



KERALA STATE INDUSTRIAL DEVELOPMENT CORPORATION LTD.

2nd floor, Choice Towers, Manorama Jn., Kochi-682016, Kerala.

Phone: 0484 2323010 Fax: 0484 2323011

TENDER DOCUMENT

Reconstruction of compound wall and main gate at IGC Kannur

TECHNICAL BID

TENDER NO. KSIDC/IGC/Kannur/2020-21/01 Dt. 16/11/2020

KERALA STATE INDUSTRIAL DEVELOPMENT CORPORATION LTD.

2nd floor, Choice Towers, Manorama Jn., Kochi-682016, Kerala.

Phone: 0484 2323010 Fax: 0484 2323011

TECHNICAL BID

NAME OF WORK: Reconstruction of compound wall and main gate at IG Kannur

NIET No: KSIDC/IGC/Kannur/2020-21/01 Dt. 16/11/2020

- (1). NOTICE INVITING E- TENDER (NIET).
- (2). INSTRUCTIONS TO TENDERERS.
- (3). TECHNICAL BID.
- (4). GENERAL CONDITIONS OF CONTRACT.
- (5). SAFETY CODE & MODEL RULES FOR PROTECTION OF HEALTH AND SANITARY ARRANGEMENT FOR WORKERS.
- (6). LIST OF APPROVED MAKES FOR CIVIL WORKS.
- (7). TECHNICAL SPECIFICATIONS.
- (8). SPECIAL CONDITIONS OF CONTRACT.

ISSUED TO: M/s. _____

KERALA STATE INDUSTRIAL DEVELOPMENT CORPORATION LTD.

TECHNICAL BID

1.	Name of work	Reconstruction of compound wall and main gate at IGC Kannur
2.	Completion period for construction	6 Months
3.	Date & Time of issue of tender document	Tender document will be available from 16/11/2020 to 08/12/2020 up to 3.00 PM on the website and it may be downloaded
4.	Website address for purchasing bid document	https://etenders.kerala.gov.in
5.	Time, date and place of pre-bid meeting.	Time: 11.00 AM Date: 20/11/2020 Place: KSIDC Office, Kochi
6.	Last date for receiving bids	Time: 3.00 pm Date: 08/12/2020 Place: KSIDC Office, Kochi
7.	Time, date and place of opening technical bid	Time: 3.30 pm Date: 11/12/2020. Place: KSIDC Office, Kochi
8.	Time, date and place of opening financial bid	Time: 3.30 pm Date: 16/12/2020 Place: KSIDC Office, Kochi
9.	Last date of bid validity	120 days

10.	Officer inviting bid documents	General Manager, KSIDC
11.	Officer accepting bid documents	General Manager, KSIDC , 2 nd Floor, Choice Towers, Manorama Jn, Kochi -16

LIST OF TENDER DOCUMENTS

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1.0 CONTRACT DATA

1. Tender No. : KSIDC/IGC/Kannur/2020-21/01 Dt. **16/11/2020**
2. Name & address of Client : GENERAL MANAGER
KSIDC, 2nd Floor, Choice Towers,
Manorama Jn, Kochi -16
3. Name of Project : _____
Reconstruction of compound wall and main gate
at IGC Kannur
4. Place of work : Industrial Growth Centre at
Valiyavelicham, Kannur
5. Scope of work : Reconstruction of compound wall and
main gate
6. Probable amount of contract **Rs.26,47,338/- (exclusive of GST)**
7. Type of tender : Item Rate Tender
8. Schedule of rates applicable :
CPWD-DSR 2016 with cost index
9. Completion Period : 6 calendar months
10. Bid submission fee :
Rs.2950/- (inclusive of GST), Bid submission fee
through online payment system at
www.etenders.kerala.gov.in.
11. Downloading of Tender Documents :
Tender documents and tender schedule may be
downloaded from the e-GP Website
www.etenders.kerala.gov.in.
12. Tender document issuing authority : GM, KSIDC, 2nd Floor, Choice Towers,
Manorama Jn, Kochi -16
13. Last date of Receipt of Tender : Online submission till 3.00 p.m. on
08/12/2020.
14. Date & Time of Technical Bid opening : Online opening at 3.30 p.m. or
11/12/2020.
15. Place, Date & Time of Pre-bid
meeting: KSIDC, Kochi Office,
20/11/2020 at 11.00 a.m.
16. Tender receiving authority : GM, KSIDC, 2nd Floor, Choice Towers,
Manorama Jn, Kochi -16

- 17.1 Earnest Money Deposit through online payment : **Rs.50,000/-** (remitted mechanism for e-procurement system of Govt. of Kerala).
- 17.2 Performance Security deposit : Letter of The successful bidder, on receipt of the intimation/work order, shall remit to KSIDC, an amount of 5% of the contract value (agreed PAC) as performance Security Deposit and the deposit shall be retained till the expiry of defect liability period. At least 50% of this deposit shall be collected in the form of Bank Guarantee from a scheduled / Nationalized Bank. The validity of BG shall be up to the expiry of defect liability period plus one month.
- (Performance Security deposit shall be made**
- Within 7 days from the date of letter of acceptance)**
- 17.3 Retention Money of : Retention money for the work shall be collected by deduction from the running the contractors @2.5% of gross amount of each running till expiry of defect liability period. Retention money will be released along with the final bill.
- 18.1 Mobilization Advance : DELETED
- 18.2 Interest Rate of Mobilization Advance : DELETED
19. Bid Validity period submission of tender : 120 days from the last date of documents.
20. Defect liability period completion of : **18 Months** from the date of entire the work.
21. Minimum value of similar works required to be executed by the contractor during the last 7 years in a single contract as Prime Contractor : One work of 80% value or Two works of each 60% value or Three works each of 40% value
22. Minimum average annual turn over required to be attained by the contractor during the three : **Rs.8 Lakhs**

Preceding financial years.
(2017-18, 2018-19 & 2019-20)

23. Minimum Value for the Solvency
Certificate

: **Rs.11 Lakhs**

24. Contractor should not have incurred
any loss in the last three financial

years (2016-17, 2017-18 & 2018-19) :
Audited balance sheet and P&L statement
of

last three years to be submitted.

25. Interval of interim Bills

: The contractors can claim
their bills based on the milestones
mutually agreed upon during the signing
of agreement

KERALA STATE INDUSTRIAL DEVELOPMENT CORPORATION LTD.

2nd floor, Choice Towers, Manorama Jn., Kochi-682016, Kerala.

Phone:0484 2323010 Fax: 0484 2323011

INFORMATION REGARDING e-TENDERING PROCESS

1. The bidders shall have to submit their bids online in Electronic formats both for technical and financial proposals.
2. For participation in the e-tendering process, the Bidders need to register themselves on Kerala e -tendering portal. On registration, they will be provided with a user ID and a system generated password enabling them to submit their Bids online using Digital System Certificates (DSC).
3. Tenders without digital signatures will not be accepted by the Electronic Tendering System.
4. No Tender will be accepted in physical form in case, it is not submitted through the Electronic Tendering System.

5. Bids will be opened online as per time scheduled.
6. Tender Fees and E.M.D shall be remitted to the SBI account provided in the e-tendering portal and the scanned copy of the payment details shall be uploaded along with the online bid.
7. Before submission of online Bids, Bidders must ensure that scanned copies of all the necessary documents have been uploaded with the Bid.
8. KSIDC will not be responsible for any delay in online submission of the bids due to any reason whatsoever.
9. It will be mandatory for all the bidders to upload all the documents mentioned under 'Tender Details'.
10. The details of EMD specified in the Tender documents should be the same as submitted online (scanned copies) otherwise tender will be rejected summarily.

(1)

VOLUME -I**NOTICE INVITING E- TENDER (NIET)**NIET No: KSID KSIDC/IGC/Kannur/2020-21/01 Dt. **16/11/2020**

Sealed tenders are invited through electronic bidding system (e-BID) from **Class C and above** registered contractors registered under central or state government Department and who fulfills the pre-qualification conditions.

Sl no	Name of Work	Estimated cost (Rs. In lakhs)	EMD (Rs.)	Tender Document Cost Non-refundable (Rs.)	Time of completion
1	<u>Reconstruction of compound wall and main gate at IGC Kannur</u>	Rs.26,47,338/- (exclusive of GST)	50,000/-	2,950/- (inclusive of GST)	6 months

1. Tenders shall be in 2 bid format – Technical bid and Priced bid. The tender documents can

be available on the net and it may be downloaded. Digital signature will be available on website. The technical bid and price bid shall be uploaded separately.

2. Tender documents can be accessed through website on payment of Rs.2,950/- (inclusive of GST) in the SBI account mentioned in the website (non – refundable- scanned copy of payment shall be uploaded).
3. The Earnest Money as specified for work shall also be remitted in the SBI account provided in the website (Scanned copy of DD shall be uploaded).
4. The tenders can be submitted through online up to **08/12/2020** at 3.00 PM and the same shall be opened on **11/12/2020** at 3.30 PM in the office of General Manager (Infrastructure), KSIDC, 2nd Floor, Choice Towers, Manorama Junction, Kochi-682016, Kerala.
5. The price bid of contractor who fulfills the technical bid conditions shall only be opened.
6. KSIDC reserves the right to accept or reject any or all tenders in part or full without assigning any reason there so

General Manger

(2)

INSTRUCTIONS TO TENDERERS (ITT)

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READ & FOLLOW THE INSTRUCTIONS CAREFULLY REGARDING MODE OF SUBMISSION OF TENDERS

1. Kerala State Industrial Development Corporation Ltd (KSIDC), is the agency of the Government of Kerala for the promotion of industries in Kerala. As part of its promotional role, KSIDC has taken steps for developing Industrial Growth Centers (IGCs) and Industrial Parks in strategic locations across the state to provide investors industrial land with suitable industrial infrastructures. Accordingly, IGCs and Industrial Parks are set up in Alappuzha, Malappuram, Kozhikode, Kannur and Palakkad Districts.
2. KSIDC has now invited tenders from qualified contractors for reconstruction of compound and main gate at IGC Kannur.
3. Tender documents can be purchased through website etenders.kerala.gov.in on payment of Rs.2.950/- (inclusive of GST) to the SBI account provided in the website (non – refundable-scanned copy of payment shall be uploaded).
4. The tenderers shall be required to deposit the Earnest Money as specified in the NIET for work by remitting to the SBI account provided in the website. (Scanned copy of payment shall be uploaded). The tenders received without requisite Earnest Money shall be summarily rejected. In case, the date of opening of tenders happens to be a holiday, the tenders would be opened on the next working day at the same time.
5. The tenderer shall quote the rate and the amount tendered by him against each item mentioned in the Price Bid in figures as well as in words (English/Malayalam).
6. The tenders can be submitted through online up to **08/12/2020** at 3.00 PM and the technical bid shall be opened on **11/12/2020** at 3.30 PM in the office of General Manager (Infrastructure), KSIDC, 2nd Floor, Choice Towers, Manorama Junction, Kochi-682016.
7. The price bid of contractor who fulfills the technical bid conditions shall only be opened

8. Mode of Submission:

The tender document is to be submitted through online in two parts

a. Part- I (Technical bid)

This shall contain the following

- i. Requisite EMD as specified in Para. 4.0 above.
- ii. Letter of Unconditional Acceptance of tender conditions as per Performa given in Annexure – I.
- iii. E- Tender Notice, Instructions to Tenderers (ITT) duly signed using Digital Signature.
- iv. General Conditions of Contract duly signed using Digital Signature.
- v. Special Conditions of Contract duly signed using Digital Signature.
- vi. Copy of Power of Attorney / Partnership Deed duly attested by Notary Public authorizing the person to sign the tender to upload.
- vii. Any other information required to be submitted along with the tender.

b. Part II (Price Bid)

The Price bid is prepared as item rate tender as per format attached.

9. VALIDITY OF TENDERS:

The tenders for the works shall remain open for acceptance for a period of 120 (One hundred and twenty) days from the date of opening of the Price Bids. In case the offer is withdrawn during the validity period, the Earnest Money so deposited shall be forfeited without any prejudice to any other right or remedy. The validity period may be extended on mutual consent.

10. The tenders shall be submitted strictly as per the conditions of E -Tender Notice. Tenders with any additional condition(s)/modifications shall be rejected.
11. KSIDC reserves the right to award the work of various packages at L-1's accepted rates amongst more than one bidder.
12. The acceptance of tender will rest with KSIDC, who does not bind itself to accept the lowest tender and reserves the right to reject any or all the tenders received without assigning any reason thereof. Incomplete Tenders or those not fulfilling the prescribed conditions are liable to be rejected.
13. Canvassing whether directly or indirectly in connection with tenders is strictly prohibited and the tenders submitted by the Tenderers / firms who resort to canvassing will be liable to rejection.

14. Upon acceptance of tender, the successful tenderer shall within the time specified in the letter of award, deposit with KSIDC a Security Deposit @ 5% of the Contract Amount. The EMD paid by the successful tenderer will form part of the Security Deposit and hence liable to pay only the balance amount.
15. The Tenderer shall not be permitted to tender for works if his near relative is posted as an Accountant or an Engineer or any higher ranks in the project or other offices of KSIDC. The Tenderer / firm shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any of the employees in KSIDC. Any breach of this condition by the Tenderer would render him liable to the withdrawal of the work awarded to him and forfeiture of Earnest Money and Security Deposit. This may also debar the Tenderer from tendering for future works under KSIDC.
16. The time of completion of the entire work, as stipulated in the NIET, shall be reckoned from the 07th day after issue of the letter/telegram/fax of Intent by the KSIDC.
17. The tender award, execution and completion of work shall be governed by tender documents, consisting of (but not limited to) Letter of Intent /Letter of Work Order, Scope of work, General Conditions of Contract, Special Conditions of Contract Technical specifications, Contract Amount etc. The tenderers shall be deemed to have gone through the various conditions and clauses of the tender or any other condition, which in the opinion of tenderer will affect his price/rates before quoting their rates. No claim, whatsoever, against the foregoing shall be entertained.
18. In case the conditions mentioned above are found violated at any time before opening of tenders, the tender shall be summarily rejected and KSIDC, shall without prejudice to any other right or remedy, be at liberty to forfeit the full Earnest Money.

General Manager

Annexure – I.

UNCONDITIONAL ACCEPTANCE OF TENDER CONDITIONS

NAME OF WORK: -----

I/We of M/s. _____ bidder for the above noted work do hereby unconditionally accept all the terms and conditions mentioned in the tender documents.

Further, we have noted that after unconditionally accepting the tender conditions in its entirety, it is not permissible to put any remarks/conditions in the Price Bid and the same has been followed in the present case. In case this provision is found violated at any time after opening of Price bid, we agree that the tender shall be summarily rejected and KSIDC shall without prejudice to any other right or remedy, be at liberty to forfeit the full said earnest money absolutely.

Signature of the Bidder
Or Authorized Person _____

Name of Firm _____

Seal of Firm _____

(3)
TECHNICAL BID

INFORMATION & INSTRUCTIONS FOR APPLICANTS

1.0 GENERAL:

1.1 Letter of transmittal and forms for pre-qualification are given in Annexure - II.

1.2 All information called for in the enclosed forms should be furnished against the relevant columns in the forms. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even if no information is to be provided in a column, a "nil" or "no such case" entry should be mentioned in that column. If any particulars/query is not applicable to that Tenderer, it should be stated as "not applicable". The applicants are cautioned that not giving complete information called for in the application forms or not giving it in clear terms or making any change in the prescribed forms or deliberately suppressing the information may result in the applicant being summarily disqualified.

1.3 The application as per Annexure-II should be type written. The applicant should sign each page of the application.

1.4 References, information and certificates from the respective clients certifying suitability, technical know-how or capability of the applicant should be signed by an officer not below the rank of Executive Engineer/ the chief of the agency who engaged the contractor, subject to verification by KSIDC or assigned agency.

1.5 The applicant may furnish any additional information, which he thinks is necessary to establish his capabilities to successfully complete the envisaged work. He is however, advised not to furnish superfluous information. No information shall be entertained after submission of pre-qualification document unless it is called for by KSIDC.

1.6 Any information furnished by the applicant found to be incorrect either immediately or at a later date, would render him liable to be debarred from tendering/ taking up of work in KSIDC.

1.7 The applicant should attach attested copies of valid Registration

under GST, Labour License, Building and Other Construction Works Welfare Cess Act 1996, ESIC, Permanent Account No. etc. The successful tenderer is required to submit the valid PF registration no. after awarding the work.

2.0 DEFINITIONS

2.1 In this document the following words and expressions have the meaning hereby assigned to them.

2.2 Employer: - Means the Kerala State Industrial Development Corporation Ltd (KSIDC)

2.3 Applicant: - Means the individual, proprietary firm, firm in partnership, limited company, private or Public or corporation.

2.4 "Year" means "Financial Year" unless stated otherwise.

3.0 METHOD OF APPLICATION:

3.1 If the applicant is an individual, the application shall be signed by him above his full typewritten name and current address.

3.2 If the applicant is a proprietary firm, the application shall be signed by the proprietor above his full typewritten name and the full name of his firm with its current address.

3.3 If the applicant is a firm in partnership, the application shall be signed by the Managing Partner of the firm above his full typewritten name and current addresses or duly authorized person-holding power of attorney for signing the application accompanied by a copy of the Power of Attorney. In both cases a certified copy of the partnership deed and current address of all the partners of the firm should accompany the application.

3.4 If the applicant is a limited company or a corporation, the application shall be signed by The Managing Director or duly authorized person-holding power of attorney for signing the application accompanied by a copy of the Power of Attorney. The applicant should also furnish a copy of the Memorandum and Articles of Association duly attested by a Public Notary, Gazette Officer.

4.0 FINAL DECISION MAKING AUTHORITY:

The KSIDC reserves the right to accept or reject any application and to annul the pre-qualification process and reject all applications at any time, without assigning any reason or incurring any liability to the applicants.

5.0 PARTICULARS PROVISIONAL

The particulars of the work given in NIET are provisional. They are liable to change and must be considered only as advance information to assist the applicant.

6.0 SITE VISIT

The applicant is advised to visit the site of work, at his own cost, and examine it and its surroundings to him collect all information that he consider necessary for proper assessment of the prospective assignment.

7.0 INITIAL CRITERIA FOR ELEGIBILITY FOR PRE-QUALIFICATION

7.1 Successful completion of three works each of similar nature costing not less than 40% of estimated cost or two works each of 60% estimated cost or one work of 80% estimated cost (rounded off to nearest lakh) in the last 7 years ending last day of the month previous to the month in which tenders are invited. The bidders should produce copy of TDS certificates of work done on request by KSIDC.

For this purpose, 'cost of work' shall mean gross value of the completed work including the cost of materials supplied by the Govt./ Client, but excluding those supplied free of cost. This should be certified by an officer not below the rank of Executive Engineer/ the chief of the agency who engaged the contractor, subject to verification by KSIDC or assigned agency. The experience certificate produced by the applicant should clearly mention the capacity and the project cost.

7.2 The applicant should have an average annual financial turnover (gross) on construction works of 30% of the PAC during the last three years ending 31st March 2020.

7.3 The applicant should not have incurred any loss during the last three years ending 31st March 2019.

7.4 The applicant should have a solvency of 40% of estimated cost certified by his Bankers. The solvency certificate should not be more than 6 months old as on the date of opening the tender.

7.5 The applicant should possess adequate construction equipment required for the proper and timely execution of the work, else, he should certify that he would be able to manage the equipment by hiring etc. and submit the list of firms from whom he proposes to hire.

7.6 The applicant should have sufficient number of Technical and Administrative employees for the proper execution of the contract. The applicant should submit a

list of these employees stating clearly how these would be involved in this work.

7.7 The applicant shall furnish the details of each work completed in the last 7 years and in hand should be certified by an officer not below the rank of Executive Engineer/the chief of the agency who engaged the contractor, subject to verification by KSIDC or assigned agency.

7.8 The applicant should obtain requisite certificate duly signed by client / Govt. officer / architect / consultant.

6.9 Mini batching plant of required capacity to be made available at site during Construction.

6.10 Testing Laboratory/Equipments to be made available at site during construction.

8.0 FINANCIAL INFORMATION

Applicant should furnish the following financial information: Annual financial statement for the last three years (in Form "A").

9.0 EXPERIENCE OF WORKS HIGHLIGHTING EXPERIENCE IN SIMILAR WORKS

9.1 Applicant should furnish the following:

- a) List of all works of similar class successfully completed during the last SEVEN years (in form "B")
- b) List of the projects under execution or awarded (in Form "C")

10.0 ORGANISATION INFORMATION

Applicant is required to submit the following information in respect of his organization (in Form "D")

- a) Name & Postal Address, Telephone, and Fax Numbers etc.
- b) Copies of original documents defining the legal status, place of Registration and principal places of business.
- c) Names & Title of Directors and Officers to be concerned with the work, with designation of individuals authorized to act for the organization.
- d) Information on any litigation in which the applicant was involved during the last five years, including any current litigation.
- e) Authorization for employer to seek detailed references.

11.0 CONSTRUCTION PLANT & EQUIPMENT

Applicant should furnish the list of construction plant and equipment including steel shuttering, centering and scaffolding likely to be used in carrying out the work (in Form "E"). Details of any other plant & equipment required for the work (not include in Form "E") and available with the applicant may also be indicated.

12.0 LETTER OF TRANSMITTAL

The applicant should submit the letter of transmittal attached with pre-qualification document.

13.0 OPENING OF PRICED BID

After evaluation of pre-qualification applications, a list of qualified agencies will be prepared. Thereafter, the Priced Bids of the pre-qualified agencies only would be opened.

14.0 DISCRETIONARY POWER OF KSIDC

14.1 The KSIDC reserves the right, without being liable for any damages or obligation to inform the applicant to:

- a) Amend the scope and value of contract to the applicant.
- b) Reject any or all of the applications without assigning any reasons.

14.2 Any effort on the part of the applicant or his agent to exercise influence or to pressurize KSIDC would result in rejection of his application. Canvassing of any kind is prohibited.

15.0 AGREEMENTS: Acceptance of the tender will be intimated to the successful tenderer through a letter of Award. The contractor shall then be required to execute an agreement within a time specified in the letter of Award. Agreement shall be entered in stamp paper valuing 'One rupee for every rupees 1000 or part thereof on the amount agreed in the contract, subject to a minimum of rupees 200 and a maximum of rupees one lakh'. In the event of failure on the part of the tenderer to sign the agreement within the specified time, the EMD amount shall be forfeited and the acceptance of his tender will be treated as withdrawn.

The work, however petty it be, shall be done only after executing agreement with

KSIDC or on a special written order from the Authorized Official of KSIDC.

No agreement is valid unless it has been signed by the contractor or his duly authorized agent and by the Authorized Official of KSIDC.

Any details of drawing which are not supplied along with the tender documents for the work may be obtained / clarified from KSIDC office during working hours from 10 am to 5.00 pm on weekdays.

The form of preliminary agreement, tender schedule, invitation to tender, form of tender, instructions to tenderer, Notice inviting tenders (Form 83), special conditions of contract, specifications, technical specifications, drawings, time schedule and the rates and amount quoted against the items of tender schedule together with letter of intent awarding the work shall form the contract. If there is any conflict between any of the provisions in the special condition or in any of the other documents referred, the provision in the special conditions shall prevail. Similarly if there is any difference between the description in the specification and drawings, the work items in the tender schedule shall prevail for determining the rate.

16. GUARANTEE AND INSURANCE

The contractor should give a minimum guarantee of **18 MONTHS** from the certified date of completion and commissioning of the entire works against any defective workmanship or usage of defective material or equipments for the work. This will be the defects liability period in respect of this contract.

The contractor should at his cost take and maintain an insurance policy during the course of construction in the joint name of the KSIDC and the contractor for a sum equivalent to the contract amount in respect of the construction and maintenance of the project for **18 MONTHS** from the date of commencement of the defects liability period.

Annexure - II

LETTER OF TRANSMITTAL

From :

To
General Manager (Infrastructure)
KSIDC Ltd
2nd Floor,
Choice Towers, Manorama Jn
Kochi-682016

SUBJECT: Submission of pre-qualification for the work of

Sir,

Having examined the details given in pre-qualification press-Notice and Pre-qualification document for the above work, I/We hereby submit the pre-qualification document and other relevant information.

1. I /We hereby certify that all the statements made and information supplied in the enclosed forms A to E and accompanying statement are true and correct.
2. I / We have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I /We submit the requisite certified solvency certificate and authorize KSIDC or its authorized representatives to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize KSIDC or its authorized representative to approach individuals, employers, firm and corporation to verify our competence and general reputation.
4. I /We submit the following certificates in support of our suitability, technical know- how and capability for having successfully completed the following works.

Sl. No.	Name of work	Certificate from

Enclosures:

Seal of Applicant
Date of Submission

Signature of Applicant(s)

FORM 'A'

FINANCIAL INFORMATION

Financial Analysis - Details to be furnished duly supported by figures in balance sheet/ profit & loss account for the last three years duly certified by the Chartered Accountant, as submitted by the applicant to the Income Tax Department (Copies to be attached)

YEARS

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Seal of Applicant

Signature of Applicant (s)

Date of Submission

FORM "D"**STRUCTURE & ORGANISATION**

1. Name of Address of the applicant
2. Telephone No./Fax No.
3. Legal status of the applicant
(Attach copies of original document defining the legal status)
 - a) An individual
 - b) A proprietary firm
 - c) A firm in partnership
 - d) A limited company or Corporation
4. Particulars of registration with various Government bodies (attach attested Photocopy)

Organization/ Place of registration	Registration No.
1.	

Seal of Applicant

Signature of Applicant (s)

Date of Submission

FORM 'F'

KEY PERSONNEL PERMANENTLY EMPLOYED IN YOUR ORGANIZATION

S. No.	Name, age & Contact details	Designation	Qualification	Experience	Employed in your firm since	Nature of works handled	Name of project handled	Remarks

FORM OF PRELIMINARY AGREEMENT

(To be executed on stamp paper of value Rs.200/- and submitted along with tender)

Preliminary agreement entered into on this.....day of
Two thousand and Eighteen .KERALA STATE INDUSTRIAL DEVELOPMENT
CORPORATION Ltd. 2nd floor, Choice Towers, Manorama Jn., Kochi-682016, Kerala., (Hereinafter
called KSIDC on one part and Shri
(Name and address of the contractor) (Hereinafter called the contractor) on the other part for the
execution of the agreement as well as the execution of the work of
“.....”

Whereas KSIDC invited Item rate tenders for the above work at Kannur district, Kerala Stat by Press Notification dated **16/11/2020.**

And whereas in the notice inviting tenders it is stated as follows:

Before commencing the work, or within a week of the date when the acceptance of tender has been intimated to him, the tenderer shall deposit the security deposit in full by way of DD/BG, which together with the amount of earnest money deposited shall be treated as security (5% of Contract Amount) for the proper fulfillment of the same and he shall execute an agreement for the work in the prescribed form of agreement. If he fails to do this or fails to maintain a specified rate of progress, the security deposit shall be forfeited to KSIDC and fresh tenders shall be called for or the matter otherwise disposed. If as a result of such measures due to the default of the tenderer to pay the requisite deposit, sign contracts or take possession of the work, any loss to the KSIDC results, the same will be recovered from him as arrears of land revenue but should it be a saving to KSIDC, the original contractor shall have no claim whatever to the difference. Recoveries to this or any other account will be made from the sum that may be due to the contractor on this or any other contracts or under the Revenue Recovery Act or otherwise as the KSIDC may decide.

Now, therefore these present witnesseth and it is mutually agreed as follows.

The terms and conditions for the said contract having been stipulated in the said tender form to which the contractor has agreed, a copy of which is appended, and which forms part of this agreement, it is agreed that the terms and conditions stipulated therein shall bind the parties to this agreement, except to the extent to which they are abrogated or altered by express terms and conditions herein, agreed to and in which respect the express provisions herein shall supersede those of the said tender form. The contractor hereby agrees and undertakes to perform and fulfill all the operations and obligations connected with the execution of the said contract work.

If the contractor does not come forward to execute the original agreement after the said work is awarded and selection notice issued in his favour or commits breach of any of the conditions of the contract, KSIDC may rearrange the works otherwise or get it done otherwise at the risk and cost of the contractor and the loss so sustained by KSIDC can be realized from the contractor under the Revenue Recovery Act as if arrears of land revenue as

assessed, quantified and fixed by an adjudicating authority consisting of KSIDC or any other officer or officers authorized by KSIDC taking into consideration the prevailing rates and after giving due notice to the contractor. The decision taken by such authorized officer or officers shall be final and conclusive and shall be binding on the contractor.

The contractor further agrees that any amount found due to KSIDC under or by virtue of this agreement shall be recoverable from the contractor from his security deposit and his properties, movable and immovable as arrears of land revenue under the provisions of the Revenue Recovery Act for the time being in force or in any other manner as KSIDC may deem fit in this regard.

In witness where of Sri.....

(the name of the officer of the KSIDC) for and on behalf of the KSIDC

and

Sri.....

the contractor have set their hands on the day and year first above written.

Signed by Sri.....

Officer/Officers of KSIDC in the presence of witnesses

1.

2.

Signed and delivered by Sri.....

(the contractor) in the presence of witness

1.

2.

SOLVENCY CERTIFICATE

This to certify that to the best of our knowledge and information, M/s/Mr.....
(address)..... is a customer of our bank,
respectable and can be treated as solvent up to a sum of Rs.....(Rupees.....
.....only) as disclosed by the information and records which are available with us.

This certificate is issued at the specific request of the customer for the purpose of participating in KSIDC Tender No. KSIDC/IGC/Kannur/2020-21/01 Dt. **16/11/2020.**

This certificate is issued without any responsibility, liability or risk on part of the Bank or its officers and same is not as guarantee or otherwise.

Authorized Signatory

Name.....

Date.....

Seal.....

DEFINITIONS AND TERMS

In the contract (as hereinafter defined) the following words and expression shall have the meaning hereby assigned to them except wherein the context otherwise required.

1	Owner/Client/Employer	:	Kerala State Industrial Development Corporation Kochi, Kerala. (in short, written as KSIDC)
2	Tenderer	:	The firm/party/individual who quotes against enquiry
3	Contractor	:	The successful tenderer whose tender has been accepted by KSIDC and to whom a letter of intent or work order has been placed and shall include his heirs, legal representatives and assigns
4	Contract price	:	Prices referred to in the agreement

5	This contract	:	Invitation to tender, preliminary agreement, notice inviting tenders, (Form No.83), Form of tender, instruction to tenderers, special conditions, general conditions of contract, technical specification, schedule of quantities with rates and amounts against each item with specifications, drawings of the work, pre-qualification bid, Priced Bid and correspondences or negotiations, if any.
7	P.A.C.	:	Probable amount of contract as per the contract
8	Site	:	The actual place of the proposed project where the work is to be executed under this contract
9	Month	:	Thirty days
10	Earnest money	:	The sum paid along with the tender as token to bind a contract
11	Award	:	The written acceptance of tender by KSIDC given to the successful tenderer.
12	Security deposit	:	The amount deposited with KSIDC for faithful and satisfactory performance of contract
13	Retention amount	:	The amount deducted from the running bills
14	Engineer/Supervisor	:	The Project Engineer or Architect's supervisor or consultants or any officer representing KSIDC.
15	Materials	:	Materials include all construction materials such as river sand, steel, cement, bricks, aggregates, rubble, water etc.
16	Signature in the bids	:	Digital Signature

(4)

GENERAL CONDITIONS OF CONTRACT

PRELIMINARY AND GENERAL CONDITION OF CONTRACT

Except where provided for in the description of the individual items in the schedule of quantities and in the specifications and the conditions laid down herein after and in the drawings, the work shall be carried out as per standard I.S. P.W.D/MoRTH specifications and under the direction of KSIDC official/ Architects.

1. DEFINITIONS, TERMS, INTERPRETATION

In constructing these conditions, the specification, the schedule of quantities, tender and agreement, the following words shall have the meaning here in assigned to them except where the subject or

context otherwise requires:

i)KSIDC

The term KSIDC shall denote Kerala State Industrial Development Corporation Ltd with its head office at Thiruvananthapuram and any of its representatives authorized on their behalf.

ii) ENGINEER – means the Engineer appointed by KSIDC who shall supervise and be in charge of the work.

iii) ARCHITECTS/CONSULTANTS

KSIDC may engage a local Architect/Consulting Engineer for supervision and co-ordination of the work at the site. He will be considered a representative of the Architect.

iv) CONTRACTOR

The term contractor shall mean (Name of the contractor and address of the contractor) and his/ their heirs, legal representatives, assigns and successors.

v) SITE

The site shall mean the site where the works are to be executed as shown within boundary in red border in the site layout plan including any building and erections thereon allotted by KSIDC for the contractors use.

vi) DRAWING

The work is to be carried out in accordance with drawings, specifications and any other details shall be approved by KSIDC/Architects during the execution of the work. All drawings relating to the work approved by KSIDC/Architects and given to the contractor together with a copy of schedule of quantities are to be kept at site and KSIDC/Architects/shall be given access to such drawings or schedule of quantities whenever necessary.

In case any detailed drawings are necessary contractor shall prepare such detailed drawings and / or dimensional sketches therefore and have it confirmed by KSIDC/Architects as case may be prior to taking up such work.

The contractor shall ask in writing for all clarifications on matters occurring anywhere in the approved drawings, specifications and schedule of quantities or to additional instructions at least fourteen days ahead from the time when it is required for implementation so that KSIDC may be able to give decision thereon.

vii)“The works” shall mean the work or works to be executed or done under this contract.

viii)“Act of Insolvency” shall mean any act as such as defined by the Presidency towns insolvency act or in provincial insolvency act or any amending status.

ix)“The schedule of quantities” shall mean the schedule of quantities and forming part of this contract.

x)“Priced schedule of quantities” shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.

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2. SCOPE

The works consist of reconstruction of compound wall and main gate at IGC Valiyavelicham, Kannur land in accordance with the requirement and process approved by KSIDC. It includes furnishing all materials, labour, tools and equipment and management necessary for and incidental to the construction and completion of the work. All work, during its progress and upon completion, shall conform to the lines, elevations and grades as shown on the drawings approved by KSIDC/Architects.

KSIDC / Architects may in their absolute discretion issue further drawings and / or written instructions, details, directions and explanations, which are hereafter collectively **referred to** as “KSIDC’s/Architect’s instructions” in regard to:

- a) The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.
- b) Any discrepancy in the drawings of the schedule of quantities and/or drawings and/ or specification.
- c) The removal from the site of any defective material brought thereon by the contractor and the substitution of any other material thereof.
- d) The demolition removal and /or re-execution of any work executed by the contractor/s
- e) The dismissal from the work of any persons employed thereupon
- f) The opening up for inspection of any work covered up
- g) The rectification and making good of any defects under clauses herein after mentioned and those arising during the maintenance period (retention period).

The contractor shall set up a field laboratory with necessary equipment for day to day testing of materials like grading of coarse and fine aggregates, silt content and bulkgage of sand etc.

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3. SITE VISIT

The tenderer shall visit the site and make himself thoroughly acquainted with the local site condition, approach road to the site, availability of water, power supply, nature of ground soil and subsoil conditions, availability of water, power access and storage for materials and removal of rubbish etc., for the smooth execution of the work. The rate quoted by tender shall include cost for carriage, freight and other charges as also for any special difficulties and including police restriction for transport etc. for proper execution of work as indicated in the drawing. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before commencement of the work or which in the opinion of the Employer or his agent/Architect might be deemed to have reasonably been inferred to be so existing before commencement of work.

4. TENDERS:

KSIDC reserves the right to reject the lowest or any tender and also to discharge any or all the tenders for each section or to split up and distribute any item of work to any specialist firm or firms without assigning any reason.

The works will be paid for on the basis of actual work done based on the agreed terms.

All items of works are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly, related to and reasonably detectable from the drawings, specification and schedule of quantities and no further extra charges will be allowed in this connection.

KSIDC has power to add to, omit from any work as described in specifications and intimate the same in writing but no addition, omission or variation shall be made by the contractor without the authorization from KSIDC. No variation shall vitiate the contract.

5. AGREEMENT

The successful contractor may be required to sign agreement as may be drawn up to suit local conditions and shall pay for all stamps and legal expenses, incidental thereto.

6. PERMITS AND LICENSES

Permits and licenses for release of materials, which are under Government control, will be arranged by the contractor. KSIDC will render necessary assistance, sign any forms or applications that may be necessary. The basic price of controlled materials, if any, for the purpose of valuing the tender is to be considered as stipulated below. This will also be the basis of adjustments in settling the contractors bills.

The contractor will however, be eligible to a proportionate extension of time on this account which in the opinion of KSIDC/Architect is reasonable. The contractor shall at his own cost arrange for storage shed adequate for taking delivery and storing of the quantity of controlled materials released by the authorities or supplied by KSIDC. The costs of storing, transporting etc., of all materials included by the tenderer on his quoted rates.

KSIDC/Architect shall be indemnified against all Government or legal actions for theft or misuse of cement, MS rods and any controlled materials in the custody of the contractor.

7. GOVERNMENT AND LOCAL RULES

The contractor shall conform to the provisions of all local Byelaws and acts relating to the work and to the Regulations etc., of the Government and Local authorities and of any company with whose system the structure is proposed to be connected. The contractor shall give all notices required by said Act, rules regulations and bye-laws etc., and pay all fees payable to such, authority / authorities for execution of the work involved. The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses, fees for footpath encroachment and restorations etc., and shall indemnify KSIDC against such liabilities and shall defend all actions arising from such claims or liabilities.

8. TAXES AND DUTIES

The tenders must quote their tender prices excluding GST(IGST, CGST,SGST), but including all duties royalties, cess or any other taxes/levies or local charges if applicable. No extra claim on this account will in any case be entertained.

Construction workers welfare cess at 1% on the value of work or at the rate prevailing during the pendency of the contract including the extension of time, if any will be deducted from the contractors running bill. The contractor should register himself / itself with construction labour welfare board and produce receipt to KSIDC. Contractor should have valid GST registration in Kerala and furnish the proof of registration.

9. QUANTITY OF WORK TO BE EXECUTED

The quantities shown in the schedule of quantities are intended to cover the entire new structure indicated in the drawings but KSIDC reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.

10. OTHER PERSONS ENGAGED BY KSIDC

KSIDC reserves the right to execute any part of the work included in this contract by other Agency or persons and contractor shall allow all reasonable facilities and use of his scaffolding for the execution of such work. The main contractor shall extend all cooperation in this regard.

11. EARNEST MONEY & SECURITY DEPOSIT

The contractor will have to deposit an amount of **Rs.50,000/-** by remitting to the SBI account provided in the website. KSIDC is not liable to pay any interest on the Earnest money. The Earnest money of the unsuccessful tenderers will be refunded without any interest soon after the execution of agreement by the successful tenderer or after the expiry of the validity period of the tender.

The successful tenderer to whom the contract is awarded will have to deposit as initial security deposit, a further sum to make up 5% of the value of the accepted tender including the Earnest money. At least fifty percent (50%) of this deposit shall be collected in the form of Demand Draft and the rest in the form of Bank Guarantee. The security deposit will have to be made within 14 days from the date of acceptance of tender, failing which KSIDC at his discretion may revoke the letter of acceptance and forfeit the earnest money deposit furnished along with the tender.

Apart from the above additional performance Guarantee is the additional amount to be deposited for unbalanced price i.e. for works quoted below estimate rate. Additional bank guarantee for all the work quoted between 11% to 25% below estimate rate and do away with less than 10% estimated rate.

12. RETENTION MONEY

13.

Apart from the Security Deposit made as above, retention money shall be deducted from progressive running bills @ 2.5% of the gross value of each running bill.

The retention amount and additional performance guarantee if any will be refunded/released to the contractor along with the final bill and the Security Deposit will be released on completion of defect

liability period. No interest is allowed on retention money and security deposits.

13. DEFECTS LIABILITY PERIOD

The contractor shall be responsible for the maintenance of the work executed by him for a period of **18 months** from the date of commissioning of work as certified by KSIDC and any defects notified to the construction during this period will have to be rectified by the contractor at his own cost. The security deposit shall be released to the contractor only after satisfactory rectification of such defects noticed if any. If the contractor fails to rectify any such defects within 7 days, when notified, KSIDC shall recover the cost of such rectifications from this amount.

14. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY.

The Contractor shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, schedule of quantity and specification taken together whether the same may or may not be particularly shown or described therein provided that the same can reasonably be inferred there from and if the contractor find any discrepancies therein he shall immediately and in writing, refer same to KSIDC/Architects whose decision shall be final and binding. The contractor shall provide himself for ground, fresh water and electricity for carrying out of the works at his own costs. KSIDC shall on no account be responsible for the expense incurred by the contractor for hired ground or fresh water obtained from elsewhere.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of the work within the contemplation of the contract, and beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and/or material inclusive of all taxes and duties whatsoever except for specific item, if any, stipulated in the tender documents.

The Contractor shall supply, fix and maintain at his own cost, for the execution of any work, all tools, tackles, machineries and equipments and all the necessary centering, scaffolding, staging, planking, timbering, strutting, shoring, pumping, fencing, boarding, watching and lighting by light as well as by day required not only for the proper execution and protection of the said work but also for the protection of the public and safety of any adjacent roads, street, wall, houses, buildings, all other erections, matters and things and the contractor shall take down and remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring etc., as occasion shall be required or when ordered so to do, and shall fully reinstate and make good all matters and things disturbed during the execution of works to the satisfaction of KSIDC/Architects.

The Contractor shall also provide such temporary road on the site as may be necessary for the proper performance of the contract, and for his own convenience but not otherwise. Upon completion, such roads shall be broken up and leveled where so require by the drawings unless KSIDC shall otherwise direct.

The Contractor shall at all times give access to workers employed by KSIDC or any men employed at the work site and to provide such parties with proper sufficient and if required, special scaffolding, hoists and ladders provide them with water and lighting and leave or make any holes, grooves etc. in any works, where directed by KSIDC as may be required to enable such workmen to lay or fix pipes, electrical wirings, special fittings etc. The quoted rates of the tenderers shall be accordingly include all these above mentioned contingent works.

15. TIME OF COMPLETION, EXTENSION OF TIME AND PROGRESS CHART

15.1. TIME OF COMPLETION

The entire work is to be completed in all respects within **6 (six) calendar months**. The work shall be deemed to be commenced within 7 days from the date of acceptance letter or date of handing over of site, whichever is earlier. Time is the essence of the contract and shall be strictly observed by the contractor.

The work shall not be considered as complete until KSIDC/Architects have certified in writing that this has been completed and the Defects Liability period shall commence from the date of such certificate.

15.2. EXTENSION OF TIME

If in the opinion of KSIDC/Architects the works be delayed

- (a) by reason of any exceptionally inclement weather, or
- (b) by reason of instructions from KSIDC in consequence of proceedings taken or threatened by or disputes, with adjoining or neighboring owners or
- (c) by the works, or delay, of other contractors or tradesmen engaged or nominated by KSIDC and not referred to in the specification or
- (d) by reason of authorized extra and additions or
- (e) by reason of any combination of workmen or strikes or lock-out affecting any of the building trades or
- (f) from other causes which KSIDC may consider being beyond the control of the contractor,

KSIDC at the completion of the time allowed for the contract shall make fair and reasonable extension of time for completion in respect therefore. In the event of KSIDC failing to give possession of the site upon the day specified above the time of completion shall be extended suitably.

In case of such strikes or lock outs as are referred to above, the contractor shall immediately give KSIDC, written notice thereof. Nevertheless, the contractor shall use his best endeavors all that to prevent delay, and shall do all that may be reasonably required, to the satisfaction of KSIDC to proceed with the works and on his doings so that it will be ground of consideration by KSIDC for an extension of time as above provided. The decision of KSIDC as to the period to be allowed for an extension of time for completion hereunder (which decision shall be final and binding on the contractor) shall be promulgated at the conclusion of such strike or lockout and KSIDC shall then, in the event of an extension being granted, determine and declare the final completion date. In case of any extension of time the contractor will be required to execute a supplementary agreement to that effect at his cost.

15.3. PROGRESS OF WORK.

During the period of construction, the contractor shall maintain proportionate progress on the basis of a Programme Chart (Preferably prepared using Microsoft Project or similar software) submitted by the contractor immediately before commencement of work and agreed to by KSIDC/Architects. Contractor should also include planning for procurement of scarce material well in advance and reflect the same in the program chart so there is no delay in completion of the project. The progress of work shall be monitored and managed through periodic site meetings in which the contractor,

architect and KSIDC shall be present.

16. LIQUIDATED DAMAGES.

Time shall be the essence of the contract. The contractors' endeavor shall be to prevent any delay and complete the work within the time agreed. Should the work be NOT completed to the satisfaction of KSIDC within the stipulated period, the KSIDC may extend the time on the basis of an application submitted by the contractor and subject to the payment of a sum calculated as given below by way of liquidated damages and not as penalty during which the work remains incomplete or unfinished after the expiry of the completion date. An amount @ 1.00% of the estimate per week or such amount as fixed by KSIDC shall be charged from the Contractor for the delayed completion of the work.

17. TOOLS, STORAGE OF MATERIALS, PROTECTIVE WORKS & SITE OFFICE REQUIREMENTS

The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the contractors representative and staff and their office shall be open at all reasonable hours to receive instruction notices or communications and clear away on completion of the works and make good all work distributed.

The contractor shall provide at his own cost all artificial lights required for the work and to enable other contractors and sub-contractors to complete the work within the specified time.

The contractor shall provide a suitable temporary hut for the watchman and clear away the same when no longer required and to provide all necessary attendants, lights etc. required.

The contractor shall arrange for temporary latrines for the use of workers and field staff and keep the same in clean and sanitary conditions to the satisfaction of the public health authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works distributed by these conveniences.

Every precaution shall be taken by the contractor to prevent the breeding of mosquitoes on the works during the construction, and all receptacles, cisterns, water tanks etc. used for the storage of water must be suitably protected against breeding of mosquitoes. The contractor shall indemnify KSIDC against any breach of rules in respect of anti-malarial measures.

The contractor shall not fix or place any placards or advertisement of any description or permit the same to be fixed or placed in or upon any boarding, gantry, building structure other than those approved by KSIDC.

17.1. PROTECTIVE MEASURES

The contractor from the time of being placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays.

Contractor shall indemnify KSIDC against any possible damage to the building, roads, or members of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances, etc. for the

protection of the work and materials and for altering and adopting the same as may be required and removing on completion of works and making good all works disturbed.

17.2. STORAGE OF MATERIALS:

The contractor shall provide and maintain proper sheds for the proper storage and adequate protection of the materials etc. and other work that may be executed on the site including the tools and materials of Sub- contractors and remove same on completion.

Cement godown shall be constructed for storing about six weeks requirement of cement and stored as per norms with a stack of 10 bags each and 2 feet opening all around with 2 feet passage of each stack. Structure shall be water – proof from all the sides and top. Cement should be stored one feet above ground level and have pucca raised floor.

So also reinforcement bars are to be stored above ground level to prevent the same from getting rusted.

17.3. TOOLS

Theodolite levels, prismatic compass, chain, steel and metallic tapes and all other surveying instruments found necessary on the works shall be provided by the contractor for the due performance of this contract as instructed by the Engineer.

All measuring tapes shall be of steel and suitable scaffolding and ladders that may be required for safely taking measurement shall be supplied by the contractor.

The supervisors on the works shall carry with them always a one meter or two meter steel tape, a measuring tape of 30 meters, a spirit level, a plumb bob and a square and shall check the work to see that the work is being done according to the drawing and specifications. The site Engineer will use any or all he chooses for checking the works executed or being executed on the contract.

The contractor should cover in his rates for making provisions for all reasonable facilities for the use of his scaffolding, tools and plant etc. by sub-contractors for their work.

18. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY & OWNERS

The Contractor shall confirm to the provisions of any Acts of the Legislature relating to the work, and to the Regulations and Bye laws of any authorities, and / or any water, lighting and other companies, and/or authorities with whose systems the structures were proposed to have connection and shall before making any variations from the drawings or specification that may be associated to so conform, give KSIDC/Architects written notices specifying the variations proposed to be made and the reasons for making them and apply for instruction thereon. KSIDC/Architects on receipt of such intimation, shall give a decision within a reasonable time.

The Contractor/s shall arrange to give all notices required for by the said Acts, Regulations or Bye-laws to be given to any authority, and to pay to such authority or to any public officer all fees that may be properly chargeable in respect of the work and lodge the details with KSIDC.

The contractor shall indemnify KSIDC against all claims in respect of patent rights, royalties, damages to buildings, roads or members of public in course of execution of work and shall defend all actions arising from such claims and shall keep KSIDC saved harmless and indemnify in all respects from such actions, cost and expenses.

19. CLEARING SITE & SETTING OUT WORKS

The site shown on the plan shall be cleared of all obstructions, loose stone, and materials rubbish of all kinds. All holes or hollows whether originally existing or produced by removal or loose stone or materials shall be carefully filled up with earth well rammed and leveled off as directed at his on cost.

The contractor shall set out the works and shall be responsible for the true and perfect setting out of the work and for the correctness of the positions, levels, dimensions and alignment of all parts thereof. If at any time, any error shall appear during the progress of any part of the work, the contractor shall at his own expenses rectify such error, if called upon the satisfaction of KSIDC. The contractor shall further set out the work to alternative positions at the site until one is finally approved and the rates quoted in his tender should include for this and no extra on this account will be entertained

20. DATUM

The average ground level will be considered as the crown of the nearest road, which should be taken as "Datum" which is however, subject to final confirmation by KSIDC/Architect. All levels shown in the drawings are to be strictly adhered to.

21. BENCH MARKS

The contractor is to construct and maintain proper bench marks of main walls, in order that the lines and levels may be accurately checked at all times.

22. CONTRACTOR TO REMOVE IMMEDIATELY ALL OFFENSIVE MATTERS

All soil, filth or other matters of any offensive nature taken out of any trench, sewer, drain, cesspool or other place shall not be deposited on the surface but shall be at once carted away by the contractor to place provided by him.

The contractor shall keep the foundations and works free from water and shall provide and maintain at his own expenses, electrically or other power driven pumps and other plant to the satisfaction of KSIDC for the purpose, until the building is handed over to KSIDC. The contractor shall arrange for the disposal of the water so accumulated to the satisfaction of KSIDC and the local authority and no claims will be entertained afterwards if he does not include in his rates for the purpose.

23. ACCESS

Any authorized representative of KSIDC shall at all reasonable times have free access to the works and/or to the workshops, factories or other places where materials are being prepared or constructed for the work and also to any place where the materials are lying or from where they are being obtained, and the contractor shall give every facility to KSIDC or their representatives necessary for inspection and examination and test of materials and workmanship. Except the representatives of KSIDC no person shall be allowed at any time without the written permission of KSIDC.

24. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS

All the works specified and provided for in the specifications or which may be required in order to be done in order to perform and complete any part thereof shall be executed in the best and most

workman like manner with materials with best and approved qualities of the respective kinds in accordance with the particulars contained in and implied by the specifications and as represented by the drawings or such other additional particulars, and instructions as may from time to time be given by KSIDC/Architects during the execution of the work and to his entire satisfaction.

- If required by KSIDC/Architects the contractor shall have to carry out tests on materials and workmanship approved materials testing laboratories or as prescribed by KSIDC/Architects at his own cost to prove that the materials etc, under test confirm to the relevant IS standards or as specified in the specifications. The necessary charges for preparation of mould (in case of concrete cube) transporting, testing etc, shall have to be borne by the contractor. No extra payment on this account should any case be entertained.

- All the materials (except where otherwise described) stores and equipment required for the full performance of the work under the contract must be provided through normal channels and must include charge for import duties, sales tax, octroi and other charges and must be the best of their kind available and the contractor/s must be entirely responsible for proper and efficient carrying of the work. The work must be done in the best workman like manner. Samples of all materials to be used must be submitted to KSIDC/Architects when so directed by the Engineer /Architects and written approval from KSIDC/Architects must be obtained prior to placement of order.

- During the inclement weather the contractor shall suspend erection, concreting and plastering for such time as KSIDC/Architects may direct and shall protect from injury all work when in course of execution. Any damage (during constructions) to any part of the work for any reasons due to rain, storm, or neglect of contractor shall be rectified by the contractor in an approved manner at no extra cost.

- Should the work be suspended by reason of rain, strike, lock outs or any other cause the contractor shall take all the precautions necessary for the protection of work and at his own expenses make good any damage arising from any these causes.

- The contractor shall cover up and protect from damage, from any cause, all new work and supply all temporary doors, protection to windows , and any other requisite protection for the execution of the work whether by himself or special tradesman or subcontractor and any damage caused must be made good by the contractor at his own expenses.

25. REMOVAL OF IMPROPER WORK.

- KSIDC during the progress of the work have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in the order of any materials which in the opinion of KSIDC/Architects are not in accordance with specification or instructions, the substitution or properly execution of any work executed with materials or workmanships not in accordance with the drawings and specifications and instructions. In case the contractor refuse to comply with the order KSIDC shall have the power to employ and pay other agencies to carry out the work and all expenses consequent thereon or incidental thereto as certified by KSIDC/Architects shall be borne by the contractor or may be deducted from any money due to or that may become due to the contractor. No certificate which may be given by the Architects shall relieve the contractor from his liability in respect of unsound work or bad materials.

26. SITE ENGINEER /PROJECT MANAGEMENT CONSULTANT (PMC)

- The term "Site Engineer/PMC" shall mean the Engineer/ Supervisor of KSIDC/ Architect. He may authorize any of the technical staff from KSIDC/ architect to be his representative. The contractor

shall afford the "Site Engineer/PMC" every facility and assistance for examining the works and materials and for checking and measuring work and materials. The "Site Engineer/PMC" shall have no power to revoke, alter, enlarge or relax any requirements of the contractor or to sanction any day work, additions, alterations, deviations, or omissions or any extra work whatever, except in so far as such authority may be specially conferred by a written order of KSIDC.

The Site Engineer/PMC shall have power to give notice to the contractor or to his foreman, of non-approval of any work or materials and such works shall be suspended or the use of such materials shall be discontinued until the decision of KSIDC is obtained. The work will from time to time be examined by the Architects, Engineer from the Premises Department of KSIDC and the Site Engineer if any. But such examination shall not in any way exonerate the contractor from the obligation to the remedy any defects, which may be found to exist at any stage of the work or after the same is complete. Subject to the limitations of this clause the contractor shall take instructions only from the Architects /KSIDC or his representative.

27. CONTRACTOR'S EMPLOYEES

The contractor shall employ technically qualified and competent supervisors for the work who shall be available (by turn) throughout the working hours to receive and comply with in sections of KSIDC/Architects. The contractor shall employ at least one experienced Engineer as site in charge for execution of the work. The contractor shall employ in connection with the work persons having the appropriate skill or ability to perform their job efficiently.

The contractor shall employ local labourers as far as possible. No labourer below the age of 18 yrs and who is not an Indian National shall be employed on the work.

Any labourer supplied by the contractor to be engaged on the work on day-work basis either wholly or partly under the direct order or control of KSIDC his representative shall be deemed to be a person employed by the contractor.

The contractor shall comply with the provisions of all labour legislation including the requirements of

The payment of wages act.

Workmen's compensation act.

Contract labour (regulation and abolition) act, 1970 and Central rules 1971.

Apprentices act 1961

Minimum wages act

Equal Remuneration Act, 1973.

Inter-state Migrant Workman (Regulation of Employment & Conditions of Services) Act 1979.

Employees State Insurance Act.

Provident Fund Act.

Any other act or enactment relating thereto and rules framed there under from time to time.

The contractor shall keep KSIDC saved harmless and indemnified against claims if any of the workmen and all cost and expenses as may be incurred by KSIDC in connection with any claim that

may be made by any workmen.

- The contractor shall comply at his own cost with the order of the requirement of any health officer of the State or any local authority or of KSIDC regarding the maintenance of proper environmental sanitation of the area where the contractors labourers are housed or accommodated, for the prevention of small pox, malaria and other contagious diseases. The contractor shall provide and maintain good sanitary conditions, adequate sanitary accommodation and provide facilities for pure drinking water at all times for use for men engaged on works and shall remove and clear away the same on completion of work.

- The contractor shall arrange to provide first aid treatment to the labourers engaged on the works. He shall within 24 hrs of the occurrence of any accidents at or about the site or in connection with the execution of the works, report such accident to KSIDC and also to the competent authority where such report is required by law.

28. DISMISSAL OF WORKMEN

- The contractor shall on the request of KSIDC immediately dismiss from works any persons employed thereon by him, who may in the opinion of KSIDC be unsuitable or incompetent or who may misconduct himself. Such discharges shall not be the basis of any claim for compensation or damages against KSIDC or any of their officer or employee.

29. ASSIGNMENT

- The whole of the works included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take a new partner, without written consent of KSIDC and no subletting shall relieve the contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

30. DAMAGE TO PERSONS AND PROPERTY INSURANCE ETC.

- The contractor shall be responsible for all injury to the work or workmen to persons, animals or things and for all damages to the structural and/or decorative part of property which may arise from the operations or neglect of himself or of any sub-contractor or of any of his or a sub-contractor's employees, whether such injury or damage arise from carelessness, accident or any other cause whatsoever in any way connected with the carrying out of this contract. The clause shall be held to include inter-alia, any damage to buildings whether immediately adjacent or otherwise, and any damage to roads, streets, foot paths or ways as well as damages caused to the buildings and the works forming the subject of this contract by rain, wind or other inclemency of the weather. The contractor shall indemnify KSIDC and hold harmless in respect of all and any expenses arising from any such injury or damages to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage under any acts of compensation or damage consequent upon such claim.

- The contractor shall reinstate all damage of every sort mentioned in this clause, so as to deliver the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damages to the property or third parties.

- The contractor shall effect the insurance necessary and indemnify KSIDC entirely from all responsibility in this respect. The Insurance must be placed with a company approved by KSIDC and must be effected jointly in the name of the contractor and KSIDC and the policy lodged with

the latter. The scope of insurance is to include damage or loss to the contract itself till this is made over in a complete state. Insurance is compulsory and must be effected from the very initial stage. The contractor shall be responsible for anything which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

KSIDC shall be at liberty and is hereby empowered to deduct the amount of any damages, compensations, costs, charges and expenses arising or accruing from or in respect of any such claim or damages from any sums due or to become due to the contractor.

31. INSURANCE

Unless otherwise instructed the contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damage by fire and / or earthquake, flood. The insurance must be placed with a company approved by KSIDC, in the joint names of KSIDC and the contractor for such amount and for any further sum if called to do so by KSIDC, the premium of such further sum being allowed to the contractor as an authorized extra.

The contractor shall deposit the policy and receipt for premiums paid with KSIDC within 21 days from the date of issue of work order unless otherwise instructed. In default of the contractor insuring as provided above, KSIDC on his behalf may so insure and may deduct the premiums paid from any money due, or which may become due to the contractor. The contractor as soon as the claim under the policy is settled or the work reinstated by the insurance company should they elect to do so, proceed with due diligence with the completion of the works in the same manner as though the fire has not occurred and in all respects under the conditions of the contract. The contractor in case of rebinding or reinstatement after fire shall be entitled to extension of time for completion as KSIDC may deem fit.

32. ACCOUNTS RECEIPTS & VOUCHERS

The contractor shall, upon the request of KSIDC furnish them with all the invoice accounts receipts and other vouchers that they may require in connection with the works under this contract. If contractor shall use materials less than what he is required under the contract, the value of difference in quantity of the materials he was required to use and that he actually used shall be deducted from his dues. The decision of KSIDC shall be final and binding on the contractor as to the amount of materials the contractor is required to use for any work under this contract.

Before taking any measurement of any work, the site engineer or his depute shall give reasonable notice to the contractor. If the contractor fail to attend at the measurements after such notice, and fails to counter sign or to record the difference with a week from the date of measurement in the manner required by the site engineer, then in any such event the measurement taken by the site engineer or by his depute will be final and binding on the contractor and the contractor shall have no right to dispute the same.

33. PAYMENTS

All bills shall be prepared by the contractor in the form prescribed by KSIDC /Architects. The bill must show deductions for all previous payments, retention money, etc.

The Contractor shall submit GST invoice at the rate as applicable to Govt. work by a Govt. Entity.

KSIDC / Architect shall issue a certificate after due scrutiny of contractor's bill stating the amount

due to the contractor from KSIDC and the contractor shall be entitled to payment thereof, within the period of honoring certificates named in these documents. Payment shall be released directly to the Contractor from KSIDC/ Treasury with due verification.

The amount stated in an interim certificate shall be the total value of work properly executed less the amount to be retained by KSIDC as retention money vide clause 12 of these conditions and less installments previously paid under these conditions.

KSIDC will deduct retention money as described in clause 12 of these conditions. The refund of retention money will be made as specified clause.

If KSIDC has supplied any material or goods to the contractor, the cost of such materials or goods will be progressively deducted from the amount due to the contractor in accordance with the quantities consumed in the work.

All the interim payments shall be regarded as the payments by way of advance against the final payment only and not as payments for work actually done and completed, 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 considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, which conclude, determine or affect in any way the power of KSIDC under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way or affect the contract. The contractor shall submit the final bill within one month of the date fixed for completion of the work of the date of certificate of completion furnished by the site engineer and payment shall be made within three months.

34. MOBILIZATION ADVANCE

DELETED

35. FINAL PAYMENT

A certificate of completion shall accompany the final bill from KSIDC/Architects. Payment of the final bill shall be made along with the retention money. The acceptance of the payment of the final bill by the contractor would indicate that he will have no further claim in respect of the work executed.

36. VARIATION / DEVIATION

Different Deviation Limit for Various Works

- | | | |
|------|---|------|
| i) | For Original works | |
| | a) Super structure | 30% |
| | b) Foundation | 100% |
| ii) | For Original works of time bound, urgent and emergency nature | |
| | a) Super structure | 50% |
| | b) Foundation | 100% |
| iii) | All maintenance | 50% |

The time for completion of the works shall, in the event of any deviations resulting in additional cost over the tendered value sum being ordered, be extended, if requested by the contractor, as follows :

(i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value plus

(ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by KSIDC.

37. SUBSTITUTION

Should the contractor desire to substitute any materials and workmanship, he must obtain the approval of KSIDC/Architects in writing for any such substitution well in advance. Materials designated in this specification indefinitely by such term as "Equal" or "Other approved" etc. specific approval of KSIDC /Architects has to be obtained in writing.

38. CLEARING SITE ON COMPLETION

On completion of the works, the contractor shall clear away and remove from the site all constructional plant, surface materials, Rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workman like condition to the satisfaction of KSIDC/Architects.

39. DEFECTS AFTER COMPLETION

The contractor shall make good at his own cost and to the satisfaction of KSIDC all defects, shrinkage, settlements or other faults which may appear within 60 months for civil works after completion of the work. In default KSIDC may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon on incidental there to shall be made good and borne by the contractor and such damages, loss and expenses shall be recoverable from him by KSIDC or may be deducted by KSIDC, in lieu of such amending and making good by the contractor, deduct from any money due to the contractor a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient, recover that balance from the contractor from the amount retained under clause No:12 together with any expenses KSIDC may have incurred in connection with.

40. CONCEALED WORK

The contractor shall give due notice to KSIDC/ Architects whenever any work is to be buried in the earth, concrete or in the bodies of walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions taken before such burial, in default where of the same shall, at the opinion of KSIDC/Architect be either opened up for measurement at the contractor's expense or no payment may be made for such materials. Should any disputes or difference arise after the execution of any work as to measurement s etc, or other matters which cannot be conveniently tested or checked, the notes of KSIDC /Architect shall be accepted as correct and binding on the contractor.

41. IDLE LABOUR

Whatever the reasons may be, no claim for idle labour, additional establishment cost of hire and labour charges of tools and plants would be entertained under any circumstances.

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42. SUSPENSION.

- If the contractor except on account of any legal restraint upon KSIDC preventing the continuance of the work or in the opinion of KSIDC shall neglect or fail to proceed with due diligence in the performance of his part of the contract or if he shall more than once make default, KSIDC shall have the power to give notice in writing to the contractor requiring the work to be proceeded within a reasonable manner and with reasonable dispatch, such notice purport to be a notice under this clause.

- After such notice shall have been given the contractor shall not be at liberty to remove from the site of the works or from any ground contiguous there to any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the contractor fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, KSIDC may proceed as provided in clause 42 (Termination of Contract by KSIDC).

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43. TERMINATION OF CONTRACT BY KSIDC

- If the Contractor fails to execute the work within the stipulated period of **6 months** or the extension approved, the contract is deemed to be terminated on the expiry of the **6 months** period stipulated herein, unless the KSIDC extend the period as already stated. If the contractor failed to complete the entire work within the stipulated period of **6 months** and the KSIDC is not extending the period, the contractor shall be liable to pay the cost incurred to KSIDC for re-tendering the work and other incidental expenses and the excess amount to be paid to the new contractor to complete the work. The excess amount means the difference between the estimate of the original contractor with that of the new contractor to do the remaining work. Apart from this, the contractor is also liable to pay the damages caused to the KSIDC due to the delay in work, which will be calculated @ 1.00% of the estimate per week or such amount as fixed by KSIDC for the period by which the new contractor agreed to complete the remaining work.

- If the contractor is declared as an insolvent or if any payment under this contract is attached by his creditor or he assign, charge or encumber this contract for any payments due or which may become due or fails to observe or perform all or any of the acts, matter by this contract to be observed as performed by the contractor, a notice will be issued by the KSIDC requiring him to give proper explanation within 3 days and if the explanations are not satisfactory, the KSIDC has got ample power to terminate the contract with immediate effect.

- If the work done by the contractor is not satisfied by the KSIDC or the contractor uses improper materials or materials without quality or workmanship in carrying on the work, and if in the opinion of KSIDC the progress of the work is not satisfactory and the work cannot be completed in the stipulated time, or the contractor abandon the work the KSIDC shall send a notice directing him to do the work with proper materials or to complete the portion of the work within a specific period and if the contractor is not complying the directions or giving a satisfactory reply within 3 days of the receipt of the notice, the KSIDC has got the power to terminate the contract with immediate effect. In such cases, the KSIDC can realize the damages as already stated above for re-tendering the work and other incidental expenses and excess amount to be paid to the new contractor to complete the work. Apart from this, the contractor is liable to pay the damages caused to the KSIDC due to the delay in work which will be calculated @ 1% of the estimate per week or such amount as fixed by the KSIDC for the period by which the new contractor agreed to complete the remaining work.

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If any of the acts or work done by the contractor is in such a way that which requires immediate stoppage or termination, the KSIDC has got every right directing to stop the work or to terminate the contract with immediate effect. In such cases also, the damages to be paid by the contractor shall be calculated as stated above.

If the contract is terminated as stated above and if the contractor fails to remove all of his materials from the site within the time granted by KSIDC, the KSIDC will take possession of the same and sell it by public auction and shall given credit it to the contractor from the amount to be paid by him.

44. JURISDICTION

All disputes or differences of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof of this contract or the rights touching or concerning the works or the execution of maintenance thereof of this contract or the construction remaining operation or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination foreclosure or branch of the contract hereinafter mentioned shall be subject to the jurisdiction of Courts in Ernakulum.

(5)

45. SAFETY CODE & MODEL RULES FOR PROTECTION OF HEALTH AND SANITARY ARRANGEMENT FOR WORKERS.

45.1. SAFETY CODE

i. Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work, which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450mm and maximum rise of 300mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 {1/4 horizontal and 1 vertical}

ii. Scaffolding or staging more than 4m above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly bolted, braced or otherwise secured, at least 1m above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

iii. Working platforms, gangways and stairways shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4m above the ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in ii above.

iv. Every opening in the floor of a building or in working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose

minimum height shall be 1 m.

- Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping in to the excavations.

- v. Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable signal ladder shall be over 9m in length while the width between side rails in rung ladder shall in no case be less than 290mm for ladder up to and including 3m in length. For lower ladders this width shall be increased at least 20mm for each additional meter of length.

- vi. A sketch of ladders and scaffold proposed to be used shall be prepared and approval of the Engineer obtained prior to construction.

45.2. OTHER SAFETY MEASURES

- vii. All personnel of the contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.

- viii. Adequate precautions shall be taken to prevent danger from electrical equipments. No materials on any of the site of work shall so stacked or placed as to cause danger or inconvenience to any person or the public.

Excavation & Trenching

- ix. All trenches, 1.25m or more in depth shall at all times be supplied with at least one ladder for each 30m in length or fraction thereof. The ladder shall be extended from bottoms of trench to at least 1m above the surface of the ground. Sides of trenches which are 1.5m or more than the depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger of sides collapsing. The excavated material shall not be placed within 1.5m of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

- x. The contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of the defense of every suite, action or other proceedings at law that may be brought by persons for injury sustained owing to neglect of the content of the contractor, be paid to compromise any claim by any such persons.

45.3. DEMOLITION

- xi. Before any demolition work is commenced and also during the process of the work:

- a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.

- b) No electric cable or apparatus, which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically, charged.

- c) All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so over loaded with debris or materials as to render it unsafe.

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45.4. PERSONAL SAFETY EQUIPMENT'S

xii. All necessary personal safety equipment as considered adequate by the Engineer should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned.

a) Workers employed on mixing asphaltic materials cement and lime mortars shall be provided with protected foot wears and protected goggles.

b) Those engaged in white washing and mixing or stacking of cement bags or any other material which is injurious to the eyes shall be provided with protected goggles.

c) Those engaged in welding works shall be provided with welder's protective eyesight lids.

d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.

e) When workers are employed in sewers and manholes, which are in use, the contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are to get into manholes and the manhole so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accidents to the public.

f) The contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead or any toxic material in any form. Whenever men above the age of 18 are employed on the work of such painting the following precautions should be taken:

i) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint. Paint like vinyl and epoxies having toxic fumes should be applied after following all precautions lay down by manufactures.

ii) Suitable face masks should be supplied for use by the workers when the paint is applied in the form of spray or a surface having lead paint dry rubbed and scrapped.

iii) The contractor to the workmen shall supply overalls and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.

xiii) When the work is done near any public place where there is risk of drowning all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

45.5. HOISTING MACHINES

xiv) Use of hoisting machine and tackle including their attachment anchorage and supports shall conform to the following standards or conditions:

1.a) These shall be of good mechanical constructions sound material and adequate strength and free from patent defects and shall be kept in good repair and in good working order.

b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.

- 2. Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be incharge of any hoisting machine including any scaffolding winch or give signals to operator.

- 3. In case of every hoisting machine and of every chain ring hook, shackle shovel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. In case of a hoisting machine and all gear referred to above shall be plainly marked with the safe working load, each safe working load and the conditions under which it is applicable shall be indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.

- 4. In case of departmental machines, the Engineer shall notify the safe working load. As regards contractor's machines, the contractor shall notify the safe working load of the machine to the Engineer whenever he brings any machinery to site of work and get it verified by the Engineer concerned.

- xv) Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum, of risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary, should be provided. The worker's should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

- xvi) All scaffolds ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use.

- Adequate washing facilities should be provided at or near places of work.

- xvii) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

- xviii) To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer, Engineers of the Department or their representatives.

- xix) Notwithstanding the above clause from (i) to (xviii), there is nothing in these to exempt the contractor from the operations of any other Act or rule in force in the Republic of India.

45.6. MODEL RULES FOR PROTECTION OF HEALTH & SANITARY ARRANGEMENTS FOR WORKERS

APPLICATION: These rules shall apply to all construction work in charge of "Reconstruction of compound wall and main gate at IGC Kannur" for Kerala State Industrial Development Corporation.

DEFINITION:

a. "Work place" means a place at which, an average 50 workers are employed in connection with construction work.

b. "Large work place" means a place at which average 500 or more workers are employed in connection with construction work.

FIRST AID:

a. At every work place, there shall be maintained in readily accessible place first aid appliance including an adequate supply of sterilized dressings and sterilized cotton wool. The appliance shall be kept in good order and in large workplace they shall be placed under the charge of responsible person who shall be readily available during working hours.

b. At large work places, where hospital facilities are not available within easy distance of the workers, first aid posts shall be established and be run by a trained compounder.

c. Where large places are remote from regular hospitals, and indoor ward shall be provided with one bed every 250 employees.

45.7. DRINKING WATER:

In every work place there shall be provided and maintained at suitable places easily accessible to labour sufficiency supply of cold water fit for drinking.

Every water supply of storage shall be at a distance of not less than 15m from any latrine, drain or other sources of pollution. Where water has to be drawn from an existing well which is within the proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door, which shall be dust and waterproof.

A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month. Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.

45.8. WASHING & BATHING PLACES

a. Adequate washing and bathing places shall be provided, separately for men and women.

b. Such places shall be kept in clean and drained condition.

45.9. SCALE OF ACCOMMODATION IN LATRINES & URINALS

There shall be provided within the precincts of every work place latrines and urinals in an accessible place, and the accommodation, separately for each of them shall not be less than the following scale:

No. of seats

a) 2, Where the number of persons do not exceed 50

b) 3, Where the number of persons exceeds 50, but does not exceed 100

c) 3 per 100, for every additional 100

In particular cases, the engineer shall have the powers to vary the scale where necessary.

45.10. LATRINES AND URINALS FOR WOMEN

If women are employed separate latrines and urinals screened from those for men and marked in vernacular in conspicuous letters “for women only” shall be provided on the scale laid in rule 2.6. Those for men shall be similarly marked “men only”. A poster showing the figure of a man or a woman shall also be exhibited at the entrance of latrines for the respective sex. There shall be adequate supply of water close to the urinals and latrines.

45.11. LATRINES & URINALS

All latrines shall be provided with septic tanks or leach pits in case of small units. All the latrines shall be kept in good sanitary condition.

45.12. CONSTRUCTION OF LATRINES

The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for this purpose and kept available for-inspection. Latrines will not be of a standard lower than bore-hole system and should have thatched roofs.

45.13. DISPOSAL FOR EXCRETA

Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta shall be made by septic tank or leach pit duly approved by the engineer and in conformity with the requirements of local public health authorities.

45.14. PROVISION OF SHELTER DURING REST

At every work place there shall be provided free of cost, two suitable sheds, one for meals and the other for rest separately for men and women for the use of labour. The height of the shelter shall not be less than 3.5m from the floor level, to the lowest part of the roof. The sheds should be roofed with at least thatch and mud flooring will be provided with a dwarf wall around not less than 750mm. Sheds should be kept clean and the space should be on the basis of at least 0.50 square metre per head.

45.15. CRECHES

At every work place, at which 50 or more women workers are ordinarily employed there shall be provided two huts for the use of children under the age of 6 years belonging to such women, one hut shall be used for infants' games and play and the other as their bed room. The huts shall not be constructed on a lower standard than the following:

- a) Thatched roof
- b) Mud floors and walls
- c) Planks spread over the mud floor and covered with matting.

The huts shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the place clean. There shall be two ladies in attendance. Sanitary utensils shall be provided to the satisfaction of the health

officer of the area concerned. The use of the hut shall be restricted to children, their attendants and mothers of the children.

Where the number of women workers is more than 25 but less than 50, the contractor shall provide at least one hut and one lady to look after the children of women workers. The size of Crèche or Crèches shall vary according to the number of women workers. The Crèche or Crèches shall be properly maintained and necessary equipment like toys etc shall be provided

45.16. CANTEEN

A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered expedient.

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46. SPECIAL CONDITIONS OF CONTRACT (SCC)

GENERAL

Unless otherwise mentioned elsewhere in the tender document, the work in general shall be carried out as per the latest CPWD Specifications including subsequent Addenda and Corrigenda issued from time to time. Further, if the items are not available in updated CPWD Schedule of Rates, the same are to be executed strictly as per relevant BIS Codes or otherwise as directed by the Engineer In-Charge.

The Special Conditions of Contract (SCC) shall be read in conjunction with the General Conditions of contract (GCC), Specifications of the work / particular specifications, drawings, and any other document forming part of this contract. However, if there is any variation from the GCC, Special Conditions shall prevail over GCC.

The contractor shall abide by the conditions prescribed in the rules for instruction to the tenderers, general and special conditions of contract. The contractors are requested to study and understand the terms and conditions before quoting their rates.

46.1. Time shall be considered as the essence of the contract. If the completion of the contract is delayed KSIDC reserves the right for imposing a penalty for the delayed work delay being worked out with reference to the time schedule.

46.2. The various materials to be used on the work must comply with the relevant standard specifications of Bureau of Indian standards, or any other special specification given and must be approved by the officer in charge of the work before use in the work. The workmanship should be of high quality as per ISS. Material test certificates must be provided to the engineer in charge prior to starting the work.

46.3. For materials supplied by the contractor from various suppliers, the same are subject to third party inspection at the cost of the contractor arranged by KSIDC. If required, the contractor and his suppliers shall undertake to provide all assistance required to the third party inspectors in the execution of their duties. The contractor shall be responsible for

payment of all import duties, taxes, octroi, seignorage, fees etc. whichever they are payable in respect of all materials and articles supplied or procured by him. The responsibilities for safe custody of materials supplied by the contractor rests with him till they used for work and the necessary measurements are recorded by the project Engineer and the contractors sign the measurements book in token of acceptance of measurement.

46.4. The materials which are found to be of inferior quality and not conforming to specific, stipulated standards will be rejected by the site engineer and such materials should be removed from site within 24 hours of notice of such removal and on no account be used for the work. The engineer in charge will be the authority of passing of the materials prior to usage on works. Rejections can be made by the Project Engineer before or during use on work.

46.5. Any faulty construction noticed and pointed out by the Architect/Project Engineer, Technical Advisor/Project Manager of KSIDC shall be rectified by the contractor at his cost.

46.6. The direction and advice of the Architect/Project Engineer/ Technical Advisor/Project Manager of KSIDC and their subordinate in all matters including technical matters shall be final and binding and the contractor shall meticulously follow them.

46.7. The contractor shall be prepared to work in three shifts if called for.

46.8. The contractor shall begin to work immediately after the site is handed over and shall regularly and continuously can carry out the work to achieve the rate of progress as indicated in the schedule.

46.9 Payment to the contractor shall be as per measurement books and in stages completed.

46.10. The contractor alone is responsible for the salary of his labourers and damages if any payable under workmen compensation act will be borne by him.

46.11. Defects, if any noticed within the guarantee period prescribed below will be rectified by the contractor in default of which will be attended by KSIDC and cost made good from the contractor.

46.12. The defect liability period for the work will be 18 months for the civil works from the date of commissioning of work as certified by KSIDC

46.13. Contractor should produce latest relevant tax clearance certificate for receiving final payment. The rate of tax will be applicable as per Government order or notification in the matter from time to time.

46.13.1. Contractor shall be responsible for the payment of all applicable taxes, duties , royalties except GST as per the rules in force from time to time and the rates quoted for the various items remain unaffected by any change that may be made from time to time in the rate at which such taxes or duties are levied. Sales tax due to government will be recovered

from the contractor's bill of the work as per the advice of the authority concerned.

46.13.2. The contractor for this work shall bound to remit an amount equal to the employer's contribution to the Kerala Construction Workers Welfare fund Act 1989. This amount shall be recovered proportionately from the part bill and the final bill for the work and contractor shall abide such recoveries.

46.13.3. All sums due to the government under or by virtue of this contract shall be recoverable first from the security furnished by the contractor and if the same is found in sufficient such deficit amount shall be recoverable under the provisions of the Revenue Recovery Act for the time being in force as through the same were arrears of land revenue or in any other manner as KSIDC may deem fit.

46.14. Contractor may agree that before final payment shall be made on the contract he will sign and deliver to the site engineer either in the measurement book or otherwise as demanded a valid release and discharge from any/all claims and demands what so ever for all matters arising or connected with the contractor, provided that nothing in the clause shall release the contractor from his liabilities under the contract. It is further expressly agreed that the Project Engineer supplying the final measurement certificate need not be bound by the preceding measurements and payments. The final measurements if any of the Project engineer shall be final conclusive and binding on the contractor.

46.15. The date fixed by KSIDC for the commencement and completion of the works as per the agreement shall be strictly observed by the contractor. For any delay the contractor shall pay damages @ 1% of the estimated value of the balance work of the contract for every seven days subject to a maximum of the retention money, in case KSIDC does not grant extension of time under the clause 15.2 of General Conditions of Contract.

46.16. The method of measurements will be as per Indian standard.

46.17. KSIDC shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by the worker or the workers by reasons of non-fulfillment of the condition of the contract for the benefit of the workers this non-payment of wages or deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the regulations vis-à-vis the Central Government the contractors shall be primarily liable for all payments to be made under and for the observance of the regulations aforesaid without prejudice to his right to claim from his sub-contractors The regulations aforesaid shall be deemed to be a part of this contract and breach thereof shall be a breach of this contract.

46.18. On the occurrence of an accident which results in the death of any workmen employed by the contractor or which is so serious as to be likely to result in the death of any such workmen the contractor shall within 24 hours of happening of such accidents indicate in writing to KSIDC the fact of such accidents. The contractor shall indemnify KSIDC against all loss or damage sustained by KSIDC resulting directly or indirectly from his failure to give indication in the manner aforesaid including the penalties or fines if any payable by KSIDC

as consequence of KSIDC's failure to be notified under the workmen's compensation act or otherwise confirm to the said Act in regard to such accidents.

46.18.1. In the event of an accident in respect of which compensation may become payable under the workmen's compensation Act of 1923 whether by the contractor or by KSIDC as principal it shall be lawful for the Project Engineer to retain out of moneys due and payable to the contractor such sum or sums of money as may be in the opinion of the Project Engineer sufficient to meet such liability. The opinion of the Chief Engineer shall be final in this regard on all matters arising under this clause.

46.19. The person whose tender may be accepted shall, before the date fixed for commencing the work, execute an agreement with KSIDC, and shall pay for all stamps and legal expenses incident thereto after depositing security for the due performance of his contract.

46.20. In every case in which under any clause or clauses of this contract, the contractor shall have rendered himself liable to damages amounting to the whole of his security deposit, KSIDC shall have power to rescind the contract altogether or to have the work completed without further notice at the contractor's risk or expense as KSIDC may deem best suited to the interest of KSIDC and the contractor shall have no claim to compensate for any loss that may accrue from any materials he may have collected or engagements he may have entered into, on account of his work and in the latter case KSIDC shall have power to deduct whatever amount may be extended on the completion of the work, from any sums that may be due or become due from KSIDC to the contractor on account of this or any other work or recover such sums from him and his assets, movable and immovable. And in case the contract shall be rescinded under the provisions aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereto for actually performed under this contract unless and until KSIDC shall have certified the performance of such work and the value thereof, and he shall only be entitled to be paid the value so certified after deduction of any amounts due to KSIDC.

46.21. If the contractor shall be hindered in the execution of his work or as to necessitate an extension of time allowed for its completion, he shall apply in writing to KSIDC who may, if reasonable grounds be shown authorize such extension of time, if any, as may, in their opinion, be necessary and without such written authority of KSIDC, contractor shall not be exempted from the damages leviable if the work or any part or parts thereof be not completed within the prescribed time. The contractor shall also execute supplemental agreement with KSIDC when such extension of time is authorized.

46.22. No work will be paid for unless thoroughly good and fully in accordance with the specification and should through inadvertence bad work be passed and paid for, it will nevertheless be perfectly competent for KSIDC to strike the same out of the account at any future time and recover the value and the contractor will be liable for the same.

46.23. If it shall appear to KSIDC or their representative in charge of the work, that any work has been executed with unsound, imperfect or unskillful workmanship or with materials of

an inferior description, the contractor shall on demand in writing, forthwith rectify, remove, or reconstruct the same in whole or in part, as the case may require, at his own proper charge and cost and in the event of his refusing to do so within a period to be specified by KSIDC or his subordinate or if he shall fail to remove, from the site of the work within a specified period, any materials or articles which are considered by the same offices unsound or bad quality or not agreeable to the terms of the contract and to provide immediately suitable materials or articles in lieu of those condemned, KSIDC shall have the power to employ and pay other persons to carry out the same, and all expenses consequent thereon or incidental thereto, as certified by KSIDC and penalties thereon shall be borne by the contractor or may be deducted from any moneys due or that may become due to the contractor, and the contractor shall not have any claim on this.

46.24. All works under execution by the contractor shall at all times be open to the inspection and supervision of KSIDC and the contractor shall always, when he is not himself present, have a responsible agent present at the worksite during the usual working hours, and at all other times, when reasonable notice of the intention of KSIDC to visit the works shall have been given, to receive their orders and instructions. Orders given to the contractor's agent shall be considered to have the same force as if they have been given to the contractor himself. The appointment of an agent and any change of agent shall be forthwith notified by the contractor to KSIDC who may accord their approval in writing without which the appointment shall not stand.

46.25. The contractor shall give due notice in writing to KSIDC to measure any work which is going to be covered up or otherwise placed beyond the reach of measurements, in order that the correct dimensions may be taken before being so covered and must have the authority in writing of KSIDC to cover it up, in default whereof at the opinion of KSIDC the same shall be uncovered at the contractor's expense or no allowance shall be made for such work or materials.

46.26. If the contractor or his work people break, deface, injure any part of a building they may be working in or any building, road fence, enclosure or grass-land or cultivated ground, or if any damage, shall happen to the work while in progress or any imperfection become apparent in it, he shall make the same good at his own expense or in default KSIDC may cause the same to be made good, and deduct this expense from any sums that may be there or at any time thereafter due to the contractor.

46.27. The rates once agreed will not be revised on any account.

46.28. All materials shall be supplied by the contractor. The contractor has to make own arrangements for the procurement of materials on time. In case when materials have to be measured and paid for, the contractor shall be responsible for such materials until they are formally taken over by KSIDC or used in works.

46.29. The materials brought to site shall not be removed from the site without the prior approval of KSIDC.

46.30. The terms of the contract cannot be added to, varied or, reduced by any oral agreements previous or subsequent to its signature. Any such oral agreements will be repudiated by KSIDC.

46.31. KSIDC does not undertake to relieve the contractor from any difficulties or penalties arising from interference with private property in carrying out his contract.

46.32. The contractor shall pay to the labour engaged by him wages not less than fair wages as defined in the minimum wages act or any other relevant statute. It shall be the responsibility of the contractor to pay wages, compensation or any other dues if payable and it shall also be his sole responsibility to comply with the relevant statutory provisions and rules applicable to the work. The contractor is liable to pay the compensation to KSIDC for any loss caused to KSIDC due to the non-compliance of any statutory provisions.

46.33. The contractor has to prepare a time schedule for the complete work in detail and submit to KSIDC in triplicate within 10 days from the date of award of work.

46.34. The work, as per the specifications and stipulated, shall be completed on time with the agreed quality.

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47. LIST OF APPROVED MAKES FOR CIVIL WORKS

<u>Sl.No.</u>	<u>Name of the materials</u>	<u>Approved Makes</u>
1.	Cement	Ultra tech / JSW / Chettinadu/ Malabar/ Ramco/ Sankar/ Dalmia/ Ambuja.
2.	Steel	TATA/ Vizag/SAIL/JSW/Hindustan
3.	Paint & Distemper	ICI (Akzonobel), Berger, Asian, Jotun or equivalent as approved
4.	Water Proof Cement paint	Super Snowcem, Supercem or equivalent as approved
5.	Primer	Altek, Berger, Asian, ICI, Jotun or equivalent as approved

For other items, approved makes shall be as per the specification in the price bid or as per the direction of Consultant/KSIDC.

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48. TECHNICAL SPECIFICATION OF CIVIL WORKS

48.1. EXCAVATION FOR FOUNDATIONS

48.1.1 SITE CLEARANCE: Any obstacles, including the stumps of trees to a minimum of 60cm, below GL or 15cm below foundation level whichever is lower, likely to interfere with the work, shall be removed. Holes left due to removal of old foundation; uprooted trees etc shall be back filled with soil and well compacted. The products of clearing shall be stacked in such a place and manner as instructed by Site Engineer.

48.1.2 EXCAVATION: Trenches for foundations shall be excavated to the exact width, length and depth as per dimensions on the drawing. The excavated material shall be used for refilling of trenches. The contractor at his own expense shall make provision for pumping and bailing out water. Excavated earth shall not be placed within 1 M of the edge of the trench. Trenches shall be securely shored and timbered, if the site engineer finds the same necessary. Excavation to dimensions greater than those shown in drawings shall not be paid for. In the event of excess depth, the contractor shall fill up the excess depth by cement concrete mix 1:5:10 at his own cost, if so directed by the Site Engineer.

48.1.3. REFILLING: The refilling of the excavation shall be done by consolidating in layers not exceeding 150mm thick with the minimum quantity of water necessary for proper compaction. Surplus earth, not required, shall be removed and disposed as directed by the engineer. Measurement for the earth work and refilling shall be in cubic meters.

48.1.4. EARTH FILLING Approved Red earth from outside and selected approved excavated earth free from roots vegetations; debris boulders etc shall be used for filling. The earth shall be laid in layers of thickness not exceeding more than 15cm at a time, spread leveled, watered and well consolidated. Measurement for the earth filling shall be in cubic meters.

48.2. PLAIN AND REINFORCED CEMENT CONCRETE

MATERIALS

48.2.1. CEMENT: Cement used shall be ordinary Portland cement conforming to IS and shall be stored in a dry waterproof godown which shall be provided by the Contractor. The cement shall be stacked in dry place covered all round and no stack shall be more than 12 bags high. Caked or cement containing clods shall not be used for any purpose.

48.2.2. SAND: This shall mean a fine aggregate which shall pass through a IS sieve No: 48C test sieve, leaving a residue not more than 5%. The sand shall be clean, strong, granular and composed of hard silicious material. It shall be free from harmful impurities such as mica, shale or similar laminated materials, salts, alkalies and organic matter. Pit sand, fresh water, river or lake sand is preferable

48.2.3. COARSE AGGREGATE This shall conform to IS 383 specification for coarse and fine

aggregate from natural sources for concrete. Hard broken stone used as coarse aggregate shall be of size not less than 40mm

48.2.4. WATER: Water used for making mortars and concrete shall be clean and free from injurious amounts of deleterious materials. Generally potable water is considered suitable.

48.2.5. REINFORCEMENT All reinforcement shall be clean and free from, dust, loose rust and coats of paints, oil or other coatings, which may destroy or reduce bond. Welding of reinforcement if found necessary, shall be done in accordance with the recommendations of relevant Indian standards for welding of mild steel bars used in reinforced concrete construction.

48.2.6. PLAIN CEMENT CONCRETE Providing and laying cement concrete in foundation plinths and superstructure including following items of works with all leads and lifts. After excavation, the bottom of the excavation shall be cleared of all loose soil and rubbish and shall be leveled. Where necessary, the bed shall be wetted and compacted by heavy rammers to an even surface.

48.2.7. CONCRETING: The concrete shall be laid in position in layers not exceeding 15cms. The concrete shall not be thrown from a height but gently placed in such a way that segregation does not occur. Each layer shall be well rammed with wooden rammers until the mortar creams to the surface. No water shall be added during ramming but the surface of each layer shall be wetted and well scoured with trowel and wire brushed before the next layer is added. No ramming shall be done after the cement has commenced to set.

48.2.8. CURING: After the concrete has begun to harden ie about 1 to 2 hours after its laying it shall be protected from drying, with moist gunny bags, canvas or any other material approved by the site Engineer. After 24 hours of laying concrete the surface shall be cased by flooding with water of minimum 2.5 cms depth or by covering with wet absorbent materials. The curing shall be done for a minimum period of 10 days. On the foundation concrete the masonry work may be started after 72 hours of its laying, but the curing of cement concrete shall be continued along with the masonry work for a minimum period of 10 days.

48.3. REINFORCED CEMENT CONCRETE

48.3.1. CONSOLIDATING: Concrete for all reinforced concrete works in column footings, columns, beams, lintels and slabs and the like shall be poured and well consolidated by vibrating, using portable mechanical vibrators. The rest of the concrete such as chajjas and shelves etc shall be poured and well-consolidated by rodding and tamping. Care shall be taken to ensure that concrete is not over vibrated so as to cause segregation. In the event of breakdown of mechanical mixer and vibrator, the contractor must make arrangement for standby mechanical mixer and vibrators.

In case of columns, maximum height of columns for which concrete can be placed at a time shall not be more than 2 meters. A key is to be made at the end of each casting in concrete column of appropriate size as per size of columns in the rectangular/square shape to give

proper bonding to column as per relevant IS /directions of the Architect.

48.3.2. FORM WORK:The steel/plywood formwork shall be designed and constructed to the shapes, lines and dimensions shown on the drawings. All forms shall be sufficiently water tight to prevent leakage of mortar. Forms shall be so constructed as to be removable in sections. Formwork shall be rigid and shall retain shape and dimensions of the member being cast. Pre moulded cement cubes (cover blocks) shall be placed between form work and reinforcement to achieve uniform cover for reinforcement.

48.3.2.1. PROPS AND CENTERINGThese shall consist of ballies/steel sections. It shall be placed @ 1 to 1.2 meters centers both ways and shall rest squarely on wooden plates. Wedges shall be provided between sole plate and props. Sufficient bracing shall be provided horizontally. Beyond 3.5 meters props shall be provided in multi stages.

48.3.2.2. CLEANING AND TREATMENT OF FORMS: rubbish, particularly chippings, shavings and saw dust shall be removed from the interior of the forms before the concrete is placed. The form work in contact with the concrete shall be cleaned and thoroughly wetted or treated with approved composition to prevent adhesion between form work and concrete. Care shall be taken that such approved composition is kept out of contact with the reinforcement.

48.3.2.3. VERTICALITY OF FRAME STRUCTURE AND CAMBER IN SHUTTERINGAll the outer columns of the frame will be checked for plumb by plumb bobs as well as by the Theodolite as the work proceeds to upper floors. Internal columns will be checked by taking measurements from outer row of columns for their exact position. Shuttering for beams and slabs shall have a camber of 1:500 and for cantilevers it shall be 1:100 at the free end.

48.4. STRIPPING TIME:Forms shall not be struck until the concrete has attained strength at least twice the stress to which the concrete may be subjected at the time of removal of formwork. The strength referred to shall be that of concrete using the same cement and aggregate with the same proportions and cured under conditions of temperature and moisture similar to those existing on the work where so required formwork shall be left longer. In normal circumstances and where ordinary Portland cement is uses, form may generally be removed after the expiry of the following periods.

a. Walls, columns and vertical faces of all Structural members	-	1 day
b. Slabs (Props left under)	-	7
days		
c. Beam soffits (Props left under)	-	7 days
d. Removal of props under slabs		
(i) Spanning up to 4.5 m	-	7 days
(ii) Spanning over 4.5m	-	14 days
e. Removal of props under beams and arches		

(i) Spanning up to 6 m	-	14 days
(ii) Spanning over 6 m	-	21 days

In case of bad/cold weather, these periods may be increased as per the direction of the Architect. For other cements (like pozzolana etc) stripping time recommended for ordinary Portland cement may be suitably modified. The number of props left under, their sizes and disposition shall safely carry full dead load of the slab, beam or arch as the case may be together with any live load likely to occur during placing of concrete, curing or further construction.

Formwork shall be removed in such a manner as would not cause any shock or vibration that would damage the concrete. Before removal of soffits and props, concrete surface shall be exposed to ascertain that the concrete has sufficiently hardened.

Where the shape of the element is such that formwork has re-entrant angles, the formwork shall be removed as soon as possible after the concrete has set to avoid shrinkage, cracking occurring due to the restraint imposed

48.5. EXPOSED SURFACE: Exposed surfaces of all cement works viz. cement concrete, brick work, flooring, plastering, pointing and the like shall be cured by keeping the surfaces adequately and continuously damp or wet for at least ten (10) days from the date of completion of stage. Approved curing compound may be used in lieu of moist curing with the permission of the Architect. Such compounds shall be applied to all exposed surfaces of the concrete as soon as possible, after the concrete has set. This shall be without extra cost.

48.6. CONSTRUCTION JOINTS: Concreting shall be carried out end-to-end continuously as far as possible and when construction joints are totally unavoidable, it shall be located in a predetermined position approved by Architect. The joints shall be kept at places where shear force is the minimum and these shall be straight and at right angles to the direction of main reinforcement. When the work has to be resumed on a surface, which has hardened, such surfaces shall be roughened. It shall be swept clean thoroughly wetted and covered with a layer of fresh mortar of 1 cement:1 sand just before placing the concrete. When concrete has not fully hardened all laitance shall be removed by scrubbing the wet surface with wire or bristle brushes. Care shall be taken to avoid dislodgement of particles of aggregate. The surfaces shall be thoroughly wetted and free water is to be removed. The new concrete is laid on the old one and freshly prepared concrete slurry is poured on to the old surface and the new concrete is compacted against the old surface, particular attention being paid to cover of the reinforcement.

48.7. EXPANSION JOINTS: The expansion joints are to be provided as per the drawings. The joints shall be filled with approved quality of filler.

49. RANDOM RUBBLE MASONRY

49.1. MATERIALS: Rubble shall be hard, sound and free from decay and weathering. It shall be obtained from an approved quarry. Stone with round surface shall not be used. Rubble shall be hammer dressed on the face, the sides and the beds to enable it to come into close proximity with the neighboring stone. The "busing" in the face shall not project more than 4cm on an exposed face and 1cm on a face to be plastered. Cement shall be ordinary or rapid hardening portland cement conforming to IS 269. Sand shall mean a fine aggregate which shall pass through a IS sieve No:480 (3/16" in B.S) test sieve, leaving a residue no more than 5%. The sand shall be clean, strong, granular and composed of hard silicious material. It shall be free from harmful impurities such as mica, shale or similar laminated materials, salts, alkalies and organic matter. Pit sand, fresh water river or lake sand is preferable. Water used for mortar shall be clean and free from injurious amounts of deleterious materials. Potable water is generally considered suitable.

49.2. LAYING: All rubble shall be wetted before use. The wall shall be carried up truly plumb or to specified batter. Every stone shall be carefully fitted to the adjacent stones, so as to form near and close joints. Face stones shall extend and bond well into the backing. These shall be arranged to break joints as much as possible and to avoid long vertical lines of joints. Their height shall not be greater than the breadth at the face or the depth inwards. The hearting or interior filling of the wall face, shall consist of rubble stones not less than 13cm in any direction, carefully laid, hammered down with a wooden mallet into position and solidly bedded in mortar, chips and spawls of stone being used wherever necessary to avoid thick mortar beds or joints and at the same time ensuring that no hollow spaces are left anywhere in the masonry. The hearting will be laid nearly level with facing and backing except that at about one metre intervals, vertical "plums" projecting about 15 to 20cm shall be firmly embedded to form a bond between successive courses. The chips shall not be used below the hearting stones to bring these up to the level of face stones. The use of chips shall be restricted to the filling of interstices between the adjacent stones in hearting and these shall not exceed 20 % of the quantity of masonry. The masonry in a structure shall be carried out simultaneously. Where the masonry of one part has to be delayed, the work shall be raked back at an angle not exceeding 45° toothing in masonry shall not be allowed.

49.3. BOND STONES Bond or trough stones running right through the thickness of walls shall be provided in walls up to 60cm thick. If the wall shall more than 60cm thick, two or more bond stones overlapping each other by at least 15 cm shall be provided in line from face to back. At least one bond or a set of bond stones shall be provided for every 0.5sq.metre of wall surface.

49.4. JOINTS: Stones shall be so laid that all joints are full of mortar. Face joints shall not be more than 2.5cm thick. When plastering or pointing is not required to be down, the joints shall be struck flush and finished at the time of laying. Otherwise, the joints shall be raked to a minimum depth of 2cm by racking tool during the progress of the work, when the mortar is still green.

49.5.CURING: Green work shall be protected from rain by suitable covering. Masonry work in cement mortar shall be kept constantly moist on all the faces for a minimum period of seven days. The top of masonry work shall be left flooded at the close of the day.

50. BRICK /BLOCK MASONARY

50.1Laying

a) The brick/block shall be laid as per IS standards. Prior to start of laying of first course / skirting block, the top surface of slab shall be closely hacked for proper bonding and the area of work shall be thoroughly cleaned to the satisfaction of the Project manager.

The first course / skirting block shall be laid with greatest care to ensure that it is properly / correctly aligned as per drawing leveled and plumbed. Subsequent course shall be laid over this course true to line and levels after obtaining approval from the Project manager. Each block and each course shall be carefully checked for alignment, level and plumb so that the wall is truly straight and vertical.

To assure satisfactory bond mortar shall not be spread too far ahead of actual laying of block. The mortar joints shall be struck off flush with wall surface and when the mortar has started stiffening, it shall be compressed with a rounded or 'U' shaped tool to obtain a watertight joint. The joints both horizontal and vertical shall not be more than 10 mm. thick. They shall be uniform, straight, truly horizontal and vertical, staggered vertically.

The precast or cast in site concrete block mullions, runners, lintels or wooden rough grounds of required size shall be provided at desired locations in internal or external or encasing walls as per directions of Project manager for fixing of door / window frames, for fixing / anchoring of clamps for cladding or other inserts as required and approved by the Project manager.

All walls wherever they meet or intersect shall be bonded or tied security in approved manner. Where two walls meet or intersect, the courses in the two walls shall be as far as possible, laid up at the same time with a true masonry bond between at least 50% of the units at the intersection. Where two walls cannot be laid simultaneously, tothing or pockets shall be left in first wall laid. The corresponding course of the second wall shall be built into these tothing or pocket as the case may be. Where the wall abuts the column or other concrete member, the concrete member shall be closely hacked, thoroughly wetted with water and cleaned for proper bonding. 2 Nos. hoop steel of 25 mm x 1.5 mm or GI brick reinforcement of approved make shall be provided at every 4th layer. The overlap of at least 75 mm shall be provided. This hoop steel / GI brick reinforcement shall be properly anchored at the end or at intersection of wall in masonry or concrete block / mullion as directed by the Project manager. Mortar shall be spread over this evenly to embed the hoop steel / GI brick reinforcement and subsequent course shall be laid above this.

50.2 Joints

The joints shall be full mortar. The joints shall be raked to a minimum depth of 12 mm by a raking tool during the progress of the work when the mortar is still green so as to provide proper key for the plaster to be done. The face of the wall shall be cleaned and mortar dropping removed.

50.3 Curing:

All brick/ block work shall be kept constantly moist on all the faces for at least 10 days.

50.4 Scaffolding

Unless otherwise instructed by the engineer double scaffolding (M.S Tubular) having two sets of vertical supports shall be provided for all building work, on both side of wall. The supports shall be sound, strong and tied together with horizontal pieces over which the scaffolding planks shall be fixed. The contractor shall be responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it.

51. PLASTERING

51.1. MATERIALS Cement used shall be ordinary Portland cement of approved make Ambuja/Shanker/Ambuja/Malabar or A.C.C and manufacturing date shall not be more than 45 days. Aggregates conforming to IS 383

Sand: It shall mean a fine aggregate which shall pass through a I.S. sieve No: 480 test sieve leaving a residue not more than 5%. The sand shall be clean, strong, granular and composed of hard siliceous material. It shall be free from harmful impurities such as mica, shale or similar laminated materials, salts, alkalis and organic matters. Pit sand, fresh water, river or lake sand is preferable.

The **water** used for mixing shall be clean, free from deleterious matter. Water fit for drinking is suitable.

51.2. MIXING: Cement and sand shall be mixed dry in the specified quantity Water shall then be added to get the required consistency for the plaster.

51.3. PREPARATION OF SURFACE: The joints shall be raked out properly. Dust and loose mortar shall be brushed out. Brushing and scraping, if any, shall remove efflorescence. The surface shall then be thoroughly washed with water, cleaned and kept wet before plastering is commenced

51.4. APPLICATION OF PLASTER: Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15cm x 15cm shall be first applied, horizontally and vertically at not more than 2m intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be beaten with thin strips of bamboo about 1m long to ensure thorough filling of the joints and then brought to a true surface, by working a wooden straight edge reaching across the gauges, with small upward and sideways movements at a time. Finally, the surface shall be finished off true with a trowel or wooden float according to a smooth or a sandy granular texture, as

required. Excessive troweling or over working the float shall be avoided. During this process, solution of lime putty shall be applied on the surface to make the latter workable.

All corners, arises, angles and junctions shall be truly vertical or horizontal as the case may be, and shall be carefully finished. Rounding or chamfering corners, arises, junctions etc where required shall be done without any extra payment. Such rounding or chamfering shall be carried out with proper templates to the sizes required.

51.5. PLASTERING 12MM THICK:


The mortar shall be dashed against the surface and shall be thoroughly worked into all joints and other surface depressions to ensure adequate bond. The plaster shall be brought to a true smooth and even surface with float and trowel.

52. Applicable Codes and Specifications

The following Indian Standard Codes, unless otherwise specified herein, shall be applicable. In all cases, the latest editions including all applicable official amendments and revisions shall be referred to.

- IS: 110 - Ready mixed paint, brushing, grey filler, for enamels for use over primers
- IS: 280 - Specification for mild steel wire for general Engineering purposes
- IS: 383 - Specification for coarse and fine aggregates from natural sources for concrete
- IS: 412 - Expanded metal steel sheets for general purposes
- IS: 428 - Distemper, oil emulsion, colour as required
- IS: 4568 - Plain and Reinforced concrete –Code of practice
- IS: 702 - Specification for industrial bitumen
- IS: 1077 - Specification for common burnt clay building bricks
- IS: 1124 - Method of test for determination of water absorption, apparent specific gravity and porosity of natural building stones
- IS: 1322 - Bitumen felts for water proofing and damp proofing
- IS: 1477 - Code of practice for painting of ferrous metals in buildings (Parts 1 & 2)
- IS: 1542 - Specification for sand for plaster
- IS: 1580 - Specification for bituminous compounds for water-proofing and caulking purposes
- IS: 1597 - Code of practice for construction of stone masonry: Part 1 Rubble stone masonry

- IS: 1661 - Code of practice for application of cement and cement-lime plaster finishes
- IS: 1834 - Specification for hot applied sealing compound for joint in concrete
- IS: 1838 - Specification for preformed fillers for expansion joint in concrete pavements and structures (non extruding and resilient type): Part 1 Bitumen impregnated fiber
- IS: 2074 - Ready mixed paint, air-drying, red oxide- zinc chrome, and priming
- IS: 2116 - Specification for sand for masonry mortars
- IS: 2185 - Specification for concrete masonry units (Parts 1,2 & 3)
- IS: 2212 - Code of practice for brickwork
- IS: 2250 - Code of practice for preparation and use of masonry mortars
- IS: 2395 - Code of practice for painting concrete, masonry and plaster surfaces (Parts 1 & 2)
- IS: 2402 - Code of practice for external rendered finishes
- IS: 2572 - Code of practice for construction of hollow and solid concrete block masonry
- IS: 2691 - Specification for burnt clay-facing bricks
- IS: 2750 - Specification for steel scaffoldings
- IS: 2932 - Specification for enamel, synthetic, exterior type (a) undercoating, (b) finishing
- IS: 3495 - Method of test for burnt clay building bricks: Part 1 to 4
- IS: 3536 - Specification for ready mixed paint, brushing, wood primer, pink
- IS: 4948 - Specification for welded steel wire fabric for general use
- IS: 5410 - Cement paint, colour as required
- IS: 5411 - Specification for plastic emulsion paint (Parts 1 & 2)
- IS: 6041 - Code of practice construction of autoclaved cellular concrete block masonry
- IS: 6042 - Code of practice for construction of light weight concrete block masonry

 KSIDC	Kerala State Industrial Development Corporation Ltd 2nd Floor, Choice Towers, Manorama Junction. Kochi-682016, PH:0484-2323010 Fax:0484-2323011
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NOTICE INVITING e-TENDER

e-Tenders are invited from class C and above registered contractors for the reconstruction of compound wall and main gate at KSIDC Industrial Growth Centre (IGC) at Valiyavelicham, Kannur: Name of work - Reconstruction of compound wall and main gate at IGC Kannur, Kannur District, Kerala. Location – IGC Kannur. PAC (Rs) – 26.47 Lakhs (excluding GST). The last date for submission of e-tenders will be 3.00 pm on 05.02.2021. For more details please visit the website: etenders.kerala.gov.in

11.01.2021

Sd/-
General Manager

(Size 8X5)