be air cooled.
- Control panel for air blower shall be separate / integrated from blower assembly. If separate VFD panel proposed then shall be placed in separate air-conditioned room.
- Motor shall be high-speed Permanent Magnet Synchronous Motor (PMSM). The Shaft of the Motor shall be of Titanium and shall be directly connected to the Impeller.
- Motor, being high-speed, shall be provided with the best suited Cooling System to ensure consistent motor output and longevity. All motors shall be air cooled, with an insulation class-H.
- Blower shall be equipped with Blow-Off Valve with Silencer.
- Controller shall have 16-bit color touch screen with convenient user interface to support various operation modes such as Auto Flow Mode, Auto power mode, Auto RPM Mode, Auto Pressure Mode, Proportional Mode, DO-Link Mode and Failure, Check and Reset Option. Following measurements and operating data are shown on the Controller Screen:

**(a) Operating State of the Turbo Blower:**

- Ready
- Run
- Stop
- Wait
- Error

**(b) Measurement and Display Data:**

- Suction Filter Differential Pressure
- Suction Temperature
- Discharge Temperature
- Discharge Pressure
- Suction Flow Rate
- Revolution per Minute
- Power

**(c) Warning and Error Message:**

- Filter differential Pressure Over
- Motor overheating
- Compressor Surge
- Discharge under pressure
- Discharge Over pressure
- Suction Over temperature
- Inverter Error

- Material of construction of various parts of Blowers shall be as follows:

Bearing : Inconel

Casing : Aluminium Alloy

Impeller : Aluminium Alloy (AL7075)

Shaft : Titanium Alloy

Blower & Control panel : SPHC

Enclosure

PLC Hardware : Conformal Coated

- Head for blowers shall be decided on the basis of S.O.R. of diffusers and maximum liquid depth in Basin duly considering the losses governing point of delivery (diffusers) and the blowers
- The operation of Aeration System shall include PLC based control. The operation and speed of Air Blowers shall be automatically adjusted using parameters like Oxygen Uptake Rate, Dissolved Oxygen and Temperature and Liquid Level in the Basin such that the DO is supplied as per demand and power utilisation for operation of Air Blowers is optimised.
- The main Air Header/Ring Main shall be in MS as per relevant IS Code, painted with corrosion resistant paint as per Manufacture's recommendations. The Air Header/Ring Main shall be supported on saddles at suitable intervals or shall be protected against external corrosion in case laid below ground.

The Sub-header shall have Auto Valves to facilitate switch over of Aeration Cycle from one Basin to other by PLC. The Sub-header shall supply air to fixed type Diffuser Grid through vertical Air Supply Pipes. These Air Supply Pipes above water level shall be in MS, painted with corrosion resistant paint and below water shall be in SS 304. All under water Lateral Pipes shall be of UPVC. Junctions between horizontal Sub-header and vertical Air Supply Pipes shall be suitably protected against corrosion due to dissimilar materials.

- The Air Blower House shall have perforated Rolling Shutter, Windows with aluminium louvers covered with Velcro net, Exhaust Fans, Safety Equipment with sufficient Ventilation, Lighting and Working Space. It shall be equipped with Forklift of suitable capacity or Electrical Hoist with Travelling Trolley to facilitate lifting / removal / transportation of Air Blower for repair and maintenance, if required.

#### **1.8.12 Diffused Aeration System ( SBR UNIT)**

This comprises piping to diffusers and the diffusers.

- **Type of diffuser system**

A fine bubble diffused aeration system shall be applied to aeration tank for oxygenation. The number of diffuser elements can be varied by the bidder depending on the manufacturer selected, subject to the condition that sufficient design calculations are attached along with it and the manufacturer is a standard one having supplied the diffusers to various waste water treatment plants of similar nature.

- **Diffuser Elements**

The diffuser elements shall be of PU tubular membrane type and resistant to such ingredients as hydrocarbons, oil and grease. This shall afford a high oxygen transfer rate coupled with a minimal pressure drop besides permitting simple erection onto the horizontal air manifold. They shall have self-cleaning properties while in action. The diffuser unit shall be of corrosion resistant material. The membrane diffusers shall permit connection to the air manifolds of circular or square cross section and the entire lot of diffusers shall be capable of discharging designed flow of air at an average flow (maximum of summer and winter requirement) when installed in the said SBR tanks.

The diffuser grid shall be of fixed type. The headers onto which the diffusers are fixed shall be of standard Imported existing PVC/UPVC pipe sections of suitable inner bore and shape with custom fixtures of the diffuser elements as directed by the membrane manufacturers. Alternative pipe materials shall be acceptable provided the same are a mandatory part of the diffuser supplier and have been in the supplier's line of supply as original equipment. The headers shall also be procured from the equipment manufacturers who are the suppliers of the membrane diffusers. These headers shall have enough counterweight or alternative arrangement to surmount any buoyancy lift from the floor during air charging.

- **Air Supply Piping**

The air piping from the blower to the basin header (above water) shall be of MS epoxy painted material and pressure rated for the sewage depth plus frictional losses etc. Each air header shall travel downward from the air piping by aligning itself onto the sidewall of the aeration tank and thereafter travel horizontally onto the tank floor. These shall be fixed securely to the concrete surfaces in the horizontal plane and vertical plane so that they are not clamped horizontally onto vertical sides of the walls. The clamping shall be so designed as to permit "in-situ" screw driven fittings. Breaking open concrete surfaces shall not be permitted.

#### **1.8.13 Specifications for Epoxy Painting**

Zinc rich epoxy primer and epoxy paint of approved quality shall be used for external and internal painting. No primer shall be applied without prior approval from the Employer's Representative. The max of zinc rich epoxy primer shall be prepared at work site not earlier than 15 minutes before applying the same on pipes and special surfaces. One coat of zinc rich epoxy primer of DFT 75 micron shall be applied along with two coats of epoxy paint DFT 40 micron and DFT 30 micron respectively. No thinner shall be added to ready mix paint without previous approval of the Employers' representative and the finishing coats on top of the primer coat shall only be applied after allowing the film to cure for at-least 48hrs.

After application of zinc rich epoxy primer the surface should be cleaned by duster and inspected. If during inspection any portion is found rusting the same shall be removed by emery paper and coated with zinc rich epoxy primer.

Mixed paint should be used within 3 to 4 hrs. of mixing and fresh mixing shall be done for every new application. Every successive coat of paint shall be given only after 48 hrs. of previous coat. Before applying the next coat the surface should be properly cleaned by duster.

#### **1.8.14 Specifications for Decanting Drive**

- The Decanting Device shall be Moving Weir Arm Device of SS 304 with top mounted Gear Box, Electric Drive, Scum Guard, Down comers, Collection Pipe, Bearings. The following type of decanter assemblies are not acceptable:
  - Rope Driven Decanters.
  - Floating Decanters.
  - GRP Products.
  - Valve Arrangement.
- Flexible rubber hose kind of decanter Draining is not acceptable.
- There should be maximum one (1) Decanter per Basin.
- The hydraulic design based on design flow rate as given above shall not exceed flow speed of 1.30 m/s.
- Flexible rubber hose kind of decanter Sealing is not acceptable.
- One or more decanters shall be provided in each basin which functions under a controlled lowering rate to withdraw treated water out of SBR Basins.
- The decanting mechanism shall be designed for a variable speed mode of operation. Decanter shall be capable to travel at varying speeds. The rate of travel of the decanter shall be adjustable during its travel in air and into the liquid surface, at which point the rate of travel of the decanter shall be automatically adjusted to a calculated rate of operation. The maximum design travel rate shall be restricted to 60 mm/min. Rope driven or Fixed subsurface arrangements will not be acceptable.
- The rate of operation shall be calculated for each cycle and shall be determined by the volume of treated effluent to be discharged per cycle. The calculation of decanter travel shall ensure that the volume of treated effluent shall be discharged throughout the designated decant phase of the process cycle. The travel of the decanter shall be limited and controlled by limit switches which shall communicate with the PLC. Upon reaching the designated BWL, the decanter shall return to its parked position.
- During non-decanting cycles, the decanter collection weir shall be parked above the top water level of the basin during aeration and settling phases, thereby eliminating any possibility of solids carryover during these phases. Therefore weirs or entry ports of the Decanters shall not be submerged below the top water level of the basin during non-decant phase. Each decanter shall be fitted with a scum retention mechanism to prevent surface scums and floatables from exiting with the treated effluent.
- In addition, at park position, the decanter shall also provide fail safe overflow protection in the event of a power failure by allowing clear supernatant to flow via gravity, under the scum guard, over the weir, and into the decanters and out of the basins.
- If more than one decanter is provided per basin, operation of all decanters shall be synchronized precisely using synchronization panel to achieve even distribution of flow through each decanter.

- Weir loading for each decanter shall not exceed 140 m<sup>3</sup>/hr/m of the inlet weir. During Decanting Phase, decanter weir shall always be visible from the basin walkway to provide the operator with a visual check of the effluent quality. Maximum velocity in down comer shall not exceed 1.0 m/sec. at the designed decant flow.
- All components of the decanter except seals and bearings shall be constructed of stainless steel 304. The decanter seals and bearings shall be constructed of maintenance free, synthetic materials for longest possible service life. All seals and bearings shall be shipped factory assembled, simplifying installation. All fasteners shall be constructed of 304 stainless. Site fabrication of decanters shall not be allowed.
- Drive mechanism or actuator shall be equipped with variable frequency drive connected to PLC to facilitate its operation at varying flow rates to ensure controlled and seamless operation at varying flow rates. Complete Drive Mechanism shall be mounted on the walkway to provide easy access for maintenance and service purposes.
- All critical decanter components that may require routine inspection or maintenance shall be easily accessible from an access platform at basin coping level without taking a basin out of service or draining or partially draining the basin. It shall be possible to carry out decanter maintenance activities without interrupting normal operation of the basin while the decanter is at its parked position during non-decant phases of the process cycle.
- The SBR blowers, Automatic Air supply Valves, RAS Pumps/Mixers, switching mechanism shall be interlocked with the decanter controls so that aeration/mixing is prevented in a basin which is settling or decanting.
- Bidder shall provide the evidence along with his bid that the technology provider has provided decanter in at least 15 number of STPs in India, and successful operation for last 5 years.

#### **1.8.15 Submersible Pumps for Return and Excess sludge (SBR UNITS)**

Raw sewage pumps shall pump sewage from wet well at sewage pumping station to inlet chamber of STP. Return sludge pumps shall pump the return sludge from the sump to the aeration tank. Pumps shall be submersible type of non-clog design. They shall be suitable for pumping soft solids normally present in raw sewage. Raw sewage pumps with maximum 960 rpm shall be provided. In addition to this, the pumps shall be fitted with a special tearing system on the suction side for tearing soft solid material. The impeller shall be of a non-clog design with smooth passage and desired solid handling capability. Maintenance-free anti-friction bearing, deep grooved permanently greased filled ball bearings shall be provided to take care of all the axial and radial forces at any point of operation. The pump installation design shall be such as to facilitate automatic installation and removal of the pumps without having to enter into the sewage pit. The motor shall be squirrel cage type, suitable for three phase supply continuous duty with class 'F' insulation. Motor shall have integral cable parts and the cable entries shall be sealed. The cables must be leak tight with respect to liquids and firmly attached to the terminal block. The motor shall be designed for non-overloading characteristics. There shall be thermal protection against overheating of the motor winding. The pump design shall ensure that seal does not come directly in contact with the liquid being pumped as well as cooling / lubrication by oil is provided. The moisture sensor of the tripping unit shall be located inside the oil chamber.

The pump unit shall be supplied along with the special duck foot bend, flanged elbow, lifting chain with shackles, enough guide wire / pipe, sufficient tough rubber sheeted water proof cable, as well as stainless steel foundation bolts and nuts. Alternatively pump unit can be with SS wire rope guiding system and pedestal cart integrated with the discharge head.

- **Reverse Rotation**

The pump shall be designed to operate safely in the reverse direction of rotation, due to wastewater returning through the pump.

- **Pump Construction**

Refer Section – 2.0 Scope of Work of the tender.

- **Pump Bearings**

Pump bearings shall be of the antifriction type. The bearings shall be able to take normal axial thrust loads due to unbalanced hydraulic loads on the impellers plus the weight of all rotating parts of the pumps. Pump bearings shall be designed with a minimum life of 40,000 hours. The bearings shall be grease lubricated for life and shall be maintenance free

- **Mechanical Seals:**

A double mechanical seal of approved type shall be provided to prevent pumped liquid entering into the motor winding. The seals shall be running in oil bath. The oil bath shall have moisture sensors to sense water leakage. The sensors shall be used for tripping the pump and also for alarm.

- **Pump Balance:**

All rotating parts shall be accurately machined and shall be in rotational balance. Excessive vibration shall be sufficient cause for rejection of the equipment. The mass of the unit and its distribution shall be such that resonance at normal operating speeds is avoided. In any case the amplitude of vibration as measured at any point on the pumping unit shall not exceed the limits set forth in the latest edition of Indian Standards. At the operating speed, the ratio of relative speed to the critical speed of the unit or its components shall be less than 0.8 or more than 1.3.

- **Lifting chain**

Each pump shall be provided with galvanized steel lifting chain of suitable capacity. One end of the chain shall be attached to the pump and the other end fixed near the upper bracket for guide rail / wire rope assembly, by means of GI D shackle. The chain shall have GI rings fixed at an interval of about 1 meter for engaging the hook of the chain pulley block.

- **Submersible Cable**

Each pump shall be provided with submersible cables of equal length for power and control so that the pump positions can be interchanged with each other. The cable shall be terminated in a common weatherproof junction box.

- **Moisture Sensor**

The moisture sensor shall be provided in the oil chamber to detect the failure of the mechanical seal.

- **Motor**

The motor shall be integral part of the pump. The enclosure for motor shall be IP-68. Each phase of the motors shall be provided with thermostat. The motor winding shall be suitable for star delta/soft starter. The motor shall be designed for minimum 10 starts/stops per hour, irrespective of whether it is DOL start or otherwise. For other requirements refer subsection VI. The motor shall operate satisfactorily at all operating levels in wet well.

- **Protective Coating:**

The pumps shall be epoxy painted.

#### **1.8.16 Other Sludge Pumps (CENTRIFUGE UNITS)**

These pumps shall be of screw type used for pumping sludge to Centrifuge/Screw press. The pumps shall be designed to operate satisfactorily without detrimental surges, vibration, noise, or dynamic imbalance. Over the required head range, the head-capacity curve of the pump shall have a continuously rising head characteristic with decreasing capacity over the whole range of total head. The pump shall have the maximum efficiency at the specified duty point. The unit shall be designed to operate safely at the maximum speed attainable in the reverse direction of rotation due to sewage returning thro the pump at times when power supply of the motor is interrupted.

All rotating parts shall be statically and dynamically balanced as per ISO standards.



A stationary coupling guard shall be provided for the coupling conforming to all relevant safety codes and regulations. Guards shall be designed for easy installation and removal. They shall be complete with necessary support accessories and fastener.

The pumping unit shall be provided with a common base plate. The base plate shall be of sufficient size and rigidity to maintain the pump and motor in proper alignment and position.

The pump design shall be as per IS 6595 and pump performance shall be as per IS 9137. The power rating of the pump motor shall be the larger of following

- (i) 115 % of power required by the pump at the duty point
- (ii) 110 % of maximum power required by the pump from zero discharge to the runoff point total head

- **Material of Construction & Specifications**

Type	Screw
MOC	Alloy Steel
Base plate	CI / MS Epoxy painted
Fastener	SS AISI 304
Pump speed	960 rpm (maximum)
Ball passing size	25 mm minimum
<b>Applicable code</b>	
Design	IS 6595
Performance	IS 9137

- **Testing**

Material test certificate	Casing, Impeller, Shaft
Hydrostatic test	1.5 times shutoff head or twice the rated discharge head whichever is greater
Performance test	IS 5120 and IS 9137 at full speed
Mechanical balancing	As per ISO 1940, Gr. 6.3 or better
Visual inspection	Pump shall be offered for visual inspection before shipment. The pump components shall not be painted before inspection
Field Tests	Field performance tests required for satisfactory operation

#### 1.8.17

##### **Dosing Tank Agitators**

The equipment shall include drive motor, coupling, turbine impeller assembly, intermediate bearings, basket, walkway with handrails and such other fittings, devices or appurtenances necessary for a complete operating installation.

- **Mounting Arrangement**

The civil tank for the sludge storage will be provided with a minimum freeboard of 300 mm. The agitator drive unit shall be mounted on RCC platform spanning the tank. These shall be mounted above the freeboard elevation over a RCC bridge walkway with necessary cut out for agitator shaft. The walkway will be provided with hand railing in SS 304 and steel ladder with handrails. A portal shall be provided permanently in the platform required for the maintenance work of the agitator components.

- **Drive Motor**

The drive motor shall not exceed an rpm of 1500 and shall be directly coupled with the gear reducer. It shall be wired for 415 volts, 50 cycles, and three-phase service. It shall be totally enclosed, fan cooled, and rated for severe chemical duty with a minimum service factor of 1: 1.15.

- **Rotary Speed**

The rotary speed of the impeller shall not exceed 100 rpm so that the solids are not sheared.

- **Direct Coupling & Torque**

The drive motor output shaft and the impeller rotary shaft shall be connected by a direct coupling using such couplings as "Lovejoy" type to avoid cumbersome erections and de-erections. The coupling shall be able to withstand continuous duty with occasional upward thrusts. The drive assembly for each agitator shall consist of a suitable drive motor, directly coupled to a helical gearbox. The gear reducer shall be of heavy duty, high efficiency type with a rugged housing and shall have a minimum service factor of 2.0 and suitable for 24 hours continuous service. The gear reducer shall have oil bath lubrication and dry well construction on the vertical out put shaft to prevent leakage of lubricant. The casing of the gear reducer shall be of CI and the gears shall be hardened and ground for precision.

- **Impeller Elements**

The circulating element of the each agitator will consist of a single, axial flow design, 4 inclined impeller having SS304 blades

- **Fasteners & Anchor bolts**

All fasteners and anchor bolts shall be of such metallurgy that shall be compatible with the duty conditions shall be used.

#### **1.8.18 Dosing Pumps**

The dosing solution from the preparation tanks shall be pumped by the use of dosing pumps. The pipe and the pipe fittings shall be HDPE and valves shall be Polypropylene.

These pumps shall be capable of pumping the up to 0.5 % Polyelectrolyte solution. Dosing pumps shall be of the diaphragm type hydraulically operated. These shall permit flow control at both sides of the chosen median duty point for the duty already stated herein. The construction shall be totally enclosed and corrosion proof. The liquid end shall be in SS 304.

#### **1.8.19 Centrifuge/Screw press**

The Centrifuge/Screw press shall be solid bowl Centrifuge/Screw press of co-current/counter current design, as decided by the bidder. The Centrifuge/Screw press shall have sufficient clarifying length so that separation of solids is effective. The Centrifuge/Screw press and its accessories shall be mounted on a common base frame so that entire assembly can be installed on an elevated structure.

Suitable drive with V- belt arrangement and turbo-coupling shall be provided along with overload protection device. Centrifuge/Screw press shall be with SS304 wetted parts.

Differential speed and bowl speed should be adjusted by changing the pulleys; differential speed may be adjustable by use of epicyclical-gear. The bowl shall be protected with flexible connections so that vibrations are not transmitted to other equipment. The base frame shall be in epoxy painted steel construction and provided with anti-vibration pads. All steps necessary to prevent transmission of structure borne noise shall be taken. The drive motor shall be of 1450 rpm. The noise level shall be 85 dB (A) measured at 2 m distance under dry run. The vibration level shall be below 50 micron measured at pillow blocks under dry run condition. Adequate sound proof shall be carried out for the housing the Centrifuge/Screw presses to ensure that the noise level at 5 m distance from the enclosure is less than 75 dB (A).

Centrifuge/Screw press shall be capable of handling sludge consisting of minimum 0.8% solids by weight. The dewatered cake shall be based on minimum consistency of 20% by weight dry solids.

#### **1.8.20 Disinfection System**

Shall include:

##### **1.8.20.1 Chlorination System (TONNER YARD)**

- **Chlorinators**

- (a) Vacuum type chlorinators shall be supplied with one duty and one stand by unit.
- (b) Chlorinators shall be free-standing, floor-mounted, and shall have a turn down ratio of 10:1 over the full range of works operation.

- (c) The dosing rate shall be manually set and each chlorinator shall be equipped with a 0 to 10mg/l scale and a manual dose setter over the complete range.
- (d) Mal-operation of the duty chlorination system shall be indicated in the chlorination room and the central MMI. The change to the standby system shall be carried out automatically in the event of duty chlorinator failure.

- **Dosing Pumps**

- a) Dosing pumps (1 working + 1 standby) shall be installed.
- b) The dosing pumps shall draw their supply from treated sewage line.
- c) The pumps shall be placed inside the chlorination room and shall be made from material resistant to corrosion by chlorine.

- **Injectors**

Two injectors shall be provided, each serving a duty /standby pair of chlorinators. The injectors shall be located in the chlorination room.

- **Chlorine**

Chlorine shall be supplied as liquid from nominal 1 tonne chlorine toner.

#### **1.8.20.2 The Toner Room**

- (a) Storage shall be provided for chlorine tonners, sufficient for at least 15 day's usage at normal rate of withdrawal.
- (b) The system shall be designed to prevent freezing of the liquid chlorine at the maximum rate of withdrawal.
- (c) Tonners on line, tonners on standby and full and empty tonners shall be stored separately in the tonner room. Three sets of tonner rollers shall be provided. Tonners not in use shall be stored on concrete cradles.
- (d) The container lifting beam shall be specifically designed for handling chlorine containers and equipped with necessary shackles and hooks.
- (e) Operation of crane system shall be from the floor level using independent push button pendant controls operating at a 230 volt 50Hz AC supply.
- (f) Two lifting beams shall be provided (a duty and a spare) and a one tonner weighed to be suspended from the crane hoist.
- (g) When the pressure in the duty chlorine tonner falls to less than 1.00 Kg/cm<sup>2</sup>, the automatic change over device shall operate to isolate the empty tonner and to bring the full standby tonner on line.
- (h) A chlorine leak absorption system shall be provided to contain and neutralize chlorine in the event of leak. The system shall comprise FRP Half Hoods, NaOH Storage Tank, NaOH Re-circulation Pump, Centrifugal Pumps and interconnecting ducting/piping.
- (i) Special consideration shall be given to any floor drainage system in the tonner building; adequate shall be provided to ensure that chlorine gas cannot escape. All leader tubes carrying cables or pipes out of the building shall be sealed at either end to prevent any chlorine gas leaking out.

#### **1.8.20.3 Chlorination Room**

- (a) The chlorination room shall be constructed adjacent to the tonner room but with no interconnecting door or other form of access.
- (b) Gas lines from the tonner room into the chlorination room shall run in ducts to be sealed after installation and prior to commissioning.

#### **1.8.20.4 Chlorine Leak Detectors**

Chlorine gas leak detectors shall be provided each, with a single detector cell. At least two sensors shall be located in the chlorine tonner storage room and at least one sensor in the chlorination room.

The chlorine leak detectors in the tonner room shall be mounted at each end of the tonner room.

The chlorine leak detectors shall initiate a local audible and visual alarm. Statutory warning notices relating to the storage and handling of chlorine shall be provided. The signs shall be pictorial and provided in Hindi and English.

**1.8.20.5 Ventilation System**

- a) Each area where chlorine is stored or used as gas or liquid shall be provided with a forced ventilation system.
- b) Air intakes shall be sized to allow uniform ventilation and positioned to prevent possible recirculation.
- c) An air change rate of four per hour under normal condition and a minimum of twenty changes of air per hour under shall be used in the event that a chlorine leak is detected.
- d) Exhaust fans shall be heavy duty industrial pattern manufactured from chlorine resistant materials.

**1.8.20.6 Safety Equipments**

- (a) Materials and equipment necessary to ensure the safety of personnel operating the chlorination plant and others shall be provided.
- (b) The equipment shall include:
  - (i) two sets of approved self-contained breathing apparatus, each comprising an air set, carrying harness, face mask and valves and ancillary equipment . Each set shall be provided with three 1200 liter capacity, 140mm diameter, air tonners.
  - (ii) Two 'instant action' resuscitators;
  - (v) Four sets of safety clothing in various sizes, each comprising PVC overalls, Wellington boots with steel toe caps, goggles, gloves and safety helmets.
- (c) Each set of safety equipment shall be mounted in a glass-fronted, non-locking PVC coated steel cabinet in approved locations on the outside of the building.
- (d) Two emergency showers shall be provided and shall be installed outside on either side of the tonner room.
- (e) Each shower shall be operated automatically by a quick acting hand or foot valve.
- (f) Four eyebaths shall be supplied. Two eyebaths shall be adjacent to each of the showers.
- (g) Water for showers, etc. shall be drawn from the service water supply.
- (h) A telephone will be provided close by outside the building for emergencies.

**1.8.21 Valves**

**1.8.21.1 General**

Valves shall be as per internationally recognized standards. Flanges shall be machined on faces and edges to ISO 7005, IS 6392. Valves shall be flanged type. For sluice / gate calves, back seat arrangement shall be provided. Valves buried or installed in underground chambers, where access to a hand wheel would be impracticable, shall be operated by means of an extension spindle and / or keys. Valves shall be suitable for frequent operation as well as operation after long periods of idleness in either the open or closed position. The valve stem, thrust washers, screws, nuts and all other components exposed to the water shall be of a corrosion resistant grade of stainless steel. All valves parts shall be in general of the material of construction best suited for the proposed application. The inspection category is detailed in subsection VII.

**1.8.21.2 Sluice Valves**

The gate face rings shall be securely pegged over their full circumference. Valves of 450 mm and above shall be provided with a thrust bearing arrangement for ease of operation. They shall also have renewable channel and shoe linings. The gap between the shoe and channel shall be limited to 1.5mm. Alternatively, valve of diameter 450mm and above may be provided with a gear arrangement for ease of operation. The operation gear of all valves shall be such that they can be opened and closed by one man against an unbalanced head 15% in excess of the maximum specified rating. Valve and gearing shall be such as to permit manual operation in a reasonable time and not to exceed a required rim pull of 80 N. All hand wheels shall be arranged to turn in a clockwise direction for opening and counter clockwise for closing. These directions shall be indicated on the hand wheels. All valves shall be rated for not less than PN 1.0.

All valve doors when fully closed will ensure door faces are riding on body seat ring by at least 50% of width of seat ring providing sufficient allowance for wear. Valves of diameter 450 mm and above shall be provided with a drain and air plug.

#### **Material of Construction**

Body, Bonnet, Wedge	CI conforming to IS 210 Gr FG 260 Spindle
Drain and Air Plug	IS 318 Gr LTBZ
Seat Ring, Wedge Ring	SS 304
Back seat Bush	Bronze IS: 318 Gr LTB 2
Gland Packing	Graphite Asbestos

#### **Parameters**

Type	Rising spindle
Nominal pressure	2 times working pressure in pipeline
Nature of operation	Horizontal / vertical
Applicable code	IS 14846
Test	Acceptance tests as per IS 14846

### **1.8.21.3**

#### **Knife Gate Valves**

Knife gate valves shall be suitable for use at suction and delivery side of pumps in a sewage pumping station. The valve should be provided with gate made of stainless steel and the gate should have bevelled knife edge at the bottom to cut through and easily enter in the solids settled in the bottom and ensure positive shut-off / closure in sewage environment. The valve should be bonnet-less and suitable for face to face flange connections in between pipelines. It should be suitable for uni-directional application.

The valve body should be of Cast Iron Gr. FG 260. The body shall be designed to withstand 6 bar pressure.

The valve shall be provided with replaceable type flexible sealing seals to offer drop tight shut off. The seals should be made of EPDM rubber and should be held in place by an easily removable type seal retainer ring. The seal retainer ring should be designed in a manner so that the flow of the fluid should be away from the sealing perimeter and towards the centre of the valve.

The valve housing should have integral as cast tapered lugs provided for pushing the gate towards the flexible rubber seal only at the verge of closure with a view to avoid seal wear and achieve drop tight shut off. The surface of the gate coming in contact with the seal should be polished & buffed.

The valve shall be provided with sufficient ply of stuffing seals in the in built stuffing box to seal the rear opening. The stuffing box should have internal tappers for pushing the seals on to the gate. The seals should be of non-asbestos PTFE to reduce the friction and offer higher life. Provision shall be made to enable tighten the stuffing seals by means of a pusher arrangement to minimize the leakage through the back of the valve. Replacement of stuffing seals should be done in installed condition of the valve.

The spindle should be double start threaded and non-rising type for compact & safe operation. The gate movement area should be covered by protection shields. Gate opening indicating arrangement should be provided to find out the extent of gate opening /closing.

Flange drilling suitable to mount between flanges as per IS 1538 -1993.

- Body: Cast Iron FG 260 as per IS 210
- Knife gate: AISI:304 Gr. ASTM A240
- Retainer ring: SS:304 ASTM A351 Gr. CF:8
- Inlet Seal: EPDM
- Spindle: AISI:410 Gr. ASTM A276
- Spindle Nut: Cast Iron Gr. FG 200 as per IS 210
- Stuffing plate: Cast Steel ASTM A216 Gr. WCB
- Stuffing seal: Synthetic yarn with PTFE

#### 1.8.21.4 Reflux Valves

Reflux valve shall possess high speed closing characteristics and be designed for minimum slam conditions while closing. External counterweights are not acceptable. Check valves shall conform to API 594 and API 598. They shall have metal to metal sealing. The pressure drop in the valve at design flow shall be limited to 0.4 mWC.

##### Material of construction

Body	CI conforming IS 210 Gr FG 220
Plate	SS AISI 316
Spring	SS AISI 316
Seal	SS AISI 304

##### Parameters

Nominal pressure	Twice the pressure in pipeline
Nature of operation	Automatic
Closure characteristic	Non slamming
Applicable code	API 594
Tests	Acceptance tests as per API 598

#### 1.8.22 Pipe Work

The pipe works for the plant involves procuring, supply, laying and jointing of suitable size electrically welded steel, cast iron, ductile iron, UPVC, RCC and PSCC pipes along with matching specials etc. as required. All pipe work and fittings shall be a class rating in excess of the maximum pressure attained in service including any surge pressure. The pipe work installation shall be so arranged to offer ease of dismantling and removal of pumps or major items of equipment. All pipe work shall be adequately supported with purpose-made fittings, wherever necessary. Flange adapters and union shall be fitted in pipe work runs, wherever necessary, to permit the simple disconnection of flanges, valves and equipment. The Contractor shall be responsible for ensuring that the internal surfaces of all pipe work are thoroughly cleaned before and during erection and commissioning. Cleaning shall include removal of dirt, rust, scale and welding slag due to site welding. Before dispatch from manufacturers works, the ends of the pipe, branch pipes etc., shall be suitably removed until immediately prior to connections adjacent pipes, valves or pumps. All small-bore pipes shall be blown through with compressed air before connection is made to instruments and other equipment. No point of passage of pipes through floors or walls shall be used as a point of support, except with the approval of the Employer's representative. All underground-buried mild steel piping unless found otherwise necessary, shall be protected by the application of hot coal tar enamel and fibreglass wrapping. The coating shall consist of one coat of primer one coat, wrapping of fibre glass one more coat of enamel and the final wrap of enamel impregnated fibre glass. However, all water supply plumbing pipelines shall be of GI class B and either anchored externally with SS AISI fasteners or appropriately buried below the ground with a sand cushion of 20 cm all round. All sanitary piping shall be of UPVC class 4 suitably buried below the ground with a sand cushion of 20 cm all round. Changes in direction on the ground shall be achieved with inspection chambers of 45 cm x 45 cm and heavy-duty CI/Steel reinforced fibreglass chamber covers.

### 1.8.22.1 C I Pipes

The C I pipes and specials their laying and jointing and their dimensions shall conform to IS 1536, IS 1538 and IS 3114 with their latest revisions. The quality of cast iron shall meet grade 15 of IS 210 and be free from flaws, air bubbles, cracks, sand holes and other defects and shall be truly cylindrical and of uniform thickness. The methods for sampling of C.I. pipes and fittings shall conform to IS 11606. Pipe work outside the buildings shall use Tyton ring joints and inside, double flanged joints. All underground pipes shall be provided with granular bedding. Thrust blocks wherever required in the opinion of the Employer's representative shall be provided in accordance with relevant specifications of the BIS

- **Tests:**

Following tests shall be carried out on the C.I. pipes:

- (i) **Mechanical Tests**  
as specified in I.S. 1536 during manufacture of the pipes.
- (ii) **Hydrostatic tests at works**  
The pipes shall be tested hydrostatically at the pressure specified in Table 1 for spigot and socket pipe and as per Table 2.0 for flanged pipes of IS 1536. The pressure shall be applied internally and shall be steadily maintained for a period of minimum 10 seconds and the pipes shall be moderately struck with a 700 gm hammer. The pipes shall withstand the pressure test and shall not show any sign of leakage, sweating, cracks or fracturing or other defects.
- (iii) **Testing at site**  
The following site tests shall be carried out after a new pipe is laid, jointed and partially backfilled.
  - (a) **Pressure test**  
The pressure test at a field test pressure specified in clause 7.2.1 of IS 3114 shall be carried out. Pipes and joints shall be absolutely water tight under the test. The procedure for testing shall be as per clause 7.2.1 of IS 3114.
  - (b) **Leakage test**  
The leakage test shall be conducted as per clause 7.3 of IS 3114 and the leakage should be within the specified allowance as calculated using formula given in clause 7.3.2 of IS 3114.
  - (c) **Water required for any type of testing shall be arranged by the Contractor, at his own cost.**
  - (d) **Markings:**

The following markings on the pipe shall be cast, stamped or indelibly painted-

1. Manufacturer's name or identification mark
2. The nominal diameter
3. Class reference
4. Mass of pipe
5. The I.S. Code reference
6. The year of manufacture

The marking shall be done outside the socket or towards the end of barrels of the pipe. The coating on the pipes, both internally and externally shall be provided as per clause 15.0 of IS 1536.

### 1.8.22.2 Galvanized Iron pipe

The procurement, supplying, laying, jointing and testing at works and site of Galvanized Iron (G.I.) pipes and fittings shall be in accordance with IS 1239 (Part I and II) and its latest revisions. The general requirements relating to the supply of mild steel tubes shall conform to IS 1387. The sulphur and phosphorus requirements in steel shall not exceed 0.05 percent each. The galvanizing of the pipes shall be as specified in IS 4736. The zinc coating shall be uniform adherent, reasonably smooth and free from imperfections. The pipes shall be galvanized before screwing. All screwed pipes and sockets shall have pipe threads conforming to the requirements of IS 554. Gauging in accordance with IS 8999 shall be considered as an adequate test for conformity of threads of IS 554. Screwed tubes shall have taper threads while the sockets shall have parallel threads. The specifications for G.I. pipes shall be generally in accordance with Clause 15.4 of standard specifications. The tolerances on the length of pipes shall follow clause 11.0 of IS 1239 (Part I). The fittings for G.I. pipes shall be of mild steel tubular or wrought steel

fittings conforming to I.S. 1239 (Part II). The laying of G.I. pipes and fittings shall follow the relevant I S code of practice. These pipes shall be used for drinking water supply for the office and laboratory buildings. The pipes shall be painted with two coats of anticorrosive bitumen paint.

- **Testing of G.I. pipes**

Hydrostatic test shall be carried out at works at a pressure of 5 M Pa, maintained for at least 3 sec and shall not show any leakage in the pipe. The tensile strength of length or strip cut from selected tubes, when tested in accordance with IS 1894 shall be at least 320 N / mm<sup>2</sup>. The elongation percentage shall be as per clause 14.1.1 of IS 1239 (Part I). The bend test shall also be carried out as per clause 14.2 of IS 1239. The G.I. pipes and fittings shall be tested at site, after they are laid and jointed as per clause 15.4.11 of standard specifications.

### **1.8.22.3 LDPE Pipes: (Low Density Poly Ethylene Pipe)**

The International standard specifies the required properties of pipes made from poly ethylene (PE) confirming to ISO 4427:1996.

- **Dimensions**

The dimensions of pipes shall be measured in accordance with ISO 3126.

The tolerances on the outside diameters shall be in accordance with ISO 11922-1 as

Grade A for normal tolerance (NT pipes)

Grade B for close tolerance (CT pipes)

- **Length of pipe.**

The length of straight pipes & coils shall be not less than that agreed between supplier and user.

- **Finishes**

All internal surfaces of the pipes should be regular and smooth. The shape of the finished ends should be fixed by the manufacturer to suit the type of joint used.

- **Specials**

The specials should be manufactured from LDPE/Hard plastic, polyacetal split rings for positive grip and should sustain maximum working pressure 16 bar at 20° C. should be available in sizes 20mm (1/2"), 25 mm (3/4").

The fittings should also be supplied by the manufacturer of the pipes. They should preferably be manufactured by the manufacturer of the pipes. In case they are not, it will be the responsibility of the manufacturer of the pipes to have them manufactured from a suitable manufacturer under its own supervision and have it tested at his / sub contractor's premises as per the contract. The pipe manufacturer will however be responsible for the compatibility and quality of the products.

### **1.8.22.4 Ductile Iron Pipes**

The DI pipes shall be centrifugally cast (spun) for Water and Sewage and confirming to IS 8329-2000. The pipes used shall be both gasket joints and flanged joints. The minimum class of pipe to be used shall be class K-9 conforming to IS 8329. In general, pipes inside the buildings and below the structures shall be jointed as double-flanged pipes and those outside the building can be either EPDM gasket in accordance with IS 5382 and manufactured by the pipe manufacturer only. The pipes shall be supplied in standard lengths of 5.5m and 6.00m length with suitably rounded chamfered ends. Any change in the stipulated lengths will be approved by the Engineer's representative. The flanged joints shall confirm to the Clause 6.2 of IS 8329. The pipe supply will also include one rubber gasket for each flange.

- **Inspection and Testing:**

The pipes shall be subjected to following tests for acceptance:

- (i) Visual and dimensional check as per clause 13 and 15 of IS 8329.
- (ii) Mechanical tests as per clause 10 of IS 8329.
- (iii) Hydrostatic test as per clause 11 of IS 8329.
- (iv) The test reports for the rubber gaskets shall be as per acceptance tests of the IS 5382 and in accordance to clause 3.8



The sampling shall be as per the provisions of the IS 8329.

- **Markings**

All pipes shall be marked as per clause 18 of IS 8329 and shown as below:

- (i) Manufacturer name / stamp
- (ii) Nominal diameter
- (iii) Class reference
- (iv) A white ring line showing length of insertion at spigot end.

- **Packing and Transport**

The pipes should be preferably transported by road from the factory and stored as per the manufacturer's specifications to protect them from damage.

- **Specials for DI Pipes**

The DI specials shall be manufactured and tested in accordance with IS 9523 or BS 4772. The mechanical test and hydrostatic test shall confirm to clause 9 and clause 10 respectively of IS 9523. The tolerances on dimensions shall be as per IS 9523. The manufacturer of the pipes shall supply the fittings.

All the DI fittings shall be supplied with rubber rings for each socket. The rubber ring shall conform to IS 12820 and IS 5382. Flanged fittings shall be supplied with one rubber gasket per flange and the required number of nuts and bolts.

### **1.8.23 Sluice Gates**

The construction of sluice gates shall be in accordance with the specification and generally as per AWWA C 501 or IS 13349. The sluice gates shall be capable of performing the duties set in the specification without undue wear or deterioration. They shall be constructed so that maintenance is kept to a minimum. All parts of sluice gate, including mechanism components shall be designed for the heads specified with a minimum safety factor of five. All sluice gates shall be of the raising spindle type.

All sluice gates shall be manually operated. Motorised gates, if provided by the Contractor, the actuator specs be got approved from the Employer's representative.

- **Constructional features**

The sluice gates shall be standard design of manufacturer's and of robust construction. The special features shall be as follows

- **Frame:**

The frames shall be of ample section and cast in one piece. All surface forming joints and bearings shall be machined. The frame shall be of the flange back type and shall be machined on the rear face to bolt directly to the machined face of the wall thimble.

- **Guide:**

The guide shall be bolted to the frame or cast integrally with it and shall be machined on all bearing and contact faces. The length of the guide shall be such that it should support the gate upon the horizontal line of stem nut pocket. Arrangements shall be such that it should support the gate upon the horizontal line of stem nut pocket. Arrangements shall be made to prevent lateral movement of bolted on guides. They shall be capable of taking the entire thrust produced by water pressure and wedging action. Wedges or wedge facings shall be attached to the guides at point where, in the closed position, they will make full contact with the wedging surface on the slides.

- **Seating Faces**

The seating faces shall be of full width, solid section. They shall be secured firmly by means of counter sunk fixings in finished grooves in the frame and slide faces in such a way as to ensure

that they will remain permanently in place as well as free from distortion and loosening during the life of the sluice gates.

- **Wedging devices**

Sluice gates shall be equipped with adjustable side, top and bottom wedging devices required providing contact between the slide and frame facing when the gate is closed position. All faces shall be machined accurately to give maximum contact and wedging action. Wedges shall be fully adjustable with suitable adjusting screws and lock nuts and so designed that they will remain in the fixed position after adjustment.

- **Gate slides**

The slide shall be with strengthening ribs where required and reinforced section to receive the seating faces. The slide shall have tongues on each side extending its full length and tongues shall be machined accurately on contact surfaces. Surfaces of the slide that in come in contact with the seat facing and wedges shall be machined accurately. The maximum allowable clearances between the slide and slide gate shall be 1.6 mm. An integrally cast stem nut pocket with reinforced ribs shall be provided above the central line of the slide.

- **Stem nut and Lift nut**

A gate shall be provided with lower fixed stem nuts for connecting the stem to the slide and revolving lift nut located in the lifting mechanism in the head stock. They shall be of ample design to endure the thrust developed during gate operating under maximum gate operating condition loads in opening and closing direction. The stem nut and slide shall be constructed to prevent turning of the stem nut in the pocket in the slide. The stem nut shall be threaded and keyed or threaded and pinned to the stem.

- **Stem**

The operating stem shall be designed for a tensile strength to withstand 90 kg effort on the crank and for a critical buckling compressive load assuming a 36 kg effort on the crank. The threads of the stem be machine cut or rolled and of the square or acme type. The number of threads per inch shall be such as to work most effectively with the lift mechanism used. The top of the stem be provided with a stop collar. Stem shall be provided with polycarbonate cover fixed to the headstock.

- **Stem coupling**

The coupling shall be threaded and keyed or threaded and bolted and shall be of greater strength than the stem

- **Stem guide**

Stem guides shall be cast, with bushings and mounted on cast brackets. Guides shall be adjustable in two directions and shall be so constructed that when properly spaced they shall hold the stem in alignment. The number of stem guides shall be such that the unsupported length of stem shall not exceed one hundred times its diameter.

- **Lifting Mechanism**

Sluice gates shall be operated through a suitable lifting mechanism, which shall incorporate gearing if required. The lifting mechanism shall be suitable for operation by one man under all conditions. The lifting mechanism shall incorporate a strong locking device suitable for use with a padlock or padlock and chain. The manual operation shall be of the hand wheel crank operated type and shall have a lift nut threaded to fit the operating stem. The crank shall be removable. Ball or roller thrust bearings shall be provided above and below flange on the lift nut to take the load developed in opening and closing the gate with torque of 14 kg-m on the crank. Fittings shall be provided to lubricate gears and bearing. The design of the lift mechanism of the hand operated gates shall be such that the slide can be operated with torque is not more than 7 kg-m on the operator after the slide is unseated from wedges based on the operating head. The maximum crank radius shall be 380 mm.

- **Gears and bearings**

All gears and bearings shall be enclosed in cast iron housing with labyrinth seals. The lifting mechanism shall be of cast iron pedestal, machined and drilled to receive the gear housing and suitable for bolting to the operating floor. The gates shall close with clockwise rotation of the crank. The direction of rotation to close the gates shall be indicated on the lift mechanism. A suitable means shall be provided for lubricating the stem threads directly adjacent to the lift nut. An inspection cover shall be provided to access the lift nut and gearing.

- **Fasteners**

All anchor bolts, assembly bolts, screw, nuts etc., shall be of ample section to safely withstand the forces created by the operation of the gate.

- **Wall thimbles**

The wall thimbles shall be made of cast iron and shall be supplied along with the gate. The wall thimbles shall provide a rigid mounting and designed to prevent warping of the gate frame during installation. The cross section of the thimble shall have the shape of the letter 'F'. The front, or mounting flange, shall be machined and shall be attached to the thimble with bolts and studs. The depth of the wall thimbles shall not be less than 300mm. To permit entrapped air to escape as the thimbles are being encased in the concrete, holes not less than 35 mm diameter at not more than 600 mm span, shall be cast or drilled in each entrapment zone formed by the reinforcing ribs or flange and water stop.

- **Material of Construction**

Frame, Guide, Thimble, Stem	C I conforming to IS 210 Gr 260
Guide Bracket, Wedges,	
Door Sealing faces	Bronze conforming to IS 318 Gr LTB 2
Spindle	SS AISI 431
Flush bottom resilient seal	Natural or synthetic rubber conforming to IS: 1855
Anchor bolts	SS conforming to IS 6603
Hand wheel	Cast iron
Stem cover	Polycarbonate transparent tube.

**Parameters**

Type	Rectangular rising spindle
Size	As per requirement
Applicable code	IS 13349
Class	1
Maximum seating head	As per contractors design
Unseating head	As per contractors design
Maximum distances between gates centre line and operating platform	As per contractors design.
Tests	Seat clearance check, moving tests, leakage tests and Hydrostatic tests as per IS 13349/ AWWA C 501 shall be conducted at Manufacturer's works in accordance with the Inspection category.

#### 1.8.24 **Open channel Gates**

The manufacture of open channel gates shall be in accordance with the manufacturer's standard. All open channel gates shall be of the rising spindle type. All open channel gates shall be manually operated or motorised as per process requirements. Open channel gates shall be tested as per manufacturer's standard. The open channel gates for pumping stations shall be CI sluice gates. The material of construction shall be as follows.

Components	Material	Specification	Grades
Gate frame, shutter, Headstock, Flush bottom seal support bar, Stop nut.	Cast Iron	IS: 210 – 1993	FG: 260
Sealing faces/ Seat facings	Stainless Steel	ASTM A276	AISI: 304, 316

Resilient rubber seal	Natural Rubber EPDM Rubber Neoprene Rubber		
Seal retainer bar	Stainless Steel	ASTM A276	AISI: 304, 316
Stem / Spindle	Stainless Steel	ASTM A276	AISI: 304, 316
Operating Nut/ Stem Nut	Leaded Tin Bronze	IS: 318 – 1981	LTB 1, LTB 2
Fasteners	Stainless Steel	ASTM A276	AISI: 304, 316
Anchor Bolts	Stainless Steel	ASTM A276	AISI: 304, 316
Yoke	Mild Steel	IS: 2062 – 1992	Grade A

#### 1.8.25 Chain Pulley Blocks

Gear Chain Pulley Blocks shall be adopted. The monorail and trolley and the chain pulley block shall be provided for lifting the blowers and submersible pumps. The trolley and chain pulley block shall be hand driven. The capacity of the trolley and the chain pulley block shall be for the maximum weight to be lifted during erection and maintenance of the equipment but should not be less than 1 tonne. The travelling trolley shall run on the lower flange of the rolled steel joist. The trolley shall have two wheels on both sides of the joist web. The trolley wheels shall be single flanged with treads machined to match the flange of the beam. The wheels shall be of carbon steel casting conforming to IS 1030. The trolley shall have an arrangement for the fixing chain pulley block and sling. Pushing the load shall move the trolley. Suitable arrangement shall be provided on the joist to prevent over travelling. The chain pulley block shall have frame housing gears load sheave, brake unit, hand chain wheel and load chain wheel shall have hooks on both sides, one fixed with traveling and other for the load. The frame shall be of welded construction.

The gears shall be of spur type incorporating high grade hardened carbon steel pinion and heat treated carbon steel wheels. The width of the gear shall be adequately sized for long life. The driving pinion shall be integrated with the driving shaft. The load hook (bottom hook) shall rotate on the ball bearing. The chain shall be electrically welded, accurately calibrated, pitched and polished. The length of the load chain shall be sufficient for taking out the blower/pumps from their location. The hand chain wheel shall be provided with roller type guarding to prevent slipping the chain. The hand chain wheel shall hang to cleat of the hook. The braking shall be automatic, the screw and friction disc type and shall offer no resistance. The load shall be sustained in any position of lift when effort for hoisting or lowering is removed. Each chain pulley block shall be supplied with one set of 1 tonne sling with galvanized D-shackles and clamps. The slings shall be about 3 m long. The monorail shall be 'I' section. The exposed mild steel surfaces shall be enamel painted. The fasteners shall be GI or Cadmium plated. The chain pulley block shall be tested for 150% overload through a length of lift which will ensure that every part of the block mechanism and every teeth of gears come under load.

#### 1.8.26 Valve Actuators

All actuators shall be motorized type and local controls shall be protected by a lockable cover.

Each actuator shall be adequately sized to suit the application and be continuously rated to suit the modulating control required. The gearbox shall be oil or grease filled, and capable of installation in any position. All operating spindles, gears and head stocks shall be provided with adequate points for lubrication.

The valve actuator shall be capable of producing not less than 1½ times the required valve torque considering valve spindle jamming and shall be suitable for at least 5 continuous operations.

The actuator starters shall be integrally housed with the actuator in robustly constructed and totally enclosed weatherproof housing. The motor starter shall be capable of starting the motor under the most severe conditions.

The starter housing shall be fitted with contacts and terminals for power supply, remote control and remote positional indication, and shall also be fitted with internal heaters so as to provide protection against damage due to condensation. Heaters shall be suitable for single phase operation. The heaters shall be switched "ON" when the starters are "OFF" and shall be switched "OFF" when the starters are "ON".

Each actuator shall be equipped as follows:

- AC electric motor with engage/disengage clutch mechanism of the dry type.
- Reduction gear unit (with thrust bearing if required)
- Torque switch mechanism
- Limit switch mechanism

- (e) Geared hand wheel for manual operation of valve.
- (f) Valve position indicator – open/closed
- (g) Auto-Manual lever with suitable locking arrangement
- (h) Reversing contactor starter complete with overload relays of suitable range and adequately rated control fuses
- (i) Actuator shall have selection between local/remote operation
- (j) Local control switch/push buttons
- (k) 415 V/110 V AC control transformer
- (l) A white lamp for supervision of main supply to be provided locally.
- (m) A potential free contact shall be provided to annunciate over-load trip/main supply failure on remote panel
- (n) Provision for local as well as remote operation

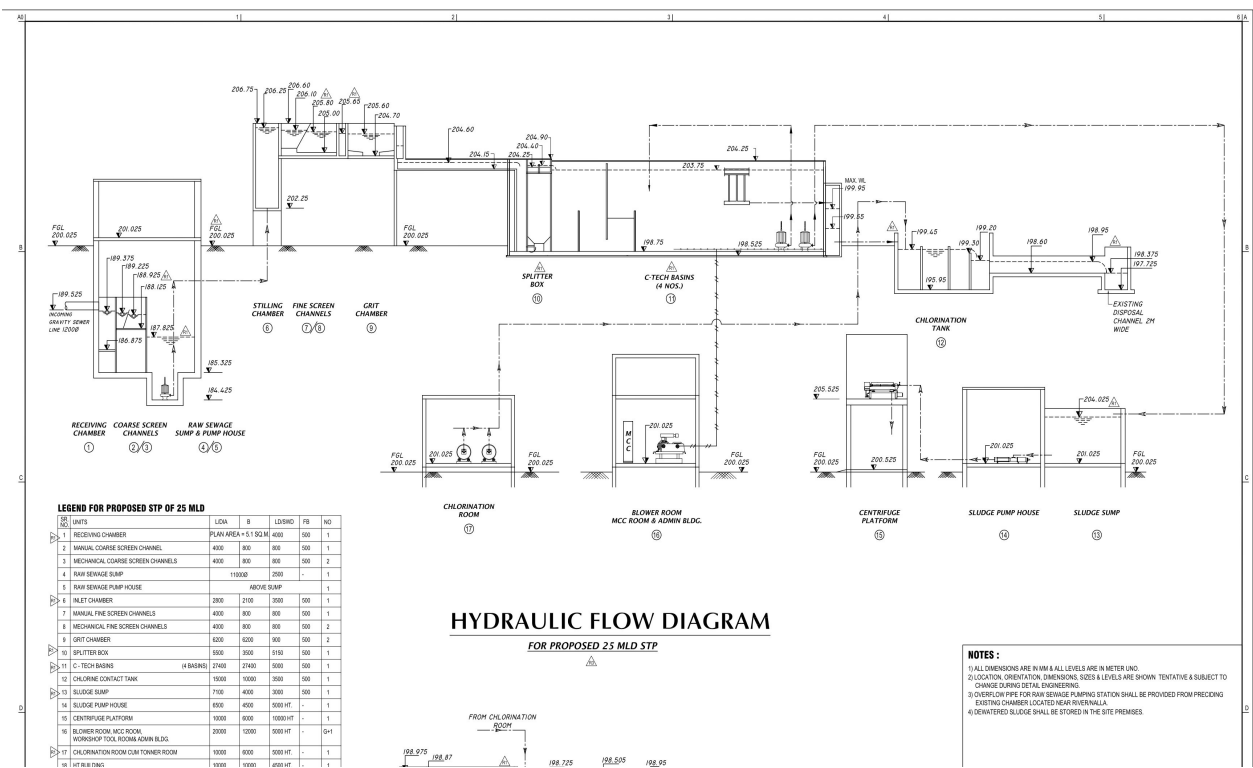
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## Percentage BoQ

**Tender Inviting Authority: GENERAL MANAGER**

**Name of Work: M/o STP (Existing STP based on SBR Technology core Parts (Decanter core part, diffuser, PLC SCADA and Related work) (Renovation and Strengthening work of the existing 25 MLD STP Core Parts with MPS at Sector-50) Noida (PART-B)**

**Contract No: /SM(JAL-OA)/2026-27**

<b>Bidder Name :</b>						
<b>PRICE SCHEDULE</b> (This BOQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only ) (GST will be Paid Extra as per applicable)						
<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER #</b>	<b>TEXT #</b>	<b>NUMBER</b>	<b>NUMBER #</b>	<b>TEXT #</b>
<b>Sl. No.</b>	<b>Item Description</b>	<b>Qty.</b>	<b>Units</b>	<b>Estimated Rate</b>	<b>TOTAL AMOUNT excluding Taxes</b>	<b>TOTAL AMOUNT In Words</b>
<b>1</b>	<b>2</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>53</b>	<b>55</b>
1.00	<b><u>PUMP HOUSE:</u></b> a) Replacement of pumps 3 Nos PUMPING STATION Sump well size- 11.0 m Dia. x 2.50 m SWD Capacity 1042 m <sup>3</sup> /hr @ 25 m head, Type Submersible Non Clog Speed - Less than 1000 RPM Handle Solid Size mm Specific Gravity - 1.05 Operation start and stop automatically based on the level in the wet well (VFD Suitable) Motor Cooling System - Cooling Jacket Accessories Lifting Chain Bow Shackle at every 1m -15m Length each Pump Guide Pipe with square Guide rail bar each Pump Cable Length - Min 15m required All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Scal Detector etc & all complete work as above items. direction by Engineer-in-charge					



1.01	<p>b) Replacement of pumps 2 Nos PUMPING STATION Sump well size- 11.0 m Dia. x 2.50 m SWD Capacity 521 m<sup>3</sup>/hr @ 25 m head, Type Submersible Non Clog Speed - Less than 1000 RPM Handle Solid Size mm Specific Gravity - 1.05 Operation start and stop automatically based on the level in the wet well (VFD Suitable) Motor Cooling System - Cooling Jacket Accessories Lifting Chain Bow Shackle at every 1m -15m Length each Pump Guide Pipe with square Guide rail bar each Pump Cable Length - Min 15m required &amp; All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Scal Detector etc &amp; all complete work as above items. direction by Engineer-in- charge .</p>					
1.02	<p>c) Replacement of Coarse Screens 2 Nos Screen Chamber Size : 0.8 m wide x 4.0m Long x 0.8 mSWD + 0.5 m FB Avg. Flow to Each Screen-12.50 MLD Peak Flow to Each Screen-28.125 MLD Type Inclined Multi Rake Bar Screen Angle of Inclination - 75 deg. Clear Opening -20mm Flat Size 20x 10mm Bar Profile Rectangular Operating Height/Chanel Depth - 5 m, &amp; all complete work as above items. direction by Engineer-in-charge d) Cleaning &amp; Desilting of Sump well size- 11.0 m Dia. x 2.50 m SWD &amp; all complete work as above items. direction by Engineer-in-charge  e) Replacement/Repairing of Electrical Control Panel along with Cabel &amp; Cabel Trays &amp; all complete work as above items. direction by Engineer-in-charge f) Repair Work of inlet, outlet &amp; Bypass gate Valves, Belt Conveyars &amp; EOT Crane &amp; all complete work as above items. direction by Engineer-in-charge</p>	1.00	Job	21130076.88	21130076.88	INR Two Crore Eleven Lakh Thirty Thousand &Seventy Six and Paise Eighty Eight Only
2.00	<p><b>PRIMARY UNIT</b> a) Replacement of Existing Flow Meter &amp; all complete work as above items. direction by Engineer-in-charge b) Replacement of Fine Bar Screens 2 Nos with hydraulic power pack system Screen Chamber Size : 0.8 m wide x 6.0m Long x 0.8 mSWD + 0.5 m FB Avg. Flow to Each Screen-12.50 MLD Peak Flow to Each Screen-28.125 MLD Type - Step Angle of Inclination - 45 deg. Clear Opening -6mm Flat Size- 2mm</p>					

	Bar Profile: Rectangular Operation: Automatic. & all complete work as above items. direction by Engineer-in-charge c) Cleaning & Desilting of Grit Chamber size 6.2m x 6.2m x 0.9m SWD & all complete work as above items. direction by Engineer-in-charge					
2.01	d) Replacement of Grit Scrapping Mechanism, Screw Conveyor, Organic return pump & Gear Box of Grit mechanism unit –2 Nos Grit Chamber Size : 6.2 m x 6.2 m x 0.9 m SWD + 0.5 m FB Avg. Flow -12.50 MLD Peak Flow -28.125 MLD Type of mechanism - Mechanical Scraper & Screw Classifier. e) Repair work Gate Valves, Cleaning of Grit Chamber & other miscellaneous works etc & all complete work as above items. direction by Engineer-in-charge	1.00	Job	13727725.00	13727725.00	INR One Crore Thirty Seven Lakh Twenty Seven Thousand Seven Hundred & Twenty Five Only
3.00	<b><u>SBR UNIT</u></b> a) Replacement of Decanter Screw Jack + Core parts+ Diffuser membranes & SS Clamps+PLC/SCADA System (non-redundant) & all complete work as above items. direction by Engineer-in-charge b) Cleaning of SBR Basin & Selector Zones 4 nos. Size of 27.4m (L) x 27.4m (W) x 5m (SWD) & all complete work as above items. direction by Engineer-in-charge c) Provision of DO Analyzer's at each basin Diaphragm covered, amperometric, potentiostatic operating 3 electrode system or Photometric sensor also acceptable. • Fast calibration • Automatic diaphragm break alarm • No zero point adjustment necessary • Minimum measuring range 0.01 mg O <sub>2</sub> /l • Diaphragm easy to replace • Electrolyte reservoir for 1.5 year of operation • Integrated Temperature sensor Reaction time: 30 sec. (for 90% of total value) Temperature 100 sec. (for 99% of total value) 5- 35 deg C Protection class: IP 68 • Measuring range : 0-10 mg O <sub>2</sub> /l • Resolution of data: <= 0.5% of total value & all complete work as above items. direction by Engineer-in-charge d) Replacement/Repairing of air line from blower discharge to SBR Unit & all complete work as above items. direction by Engineer-in-charge					

3.01	<p>e) Replacement of RAS/SAS Pumps unit –8 Nos  RAS Pump Capacity - 200 m3/hr @0.50 Kg/cm2 @ 10m head  SAS Pump Capacity - 40 m3/hr @ 10m head  Type-Submersible Non Clog  Speed-Less than 1000 RPM  Handle Solid Size 100mm  Specific Gravity - 1.05  Operation start and stop automatically based on the level in the wet well (VFD Suitable)  Motor Cooling System - Cooling Jacket  Accessories Lifting Chain Bow Shackle at every 1m -10m  Length each Pump  Guide Pipe with square Guide rail bar 10m Length each Pump  Cable Length - Min. 20m  All required Pump Protection Water Leakage Detector, Bearing Temperature Detector, Thermal Overload Protection, Seal Detector etc &amp; all complete work as above items. direction by Engineer-in-charge  f) Replacement/Repairing of corroded cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge  g) Repair work of Actuators, Provision of pump lifting arrangement &amp; other miscellaneous works &amp; all complete work as above items. direction by Engineer-in-charge</p>	1.00	Job	58698161.72	58698161.72	INR Five Crore Eighty Six Lakh Ninety Eight Thousand One Hundred & Sixty One and Paise Seventy Two Only
4.00	<p><b><u>BLOWER HOUSE</u></b>  a) Replacement of 2 Nos of Turbo Blowers as a stand by arrangement Capacity - 4200 Nm3/h @0.60 Kg/cm2 &amp; all complete work as above items. direction by Engineer-in-charge  b) Replacement of Twin Lobe Blower with Motors Unit – 4 Nos  Air mixing rate - 1.2 m3 / hr /m3 of liquid volume  Min. Blower Capacity - 4200Nm3 / hr Head - 0.6 Kg/cm2 &amp; all complete work as above items. direction by Engineer-in-charge  c) Modification of air transfer pipeline &amp; all complete work as above items. direction by Engineer-in-charge  d) Retrofitting/Replacement of Electrical control panel with cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge  e) Repair work of Blower Discharge valves, repair of EOT crane &amp; other miscellaneous works &amp; all complete work as above items. direction by Engineer-in-charge .</p>	1.00	Job	35394700.00	35394700.00	INR Three Crore Fifty Three Lakh Ninety Four Thousand Seven Hundred Only

5.00	<p><b><u>CENTRIFUGE WORKS</u></b></p> <p>a) Replacement of existing centrifuge with the supply of screw press unit – 2 Nos Sludge Volume - 507.81 m<sup>3</sup>/day Capacity - 10m<sup>3</sup>/hr. Sludge flow rate - 20.96 m<sup>3</sup>/hr Sludge Consistency - 0.80% Sludge loading rate - 239.68 Kg/hr &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b) Replacement of Sludge Feed pumps unit –6 Nos Sludge Sump size -7.1 m x 4.0 m x 3.0 m SWD + 0.5 m FB Capacity-10 m<sup>3</sup>/hr. @ 15m &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>c) Replacement of Polyelectrolyte dosing pumps unit –6 Nos Weight of Dry Solids discharged by Centrifuge-100Kg/hr. Poly Concentrain-0.1% Poly Dose required at rate of-0.2kg/hr.= 200gm/hr. Tank size -1.1 m x 1.1 m x 2.0 m SWD, Pump Capacity - 270 Litre/hr. Model - GS 404-380 lph &amp; all complete work as above items. direction by Engineer-in-charge</p>					
5.01	<p>d) Retrofitting/Replacement of Electrical control panel with cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>e) Repair work sludge transfer pumps, poly dosing pumps, repair of EOT crane &amp; cleaning of sludge settling tank etc &amp; all complete work as above items. direction by Engineer-in-charge</p>	1.00	Job	14353706.07	14353706.07	INR One Crore Forty Three Lakh Fifty Three Thousand Seven Hundred & Six and Paise Seven Only
6.00	<p><b><u>CHLORINATION ZONE, DG SET &amp; LABORATORY</u></b></p> <p>a) Replacement of Laboratory Equipment's, Chemicals &amp; Glassware's etc. Entire set as per standard &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>b) Replacement of Chlorination System with the supply of Chlorinators, Leak Detection System, Neutralization unit etc CCT Tank size - 15m x 10m x 3.5 SWD+0.5 FB Chlorine dose - 5.0 ppm, Chlorine dosage rate - 5.208 kg/hr. Chlorinator capacity - 7 kg/hr. &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>c) Retrofitting/Replacement of Electrical control panel with cable &amp; cable trays &amp; all complete work as above items. direction by Engineer-in-charge</p> <p>d) Repair work of chlorine booster pumps, EOT crane, major overhauling of DG set etc &amp; all complete work as above items. direction by Engineer-in-charge</p>	1.00	Job	15891354.44	15891354.44	INR One Crore Fifty Eight Lakh Ninety One Thousand Three Hundred & Fifty Four and Paise Forty Four Only

7.00	<b><u>MISCELLANEOUS WORKS</u></b> a) Replacement of AC units 4 nos. of 2 Ton capacity each & all complete work as above items. direction by Engineer-in-charge b) Road repair & painting of all existing campus boundary wall & gate/grill , leakproof plaster works & All Structure like as Pump House, Primary Unit, SBR Unit, Blower House Unit, Centrifuge Unit, DG Set Unit, Laboratory, Meeting hall, Administrative Block Unit, Chlorination Unit & all boundary wall of entrie campus as direction by Engineer-in-charge.	1.00	Job	7700000.00	7700000.00	INR Seventy Seven Lakh Only
<b>NIT Amount</b>					<b>166895724.11</b>	INR Sixteen Crore Sixty Eight Lakh Ninety Five Thousand Seven Hundred & Twenty Four and Paise Eleven Only
<b>Add @ 18% GST</b>					<b>30041230.34</b>	INR Three Crore Forty One Thousand Two Hundred & Thirty and Paise Thirty Four Only
<b>NIT Value with GST</b>					<b>196936954.45</b>	INR Nineteen Crore Sixty Nine Lakh Thirty Six Thousand Nine Hundred & Fifty Four and Paise Forty Five Only

**Note:-** Contractor has to quote his rate Excluding Goods & Service Tax (GST).

**Description of item and unit checked and found correct**

**A.M.**

**MANAGER**

**A.M.(T)**

**SR. MANAGER**