



TAMIL NADU FISHERIES DEVELOPMENT CORPORATION LIMITED
Integrated Office Complex for Animal Husbandry & Fisheries Department
No.571, 4th Floor, Anna Salai, Nandanam, Chennai -600 035.

Rc.No.2543/S3/2020

Date:01.04.2022

TENDER NOTICE

Sealed tenders are invited by the Managing Director, TNFDC Ltd., for the Construction of 10 MT Ice Plant cum Cold Storage Facilities in Wholesale Fish Market at Ukkadam in Coimbatore District (Civil Works Only).

Name of work	Approximate value of work (Rs.)	EMD Amount (Rs.)	Period for completion of the work	Cost of Tender schedule and EMD to be remitted in favour for	Min. Class of Registration
Construction of 10 MT Ice Plant cum Cold Storage Facilities in Wholesale Fish Market at Ukkadam in Coimbatore District	110.00 lakh (Excluding GST)	1,10,000/-	6 Months	The Managing Director, TNFDC Ltd., Chennai-35.	Class-I

- **Period for Availability of Tender Schedule from** : 05.04.2022 to 19.04.2022 upto 5.45p.m.
- **Last date of receipt of tender** : 20.04.2022 up to 3.00 p.m.

Sd./-MANAGING DIRECTOR



TAMIL NADU FISHERIES DEVELOPMENT CORPORATION LIMITED

Notice inviting tender for

NAME OF WORK	:	Construction of 10 MT Ice Plant cum Cold Storage Facilities in Whole sale Fish Market at Ukkadam in Coimbatore District
PERIOD OF SALE OF TENDER DOCUMENT	:	From 05.04.2022 to 19.04.2022
LAST DATE AND TIME FOR RECEIPT OF TENDERS	:	20.04.2022 at 3.00 P.M
ADDRESS FOR COMMUNICATION	:	The Managing Director, Tamil Nadu Fisheries Development Corporation Limited Integrated Office Complex for Animal Husbandry & Fisheries Department No.571, 4th Floor, Anna Salai, Nandanam Chennai -600 035
OFFICER INVITING TENDERS	:	The Managing Director, Tamil Nadu Fisheries Development Corporation Limited, (TNFDC)
TELEPHONE	:	044-2436-4901
FAX	:	044-2436-4904
E-MAIL	:	tnfdcho@gmail.com

INVITATION FOR TENDER

TAMIL NADU FISHERIES DEVELOPMENT CORPORATION LIMITED

NAME OF THE WORK: **Construction of 10 MT Ice Plant cum Storage Facilities
in Whole sale Fish Market at Ukkadam in Coimbatore
District**

INVITATION FOR TENDERS

TENDER No.: 2543/S3/2020

Date: 01.04.2022

- 1) **The Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., (TNFDC)** invites **Item rate Tenders** for the construction of works as detailed in the table given below. The Tenderer may submit Tenders for the work under single cover system.
- 2) Tender is open to all eligible Tenderers. Successful Tenderers should however get themselves registered if they are not already registered, with the Central / State Government Departments or Central / State Government undertakings.
- 3.1 Tender documents may be purchased from the office of Managing Director, Tamil Nadu Fisheries Development Corporation (TNFDC), Integrated Office Complex for Animal Husbandry & Fisheries Department No.571, 4th Floor, Anna Salai, Nandanam Chennai - 600 035 from 05.04.2022 to 19.04.2022 Interested Tenderer may obtain further information at the same address. The Tender inviting authority will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.
- 3.2 The provisions in the Instructions to Tenderers and in the Conditions of Contract are subject to the provisions of the Tamil Nadu Transparency in Tender Act, 1998.
4. Tenders must be accompanied by **Earnest Money Deposit (EMD)** of the amount specified for the work in the table below, payable at **Chennai** drawn in favour of **The Managing Director, Tamil Nadu Fisheries Development Corporation Ltd.**, Earnest Money Deposit will have to be in any one of the forms as specified in the Tender document and should be valid for 90 days beyond the validity of the Tender.
5. Tenders must be delivered to the office of The Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., (TNFDC), Integrated Office Complex for Animal Husbandry & Fisheries Department, No.571, 4th Floor, Anna Salai, Nandanam, Chennai -600 035, on or before 15.00 hours on 20.04.2022.

Table on Details of the Tender

Name of work	Approximate value of work	Earnest Money Deposit	Period of completion	Min. Class of Registration
Construction of 10 MT Ice Plant cum Cold Storage Facilities in Whole sale Fish Market at Ukkadam in Coimbatore District	Rs.110.00 Lakh	Rs.1,10,000/-	6 Months	Class-I

Name and Address : **The Managing Director,**
Tamil Nadu Fisheries Development Corporation Limited,
Integrated Office Complex for Animal Husbandry & Fisheries
Department No.571, 4th Floor, Anna Salai, Nandanam
Chennai -600 035

Email : tnfdcho@gmail.com

i) The Demand Draft should be dated within the period prescribed for the sale of Tender documents. If any one of the above is dated either prior to or after the above mentioned period, they are not valid for issue of the Tender documents.

ADDITIONAL GENERAL CONDITIONS (i.e.) IN ADDITION TO GENERAL CONDITIONS TO
CONTRACT APPENDED WITH T.N.B.P.

1. POSTAL TENDERS:

The tenderer may have the option to present the tender directly or to send registered post acknowledgement due; on or before the last date for receipt of tenders.

In case of sending tenders by registered post acknowledgement due it is the responsibility of the tenderer himself to dispatch the tender sufficiently early so as to reach the tender opening authority before the date and time notified in the tender notice for opening of tenders.

No representation appeal of any kind will be allowed against belated receipt of tenders by post beyond the notified date and time or loss in transit etc.

2. E.M.D & TENDER COST

Tender documents can be obtained from the Managing Director, TNFDC Ltd., Integrated Office Complex for Animal Husbandry and Fisheries Department, No.571, 4th Floor, Anna Salai, Nandanam, Chennai – 600 035. A fee of Rs.1,000 + GST/- (Rupees one thousand only), towards the cost of the tender document, along with Earnest Money Deposit (EMD) of Rs.1,10,000 /- may be enclosed in the form of separate Demand Drafts drawn in favour of the Managing Director, TNFDC Ltd. The TNFDC administration will not be responsible for any postal delay or loss of the form in postal transit.

3. SECURITY DEPOSIT:

In case of contracts for Buildings works, the Security Deposit (i.e., 2% of the value of contract minus the E.M.D. already remitted) will be collected at one time only. Equivalent to 2% of the contract value including GST Amount) in the form of separate Demand Drafts drawn in favour of the Managing Director, TNFDC Ltd

Additional security deposit will have to be paid by successful **tenderer if called for.**

4. SALES TAX:

The Tenderer shall quote the rates and prices (both in figures and words) for all the items of the Works described in the Bill of Quantities excluding GST along with sum of the quoted tender value excluding GST at the end (both in figures and words).

5. WITHHELD AMOUNT:

The withheld amount at 5% percent be recovered from each bill based on the value of work done.

6. CLAIMS OF CONTRACTORS ON ACCOUNT OF LOSSES DUE TO UNPRECEDENTED FLOODS AND OTHER ACTS:

The work executed by the contractor under this contract shall be maintained at the contractor's risk until the work is taken over by the Engineer in Charge. The TNFDC Ltd., shall not be liable to pay for, any loss of damages occasioned by or arising out of fire, flood, volcanic eruption, earth quakes, other convulsions of nature and all other natural calamities, risks arising out of acts of God during such period and that the option whether to take insurance coverage or not to cover such risks is left to the contractor.

7. STANDARD SPECIFICATIONS:

For detailed description of various items of work to be executed in addition to the brief description given in the schedule and for the rights and obligations of the Contractors etc, the attention of the contractors is invited to Tamil Nadu Building practice which should be followed in all respects both in letter and spirit. The materials used, the workmanship, the mode of execution of the work etc., should conform to relevant specification of TNBP or Indian Standard Specifications as may be specified.

8. SAFETY CODE:

The safety measures and all amenities for the labours shall be made by the Contractor at his cost as indicated in the safety code vide appendix to General Conditions to Contract and clause 34,35 and 42.1 to 42.6 of General Conditions to

Contract.

9. RETENTION OF 2½% FOR ONE YEAR:

In case of contract for construction of building either permanent or semi Permanent buildings, a sum equivalent to 2½ % of the value of work done will retained with the TNFDC for a period of one year reckoned from the date of completion of the work in order to enable the TNFDC officials to watch the effect of all seasons on the work done by the contractor. The amount so retained with the TNFDC Ltd, will be refunded, only on expiry of one-year period referred to above and on execution of indemnity bond by the contractor for further period of four years.

The contractor shall be liable to set right all defect arising out his faulty execution of sub standard work notice during the above five years period at his cost **(G.O.Ms.No.283/PW(G2) Dept. / Dt.21.05.99).**

In addition to the aforesaid security deposit, retention amount shall be deducted from the running account bills, a sum equivalent to 5% (Five Percent) of the total value (including the Goods and Services Tax (GST) Amount for all the running account bill) of each bill as retention money out of the 5% retention amount, 2½ % (Two and half Percent) of the total value of the work so far executed will be released to the contractor on payment of final bill, and in the final bill, the Goods and Services Tax (GST) amount retained in previous payment has to be released to the contractor without interest.

And the balance 2½% will be retained for a period of 1 year reckoned from the date of completion of the work, as all defects shall have been made good according to the true intent and meaning hereof, whichever shall happen last.

The retention money of 2½% including GST (Two and a Half Percent) of the total value of contract after deducting any amount due to the Department, shall be refunded to the Bidder without interest after the defects liabilities attached to the contract is over.

SPECIAL INSTRUCTIONS TO THE TENDERERS

Part – I

1. The tenderer should fill up the Annexure to the Tender schedule furnishing there to the required information.
2. The tenderers should furnish the particulars of name, address and technical qualification of the Technical Assistant proposed to be employed by them to look after the execution of this work as per terms and conditions of the contract.
3. All pages of the tender should be signed by the tenderer and corrections in rates should be duly attested by them.
4. A copy of the tenderers registration in P.W.D., as a contractor shall be attached with the tender.
5. Current Income Tax Clearance Certificate shall be enclosed with the tender or the tender on which the Income Tax Clearance Certificate for the current year was submitted to this office should be specified.
6. The following particulars shall also be furnished by the contractor along with the tenders.
 - a. A list of details of works executed by the contractors with their value.
 - b. A list of details of works under execution by the contract with their values.
 - c. Annual turnover of the contractor for the last one year. Necessary certificate to the effect issued by the respective Bank shall be attached.

Part-II

1. The tenders should carefully go through the tender schedule and quote their rates for all times.
2. The rates/percentage should be filled in neatly in figures and in words and taking into account the metric units specified in the tender, scribbling, over writings and erasing should be avoided as far as possible.
3. The amount of each item of work should be worked out. Proper care must be taken in working out the amount of each item of work taking into account the unit for which the rates quoted and the quantity of work to be done under the item.

4. The total from each page should be arrived at and carried over to every page and the grand total value of work should be worked out and shown at the end.
5. The tender should be submitted along with the covering letter giving full details as called for in the tender notice and with particulars of following items.
 - a. Whether they are registered contractors if registered together with the copy or letter registering them in the appropriate class.
 - b. Details of the earnest Money Deposit remitted such as, D.D., in which the earnest Money Deposit was paid.

In case the tenderers are eligible for concessional Earnest Money Deposit and accordingly they have tendered their no. and details from which the concession was granted to them to be specified and if possible a copy of this aforesaid reference may be enclosed along with the tender for ready reference.

- c. Details of previous work done by the tenderers covering the cost of work the agreement no and date, the Department in which the work was carried out etc., so as to assess the previous experience of the tenderers at once, and also make an easy for reference to their record of every year details should be furnished so as to see that the tenderers have minimum experience of major buildings.
 - d. List of various machinery and other equipment at the tenderer's disposal for use in the execution of the work.
 - e. The tender form should be filled in while submitting the tender. The tenders submitted without filling up the tender form is liable to be rejected.
 - f. The certificates showing the annual turnover of the Contractor for the last one year issued by the respective bank shall be attached.
6. The tenders must be submitted in a **foolscap cover** thereby duly signing all the conditions, Plans and schedule issued as tender documents.

7. POSTALTENDER.

a) The Contractors may have the option to present the tender directly or to send it by Registered Post with acknowledgement due on or before the last date for receipt of tenders i.e. **20.04.2022** Upto 15.00Hours.

b) i) In case of sending tenders by registered post with acknowledgement due, it is the responsibility of the tenderer himself to dispatch the tender sufficiently early so as to reach the tender opening authority before the date notified in the Tender Notice for opening of tenders.

ii) The tender registered in the post office after the due date will not be considered.

c) No representation, appeal of any kind will be allowed against belated receipt of tender by post beyond the notified date or loss in transit etc.,

d) Tenders offered in person before the last due date, postal tenderes received will be opened in a consolidated manner as usual on the notified date for opening of tenders.

Add New Conditions for Goods and Services Tax (GST)

The Government of India has notified vide Notification No. 20 / 2017 – Central Tax (Rate), dated 22nd August, 2017 and Notification 21 No.24 / 2017 – Central Tax (Rate), dated 21st September, 2017, the concessional rate of the Goods and Services Tax (GST) at 12% [CGST at 6% + SGST at 6%] is leviable for any Government Contract, whether Civil or Electrical, irrespective of the Goods and Services Tax (GST) rate applicable on purchase of goods used in the execution of Government Contract.

And the GST amount will be calculated at 12% from the sum of total tendered value quoted by the tenderer for construction cost (excluding GST) specified in the BOQ, Subject to GST rate applicable from time to time as recommended by the GST Council.

“All duties, taxes, and other levies except GST, payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder”

INPUT TAX CREDIT (ITC)

a) As per Notification 202, dated 29.06.2017 and as per sub-section (2) of Section 7 of the Tamil Nadu Goods and Services Act, 2017, (Tamil Nadu Act 19 of 2017), activities or transactions undertaken by State Government shall be treated neither as supply of goods nor a supply of service.

b) As per Chapter IX (Section 41) of the Tamil Nadu Goods and Services Act, 2017, every registered persons may be entitled to take the credit of eligible input tax, as self-assessed, in his return and such amount shall be credited on a provisional basis to his electronic credit ledger.

c) As per PWD Revised SoR (2017-18), dated 21.10.2017, under General Note, 8 (ix), the Contractor is eligible to get refund of excess tax paid over or liable to pay tax for this Contract Work.

TOTAL TENDER PRICE

The total tender price will be the cumulative of value quoted for construction (Total Basic Rate + GST), The amount of EMD is fixed at 1% of the contract value of work put to tender (including the GST Amount)”

NEGOTIATIONS.

The lowest tenderer will be identified who quotes lowest total tender price which including GST as per the clause Negotiation of rates will be made only with the lowest tenderer for reducing the quoted rates and the negotiation will be made for the rates quoted to the items in the construction part alone and not for GST amount.”

“After negotiation with lowest tenderer, the GST amount will be recalculated at 12% of the sum of the Negotiated tender value (excluding GST) for construction cost specified in the BOQ, subject to GST rate applicable from time to time as recommended by the GST Council

AWARD OF CONTRACT

To be substantially responsive to the bidding documents and who has offered the lowest evaluated total tender price (Total Quoted Value including the Goods and Services Tax (GST) Amount).

MINIMUM CRITERIA FOR QUALIFICATION

The Applicant should produce Income Tax Clearance Certificate valid for the current period, VAT Verification Certificate (i.e. previous assessment year) and, TIN number having validity and copy of Goods and Services Tax (GST) Registration No

From

To
The Managing Director,
Tamil Nadu Fisheries Development
Corporation Ltd.,
Chennai-35

TENDER FOR

Sir,

I/wedo hereby tender and if
this tender be accepted undertake to execute the following work viz.

as shown in the drawings and described in the specifications deposited in the office of the **Managing Director., TNFDC Ltd**, with such variation by way of alterations (or) additions in and omission from the said works and method of payment as are provided for in the “Conditions of contract for the sum of Rupees (to be entered in words and figures.) Or such other sum as may be arrived at under the clause of the Standard Preliminary Specifications relating to payment on lumpsum basis or by final measurements at unit prices”.

1.I/we have also completed the priced list of items in schedule “A” annexed (in words and figures) for which I/we agree to execute the work and receive payment on measured quantities as per the general conditions to the contract.

2.I/We do hereby distinctly and expressly declare and acknowledge that before the submission of my/our tender, I/We have carefully followed the instructions in the tender notice and have read the Tamilnadu Building Practice and the general conditions to the contract there in and the Tamilnadu Building Practice Addenda Volume; and that I/We have made such examination of the contract documents and of the plans, specifications, quantities and of the location, where the said work is to be done, and such investigation of the work required to be done and in regard to the materials

required to be furnished as to enable me/us to thoroughly understand the intention of the same and the requirement, covenants, stipulations and restrictions contained in the contract and in the said plans and specifications and distinctly agree that I /we will not hereafter make any claim or demand upon the Government based upon or arising out of any alleged misunderstanding or misconception or mistake on my/our part of the said requirements, covenants, stipulations restrictions and conditions.

3. I/We being a registered Public Works Department contractor enclose an income Tax verification certificate have already produced an Income Tax verification certificate during the current calendar year in respect of (here particulars of the previous occasions on which the certificate was produced should be given). The legal address of the contractor for service of all letters and notices will be as follows:

4. (i) (a) I / We enclose herewith a chalan for the payment of the sum of Rupees as Earnest Money Deposit not to bear interest (to be entered in words and figures)

5.(i) (b) I/We have paid Rs.....(Rupees only as against the E.M.D. of Rs. (Rupees only) Since I am/we are and eligible to pay the E.M.D., at concessional rates.

5. (i)(c) in lieu of cash deposits, I/We have enclosed a..... bearing No. Dated issued by for a value of Rs. (Rupees only) drawn in favour of the **Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai.**

5. (i) (d) I am/We are..... and hence exempted from payment of E.M.D.

6. If my / our Tender is not accepted, this sum shall be returned to me / us on my / our applications when intimation is sent to me/us for rejection or at the expiration of ninety days from the date of this tender, whichever, is earlier. If my/our tender is accepted, the Earnest Money Deposit shall be retained by the Government as security for the due fulfilment of the contract. If upon intimation being given to me/us by the authority authorized by the Governor under Article 299 (i) of the constitution (hereinafter called the accepting authority) of acceptance of my/our tender and if I /we fail to make the additional security deposit, or to enter into required agreement (as specified in class IV of the tender notice) then I/We agree to the forfeiture of the Earnest Money Deposit. Any notice required to be served on me/us hereunder shall be sufficient served on me/us if delivered to me / us personally or forwarded, to me/us by post to (Registered or ordinary) or left at the mail address given herein. Such notice shall, if sent by post be deemed to have been served, on me/us at the time when in due course of post ,it would be delivered at the address to which it is sent.

7. I/We fully understand that on receipt of communication of acceptance of tender, from the accepting authority there emerges a valid contract between me/us and the Managing Director, TNFDC Ltd., and the tender documents i.e., tender notice, tender with schedules. General conditions to the contract and special conditions of the tender, negotiation letter, communication of acceptance to tender, shall constitute the contract for this purpose and be the foundation of rights of both the parties, as defined in clauses (iv) of tender notice, provided that, it shall be open to the accepting, authority to insist on execution of any written agreement by tenderer, if administratively considered necessary or expedient.

I/We have also signed the copy of the Tamilnadu Building Practice and National Building Code and Addenda volume thereto, maintained in the office of the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35, in acknowledgement of being bound by all conditions of the clauses of the General conditions to the contract and all specifications for items of work described by a specification number in Schedule“A”.

8. In consideration of the payment of the said sum of Rupeeor such other sum as may be arrived at under the clause of the General conditions to the contract relating to payment of lumpsum basis or by final measurement at unit prices. I/We agree, subject to said conditions to execute and complete the works shown upon the said drawing serially from Number 1 to inclusive Schedule (B) and described in the specifications Schedule (C) and to the extent of the probable quantities shown in the Schedule (A) with such variations by way of alteration or additions to or deductions from the said work and method of payment therefore as are provided for in the said conditions.

9. The term “Managing Director” in the said conditions shall mean the TNFDC Ltd., in charge of having jurisdiction for the time being over the work, who shall be competent to exercise, all the powers and privileges reserved herein in favour of the TNFDC Ltd., with the previous sanction of or subject to ratification by the competent authorities in case where such sanction or ratification may be necessary and who has been duly authorized under Article 299(1) of the constitution.

10. I / We agree that the time shall be considered as the essence of this contract and to commence the work, as soon as this contract is accepted by the competent authority as defined by the Tamilnadu Public Work Department Code and the site (or premises) is handed over to me/us as provided for in the said conditions and agree to complete the work within.....Six... months from the date of such handing over of the site (or premises) and to show progress as defined in the tabular statement “Rate of progress” subject nevertheless to the provision for extension of time contained in clause 56 of the General conditions to the contract appended to Tamilnadu building practice.

11. I /We agree that upon the terms and conditions of this contract, being fulfilled and performed to the satisfaction of Managing Director, the Security deposited by me/us as herein before cited or such portion thereof, as I/We may be entitled to, under the said conditions be paid back to me/us as provided in clause 64 of the General conditions to the contract.

12. I am/We are professionally qualified and my/our qualifications are as follows:

I/We in pursuance of clause 18 of tender notice under take to employ the following technical staff for supervising the work and will see that one of

them is always at site during working hours personally checking all items of works and paying extra attention to such works as may require (e.g) reinforced cement concrete works.

Sl.No.	Name of technical staff proposed to be employed	Qualification and experience
1.		
2.		
3.		
4.		

13. I /We agree that the Arbitrator for fulfilling the duties set forth in the Arbitration clause of the General conditions to the contract shall be

1. The Managing Director, TNFDC Ltd., in case the value of claim does not exceed Rs.50,000/- (Rupees fifty thousand only).
2. In case of the value of the claim exceeding Rs.50,001/= and above, the remedy will be through the competent civil court only.

G.O.Ms. No. 1868, M.C. dated 6.9.1984 communicated in Chief Engineer (Buildings)'s circular endorsement No. CTO/A/155716/ 84 dated 24.9.1984.

15. On behalf of the Governor of Tamilnadu and as duly authorised by the Governor under Article 299(1) of the constitution the above tender for a value of Rs(Rupeesonly)

Is accepted on this day.....of .. 2022.

Signature of the
witness in full and
address with name
in Block letters

MINIMUM QUALIFYING CRITERIA

- i. The contractor should have minimum 5 years experience on similar nature of work.
- ii. The contractor shall have executed individual work of similar nature costing more than 50% to the value of contract i.e. Rs.75.00 Lakhs under a single agreement in Government or Quasi Government within a period of preceding 5 year. Proof in support of the criteria details duly signed by the Engineer not below the rank of Executive Engineer should be produced by the tenderer.
- iii. The contractor should have a minimum annual turnover of Rs.150.00 Lakhs in anyone of the preceding 5 years. The value of Civil Engineering Contractors amount received in each year in the last five years, available in the ITCC or audited statement of chartered accounts, Electrical tie up, Bid capacity will only be considered to satisfy this criteria.
- iv. The contractor shall have the Technical Assistants to meet the requirement of this contract.
- v. The contractor shall have the minimum tools and plants required for this contract of their own.

Evaluation Criteria

The Tender accepting authority shall cause the evaluation of tenders to be carried out strictly in accordance with the qualifications criteria in terms of the required experience, available construction capacity. Technical and other manpower and financial status furnished along with the tender.

Tenders which on initial examination are found to be not substantially responsive may be rejected by the tender accepting authority.

Out of the tenders found to be substantially responsive after the initial examination, the tenderer who has tendered the lowest evaluated price in accordance with the evaluation criteria shall be determined.

Lumpsum Contract

Tender Notice

The sealed tender will be received by the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35 at his office up to 15.00 hours on 18.03.2022 for the work of **“Construction of 10 MT Ice Plant cum Cold Storage Facilities in Whole sale Fish Market at Ukkadam in Coimbatore District”**.

The tenders so received on **20.04.2022** and those received by post up to 15.00 hours **20.04.2022** will be opened on **20.04.2022** at 15.30 Hours.

The tender should be in the prescribed form obtainable from the office of the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35. The tenders will be opened by the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35 at the place and on the date as forementioned at 15.30 Hours. The tenderers or their agents are expected to be present at the time of opening of the tenders. The tender receiving officer will, on opening each tender, prepare a statement of the attested and unattested corrections therein and hand it over to the tenderer concerned and initial all corrections in the presence of the tenderers. If any tenderers or their agents find it inconvenient to be present at the time, then in such a case the tender receiving officer will, on opening the tender of the absentee tenderer, make out a statement of the unattested corrections and communicate it to him. The absentee tenderer shall then accept the statement of the corrections without any question whatsoever.

2. Tenders must be submitted in sealed covers and should be addressed to the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35. The name of the tender and the name of the work being noted on the cover.

If the tender is made by an individual, it shall be signed with his full name and his address shall be given. If it is made by a firm, it shall be signed with the co-partnership name by a member of the firm who shall also sign his own name and the name and address of each member of the firm shall be given, if the tender is

made by a corporation, it shall be signed by an authorized officer who shall produce with his tender, satisfactory evidence of his authorization. Such tendering corporation may be required before the contract is executed, to furnish evidence of its corporate existence.

3. Each tenderer must also sent a certificate of Income Tax verification form the appropriate Income-Tax authority in the form prescribed therefore. This certificate will be valid for one year from the date of issue for all tenders submitted during the period. In the case proprietary and partnership firm, it will be necessary to produce the certificate afore mentioned for the proprietor or proprietors and for each of the partner as the case maybe.

If the tenderer is a registered P.W.D., contractor and if a certificate for the current year has already been produced by him during the calendar year in which the tender is made, it will be sufficient if particulars regarding the previous occasion on which the same certificate was produced are given.

All tenders received without a certificate as aforementioned will be summarily rejected.

4. Each tenderer must pay as Earnest Money a sum of Rs.1,10,000/- (Rupees one lakh and ten Thousand only) in the form of Demand Draft in favoring of the Managing Director, TNFDC Ltd.. The earnest money will be refunded to the unsuccessful tenderer on application, after intimation is sent of rejection of the tenderer at the expiration of Ninety days from the date of tenders whichever is earlier. The refund will be authorized by the Managing Director, TNFDC Ltd., by Cheque. The earnest money will not be received in cash or currency by the TNFDC Officials. No other mode of payment will be accepted. Bank Guarantee of any kind not be accepted.

The earnest money deposit will be retained in the case of the successful tenderer and will not carry any interest. It will be dealt with as provided in the tender. The successful tenderer should convert the earnest money deposit already remitted and pledge the same in the name of the **Managing Director, TNFDC Ltd.**, before signing the agreement.

5. (i) The tender will remain valid for a period of Ninety days from the last date for receipt of tender. The validity period can be extended further, if the contractor given his consent in writing, specifying the period of extension.
- ii) The tenderer whose tender is under consideration shall attend the Managing Director, TNFDC office before the end of the period specified by written intimation to him. If the tenderer fails to attend the office before the end of the specified period, his tender will not be considered. He shall forthwith, upon intimation being given to him of acceptance of his tender, by the officer duly authorized in this behalf under article 299(1) of the Constitution, hereinafter called the accepting authority, make a security deposit of 2% of the value of contract in one of the forms prescribed in Tamilnadu Public works 'A' code (i.e. by taking into account the amount of earnest money deposit (1% of the estimate cost) already deposited with the tender, it would be sufficient to pay the balance amount to make up the 2% of the value of contract for the purpose of security deposit). The above additional security deposit at 1% will be produced before signing the agreement.. The Bank Guarantee will also be accepted . The security deposit together with earnest money deposit and the amount withheld according to clause 64(1) of General conditions to the contract shall be retained as security for due fulfilment of contract. If such security deposit is made by the contractor, he shall follow the procedure laid down in the preceding paragraph for payment of earnest money deposit and such deposit shall not bear any interest.

- iii) On receipt of written communication of acceptance of tender, if the tenderer fails to pay the requisite security deposit within the period specified in the written communication or backs out from the tender or withdraws his tender, the earnest money deposit shall be forfeited to the TNFDC Ltd.,
- iv) If the contractor fails to carry out the contract after paying the requisite deposit, then he will be liable for the excess expenditure if any incurred to complete the work as contemplated in the general conditions to the contract.

It shall be expressly understood by the tenderer that on receipt of written communication of acceptance of tender from the accepting authority, there emerges a valid contract between the Managing Director, TNFDC Ltd., and the tenderer for execution of the work without and separate written agreement. Hence for this purpose, the tender documents, i.e. tender notice, tender offered by contractor, general conditions to the contract, special conditions to contract, negotiation correspondences, written communication of acceptance, negotiation correspondences written communication of acceptance of tender etc., shall constitute valid contract and that will be the foundation of the rights of both the parties to the contract. Provided that it shall be open to the accepting authority to insist execution of any written agreement by the tenderer, if administratively considered necessary or expedient.

6. The tenderer shall examine closely the Tamilnadu Building Practice and also the general conditions to contract contained therein and sign the office copy of the Tamilnadu Building Practice and the addenda volume in token of such study before submitting his tender unit rates, which shall be for finished work insite. He shall also carefully study the drawing and additional specifications and all the documents connected with the contract. The Tamilnadu Building Practice and other connected documents which form part of the agreement to be entered into by the accepted tenderer such as specifications plans descriptive specification sheet regarding materials etc., can be seen at any time between 10.00 Hours and 17.45 Hours on the office days in the office the Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., A copy of the set of contract documents can also be had on payment of **Rs.9000/-**+ **GST Rs.1080/-** Each set inclusive of sales tax, surcharge thereon.

7. The tenders attention is directed to the requirements, for materials under the clause “Materials and workmanship” in the general conditions to contract, materials conforming to the ISI standards shall be used on the work and the tenderer shall quote his rates accordingly.
8. Every tenderer is expected before quoting his rates/ percentage to inspect site of the proposed work. He should also inspect the quarries and satisfy himself about the quality and availability of materials. The best class of materials to be obtained from the quarries or other sources defined shall be used on the work. In every case the materials must comply with the relevant standard specifications, samples of materials as called for in the standard specifications or in the tender notice, or as required by the Engineer in charge in any case, shall be submitted for the Engineer in charge approval before the supply to site of work is begun. If the contractor, after the examination of the source materials defined in the lead particulars statement , is of the opinion that the materials complying with standard or other specifications of the contract cannot be obtained in sufficient quantities from the source, he shall state clearly in his tender and state wherefrom he intends to obtain materials subject to the approval of the Managing Director, TNFDC Ltd.,

The TNFDC Ltd., will not however, after acceptance of a contract rate pay any extra charges for lead or for any other reason in case the contract or is found later on to have misjudged the materials available. Attention of the contractor is directed to the standard Preliminary specification to contract regarding payment of seigniorage, tools etc.

9. The tenderers’ particulars of attention is drawn to section and clauses in the standard general conditions to contract dealing with
 1. Test, inspection and rejection of defective materials of work.
 2. Carriage
 3. Construction plant
 4. Water and lighting

5. Cleaning up during progress and for delivery
6. Accidents
7. Delays
8. Particulars of payment

The contractor should closely peruse all the specification clauses which govern the rates, which he is tendering.

10. A schedule of quantities accompanies this tender notice. It shall be definitely understood that the TNFDC Ltd., does not accept any responsibility on the correctness or completeness of this schedule and that this schedule is liable to alterations by omission deduction or additions at the discretion of the Managing Director, TNFDC Ltd., or as set forth in the conditions of contract.

The tenderer will however base his lumpsum tender on this schedule of quantities. In the case of percentage tender system for the work costing up to Rs.20 lakhs, the tenderer should note the tender percentage excess/less (instead of quoting specific rate for each item in the schedule for the works with reference to total estimate value put to tender. In case of other works costing more than Rs.20 lakhs he should quote rate for each item. He should quote specific rates for each item in the schedule and the rate should be in Rupees and in sum of five paise. The rates should be written both in words and figures and unit in works. The tenderer should also show the total of each of the them and the Grand total of the whole contract and quote in the tender a lumpsum for which he will undertake to do whole work subject to the contract, such lumpsum agreeing with the total amount of schedule 'A' . This schedule accompanying the lumpsum tender shall be written legibly and free from erasures, over-writings, or conversions of figures, corrections where unavoidable shall be made by crossing out, initialling dating and rewriting.

All percentages quoted in the tender shall be exclusive of sales tax, payable under the General Sales Tax Act as amended from time to time (including amendment Act 28/1984) and that the contractor is responsible to file the Sales Tax Return and pay the amount of tax as demanded by the Commercial Tax Department. No request for payment of Sales Tax separately in addition to tendered

rates due to any pleas of subsequent of levy or increase in tax will be entertained vide also Clause 38 (2) of General Conditions to contract.

11. Tenderers offering a percentage deduction from or increase on the estimate amount (except in the case of tender called for specifically under the percentage/ rate tender system) and those not submitted in proper form or in due time will be rejected. Rates or lumpsum amount for items not called for shall not be included in the tender. No alteration which is made by the tenderer in the contract from, the conditions of contract, drawings, specifications or quantities accompanying same will be recognised, and if any such alterations are made, the tender will be avoid.
12. The tenderer should workout his own rates, without reference being made to the Public Works Department current schedule of rates or the Public Works Department estimate rates which are not open for inspection by tenderers. However, in case of tenders called for under the percentage rate tender system thet enderers should work out his own rate, but quote his percentage rate above or below, the total estimate cost of work of the department indicated in the tender schedule.
13. The price at which and the source from which certain particular materials shall be obtained by the contractor or given at the end of the schedule accompanying the tender form. The tenderers must accept the materials at these prices and shall quote their price for finished work accordingly. Not with standing any subsequent change in the market value, for those materials, the charge to the contractor will remain as originally entered in the written Contract. No centage or incidental charges will be borne by the Government in connection with this supply.
14. The attention of the tenderers is directed to the contract requirements to the time or beginning work, the rate or progress and the dates for the completion of the whole work and its several parts. The following rates of progress and proportionate value of work done from time to time, as will be indicated by the Managing Director, TNFDC certificates of the value of work done will be required. Date of commencement of this programme will be the date on which the site (or premises) is handed over to the contractor.

Period after date of commencement	Percentage of work completed (Based on the contract lumpsum amount)
First three months	50%
Second three months	100%
TOTAL SIX MONTHS ONLY	100%

15. No part of the contract shall be sublet without written permission of the Managing Director, TNFDC Ltd., nor shall transfer be made by power of attorney authoring others to receive payment of the contractor's behalf.
16. If further necessary information is required , the Managing Director, TNFDC Ltd., will furnish such , but it must be clearly understood that the tenders must be received in order, and according to instructions.
17. The Managing Director, TNFDC Ltd., or other sanctioning authority reserves the right to reject any tender or all the tenders.
18. The tenderers who are themselves not professionally qualified shall undertake to employ the qualified technical men at their cost to look after the work. The tenderers should state in clear terms whether they are professionally qualified or whether they undertake to employ technical men required by the department specified in the schedule below for the work. In case the selected tenderer is professionally qualified or whether they undertake to employ technical men required by the department specified in the schedule below or has undertaken to employ technical men under him, he should see that one of the technically qualified men should always be at site of the work during working hours personally checking all the items of works and paying extra attention to such works as may demand special attention e.g. reinforced concrete works etc.

THE SCHEDULE

Value of contract	Minimum qualification and no. of technical persons to be employed.
1. Above Rs.1,00,000/- and up to Rs.5.00lakhs	1. One diploma holder in Civil Engineering (Or) 2. Not less than one retired junior engineer.
2. Above Rs.5.00 lakhs and up to Rs.10.00lakhs	1. One B.E., (Civil)(or) 2. Equivalent Degree holder(or) 3. Not less than one retired sub Divisional officers AEE/ADE (or) One Diploma holder with three years experience.
3. Above Rs.10.00 lakhs and up to Rs.25.00lakhs	1. One B.E., (Civil) with 3 years experience plus one Diploma holder in Civil Engineering.(or) 2. Equivalent Degree holder with 3 years experience plus one Diploma holder in Civil Engineering.(or) 3. Not less than one retired Sub-Divisional officer (AEE or ADE) plus one diploma holder in Civil Engineering.(or) 4. Two Diploma Holder in Civil Engineering with 3 years and 5 years experience respectively.
4. Above Rs.25.00 lakhs and up to Rs.50.00lakhs	1. One B.E., (Civil) with 3 years experience plus two Diploma holder in Civil Engineering.(or) 2. One B.E., (Civil) with 3 years experience plus two retired junior Engineering.(or) 3. Equivalent Degree holder with 3 years experience plus two Diploma holders in Civil Engineering / two retired junior engineers. (or) 4. One retired Sub Divisional Officer (AEE or ADE) plus two Diploma Holders in Civil Engineering.(or) 5. One retired Sub Divisional Officer (AEE or ADE) plus two retired Junior Engineers.
5. Above Rs. 50.00 lakhs	1 One B.E. (Civil) or equivalent degree holder with three years experience or not less than one retired Assistant Executive Engineer. AND 2 One B.E. (Civil) or equivalent degree holder AND 3 One more diploma holder in Civil OR One retired Junior Engineer

Note : Item 1 2,3,4,5 should be scored-out in case where not applicable to the particular work.

Note (2): A penalty of Rs.2000/- per month, for Diploma holder and for Rs.5000/- per month for degree holder, be levied in the case of default on the part of contractors in following the norms laid down above.

Note (3): The employment of technical assistants would be based only on the value of contract. Engineers, with mechanical engineering qualification and retired from civil engineering departments are also suitable to supervise the civil engineering works because of their experience in civil engineering field.

Note(4) : In case the contractor who is professionally qualified and not in position to remain always at the site of the work and to pay extra attention to such as may demand special attention (e.g) RCC work etc., he should employ technical qualified men (as prescribed above).

Note (5) : It will not be incumbent on the part of the contractors to employ Technical Assistant / Assistants when the work is kept in abeyance due to valid reasons and if during such period in the opinion of the Executive Engineer/ Engineer incharge the employment of Technical Assistant / Assistants is not required for the due fulfilment of the contract.

19. A tenderer submitting a tender which the tender accepting authority considers excessive and or indicative of insufficient knowledge of current prices or definite attempt at profiteering will render himself liable to be debarred permanently from tendering or for such period as the tender accepting authority may decide. The tender rates should be based on the controlled price for materials if any, fixed by the Government or the reasonable price permissible for the tenderer to charge a private purchase under the provisions of Clause 8 of Hoarding and the Profiteering Prevention Ordinance 1943 as amended from time to time and on similar principles in regard to labour and supervision in the construction.

20. The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued there under from time to time. If he fails to do so, his failure will be a breach of the contract and the competent authority, may at his discretion, cancel the contract or invoke any of the penalties for breach of contract provided in the conditions of contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the Act. The contractor shall during the currency of the contract ensure engagement of the apprentices in the categories mentioned below, who may be assigned to him by the Director of Employment and Training/State apprenticeship Advisor, TamilNadu. The Contractor shall train them as required under the apprentices Act 1961, and the rules made there under and shall be responsible for, all obligations of the employer under the said act including the eligibility to make payments to the apprentice as required under the said Act.

Value of contract	Category	No. to be appointed
Rs. 1 lakh and up to Rs. 3 Lakhs	❖ Building constructor	1
	❖ Bricklayer	1
Above Rs. 3 Lakhs and up to Rs. 10 lakhs	❖ Building constructor	1
	❖ Bricklayer	1
	Diploma holder in civil Engineering	1
Above Rs. 10 Lakhs and up to Rs. 50 lakhs	1. Building constructor	1
	2. Brick layer	1
	3. B.E., (Civil) or Equivalent Degree holder	1

Unless the contractor has been exempted from engagement of apprentices by the Director of employment and training / State Apprenticeship Advisor, a certificate to the effect that the contractor had discharged his obligation under the said Act, satisfactorily should be obtained from the Director of Employment and Training / State Apprenticeship Advisor and the same should be produced by the contractor for final payment in the settlement of the contract.

21. The contractor should employ one I.T.I. trained mason for every ten masons or part thereof, in case of non – availability of ITI trained masons, the contractor should obtain the prior approval of the Engineer incharge concerned, before proceeding with the contract with other kind of masons.
22. The fact of submitting the tender implies that the tenderers have actually inspected the site of work and have examined before tendering the nature and extent of various kinds of soils at various depths and have based their tender in such examinations by them and no future representation in this regard will be considered.
23. (i) The contractor shall be solely responsible for the payments of Sales Tax under the provisions of the Madras Central Sales Rules Tax Act, 1939 (Madras Act II of 1939) as in force for various items of work . Time being and the rates for the various items of work shall remain unaffected by the changes that may be made from time to time in the rate at which such tax is payable. Sales tax and the materials supplied to the contractor as amended from time to time shall be paid by them separately and the relevant chalans produced to the departmental officers.

(ii) The Contractor shall pay Sales Tax as per net provision under 7F for deduction of Tax at source introduced in Tamilnadu General Sales Tax Act, 1959 by TamilNadu Act, 15 of 1999. Accordingly 2% in respect of civil work to be deducted . The procedure being followed for deduction of Income tax at source may be followed in respect of Sales Tax on works contract also.

The Managing Director, TNFDC Ltd, reserves to himself the right of allotting the different sub-works to the different contractors or to one and the same contractor as he may decide after the receipt of tender.

24. Additional security to be furnished for the lesser rates:

On evaluation of tender, if it is found that if the overall quoted amount of the tender is less than 5 to 15% of the value put to tender, the contractor shall pay an additional security at 2% of the estimated value. If the tender discount exceeds 15% to 20% the contractor shall pay an additional security deposit of 50% of the difference between the quoted amount and estimate amount. Failure to furnish the additional security deposit within 15 days from the date of receipt of acceptance order and execute the agreement shall entail cancellation of award contractor and forfeiture of EMD furnished.

26. In case of contractor for construction of buildings either permanent or semi-permanent buildings, a sum of equivalent to 2½ % of the value work done will be retained by the TNFDC Ltd., for a period of one year reckoned from the date of completion of the work in order to enable to TNFDC Officials to watch the effect of all seasons on the work done by the contractor. The amount so far retained with the TNFDC Ltd., will be returned only on the expiry of one year period referred to above and on execution of indemnity bonds by the contractor for a further period of four years. The contractor shall be liable to set right all defects arising out of faulty execution or sub-standard work noticed during the above five years period at his cost.

27. The contractor is bound by all the conditions of the clauses of the general conditions of contract amended from time to time.

28. In the event of work if transferred to any Engineer who is in-charge of the Division / Sub-Division having jurisdiction over the work shall be competent to exercise all the powers and privileges reserved in favour of the TNFDC Ltd.

MANAGING DIRECTOR, TAMIL NADU FISHERIES DEVELOPMENT
CORPORATION LIMITED,

CHENNAI-35

SECTION. II

LIST OF DRAWINGS SCHEDULE.

SCHEDULE. B.

Name of work: **“CONSTRUCTION of 10 MT ICE PLANT CUM COLD STORAGE
FACILITIES IN WHOLESALE FISH MARKET AT UKKAMDAM IN COIMBATORE
DISTRICT”**

Sl. No.	C.A. Job No.	Drawings No.	Description.
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Sd./-MANAGING DIRECTOR

EXTRACT OF AMENDMENT

Amendment to clause 69.1 of General Conditions, contract based on orders in G.O.Ms.No.1152/ PW/DT.19.6.80.

MODIFICATION AND AMENDED IN G.O.Ms.No.

Cause – 69-1 – of General conditions of contract :

In case of any dispute or difference between the parties to the contract either during the progressor after the completion of the works or after determination, abandonment or breach of the contractor as to any other matter or thing arising there under except as the matters left to the sole discretion of the Managing Director, TNFDC under clause 18,20,25-3-27-1, 34, 35 and 37 of General conditions of contract or as to the withholding by the Managing Director, TNFDC of the payment of any bill to which the contractor may claim to be entitled, the either party shall forth with give to the other notice or such of difference and dispute or difference shall be and is hereby referred to the arbitration of the Managing Director, TNFDC of the nominated circles mentioned in the articles of agreement (herein after called the Arbitrator) in cases where the value of claim is less than or up to Rs.50,000/-.

In case where the value of claim is more than Rs.50,000/- the parties will seek remedy through the competent civil court.

Execution of Civil and Electrical works in a single agreement as per G.O.(Ms).No.16

P.W(G2) Dept,Dated:17.01.2018

- a) This Project is proposed to be executed with Civil and Electrical works in a single agreement, as one package.
- b) The Civil contractor while offering for tender, has to furnish an undertaking from the Electrical Engineer, who is having Electrical License issued from Electrical Licensing Board, Government of Tamil Nadu stating that the concerned electrical works will be executed under his supervision.
- c) Electrical contractor has to engage qualified Civil engineers with good credentials in Civil engineering works. They have to produce consent letters from the Civil Engineers stating that they are willing to work in that particular site.

SPECIAL CONDITION FOR ERADICATION OF CHILD
LABOUR

G.O.(MS) No.53 Labour and Employment (V II) Department, Dated 12.5.03

The work contract assigned to the Contractor's shall be cancelled, if they engage Child Labour in executing works and such Contractors should be black listed for three years.

PART –IV
SPECIAL
CONDITIONS

1. Clean fresh water and river sand shall be used in all cases.
2. Only clean fresh water shall be used on the work. The contractor shall make his own arrangements for water and shall meet all charges therefore. The special attention of the contractor is drawn to clause 36 General conditions of contract regarding water and lighting.
3. The broken stone for concrete and RCC works should be granted and passed by the Engineer in charge.
4. All iron work or steel work of every kind except steel rods that are to be embedded in cement concrete shall immediately arrive at the site and properly scrapped with wire brush and given a priming coat of approved lead painting without claiming for extra.

5. **HOLDFASTS:**

Iron holdfasts shall be fixed in the walls using cement mortar 1:3 for that portion of fixing at the time of construction of walls. It should be mixed with cement concrete 1:3:6 using 20mm gauge broken granite stone jelly for proper anchorage and binding. No separate rate for such pockets of concrete filling at holdfast points and for using C.M. 1:3 for that portion, will be allowed and this will be measured as masonry along with adjacent masonry.

6. **WOOD:**

Teakwood shall be best Indian Teakwood only and shall be subject to inspection and approval by the Engineer incharge before use on the work. Country wood where specified shall be Karumarudu, Pillamarudu, Kongu, Venteak for scantling and Manja Kadambu, Aiyini for planks as may be specified and approved by the Engineer in Charge.

7. Holes and charges of electric wiring, water supply and drainage etc., shall be provided as directed during progress of work without any claiming extra.
8. The work will be carried out with the least hindrance to the adjoining building and offices and the contractor will be responsible for any damages, caused to the existing fixtures, electric fittings etc., in the course of execution and the contractors shall make good of damage without claiming extra.

9. **T. BEAMS:**

In the case of 'T' Beams and ELL beams, the quantity given in the schedule is

the quantity of the rib portion only. The top flange portion will be always measured with the general slab portion and paid for at the slab portion only. For all RCC works the rate shall include the treatment of bearing as per specification No. 30 of TNBP.

10. CONCRETE WORKS:

All exposed concrete surface will be required to be finished by cement plaster as per specification No. 30E (a) of TNBP.

11. PLASTERING CONCRETE :

All corners shall be finished sharp using C.M. 13 not exceeding 3 inch width on each side of the corner. So also the edges of beams of door and windows opening soffits, shall be finished sharp using rich mortar and finished truly vertical or horizontal as the case may be. The unit rate quoted by the contractor for plastering shall be inclusive of the cost of finishing as above and so separate claim for extra rate will not be entertained. However, the cement utilized for the work will be taken into consideration in the adequacy statement for issued of departmental cement to the contractor.

12. WORKS IN DIFFERENT FLOORS:

If separate rate is not called for, for execution of similar items of work in different floors, then, single rate quoted will alone be entertained uniformly for execution of such items of works in different floors. No claim for extra rate will be entertained under any circumstances.

13. The Managing Director reserves the right to split up the work and entrust the main work, internal water supply and sanitary arrangements to different contractors.

14. The projection if any to the masonry will be measured under the relevant items and no extra will be paid for finishing the same.

15. (i) The works in Tamil Nadu Fisheries Development Corporation Ltd., executed by the contractor under the contract shall be maintained at contractors' risk until the work is taken over by the Managing Director, TNFDC . The Contractor shall accordingly arrange his own insurance against fire, flood, volcanic eruption, earthquake, other convulsions of nature and other natural calamities, risks arising out of acts of God. During such periods and that the Government shall not be liable for any loss or damage occasioned by or arising out any such acts of God.

Payments for centering works for all RCC items shall be made only after the concrete is laid, even though separate rate is called for, for centering works in the schedule.

15. Concrete For R.C.C.works

All cement concrete for RCC works shall be machine mixed and vibrated.

Additional specifications :

1. The arrangements of M.S. Rods for reinforcement for such RCC works shall be in accordance with departmental drawing supplied.
2. The planks for forms and centering for RCC works shall be of well seasoned timber approved by the Engineer incharge according to clause 8 of TNBP 30. They must be made smooth and even perfectly level to top so as to give smooth and even finish to the RCC ceilings. Alternatively the contractor should use steel sheets over wooden firms centering and form work shall be provided to the extent and as ordered by the Managing Director, TNFDC during the execution
3. All times mortar shall be ground mixed in mortar and will be as per T.N.B.P.
4. M.S. steel rods should be cut and placed as reinforcement with proper care according to the available rods at site so as to ensure the minimum possible wastage.
5. Ordinary the contractor shall be responsible for the collection of all materials required for the work.
6. The required G.I. Pipes if available will be supplied free of cost of site of work. The Surplus G.I. Pipes if any will be returned in good condition to the department failing which double the cost at market rate plus centage charges will be recovered form the contractor.
7. Construction Materials;

Supplemental to clause of 20 of General conditions.

Cement:

The contractor has to make his own arrangements for the procurement of cement to required specification for the works subject to the following:

- a. The contractor shall procure cement required for the works only from reputed cement factories (Main producer or their authorized agents, manufacturing cement at I.S.I. standard) acceptable to the Engineer-in-charge. The contractor shall be required to furnish to the Engineer – in-charge bills of payment and test certificates issued by the manufacturer or their authorized agents to authenticate procurement of quality cement from the approved cement factory. The contractor shall make his own

arrangements for safe haulage and adequate storage of cement.

- b. The contractor shall procure M43 Grade Portland Cement in standard packing of 50 kg per bag from the authorized manufactures. The contractor shall make necessary arrangements at his own cost to the satisfaction of Engineer-in-charge for actual weighment of random sample from the available stock and shall conform with the specification laid down by the Indian standards institution or other standard foreign insituation as the case may be. Cement shall be got tested for all the tests as directed by the Engineer-in-charge at least one month on advance before the use of cement bags brought and kept on site godown.
- c. The employer will furnish air retraining agents and admixtures required to the contractor free of cost at the employer stores. The use of such admixtures and agents shall be made as per the instructions of the Engineer-in-charge. The cost of cartage / storage handling batching mixing shall be borne by the tenderer for concrete.
- d. The cement shall be brought at site in bulk of approximately 50 Tonnes or as decided by the Engineer-in-Charge for large works.
- e. The Cement godown of the capacity to store a minimum of 1000 bags of cement shall be constructed by the contractor at site of work, for which no extra payment shall be made. The contractor shall facilitate inspection of the cement godown by the Engineer-in-Charge at anytime.
- f. The contractor should store the cement for 60 days requirement at least one in advance to ensure the quality of cement brought to site and shall not remove the same without the written permission of engineer-in-charge.
- g. The contractor shall forth will remove from the works area and cement that the Engineer- in-charge may disallow for use on account of failure to met with required quality and standard.
- h. The contractor will have to construct sheds for storing cement having capacity not less than the cement required for 90 days use at approved locations. The Engineer-in-Charge of the representative shall have free access to such store at all times.
- i. The contractor shall further at all times satisfy the Engineer-in-charge on demand by production of records and test books or by submission of returns and other proofs as directed that the cement is being used as

tested and approved by Engineer-in-charge for the purpose and the contractor shall at all times, keeps his record up to so as to enable the Engineer-in-Charge to apply such checks as he may desire.

- j. Cement which has been unduly long in storage with the contractor or alternatively has deteriorated due to inadequate storage and thus become for use on the works will be rejected by the Department and no claim will be entertained. The contractor shall forth will remove from the work area any cement the Engineer-in-charge may disallow for use of work and replace by cement complying with the relevant Indian standards.

Steel:

The contractor shall provide mild steel (MS) reinforcement basis, High yield strength deformed (HYSD) bars, rods and structural steel etc., required for the works only from the main and secondary producers manufacturing steel or other authorized agents to the prescribed specifications of Bureau of Indian standards requirements and licensed to affix I.S.I. test certificate issued by the Govt. approved laboratory certification marks and acceptable to the Engineer-in-Charges, necessary I.S.I. test certificate are to be produced to Engineer-in-charge before use in works.

The diameters and weight of steel should be as follows:

S. No.	Diameter of rod		Sectional weight in kg per running metres both for plan & HYSD steel
1.	6	Millimeters	0.22
2.	8	Millimeters	0.39
3.	10	Millimeters	0.62
4.	12	Millimeters	0.89
5.	14	Millimeters	1.21
6.	16	Millimeters	1.58
7.	18	Millimeters	2.00
8.	20	Millimeters	2.47
9.	22	Millimeters	2.98
10.	25	Millimeters	3.85
11.	28	Millimeters	4.83
12.	32	Millimeters	6.31
13.	34	Millimetres	6.71
14.	36	Millimeters	7.99
15.	40	Millimeters	9.86
16.	42	Millimetres	10.88

Note if any rods other than those specified above are used the weight shall be as per standard steel tables.

Act No. 15 of 1999, Tamilnadu General Sales Tax (Fifth Amendment) In let further to amend the Tamilnadu General Sales Tax, Act 1959

1. (1) This Act may be called the Tamilnadu General Sales Tax (Fifth Amendment) Act 1999.

(2) It shall come into force on such date as the State Government may by notification, appoint.

2. After section 7-F of the Tamilnadu General Sales Tax Act 1959, the following section shall be inserted namely.

7-F Deduction of tax at source in works contract (1) not with standing any thing contained in this Act, every person responsible for paying any sum to any dealer for execution of works contract shall at the time of the payment of such sum, deduct an amount calculated at the following rate, namely

(i) Civil Works Contract – Two percent (2%) of the total amount payable to such dealer

(ii) All other works contract–Four percent of the total amount pay able

to such dealers. Provided that no deduction under sub-section (1)

shall be made where.

- a. no transfer of property in goods (whether as goods or in some other form) is involved in the execution of such works contractor.
- b. The dealer produces a certificate from the assessing authority concerned that the he has no liability to pay or has paid the tax under section 3-B or section 7-C, or
- c. Declared goods are purchased from a registered dealer within the state and of works contract in the same form in which such goods were purchased.

Provided further that no such deduction shall be made under this section where the amount or the aggregate of the amount paid or credited or likely to be paid, during the year by such person to the dealer for

execution of the works contract including civil works contract does not or is not likely to exceed one lakh rupees.

Explanation, for the purpose of this section

(i) the term person shall include

- (a) the central or a state government
- (b) a local authority
- (c) a corporation or body established by or under a central or state Act,
- (d) a company incorporated under the companies Act. 1956 (Central Act 1 of 1956), including a central or state government undertaking.

(e) a society including a Co-operative society

(f) an educational institution(or)

(g) a trust

(ii) the term “Civil Works Contract” shall have the same meaning as in the Explanation to section 7-c.

1. Any person making such deduction shall deposit the sum so deducted to such authority in such manner and within such time, as may be prescribed.
2. Any person who makes the deduction and deposit, shall within fifteen days of such deposit issue to the said dealer a certificate in the prescribed form for each deduction separately and send a copy of the certificate of deduction to the assessing authority, having jurisdiction over the said dealer together with such documents, as may be prescribed.
3. On furnishing a certificate of deduction referred to in sub-section (3) the amount deposited under sub-section (2), shall be adjusted by the assessing authority towards tax liability of the dealer under section 3-B or section 7-c, as the case may be and shall constitute a good and sufficient discharge of the liability of the person making deduction to the extent of the amount deposited.
4. Any person who contravenes the provisions of sub-section (1) or subsection (2) shall pay in addition to the amount required to be deducted and deposited interest at two percent per month of such amount for the entire period of default.
5. Where the dealer proves to the satisfaction of the assessing authority that he is not liable to pay tax under section 3-B or section 7-C, the assessing authority shall refund the amount deposited under sub-section (2) after adjusting the arrears of tax if any due from the dealer in such manner as may be prescribed.
6. The tax or interest under this section shall become due without any notice of demand on the date of actual for the payment by the person as provided under sub-sections (1) and (2).

(By order of the Managing Director)

ADDITIONAL CONDITIONS : 1

1. Paints of approved quality are to be procured by the contractor himself and used on the work . The paint tin must be opened in the presence of Section officer/ Sub Divisional Officer and then only used on the work after getting the approval of the concerned officers.

2. The contractor shall be responsible for the safe custody and storage of materials under any conditions of the places where the works are approved by the Managing Director.

3.No royalty shall be charged, where due for materials, quarried from the public works department of district board of their government quarries, assistance as necessary will be given to the contractor by the P.W.D., to obtain access to quarries approved by Executive Engineer. No plot rent shall be charged so far as materials stocked in the Government land during the course of construction provided such materials are removed within the month-after the works is completed.

4. Royalty (or) charges due for use of private quarries and private and shall be paid by the contractor.

5. The contractor shall form his own approach road to the works site for which no extra charge will be due to him. On completion of work, the contractor shall not be permitted to remove the materials, laid for formation of road if the contractor, is allowed to used the existing road he shall maintain them in good condition at his own cost, throughout the period of the contract.

6. Any surplus materials remaining at the site will not be generally taken over by the department whether before or after the completion or determination of contract. Such materials either which were originally produced by the contractor (or) were issued to them by the department and charged to their accounts are the property of the contractors and can however be taken over by the department if required for use on other which are in progress only the special arrangements and at the prevailing market rates viz., the rates at which the article or articles of a similar description can be procured at a given time from public market.

If the materials were originally used by the departments the price allowed to the contractor on requisition shall not exceed the amount charged to the contractor excluding the cost of storage charges if any.

7. The surplus materials which were originally issued to the contractor by the department for use in the work shall not be removed from the site of work without getting the written permission of Managing Director, TNFDC Ltd.,
8. If night work is required to fulfil the agreed rates of progress all arrangements shall be made by the contractors inclusive of lighting without any claim for extra rates.
9. The contractor shall not employ the labour below the age of 18 years and shall also note that he must offer employment to Ex-servicemen ex toddy tappers and unemployed agricultural labourers as far as possible.
10. Any of the item in the schedule may be omitted or radically altered. No variation in rate shall become payable to contractor on account of such omissions (or) variation in quantities.
11. References to TNBP in the schedule of quantities referred to printed. 1985 and 1988 and addenda and corrigenda issued thereafter.
12. The construction of building will be deemed to be completed only if any items of works including finishing items of works contemplated therein are executed.
13. The contractor shall abide the contractor's labour regulation or the P.W.D, framed by the Tamilnadu Government.
14. In respect of all contract with contract value exceeding Rs.5,000/- income tax 2% of the gross of amount irrespective of the bill amount payable to the contractor will be recovered atsource.
15. The sales tax clearance certificate should be furnished before the finalization of contract.
16. 16.(a). E.M.D:

The acceptance of E.M.D. in various approved forms is subject to the specific condition that the successful tenderer should pay the security deposit (including E.M.D.) in the form of Demand Draft in favour of the Managing Director in lieu of other mode of payment made for E.M.D.

(b) Security deposit:

In case of contractors for building works the security deposit (i.e.2%) of the value of contract minus the E.M.D. already remitted is to be produced in the shape of Demand Draft to the Managing Director, TNFDC Ltd., before signing the agreement.

17. SalesTax:

All rates quoted in the tender shall be inclusive of Sale Tax payable under General Sales Tax Act, as amended from time to time including amended act of 28.84 and the contractor is responsible to file sales tax return and pay the amount of tax as demanded by the commercial tax department. No request for payment of sales tax

separately in addition to tendered. Sales Tax due to any plea of subsequent levy (or) increase in tax will not be entertained. vide also clause 38 (2) of general conditions to contract.

18. Risk Insurance:

The work executed by the contractor under these contract shall be maintained at the contractors risk, until the work is taken over by the Managing Director. The TNFDC Ltd., shall not be liable to pay for any loss or damages occasioned by or arising out of fire, flood, volcanic eruption, earth quake, other convulsion of nature calamities, risks arising out of acts of God during such period and that the option whether to take insurance coverage or not to cover such risks is left to the contractor.

19. Standard specifications:

For detailed description of various items of works to be executed in addition to the brief description given in the schedule A and for the rights and obligations of the contractors etc., the attention of the contractors is invited to Tamilnadu building practice which should be followed in all respect both in latter and sprit. The materials used, the workmanship, the mode of execution of the work etc., should confirm the relevant specification on TNBP.

20. Safetycode:

The safety measures and all amenities for the labours shall be made by the contractor at his cost as indicated in the safety code vide appendix to general conditions to contract and clause 34, 35 and 42-1 to 42-7 of general conditions of contract.

21. Retention of 2 ½% for one year:

In case of contracts for construction of buildings either permanent (or) semi-permanent buildings a sum equivalent to 2 ½% of the value of work done will be retained with the Government for a period of one year reckoned from the date of completion of the work done by the contractor. The amount so retained with the Government will be refunded only on expiry of one year period referred to above and on execution of indemnity bond by the contractor for a further period of four years.

The contractor shall be liable to set right all defects arising out of his faulty execution (or) sub- standard work noticed during the above five years period at his cost.

22. Recovery of dues under revenue recovery act:

Any amount fallen due from the contractor on account of this contract even after recovering from the bills for this work and any other contract awarded to the

contractor other than the amount is liable to be recovered under the provision of Revenue Recovery Act.

ADDITIONAL CONDITION OF CONTRACT: II

1. The contractor shall at his own expense provide arrangement for the provision of footwear for any labour doing cement mixing work and all other similar type of work involving the use of tar, mortar etc, to the satisfaction of the Engineer in charge and on his failure to do so, the Govt. shall be entitled to provide same and recover the cost from the contractor.
2. when there are complaints of nonpayment of wages to the labour bills of the contractor may be with – held pending a clearance certificate from the labour department.

ADDITIONAL CONDITIONS: III

Rules for the provision of Health and Sanitary arrangements for workers employed by the P.W.D., and their contractors.

The contractor's special attention is invited to clauses 37, 38, 39 and 51 of general conditions of Contract in the TNBP and he is requested to provide at his own expense the following amenities to the satisfaction of the Engineer in charge.

1. First Aid:

At the work site, yard shall be maintained in a readily accessible place, first aid appliances and medicines including supply of sterilised dressings and sterilized cotton wool. The appliance shall be kept in good order. They shall be placed under the charge of responsible person who shall be readily available during working hours.

2. Drinking water:

- a. Water of good quality fit for drinking purpose shall be provided for the work people, on a scale not less than fifteen litres per head per day.
- b. Where drinking water is obtained from an intermittent public water supply system, each work place shall be provided with storage tank where such drinking water shall be stored.
- c. Every water supply and storage shall be at a distance of not less than 50 Feet from any latrine drain or sources of pollution where water is to be drawn which is within such proximity of latrine drain or any other source of pollution. The well shall be property 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.

2. 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 in a month.

3. Washing and bathing places

Adequate washing and bathing places shall be provided separately for men and women, such bathing place shall be kept in clean and drained condition. Bathing (or) washing should not be allowed in or near any drinking well.

4. Latrines and urinals

These shall be provided within premises of every work place latrines and urinals in an accessible place and the accommodations separately for each of them shall be on following scale or on the scale as directed by Engineer in charge in any particulars use.

1. Where the no., of persons employed does not exceed 50-2seats
2. Where the no. of persons employed excess 50 but does not exceed 100-3seats.
3. For every additional 100 persons- 3 seats. If women are employed separate latrines and urinals screened from those for Men shall be provided on the same scale. Except in work place provided with water flush out latrines connected with a water borne sewage system, all latrines shall be provided with receptacle on dry earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in strictly sanitary condition. The receptacles shall be tarred inside and outside at least once a year. The excreta from the latrines shall be disposed off at the contractors expenses in out way pipe approved by the local public health authority. The contractor shall also employ adequate No., of scavengers and conservancy staff to keep the latrines and urinals in a clean conditions.

5. Shelters during rest

At every work site, there shall be provided free of cost two suitable sheds one for meals and other for rest separately for men and women for the use of labourers.

6. Creches:

At every work place at which 50 or more women ordinarily employed there shall be provided two huts of suitable site 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.

1. Thatched roofs
2. Mud floors and walls
3. Plants spread over the mud floor and covered with mattings.

The site of the crèches should vary according to the no. of women workers. The crèches should be properly maintained and necessary equipment like toys etc., shall be provided. Huts shall be provided with suitable and sufficient sweepers to keep the place clean. There shall be Aayas in readiness, Sanitary urinals shall be provided to the satisfaction of the health officer of the area concerned.

The No of huts shall be restricted to children, their attendants and mothers of the children.

7. Canteen:

Cooked food canteen on a moderate scale shall be provided for the benefits of the workers as it is considered expedient.

8. Sheds for work men

The contractor should provide at his own expense ahead for housing the workmen. The sheds shall be on standard not less than the cheaper shelter type to live in which the work people pertaining in the locality are accustomed to. A floor area of 1.80 mx1.30m for two persons shall be provided. The sheds to be in rows with 1.3 m clean space between sheds and 9m clear space between rows if condition permit. The work people camp shall be laid out in units of 400 persons, each unit to have a clear space of 12m all round.

ADDITIONAL CONDITION: IV

Safety provision in the building industry condition in addition to clause 4 of preliminary specification in T.N.B.P.

Article-1:

PART-1

1. Suitable scaffolds shall be provided for workmen for all work that cannot be safely done from ladder or by other means.
2. A Scaffold shall not be constructed taken down or subsequently altered except. a) under the supervision of the competent and responsible persons and b) by as far as possible competent workers possessing adequate experience in such kind of work.
3. Scaffolds shall be so constructed that on part thereof can displaced in

consequence of normal use.

4. Scaffolds shall not be over loaded, as far as practicable the load shall be evenly distributed. Before installing lifting gear or scaffolds, special precaution shall be taken to ensure the strength and stability of the scaffolds.
5. Scaffolds shall be periodically inspected by a competent person.
6. Before allowing a scaffold to be used by the workmen every employer shall ensure whether the scaffold has been executed by his workmen or not take steps to ensure that it functions full with the requirements of this articles.

Article -2.

1. Working platforms, gateways and stairways shall be so constructed that part thereof can save unduly (or) unequally.
2. To be so constructed and maintained to obviate from risks of persons tripping or sliding and to be kept free from any un-necessary obstructions.
3. Every working platform gateway working place and stair ways shall be suitably tested. Article-3.

1. Every opening in the floor of a building or a working platform shall except for the time being and to extent required to allow the access of persons or the transport or shifting of materials be provided with suitable means to prevent the fall of persons or materials.
2. When persons are employed on a roof there is danger of falling from height exceeding than to be prescribed by national laws of regulations suitable precaution shall be taken to prevent the fall of persons or materials.
3. Suitable precautions shall be taken to prevent persons being struck by articles which might fall from scaffolds or other working places.

Article -4:

1. Safe means of access shall be provided to all at working platforms and other working places.
2. Every ladder shall be securely fixed and of such length as to provide securely hand – hold and foot bolt every position which it is used.
3. Every place where work is carried out and the means of approach there to shall be adequately lighted.
4. Adequate precautions shall be taken to prevent danger from electrical equipment.
5. Nomatterisonthesiteshallbeconstructedorplacedastocausedaughtertoanype
rsons. Article -5 (General rules as to hoisting appliance : Article:5)

1. Hoisting machines and tackle, including their attachments en charges and supports shall
 - a. Be of good mechanical constructions sound materials and adequate strength and free from patent defect and to be kept in good working order.
 - b. Every rope used in hoisting or lowering materials or as a means of suspension shall be of suitable quality and adequate strength and free from patent defect.

Article -6:

1. Hoisting machines and shall be examined and adequately tested after erection on the site and before use and pre-examine din position at intervals to be prescribed by national law of regulations.
2. Every chain ring, hook shackle, swivel, level and pulley block used in hoisting or lowering materials or as a means of suspension shall be periodically examined.

Article -7:

1. Every crane driver or hoisting appliances operator shall be properly qualified.
2. No persons under the age of 21 years shall be in control of any hoisting machine including any scaffold which or give signals to the operator.

Article -8:

1. In the case of every hoisting machine and of every chaining hook shackle, level and pulley block used in hoisting or lowering or as a means of suspension the safe working load shall be ascertained by adequate means.
2. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In the case of hoisting machine having a variable safe working load each safe working load and the conditions under which it is applicable shall be clearly indicated.
3. No part of any hoisting machines of any gear referred to above in the preceding paragraphs shall be loaded beyond the safe working load except for the purpose of testing.

Article -9:

1. Motor gear, transmission, electric wiring and other dangerous parts of hoisting appliance shall be provided with efficient safeguards.
2. Hoisting appliances shall be provided with such mean as will request to a minimum the risk of the accidents.
3. Adequate precautions shall be taken to reduce the risk to a minimum of any part of a suspended load becoming accidentally display.

PART –III

GENERAL RULES, TO SAFETY EQUIPMENT AND FIRST
AID:

Article -10:

1. All necessary personal safety equipment shall be kept available for the use of the persons employed on the site and be maintained in a condition suitable for immediate use.
2. The workers shall be required to use the equipment provided and the employer shall take adequate steps to ensure proper use of the equipment by those concerned.

Article -11:

When work is carried on in proximity to any place where there is a risk of danger all necessary equipment shall be provided and kept ready for use and all necessary steps be taken for the prompt, reasons of any persons in danger.

Article -12:

Adequate provision shall be made for prompt first aid treatment of all injuries likely to be sustained during the course of the work.

Article -13:

Where large work places are situated in cities, town or in the sub-urban and no beds are considered necessary owing to the proximity of city or town hospital, suitable transport shall be provided to facilitate removal of urgent cases to hospital. At other work places, some conveyance facilities such as care shall be kept readily available to taken injured persons or persons suddenly taken seriously ill to the nearest hospital.

ADDITIONAL CONDITION NO.V

WATER AND LIGHTING.

The contractor shall pay all fees and provide water and light as required from Municipal Mains or other sources and shall pay charges therefore (including storage tanks meters etc.,), for the use of the work and workmen, unless otherwise arranged and decided on in writing with Managing Director. The water for the works shall be as far as practicable free from earthy, vegetable or organic matter and from salts of other substance likely to interfere with the setting of motor otherwise prove harmful for the work.

2. All items of works shall be done in accordance with the relevant Clause of TNBP and Addenda volume to the TNBP amended from time to time.

3. The contractor shall be responsible for the safe custody of all the departmental materials once they are handed over to the departmental stores. The cost of any materials in the custody of the contractor lost, stolen, destroyed, or damaged, will be recovered from the contractors at the issue rate.

4. For the testing of the concrete and aggregate, the contractor must procure the following equipments and make them available at site

- i) Steel mould for making 5cm cubes of concrete. The mould will be in two halves for easy removal.
- ii) Slump cone for testing consistency (slump test). The cone will be 30cm height truncated cone with top and bottom diameter for 10cm and 20 cm respectively. In addition, a steel rod 15cm diameter and 50cm length and wide tamping and rounded is to be procured.
- iii) For finding fitness moulds, sand and coarse aggregate, hand operated sieve apparatus may be procured along weighing machine for weighing the aggregate sand.

5. In the case of any breach of the terms of the contract, contract will be closed at the risk and costs of the contractor in addition to the forfeiture of the Earnest Money Deposit, Security Deposit.

6. The testing is to be done at the contractor's cost of building materials and also for concrete cubes.

ADDITIONAL CONDITION No. VI.

1. The work shall be executed and measured as per metric dimension given in the schedule of quantities, drawings etc., P.F., units wherever indicated are for guidance only.

2. Unless otherwise specified, all the rates quoted by the contractor shall be for works at all levels of building.

3. Rates for every item of work to be done under this contract shall be for all the lifts and leads, height, depths, lengths, and width except when specifically mentioned in the item ;otherwise nothing extra will be paid on this account.

4. The work shall be carried out as per drawings and designs supplied by the department and as directed by the Engineer-in-Charge.

5. The rate for all items in which use of cement is involved is inclusive of charge for curing.

6. The contractor has to make his own arrangements for procuring water for

construction purpose,. Construction and curing should be done with water free from injurious amounts or deleterious materials. Potable waters are generally considered satisfactory for curing, mixing concrete and masonry .However the water to be used should be periodically tested at contractor's cost for its suitability for using in the construction work and got approved from the departmental Engineers.

ELECTRICITY.

7. The contractor should make his own arrangements for obtaining electricity for all types and use like lighting, welding, pumping, mosaic and marble polishing etc.
8. The contractor should submit the PERT chart for the programme of work on the date of taking over site.
9. Any damage to work resulting from rains or from any other cause until those work is taken over by the department after completion will be made good by the contractor at his own cost.
10. The contractor shall have to work in cooperation with Electrical contractor for electrical works, sanitary and water supply and other items of works.
11. The contractor shall work in cooperation with electrical contractor while laying the conduit pipes and other electrical items for concealed wiring in RCC works.
12. The centering and form works shall be true rigid and adequately braced both horizontally and diagonally and leak proof. The frame work should be sufficiently strong not only to withstand dead load and live load but also to withstand the effects of vibration. In all these cases, the standards as per I.S. code and TNBP should be followed. It should be specifically ensured that it is leak proof in joints.

ADDITIONAL CONDITION NO. VII.

SPECIFICATION FOR SANITARY FITTINGS., DRAINAGES, AND WATER SUPPLY ARRANGEMENTS.

1. Water closets, basins, urinals sinks and other sanitary wares shall be of approved make, as required in the relevant items. The fixing of these shall be in accordance with the special specifications.
2. The rates shall include all dismantlings, making holes in walls or slabs and restoring the structure to original condition after the completion of the work.
3. The work should be carried out with least hindrance to the adjoining buildings and the contractor shall be responsible for any damage caused to the existing fixtures,

electric fittings etc., in the course of execution, and the contractor shall make good any such damage without claims for extra.

4. The rate for laying stoneware pipes shall include necessary incidental charges during execution of work and making good any damages to roads and other structures.

5. Rates for laying cast iron pipes and galvanised iron pipes (or) PVC pipes shall include fixing with wooden plugs, G.I. /C.I. clamps and screws where the pipes are fixed to walls.

The rates for G.I. pipes shall also include wrapping them with tarred straps where they are buried in earth, tarring the portion embedded in masonry and painting with white lead with two coats for portion above ground level.

6. The clause for G.I. pipe fittings should be spaced at convenient places as directed. The wooden plugs for pipes and brackets fittings should be properly fixed in cement mortar 1:3 suitably in masonry with wide end of wedge shaped plugs inside and not hammered with them and into the walls. The size of plugs should not be less than 25mm square at one end, 40mm at the other end with a depth of not less than 75mm.

7. Painting with two coats of best white paint (or) any other colour approved by Engineer in charge over priming coat of red lead to all flushing tanks, brackets, clamps used for fixing pipes and all other connections.

8. The contractor should employ sufficient number of qualified licensed plumbers with necessary experience and skill in the trade to the satisfaction of the Engineer in charge concerned for execution of water supply and sanitary items of works.

9. The contractor shall after laying of the pipes carry out the tests of the pipes, specials, joints and other fittings against leakage at his own cost according to the relevant I.S.I. to the fullest satisfaction of the TNFDC Officials.

10. In the case of reinforced cement concrete or masonry water retaining structures, the contractor shall ensure that there is no leakage or dampness on the external faces of the structure. In the event of any above being noticed, the same shall be rectified by the contractor at his own cost, adopting standard approved methods of rectification to the fullest satisfaction of the TNFDC Officials.

SUPPLYING AND FIXING INDIAN TYPE WATER CLOSETS.

1. The Indian type water closet shall be fixed in position at floor level in a bed concrete of brick jelly in lime mortar 1:2 so as to completely embed the closet, trap and foot rest. The existing masonry structure after dismantling the foot making, holes etc.,

shall be restored to its original condition after completion of the work. The flooring around the closet shall be finished with cement mortar 1:3, 20mm thick with adequate slope all round for draining into the closet. The foot rests should be fixed at an angle as per standards.

2. The PVC flushing tanks shall be of three Gallons capacity of Indian make conforming to I.S.I. specification supported on G.I. brackets with necessary C.I. chain and handle for pull float ball valve of 2 P.V.C. connection to the water main and closet including wiped with white glazed paint of 2" coats over a priming coat of red lead .

3. The fixing of water closet shall include the dismantling of existing floor wherever necessary and making necessary holes in walls etc., and restoring the structure to original condition after completion of the work. The flushing tank and accessories will be fixed to the walls with necessary clamps and brackets in cement mortar 1:4.

ADDITIONAL CONDITION FOR CONTRACTORS ' SPECIAL ATTENTION. NO. VIII.

As per clause 26 (1) 4 of General conditions of contract, the shrinkage period of six months referred to in main clause 26(1) will be one year in respect of all contract for construction of original buildings either semi permanent or permanent to ensure structural stability of the building and as per G.O.Ms.No. 283, P.W.(G2) Department, dated 21.5.1999..

As per clause 64 (1), the withheld amount of 2 ½ % from the final, bill in respect of contract for construction of original buildings will be retained by the TNFDC for a total period of one year in lieu of two years period referred to in G.O.Ms.No. 1465, P.W. dated 22.7.1982 and will be released either on the expiry of one year period on executing an Indemnity bond by the contractor to the satisfaction of the Engineer in charge, for a further period of four years to ensure structural stability of the building under clause 20(1) and as per G.O. Ms. No. 283, P.W. (G2) Department, dated 21.5.1999.

ADDITIONAL CONDITION FOR CONTRACTORS ‘ SPECIAL ATTENTION. NO. IX.

The contractor is bound for recovery under Revenue Recovery Act for any liabilities under this contract If at any time the Managing Director, TNFDC shall be of the opinion that the contractor is delaying commencement of the work or violating any of the provisions in the Articles of Agreement, the Managing Director, TNFDC Ltd., shall so advise the contractor in writing and at the same time demand compliance. If the contractor neglects to comply with such demand, within seven days after the receipt of such notice, it shall then or at any time thereafter, be lawful for the Managing Director, TNFDC Ltd., to terminate the contract which termination shall carry with the forfeiture of the security deposit and total of the amount withheld from the final bill together with value of such work as may have been executed and not paid for such proportion of such total sum as shall be assessed by the Managing Director, TNFDC Ltd.,

General specifications:

1. Cement concrete flooring tiles shall be manufactured from mixture of cement natural aggregates and colouring materials where required by pressured process. Fixing manufacture, the tiles shall be subjected to a pressure not less than $140\text{kg}/\text{cm}^2$.
2. Proportion of cement to aggregate in the backing of the tiles shall be not less than 1:3 by weight.
3. On removal from mould, the tile shall be kept in moist continuously at least for 7 days and subsequently if necessary for such a longer period that would ensure their conformity to the requirements to Traverse strength resistance of wet and water absorption and would minimize shrinkage and cracking, tiles shall be stored under covers.
4. Tolerance : Tolerance on length and breadth shall be plus or minus one millimeter. Tolerance thickness shall be plus 5mm, the range of dimensions if any of one delivery of tiles shall not exceed 1mm., length and breadth and 3mm., on thickness.

5. THICKNESS OF WEARING LAYERS:

Class of tiles	Minimum thickness of wearing layer
Plain cement and plain coloured tiles general purpose.	3 mm
Plain cement and plain coloured tiles for heavy duty	6mm
(Mosaic) terrace tiles with chips of size varying from the smallest upto 6mm.	5mm
(Mosaic) terrace tiles with chips 12mm size ranging from the smallest up to 12mm, or $\frac{1}{2}$ "	5mm
(Mosaic) terrace tiles with chips of size varying from the smallest upto 20mm or $\frac{3}{4}$ "	6mm

6. Colour and appearance: The colour and texture of the wearing layer shall be uniform through its thickness.
7. When specifying the tiles, the contractor should specifically indicate whether the chips to be used are from the smallest to 20mm, size. The officers of the department shall also specify size of chips by referring the approximate photograph given in Indian Standard No.1237/1959.
8. General quality of tiles Unless otherwise required the wearing face of the terrace tiles shall be mechanically found and filled. The bearing face of the tiles shall be placed, free from projections, depression and cracks (Hair cracks not included) and shall be reasonably paralld to the back face of tiles. All angles shall be right angles and all edges shall be sharp and true.
9. BREAKING TRAVERSE STRENGTH OF TILES SHALL BE GIVEN ASBELOW:

Size of tiles cm.	Span cm.	Breaking wet test cm. kg.	Land based dry test Kg
19.58x19.85	15	71	106
24.85x24.85	20	90	120
29.85x29.85	25	99	149

10. The average wet of not less than 12 specimens shall not exceed 2mm., and the weather any individual specimen shall not exceed 2.5cm., when tested in an abrasion testing machine.
11. The average percentage of water absorptions not less than six full tiles, specimen, shall not exceed than in the case of water absorption test.
12. The density of the tiles shall be in the order of around 2.4gms. The tiles shall be laid with the minimum possible width of joints and not exceeding 1/32 inches. The joints shall be filled with grey cement to match the finish of the tiles and shall be made almost invisible when the floor is given the final polish. The polishing shall be done by means of electric polisher wherever possible and hand polish to other places like vertical faces, or wall coves and other areas where the machines can have not access and glossy, surface as even as possible.

All angles at junction of vertical faces shall be rounded of to the 1½” radius with same quality of materials and colour of the tiles of the floor. But laid in situ and these coves shall be measured as part of flooring and paid for at the same rates and the flat floors. The colours of the tiles shall generally match other coloured face adjustment or as may be the directed by Engineer in Charge.

The dadoing and skirting have to be finished by giving necessary faces in the brick

wall itself so that the projection does not exceed ½" from the face of the wall tiles, the finish plastered surfaces.

Based on the modulus of rupture of 30kg sq m for dry test and two thirds of the value of wet test.

GUIDELINES FOR ADDITION OF STRENGTH GRADING OF CONCRETE:

Plain and reinforced concrete have been graded according to the cube compressive strength and designated as M100. M150. M200. M 250. M300 and M400. In the designation of concrete the letter refers to the mix and the Number to the specified 28days work cube compressive strength of that mix expressed in Kg/cm².

Approximately the M.100 M150. M200 and M250 grades of concrete corresponds 1:3:6, 1:2:4 , 1:1 1/2:3, 1:1:2 nominal mixes of ordinary concrete used.

The proportion aggregate cement and water to be used for controlled concrete shall be designed by preliminary tests of materials to be actually used to obtain and specified strength with the use of minimum quantity of cement, however the maximum total quantity of aggregate by weight per 50kg of cement shall not normally exceed 450kg.

For any particular item, compressive strength required to be obtained by the concrete at 26 days in the preliminary and works tests on the 15cm. cubes minimum cement concrete required to be used and the approximate proportions of approved fine and coarse aggregate shall be specified in the tender schedule. These particulars will be only for the guidance of the contractor for quoting rates.

Immediately upon the receipt of the award of the contract, contractor shall inform the Managing Director, TNFDC Ltd., the exact location of the source of the materials where he proposed to use and get the materials approved. The mix with the actual approved materials to be used shall be got designed in an approved laboratory by the contractor with minimum quantity of cement to the specified strength in the preliminary test and the proportions got approved from the Managing Director, TNFDC in writing. These proportions shall be used.

So long as the materials continue to be of the same quality and the same sources subject only to slight changes in the relative qualities of fine and coarse aggregate for the purpose of promoting workability provided the works tests also show the required strength.

If during the progress of work the contractor wishes to change the materials the proportion shall be mixed on the basis of fresh preliminary tests to give the required strength after the Engineer in charge is satisfied that the materials satisfy the

specification. No adjustment of cost shall be made for change of proportions of cement fixed in the original preliminary tests.

PROPORTIONATE OF MIX:

Each batch of mix shall be proportioned to weight of cement fine aggregate and coarse aggregate water for each batch shall be added in quantity measured by volume or by weight, where weight of cement as determined by accepting the maker's weight per bag. A reasonable number of bags shall be weighted separately to check net weight, where the cement is weighted on the site and not in bags its shall be weighted separately from the aggregates. All the weighting equipments shall be maintained in a clean and serviceable condition and their accuracy checked periodically.

Mixing:

Mixing shall be done only by mechanical mixers. The quantities of the aggregate and water shall be adjusted duly in the field to compensate for bulk age due to the quantity of moisture present in the fine aggregate and free water in the coarse aggregate at the time of use.

TESTS:

Tests shall be got done in an approved laboratory at the cost of the contractor.

A. Preliminary tests

If concrete mixers are specified by its strength then the mix needs to be designed and preliminary tests should be carried.

A preliminary test is conducted in a laboratory of the trial mix of concrete produced in the laboratory with the object of:-

- a. designing of concrete mix before the actual concrete operation starts.
- b. Determining the adjustments required in the designed mix or when there is change in the materials used during the execution of work.
- c. Verifying the strength of concrete mix.

B. Works tests:

The test conducted either in the field or in a laboratory on the specimen made on the works out of concrete being used on the works.

The sampling shall be spread as evenly as possible throughout the day, when wide changes in weather conditions occur during concreting additional samples may be taken as desired by Engineer in charge.

All expenses on the tests shall be borne by the contractors nothing extra shall be paid to the contractor for carrying out the tests.

All samples for tests shall be taken in the presence of Engineer in charge concerned and the contractor or his authorized agent.

All mix design and test date and results shall be maintained as part of the record for the contract and shall be signed by the Engineer in charges and the contractor.

A register of cement concrete cubes cost and tested giving the following particulars shall be maintained at the site. In the proforma prescribed as detailed below:

- a. Name of the work and reference to agreement
- b. Sl. No.
- c. Date and time of sample taken
- d. Sample No.
- e. No. of cube
- f. Identification works
- g. Proportions of mix
- h. Description of the portion of work represented by the sample and quantity of concrete represented by the sample.
- i. Initials of Engineer in charge and contractor's authorized agent in whose presence sample is taken.
- j. Result of 7daystest.
- k. Result of 28 days test
- l. Review remarks by Engineer in charge.

Extract of : IS 456 – 1964

4.2.2.1 :Plain and reinforced concrete shall be in seven graded designed M100, M150, M200, M250, M300, M350 and M400.

Note: in the designation of the concrete mix, letter M. refer the mix., and the number to the specified 28 days works cube compressive strength of that mix expressed in kg/cm².

Strength requirements of concrete

When a ordinary Portland cement or Portland blasurnace stag cement conforming to accepted standards (vI.5) (21/2 is used the compressive strength requirements for various grades of concrete shall be as given in Table I. Where raind hardening Portland cement is used the 20 days compressive, strength requirement specified in Table 1. shall be met at 7days, where other cements are

used, the Engineer in charge shall specify the corresponding requirements preferably on the basis of preliminary tests.

*IS 269/1458 specification for ordinary rapid hardening and low heat Portland cement is 455/1962 specification for Portland blast slab cement.

4.2.2.2.2.3 strength requirements specified in Table 1 shall apply to both controlled concrete and ordinary concrete (Sec. 4.3.1) preliminary tests need not however be made in the Case of ordinary concrete.

1. In order to get a relatively quicker idea of the quality of concrete, optional works tests on beam for module or rupture at 72+2 hours or at 7days, or compressive strength tests at days may be carried out in addition to 28days compressive strength tests. In all cases, the 28days compressive strength specified in Table 1 shall alone in the criteria for acceptance or rejection of the concrete. If however, from tests carried out in a particular job over a reasonably long period it has been established to the satisfaction of the Engineer in charge that suitable ratio between the 28days compressive strength and the modulus of rupture at 72+2 hours or at 7 days or compressive strength at 8 days may be accepted, the Engineer in charge may be suitably relax the frequency of 28 days compressive strength test specified in the table 5, provided the expected strength values at the specified early age are consistently met. For this purpose the values given in Table 2 may be taken for general guidance in the case of concrete made with ordinary cement

b. where the strength of concrete mix, as indicated by tests, lies between strength for any two grades specified in Table 1. such concrete shall be classified for all purpose as a concrete belonging to the lower of the two grades between which its strength lies.

PROPORTIONING AND WORKS CONTROL

Methods of proportioning the determination of preparations of cement aggregate and water to attain the required strength shall be made by one of the following.

- a. With preliminary tests by designing the concrete mix such concrete shall be called "Controlled –concrete".
- b. Without preliminary tests by accepting nominal concrete mixes such concrete shall be called "Ordinary Concrete".

4.3.2.1 Controlled concrete:

As far as practicable, controlled concrete should be used on all concrete works. Controlled concrete for use in plain and reinforced concrete structure shall be in grades M100, M150, M200, M250, M300, M350 and M400.

: The concrete mix shall be designed to have an average strength corresponding to the values specified for preliminary tests in Table.1. The proportions chosen should be such that the concrete has adequate workability for the conditions prevailing on the work in question and may be properly compacted with the means available.

The maximum, total quantity of aggregate by weight per 50 kg. of cement shall not exceed 450 kg, except where otherwise specifically permitted by the Engineer in charge.

Except where it can be shown to the satisfaction of the Engineer in charge that supply of properly graded aggregate of uniform quality can be maintained over the period of works the grading of aggregate should be controlled by obtaining, the coarse aggregate in different sizes and blending them in the right proportions when required, the different sizes being stocked in separate stock piles, the materials should be stock piled several hours preferably a day before use. The grading of coarse and fine aggregate should be checked as frequently as possible the frequency for a given job being determined by the Engineer, in charge to ensure that the suppliers are maintaining the grading uniform with samples that of the samples used in the preliminary tests.

In proportioning concrete the quantity of both cement and aggregate should be determined by weight. Where the weight of cement is determined by accepting the manufacturer's weight per bag a reasonable number of bags, should be weighed separately to check the net weight. Where the cement is weighed on the site and not in bags, it should be weighed separately from the aggregates. Water should be either measured by volume in calibrated tanks (or) weighed. All measuring equipments should be maintained in a clean serviceable condition and their accuracy periodically checked.

It is most important to maintain the water cement ratio constant at its correct value. To this end determination of moisture contents in both fine and coarse aggregate should be made as frequently as possible the frequency for given job being determined by the Engineer in charge according to weather conditions. The amount of the added water should be adjusted to compensate for any observed variations in the moisture contents. For the determination of moisture content in the aggregate? IS 2386 part III 1963. Methods of test for aggregate for concrete part III specific gravity, density, voids, absorption building, may be referred to allow for the variation in weight of aggregate due to variation their moisture content, suitable adjustments in the weights of aggregates should also be made.

No substitution in materials used on the work for alterations in the established proportions except as permitted in 4.3.2.5 shall be made without additional tests to show that the quality and strength of concrete are satisfactory.

Workability of the concrete should be checked at frequent intervals, the slump test or where facilities exist, the compacting factor test – in accordance with IS-1199 and 1950 may be adopted for this purpose.

A competent person should be employed whose first duty will be to supervise all stage in the preparation and placing of the concrete. All works test specimen should be made and site tests carried out under his direct supervision.

Ordinary concrete:

Where it is considered not practicable to use controlled concrete ordinary concrete may be used for concrete of grades M100, M150, M200 and M250. The proportions of materials for nominal concrete mixes for ordinary concrete shall be in accordance with table III.

In proportioning concrete, the quantity of cement should be determined by weight. The quantities of fine & coarse aggregate may be determined by volume, but these should also preferably be determined by weight. In the latter case the weight should be determined from the volume specified in table III and

the weight per litres of dry aggregate. If fine, aggregate is moist and volume batching is adopted. Allowances shall be made for bulking in accordance with IS.2386/ Part III-1963.

4.3.3.3. The water cement ratio shall not be more than these specified in Table III.

The cement concrete of the mix specified in Table III for any nominal mix may be increased if the quantity of water in a mix was to be increased to over come the difficulties of placement and compaction so that the water cement ratio specified in Table III is not exceeded.

Note 1: In the case of Vibrated concrete, the limit specified may be suitably reduced to avoid segregation.

Note 2: The quantity of water used in the concrete mix for reinforced concrete work should be sufficient but should not be more than sufficient to produce a dense concrete of adequate workability for its purpose which will surround and properly grip, all the reinforcement workability of the concrete should be controlled by maintaining a water cement ratio that is found to give a concrete which is just sufficiently wet to be placed and compacted without difficulty with the means available.

Workability of the concrete should be controlled by directed measurement of water content, making allowance for any surface water in the fine and course aggregates. The slump test in accordance with IS 1199/1959 may be used as guide.

Allowance should be made for surface water present in the aggregate when computing the water content, surface, water shall be determined by one of the field methods described in IS 2336/Part III 1963. In the absence of exact data the amount of surface water may be estimated from the values given in Table 4.

If ordinary concrete made in accordance with the proportions given for a particular grade does not yield the specified strength due to proper qualities of materials not being available such concrete shall be classified as belonging to the appropriate lower grade. Ordinary concrete proportioned for a given grade.

IS 2386 Method of test for aggregate for concrete IS 2386 (Part. III) 1963 specific gravity.

Density works absorption and bulking.

In accordance with Table III shall not, however be placed in a higher grade on the ground that the test strength and are higher than the minimum specified no interpolation shall be permissible.

Sample size and acceptance criteria.

All tests shall be carried out in accordance with IS 516-1959.

The number of test specimen required for the frequency of sampling and the criteria for acceptance of a concrete as conforming to the specified grade shall be in accordance with Table V for both ordinary concrete and controlled concrete No preliminary tests are however necessary in the case of ordinary concrete.

TABLE -1 STRENGTH REQUIREMENT OF CONCRETE

CLAUSE 4.2.2.1 AND 4.2.2.2

All values in Kg/Cm².

Grade of concrete	Compressive strength of 15cm., cubes at 28days after mixing conducted in accordance with IS 516-1959	
	Preliminary test Min	Works test min
M.100	135	100
M.150	200	150
M.200	260	200
M.250	320	250
M.300	380	300
M.350	440	350
M.400	500	400

Note1: Preliminary Test : A test conducted in a laboratory on the trial mix of concrete produced in the laboratory with the object of

a. Designing a concrete mix before the actual concreting operations starts.

- b. Determining the adjustments required in the designed mix when there is a change in the materials used during the execution(or)
- c. Verifying the strength of concrete mix

Note 2 : Works Table – All test conducted either in the field or in a laboratory in the specimens made on the works out of the concrete being used on the works.

Note 3: Sizes of Cubes – in the works test with the approval of the Engineer in charge 10cm cube as may be used in place of 15cm provided the maximum nominal size of aggregate does not exceed 20mm even the use of 15cm cubes should normally be restricted to concrete having a maximum nominal size of aggregate not exceeding 40mm size is required to be tested, the size of cubes should be specified by the Engineer in charge keeping in view that generally the length of size of the cube should be about four times the maximum nominal size of aggregate in the concrete constituting the cube specimen.

Note 4: Strengthening Relation to size of cube

Where 10cm cubes are used the values obtained from tests, of 10cm cubes shall be reduced to the extent established by comparative preliminary tests with 10 & 15cm. cubes or in the absence of such compressive test, by 10 percent of the value of determined from the tests in order to give the equivalent strength for 15cm., where cubes larger than 15cm are adopted generally modification is necessary unless otherwise specified by the Engineer in charge.

Note 5: Cylinder strength:

Compressive strength tests may with approval of the engineer incharge be conducted on 15cm diameter and 30cm., high cylinders in accordance with IS-516-1959 instead of a cube, where cylinder strength figures are adopted the compressive strength figures given above shall be modified according to the formula, minimum cylinder compressive strength required 0.8 compressive strength specified 15cm cubes.

The Central Road Research institute, New Delhi has carried out tests with a view to establishing a relation between water cement ratio and the compressive strength

concrete using ordinary Portland cements manufactured in the country in accordance with IS 269-1959.

As a result of these, it has been considered advisable to give graphs showing the relationship between the compressive strength of concrete mixes with different water cement ratios and the 7 days compressive strength of cement tested in accordance with IS-269-1959. These graphs have been given in appendix as they would be of some assistance in obtaining the water cement ratio for trial mixes of concrete.

Table II : Optional work Test Requirement of

Concrete: (Clause 4.2.2.2(a):

(All values in kg/cm².)

All test shall be conducted in accordance with IS : 516 – 1959

Grade of concrete	Compressive strength on 15cm cube min. at 7day	Modulus of rupture by beams test	
		At 72+2 Hours	At 7 Days
M.100	70	12	17
M.150	100	15	21
M.200	130	17	24
M.250	170	19	27
M.300	200	21	30
M.350	235	23	31
M.400	270	25	34

Note : Note 2 and 3 under tables I are also applicable to Table II

Table III:
CONCRETE MIX PROPORTIONS
(clause 4-3-5)
ORDINARY CONCRETE

Grade of concrete	Total quantity of dry aggregate by volume per 50 kg of cement to be taken at the sum of the individual volume of fine and course aggregate mix	Proportion of fine aggregate to course aggregate	Quantity of water per 50 kg of cement mix
1	2	3	4
M.100	300	Generally 1:2 for fine aggregate to course aggregate by volume but subject to upper limit of 1:1½ and a lower limit of 1:3	34 Litres
M.150	220	- do-	32 Litres
M.200	160	- do-	30 Litres
M.250	100	- do-	27 Litres

Note 1: The proportion of the aggregate should be adjusted from upper limit of lower limit progressively as the grading of the fine aggregate become fine and the maximum size of course aggregate become larger. Examples: For an average grading of fine aggregate that is zone II. I.S. 383/1963 the proportion shall be 1:1½ , 1:2 and 1:3 for maximum size of aggregate 10mm, 20mm and 40mm respectively.

Note 2: It may be noted for general guidance that M.100, M.150, M.200 and M. 250 of ordinary concrete corresponding approximately to 1:3:6, 1:2:4, 1:1½ :3 and 1:1:2 nominal mixes of ordinary concrete currently used in the country.

Table IV: Surface with water carried by average aggregate :

Aggregate	Approximate quantity of surface water (M3)
(1)	(2)
Very wet sand	120
Moderately wet sand	80
Moist sand	40
*Moist gravel or crushed rock	20 to 40

*Coarser the aggregate less the water it will carry.

Table IV:
Preliminary Test:WORK TEST ACCEPTANCE CRITERIA FOR CONCRETE
(ALLGRADE)

Minimum No. of specimens from each		Minimum Frequency	Criteria for acceptance	Minimum No. of specimens taken from the same days work				Minimum Frequency		Criteria for acceptance
				Cubes		Beams				
7days compr essive strengt h test	28 day s com p ressi v e stre ngt h			7 days comp ressiv e stren gth	25 days comp ressiv e stren gth	72+2 Hour s test as an optio nal	7 days test as an optio nal	In terms of the quality of concret e	In terms of period	
1	2	3	4	5	6	7	8	9	10	11

5	5	For each batch with a minimum of three batches	Accept for if average compressive strength of the specimen tested is not less than the compressive strength specified in Table –I (For Optional tests See Table-2) subject to the condition that only one out of six consecutive test may give a value less than specified strength	3	3	3	3	For every 150 cubic metre of concrete or part thereof	At such intervals as the Engineer in charge, may decide. However in the case of concrete sample shall be drawn on each day for the first four day of concreting and there after at least once in seven days of concreting.	Accepted to average strength of the specimen test is not less than the strength specified Table –I (For optional test see Table-2) subject to the condition that only one out of three consecutive test may give a value less than 90% specified strength.
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1	2	3	4	5	6	7	8	9	10	11
---	10	For each batch with a minimum of three batches	Accept if average compressive strength of the specimens tested is not less than the compressive strength specified in Table-I subject to the condition that the average compressive strength shall be more than the specified compressive strength in Table-I, by at least the value of standard deviation* of the series of the test	5	5	5	5	For every 150 cubic metre of concrete or part thereof	Once in 7 days of concreting All such intervals as the Engineer in charge may decide. However in the case of controlled concrete samples shall be drawn on each day for the first four days of the concreting and thereafter at least one seven days of concreting	Strength but this shall not be less than 90% for the specified strength. Accept if average strength of the specimen tested is not less than strength specified in Table-I (For optional tests see Table-2) subject to the condition the one out of five consecutive tests may give a value less than the specified strength.

MANAGING DIRECTOR,
TAMIL NADU FISHERIES DEVELOPMENT
CORPORATION LTD.,
CHENNAI-35.

SECTION . V .

SCHEDULE – A

Schedule of rates and approximate quantities

1. The quantities here given are those upon which the lumpsum tender cost of the work based but they are subject to alterations, omissions, deductions or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities of work to be done. The unit rates noted below are the governing payment for extra or deductions for omissions according to the conditions of the contract as set forth in the general conditions of contract of TNBP and other condition conditions (or) specifications of this contract.

2. It is to be expressly understood that the measured work is to be taken that (Not withstanding any custom or practice to the contrary according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by the Engineer in charge and cost calculated by measurement or weight at the respective prices, without any additional charge for any necessary and contingent works connected therewith. The rates quoted are for works in site and complete in every respect.

Item No.	Probable quantity. (In figures and words)	Description of work	TNBP No	Rate (In figures and words)	Unit (In figures and words)	Amount(figures) Rs. P
		Vide separate schedule attached				

Signature of Contractor :

Issued to

.....on.....

PUBLIC WORKS DEPARTMENT (BUILDING)

Price Adjustment Clause is eligible for this work subject to the following conditions:

1. Price Adjustment Clause will be applicable for all works where value of work put to tender costing Rs.100.00 lakhs and above. However **No Price Adjustment will be applicable for maintenance and repair works.**
2. The Full Price Adjustment on all the components including **cement, steel, bitumen and Petroleum, Oil and Lubricants (POL)** shall be applicable to the work with contract period of more than 12 months with all other conditions remaining the same as per rule 14(8) of 2000 Tamil Nadu Transparency in Tender rules.
3. Full Price adjustment **on cement, steel, bitumen and POL** is applicable, if the contract period is **12 months and below.**
4. Contract Price shall be adjusted for **increase or decrease** in rates for cement, steel, bitumen and Petroleum, Oil and Lubricants (POL), Labour, Plant & Machinery spares components and local materials in accordance with the following principles and procedures and as per formula given in General Conditions of Contract and will be operated by the respective Managing Director, TNFDC .
5. Price adjustment will be calculated only on the estimated cost of work.
6. Price Adjustment will apply only when the fluctuation of rates exceed by 3% compared to the estimate rates (Reserve Bank of India – Index Price).
7. Price adjustment will be made for both **increase and decrease** in the cost of materials.
8. Bitumen and POL will be considered on ‘Pass through’ basis with payment of actual rates / price at the rates charged by Indian Oil Corporation.
9. Escalation will be given for only those quantities which would have been used had the contractor stuck to this original timeline.
10. Price adjustment mechanism will cease to operate for the value of work executed beyond the agreement period.
11. Agreement period shall include the “actual period” for which the work was “suspended officially” and extension of time permitted for any valid reasons, such as war, natural calamities, like flood, earthquake and other risks arising out of acts of God during the agreement period; work delayed due to the land acquisition process; change in design, change in scope of work, etc., which is given in writing by the Tender Calling Officer of the respective work.

All works for which price Escalation / Variation is contemplated must have milestones fixed in physical terms and have a pre-fixed time-line for use of inputs clearly indicating the nature and quantum of eligible inputs to be used for the work for the relevant period between two milestones. Price Escalation / Variation will be applicable for those quantities 'actually' used by the contractor including additional quantities if any, used or achieved ahead of the time line. However, if the contractor does a certain quantity of the work in third quarter which ought to / should have been done in the earlier quarter, Price Escalation / Variation will still be applicable on that quantity at the rates as applicable in the relevant quarter as per time-line or period of actual use whichever is less.

Price variation will be calculated as per specified formula from the last date of submission of tender upto the end of agreement period provided, if the agreement is signed within the minimum specified time, failing which, the Price variation will be applicable from the date of agreement only, based on the wholesale Price Indexes of Reserve Bank of India. The quarter would be reckoned with reference to the quarter of the calendar year in which the last date on tender submission is fixed. In case of delayed agreement, the quarter in which the agreement is signed will be reckoned for the purpose of calculation of price adjustments.

I.PRICE ADJUSTMENT

1. For the works with contract period Twelve months and above

Pending receipt of Amendment to Rule 14(8) of Tamil Nadu Transparency in Tenders Rules, 2000, Price Adjustment clause shall apply for this work as per G.O.(Ms)No.60. Public Work (G2) Department, dated 14.03.2008 and G.O.Ms.No.101 PW(G2) Dept.Dt.10.6.2009

a. Price Adjustment Clause shall apply for Cement & Steel when the fluctuation of rates exceeds by 3% based on Index number of wholesale Prices in India for cement under table 39 and for steel under table 40 of RBI Bulletin released by the Department of Economics Analysis and Policy, RBI compared to the rates of Cement & Steel adopted in the estimates.

b. Price Adjustment shall be calculated once in a quarter for both increase decrease in cost of cement and steel as per Index number of wholesale Prices in India for cement under table 39 and for steel under table 40 of RBI Bulletin released by the Department of Economics Analysis and Policy, RBI as per the formula given below:

- 1) **CEMENT:**

$$V_c = 0.85 \times P_c \times R \times \frac{C_i - C_o}{C_o}$$

Where

Vc: Increase or decrease in the cost of cement or the work done during the quarter under consideration.

Pc: Percentage of cement used on the work during the period (total quantum of cement shall be calculated based on the provisions allowable as per standard data for each item involved in the work and the percentage of cement used during the period shall be assessed based on the milestone fixed)

Co: Index number of wholesale prices in India for cement under table 39 of Reserve Bank of India Bulletin released by the department of Economics Analysis & Policy, Reserve Bank of India for the Quarter in which the agreement has been signed.

- Cl: Index number of wholesale prices in India for cement under table 39 of RBI Bulletin released by the Department of Economics Analysis and Policy, RBI for the Quarter under reference in which the measurements recorded in the M-Book to which the particular Bill payment is related.
- R: Total value of cement involved in the work as per department rate adopted in the estimate.

II) STEEL:

$$Vs = 0.85 \times Ps \times Rx \times \frac{si - so}{so}$$

Where,

- Vs: Increase or decrease in the cost of steel for the work done during the quarter under consideration.
- Ps: Percentage of steel used on the work during the period (total quantum of steel shall be calculated based on the provisions allowable as per structural design calculations approved for each steel members/slab involved in the work and the percentage of steel used during the period shall be assessed based on the mile stones fixed).
- So: Index number of wholesale prices in India for steel under table 39 of Reserve Bank of India Bulletin released by the Department of Economics Analysis and Policy, RBI for the Quarter under reference in which the agreement has been signed.
- Si: Index number of wholesale prices in India for steel under table 39 of RBI Bulletin released by the Department of Economics Analysis and Policy, RBI for the Quarter under reference in which the measurement recorded in the M-Book to which the particular Bill payment is related.
- R: Total value of steel involved in the work as per department rate adopted in these intimate.

EXPLANATIONS:

- The Price Adjustment will be calculated once in a quarter.
- The quarter will be reckoned with reference to the quarter in which the date of agreement is falls.
- The Index number of whole sale prices in India for the each quarter to be taken into account as indicated below, for the purpose of arriving at the price variation.

Quarter	Months involved
1 st quarter of the year -	January –March
2 nd quarter of the year -	April –June
3 rd quarter of the year -	July-September
4 th quarter of the year -	October –December

- This price adjustment shall be calculated in respect of cement and steel based on the department rate adopted in the estimate.
- The price adjustment shall also apply for the materials viz. Bitumen & POL., on pass through basis whenever the Indian Oil Corporation revises their prices.
- **The difference in cost payable to the contractor under this clause will be paid along with the final bill payable to the contractor.**

III) (PETROLIUM, OIL, LUBRICANTS) POLIN RESPECT OF MACHINERIES USE

$$V_f = 0.85 \times P_f \times R \times \frac{F_1 - F_0}{F_0}$$

Vf: Increase or decrease in the cost of POL for the work done during the quarter under consideration.

Pf: The weight age of fuel component on the hire charge of machineries shall be taken as 15% of the total hire charge.

Fo: Cost of POL on the date of agreement.

F1: Cost of POL as per the revision ordered by Indian Oil Corporation

. R: Higher charge of the machinery involved for each item of work.

IV POL IN RESPECT OF CONVEYANCE:

- The increase / decrease in cost of fuel (high density diesel) whenever announced by Indian Oil Corporation may be calculated & conveyance charges for every item arrived at and actual difference shall be paid based on the following formula.

$$VI = \frac{F_i - F_o}{F_o} \times 1 / 4.50 \times 1 / 5.66$$

Where

Vf: The increase/decrease in cost of fuel due to the revision in cost of fuel (diesel) for the co-efficient 1.60 under column 5 for Sl.No.2 of the conveyance table approved in Schedule of Rates.

Fi: The cost of fuel on the date of agreement

Fo: The cost of fuel as per the revision ordered by Indian Oil Corporation.

4.50: Average kilometer per one liter.

5.66: The load that can be carried by a lorry.

V) Adjustment of Labour Component:

Price adjustment for increase or decrease in the cost of Labour engaged by the Contractor shall be paid in accordance with the following formula, if this component is involved in the work executed during the quarter under consideration.

$$VL = 0.85 \times PL / 100 \times R \times (L_1 - L_0) / L_0$$

where

VL = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates of local Labour.

L₀ = The average consumer price index for industrial workers for Coimbatore centre for quarter preceding the date of opening of bids as published by Labour Bureau provided if the tender is accepted within 90 days or other wise this date will be reckoned only from the date of signing of agreement

L₁ = The average consumer price index for industrial workers for Coimbatore centre for the quarter under consideration as published by Labour Bureau.

PL = Percentage for the Labour component of the work.

VI. Adjustment of Other Materials Component:

Price adjustment for increase or decrease in the cost of other Material procured by the Contractor shall be paid in accordance with the following formula, if this component is involved in the work executed during the quarter under consideration.

$$V_M = 0.85 \times P_M / 100 \times R \times (M_1 - M_0) / M_0$$

Where

V_M = Increase or decrease in the cost of work during the quarter under consideration due to changes in the rates of other Materials other than Cement, Steel, Bitumen and POL.

M_0 = The average consumer price index for all commodities for quarter preceding the date of opening of bids as published by RBI, Government of India provided if the tender is accepted within 90 days or otherwise this date will be reckoned only from the date of signing of agreement

M_1 = The average consumer price index for all commodities for quarter under reconsideration as published by RBI, Government of India.

P_M = Percentage for the Local Material component of the work

General:

Price adjustment clause shall apply only when,

- The work is progressing as per the milestones fixed on physical terms.
- The quantum of cement, steel, bitumen & POL required for use on work during each quarter shall be mentioned in the tender schedule as well in the agreement itself in physical terms.
- Further, If the contractor does a certain excess quantum of work in the second quarter itself, which is expected to be done in the third quarter as per milestone fixed shall be eligible for price adjustment.
- Similarly, if the contractor does a certain quantum of work in the third quarter, which should have been done in the second quarter itself, as per milestone fixed, is not eligible for price adjustment.
- This clause shall be applicable for the period from the date of agreement up to the end of agreement period. The agreement period shall include the "actual period" for which the work was "suspended officially" and the extension of time permitted for any of the valid reasons such as, war, natural calamities like, flood, earthquake, other risk arising out of act of God during the agreement period,
- work delayed due to the land acquisition process, change in design, change in scope of work etc. in writing by the Tender inviting Authority for the work.
- The Executive Engineers concerned are empowered to arrive at the price variation and also for making payments/recoveries, under this clause.

II. MILESTONES:

- Milestones shall be fixed in physical terms towards the usage of Cement & steel for every quarter. Preferably, actual quantity of cement& steel required for every quarter for the early completion of the project within the specified agreement period, based on the guidelines issued in respect of fixation of period of completion.

Quarter	Quantity of Cement	Quantity of Steel
I Quarter	..... MT	..... MT
II Quarter	..... MT	..... MT
III Quarter	..... MT	..... MT
IV Quarter	..... MT	..... MT
V Quarter	..... MT	..... MT
VI Quarter	..... MT	..... MT
VII Quarter	..... MT	..... MT
VIII Quarter	..... MT	..... MT

III. LIQUIDATED DAMAGES:

- If for any reason, which does not entitle the contractor to a next extension of time. The rate of progress of works, (or) any section of work is at anytime, in the opinion of the Executive Engineer, in charge considered to be very slow to ensure the completion within the prescribed time (or) extended time for completion, the Executive Engineer, in charge shall notify the contractor in writing and contractor shall then upon take such steps as may be necessary and the Executive Engineer, in charge may ask the contractor to expedite progress so as to complete the works (or) section of work within the prescribed time (or) extended time.
- The contractor shall not be entitled for any additional payment for taking such steps. As a result of any notice given by the Executive Engineer, in charge under this clause, the contractor may seek the Executive Engineer concerned, permission to do any work at night hours (or) on Sundays also, which days are recognized locally as day so festive equivalent recognized days. Such permission shall not be unreasonably refused by the Engineer-in-Charge.

- If the contract or fails to complete whole of the works (or) any part there of(or) section of the works within the stipulated period of individual quarterly mile stones, (including any bonafied extensions allowed by the competent authority without levying liquid dated damages) the Executive Engineer concerned may without prejudice to any other method of recovery may deduct 0.1% of contract value per calendar day or part there off or the period of delays occurred, subject to a maximum of 10% of the contract value.
- The penal amount may be recovered for many amount which may be due to be paid for the work done by him. Further, the receipt to payment or deductions of such damages from the contractors shall not relieve the contractor from hi so bligation to complete the works (or) from any other his obligations and liabilities under the contract.
- The liquidated damages for the whole of the work shall be filled up at the time of concluding agreement as below:

			Penalty
Milestone– I	-	Rs.	perday
Milestone_ II	-	Rs.	perday
Milestone–III	-	Rs.	perday
Milestone–IV	-	Rs.	perday

- Themilestonesshallbefixedatthetimeofagreementafterobtainingprogrammeofwork

IV. BONUS FOR ADVANCE COMPLETION OFWORK:

- Bonusas an incentive for the advance completion of work by the contractor at a minimum of one tenth of the period of the period of completion, shall be entitle for the bonus at 1% on the value of the actual quantum of work executed by him at the tendered rate.
- The Engineer in charge shall in writing notify to his higher authorities about the early completion of the work. Ifshouldbeensuredthatthecompletionreportfortheworkshouldhavebeenissuedinthe case before making payment towards bonus to the contractor.

V. BIDCAPACITY

- The experience of the contract or in the particular field may be taken into account from any period of his total carrier.
- Theannualturnoverbythecontractoralsomaybetakenintoaccountfromanyperiodofhistotal carrier.

Provided that, the contractor shall remain in live list till date.

- The tenderers who are themselves not professionally qualified shall undertake to employ the qualified technical men at their cost to look after the work. The tenderers should state in clear terms whether they are professionally qualified or whether they undertake to employ technical men required by the department specified in the schedule below for the work. In case the selected tenderer is professionally qualified or whether they undertake to employ technical men required by the department specified in the schedule below, or has undertaken to employ technical men under him, he should see that one of the technically qualified men should always be at site of the work during working hours personally checking all the items of works and paying extra attention to such works as may demand special attention e.g. reinforced concrete works etc

ELECTRICAL CONDITIONS

The entire work should be carried out as per the General specifications for electrical works in Government Buildings approved in G.O.Ms.No.347 Works Dated: 17th March 1919, General conditions of contract for Electrical Works approved in G.O.Ms.No.347 Works Dated: 17th March 1919, latest I.E. Act, I.E. Rules, CEIG conditions, ISI specifications and Revised TNSS Electrical Specifications and as per the General conditions of the contract. Necessary arrangements should be made by the contractor for getting permanent service connection from TANGEDCO.

1. The work will be carried out in co-operation with the occupants of the buildings, Buildings which are occupied may not be made available for carrying out the work uninterrupted through-out the day.
2. The contractor(s) will not employ labour below the age of 12 years and shall also note that he/they will offer employment to Ex-Servicemen, Ex-toddy tappers and unemployed agricultural labourers as far as possible.
3. No part of the contract will be sublet without the written permission of the Engineer in Charge nor will transfer be made by power of attorney authorizing to her to receive payment on the contractor's behalf.
4. The quantities given here are those upon which the total is based, but they are subject to alterations, omission, deduction or additions as provided for in the General conditions of Contract and do not necessarily show the actual quantities of work to be done. The unit rates noted in the Schedule "A" are those governing payment for extras or deductions or omissions according to the conditions of the contract as set forth in the preliminary specifications from time to time by the Chief Engineer, PWD/Electrical Engineer and the cost calculated by measurement or weight at the respective prices without any additional charges for any necessary or contingent works connected therewith. The rates quoted are for works in site and complete in every respect.
- 4 It is understood that the measured work is to be taken net (notwithstanding any custom or practice to the contrary) according to the actual quantities and finished according to the specifications or as may be as defined in the statement "rate of progress".
- 5 Payment will be made on detailed measurement basis only. Any of the items in the schedule may be omitted or radically altered. No change in rate shall become payable to contractor so account of such omissions or variations in quantities.
7. While making payment, 2% for Firms & 1% for Individuals, of the bill value shall be deducted towards Income Tax as per statutory orders of the Government.
8. Time will be considered as the essence of the agreement and the contractor(s) hereby agrees to commence the work as soon as this agreement is accepted by the competent authority as defined in the Tamil Nadu Public Works Department code, the site (or) premises is handed over to him/they as provided for in the said conditions and agreed to complete the work within the date of such handing over of the site/premises and to show progress as defined in the statement "rate of progress" with necessary provision for extension of time contained in Clause 57 of the Standard preliminary specification.

- 9 If at any time the Managing Director, TNFDC/ Engineer in charge is of the opinion that the contractor(s) is delaying the commencement of the work or violating rate of the progress of work defined in the statement 'Rate of Progress', in the "Articles of agreement", the Managing Director, TNFDC/ Engineer in charge will advice the contractor(s) in writing and at the same time demand compliance. If the contractor(s) neglects to comply with such demand within 7 days after the receipt of such notice, it shall then or at any time thereafter be lawful for the Managing Director, TNFDC/ Engineer in charge for termination of the contract. Such determination shall carry with it the forfeiture of Security Deposit and total of the amount withheld from the final bill together with value of amount of such work as may have been executed and not paid for such proportion or such total sum as will be assessed by the Managing Director, TNFDC/ Engineer in charge.
- 10 The electrification of the building will be deemed to be completed only if all the items of works including finishing item of work/meggar testing item of work is completed.
- 11 The contractor(s) will be liable to set right all defects arising out of his/their faulty electrification (or) faulty execution (or) sub-standard work noticed during the 12 months from the date of beneficial use of the electrical installations.
- 12 The contractor(s) will be present at the premises at the time of connection of the installationstothemainsandaffordallfacilitiesforthetestingandconnection.
- 13 All the materials to be used in the work should be of best quality and having I.S.I. mark and approval for use for each type of material on work will be obtained from the **Engineer in charge** before execution/use.
- 14 The contractor(s) will make his/their own arrangements to transport the materials to the work spot at his/their own cost.
- 15 The retrieved materials will be handed over to the section officer concerned at the section stores specified with prior intimation to him by the contractor(s) at the contractor's risk and cost.
- 16 Surplus materials remaining at the site will not be generally taken over by the Department whether before or after the completion or determination of contract. Such materials either which were originally procured by the contractor(s) or were issued to him them by the Department and charged to their accounts are the property of the contractor(s) and can however be taken over by the Department if required for use on, other works which are in progress by special arrangements and at the prevailing market rates viz. the rates at which articles of similar description can be procured from local market.
- 17 If the materials were originally used by the Department, the price allowed to the contractor(s) on requisition will not exceed the amount charged to the contractor(s) excluding the element of storage charges, if any.
- 18 The surplus materials which were originally issued to the contractor(s) by the Department for use in the work but become surplus will not be removed from the site of work without getting the written permission of the Managing Director, TNFDC/ Engineer in charge.

- 19 The contractor(s) is bound for recovery under Revenue recovery Act for any liabilities under this contract.
- 20 The term Electrical Engineer in the said conditions shall mean the Public Works Department officer in charge of the **Electrical Engineer** who shall be competent to exercise all the powers and previous sanction of or subject to the ratification of the Chief Engineer, Fisheries and Fishermen Welfare Department, Chennai-35 in cases where such sanction or ratification may be necessary.
- 21 Arbitration: The Arbitrator for fulfilling the duties set forth in the arbitration Clause of the Standard preliminary Specification will be Managing Director, Tamil Nadu Fisheries Development Corporation Ltd., Chennai-35 for the value of claim upto Rs.50,000/- and if the value of claim exceeds Rs.50,000/- the parties will seek remedy through the competent civil courts.
- 22 Standard Specification: For detailed description of various items of work to be executed in addition to the brief description given in the Schedule and for the rights and obligations of the contractor(s) etc. the attention of the contractor(s) is invited to Tamil Nadu Building practice which should be followed in all respects both in letter and spirit. The materials used, the workmanship, the mode of execution of the work, electrification of the work, etc., will conform to the relevant specification of T.N.B.P./National Building Code/Indian Standard Specifications/I.E. rules as may be applicable.
- 23 Risk Insurance: The work under this contract will be maintained at the contractor(s)'s risk until the work is taken over by the Department. The contractor(s) will accordingly arrange his/their own insurance against all natural calamities, fire and other acts of God. During such period, the TNFDC Ltd., will not be liable for any damage, vide Clause 47 of General Conditions of Contract as amended.
- 24 The said conditions shall be read and construed as forming part of this agreement and the parties hereto will be respectfully abide by and submit themselves to the conditions and stipulations and portion of the agreement on their part respectively.
- 25 In the event of the work being transferred to any other Circle/ Division/ Sub Division, the Engineer who is in charge of Circle / Division/Sub Division having jurisdiction over the work will be competent to exercise the powers and privileges reserved in favour of the TNFDC.
- 26 All rates agreed in this agreement is inclusive of Sales Tax payable under the General Sales Tax Act as amended from time to time (including amendment to Act 28/84 and that the contractor(s) is/are responsible to file the Sales Tax return and pay the amount of tax separately. No claim over agreed rates due to any subsequent levy or increase in tax will be entertained vide also Clause 38(2) of General Conditions of the Contract.
- 27 The final bill will be released only on production of Sales Tax clearance certificate from the concerned office. Sales Tax will be deducted from the bill as in force.

- 28 Recovery of dues under Revenue Act: Whenever any amount has to be paid by the contractor in view of the determination of the contract by virtue of Clause 57-4 or any other amount that may become due from the contractor under these present and the contractor is not responding to the demands for the payment of the said amount, then the government shall be entitled to recover the said amount under the provisions of the Tamil Nadu Revenue Recovery Act 1864 (Tamil Nadu Act.V of 1864).
- 29 The general arrangement drawing of the transformer/sub-station/schematic line diagram, etc., wherever required, be prepared in pentaplicate showing the details of all the equipment / circuits and CEIG's approval obtained. Assistance, if required will be rendered to the contractor by the TNFDC. The TNFDC will bear the inspection fee payable to the CEIG.
Note: Strikeout which are not applicable.

30. GUARANTEE.

Electrical materials supplied by the Firm or Contractor should be guaranteed for the period of one year against any manufacturing defects, or bad workmanship. If any faults occurred, the same should be got rectified and the faults occurred, the same should be got rectified and the faulty materials should be renewed at free of cost during the guarantee period.

31. **In addition to the aforesaid security deposit, retention amount (with held amount) shall be deducted from the running account bills, a sum equivalent to 5% (Five percent) of the total value (including the Goods and Services Tax [GST] amount for all the running accounts bills) of each bill as retention money.**

32. GST RATES AT 12% FOR WORKS CONTRACT

Government of India has notified vide Notification No.20/ 2017- Central Tax (Rate), Dated: 22nd August 2017 and Notification No.24/2017-Central Tax (Rate), dated: 21st September 2017 the concessional rate of the Goods and Services Tax (GST) at 12% [CGST at 6% + SGST at 6%] is leviable for any Government Contract, whether Civil or Electrical, irrespective of the Goods and Services Tax (GST) rate applicable on purchase of goods used in the execution of Government Contract.

And the GST amount will be calculated at 12% from the sum of total tendered value quoted by the tenderer for construction cost/ electrical works cost (excluding GST) specified in the Bill of Quantities, subject to GST rate applicable from time to time as recommended by the GST Council.

33. The works contract assigned to the Contractor's shall be cancelled if they engage Child Labour in executing works and such contractors should be black listed for 3 years.
34. The work done should be guaranteed for One year from the date of last measurement date recorded in the M-Book.
35. The retention amount at 5% including GST of the total value of contract and Security Deposit at 2% will be retained for one year from the date of final bill measurement date recorded in the M-Book.

36. INPUT TAX CREDIT(ITC)

- (a) As per Notification 202, dated: 29.06.2017 and as per sub-section (2) of section 7 of the Tamil Nadu Goods and Services Act 2017, (Tamil Nadu Act 19 of 2017) activities or transactions undertaken by State Government shall be treated as supply of goods nor a supply of service.
 - (b) As per Chapter IX (Section 41) of the Tamil Nadu Goods and Services Act 2017, every registered persons may be entitled to take the credit of eligible input tax, as self-assessed, in his return and such amount shall be credited on a provisional basis to his electronic credit register.
 - (c) As per Revised Schedule of Rates for 2017-2018 dated: 21.10.2017, under General Not 8 (ix), the contractor is eligible together fund of excess tax paid or liable to pay tax for this Contract Work.
37. The retention money of 5% including GST of the total value of contract after deducting any amount due to the Department, shall be refunded to the contractor without any interest after the defects liabilities attached to the contract is over **i.e after one year.**

38. PAYMENT TERMS FOR CIVIL WORKS

Part or complete Payment will be made only on satisfactory completion of work in full/ part thereof and value of work executed shall be determined, based on the measurements and check measurements by the Engineer in the Measurement Book.

For every Bill, 12% of GST will be paid to the contractor based on the value of work done for Construction by the Employer. After the payment including 12% of GST, the Contractor should pay the GST Amount to Government through his GST Registration No. Also the contractor needs to submit the Material purchase bill mentioning the name of the work/s in the package and GST No. to the Employer.

a) First Bill Payment:

“At the time of payment for first running account bill, the contractor should **produce** the GST paid details on goods(Materials) to the Employer for ITC.”

b) Intermediate Bill Payment:

“At the time of payment for next running account bills, the contractor should produce the GST paid details of service with previous bill payment (i.e. GST paid detail for the previous work bill) along with Input Tax Credit (ITC) availed at the time of payment of intermediate bill to the employer.”

c) Final Bill Payment:

“The contractor should produce the GST paid details for all the materials used for construction work and GST paid details of services for the upto previous payment (i.e. GST paid detail for the upto previous work bill) to the Employer along with Input Tax Credit (ITC) availed at the time of payment of final bill to the employer.”

d) Submission of GST paid details of Final Bill

“The GST paid details for the final work bill payment of construction work to be submitted by the contractor to the employer in few days after getting payment”.

39. PAYMENT TERMS FOR SUPPLY, INSTALLATION AND COMMISSIONING OF 10 MT ICEPLANT AND COLD STORAGE:

- a. 40% of the total value of contract upon the supply & installation machineries to site against relevant documents
- b. 35% of payment would be made after completion of machineries installation works and trial run.
- c. 15% of payment on satisfactory completion of works and on successful commissioning of the plant and machineries with 100% production output
- d. 10% of payment completion of 1 year from the date of commissioning i.e., after defects liability period

40. IN BILL OF QUANTITIES, PREAMBLE:

The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes and duties **(except GST)**, together with all general risks, liabilities and obligations set out in the Contract. The GST amount will be calculated at 12% of sum of the Bid value **(excluding GST)** quoted by the bidder for construction cost specified in the Bill of Quantities. The Bill of Quantities should include **GST (Goods and Services Tax) Amount**”

41. Goods and Services Tax (GST) Registration and Addition of GST in Bills:

The Contractor should be required to indicate their GST registration number under **the Goods and Services Tax (GST) Act, 2017** in the tender form. **The Central Goods and Services (CGST) Act, 2017, the Integrated Goods and Services (IGST) Act, 2017 and the Tamil Nadu Goods and Services (TNGST) Act, 2017 have been enacted and enforced from 01.07.2017. Under the new tax regime, GST (comprising CGST, SGST and IGST) on works contracts for Government work was finally notified at 12 percent. As per the Tamil Nadu Goods and Services (TNGST) Act, 2017, with effect from 01.07.2017.**

42. SPECIAL CONDITION TO THE CONTRACTOR:

- i) In case, if the tenderer quotes rates at 5% to 15% less than the department value, he should enclose the additional security deposit at 2% extra on the department value in the manner specified under Rule 14 (1) of Tamilnadu Transparency in Tenders Rules, 2000 in addition to the Earnest Money Deposit and Security Deposit.
- ii) Similarly, in the case if the tenderer quotes rates at minus 15% and above than the department value, he should enclose the additional security deposit at 50% of the difference in value on the department value and the quoted value, in the manner as specified under 14(1) of Tamilnadu Transparency in Tenders Rules, 2000 in addition to the Earnest Money Deposit and Security Deposit.
- iii) The tender documents received without the required Earnest Money Deposit, Security Deposit and the Additional Security Deposit, as indicated above will be treated as non-responsive and summarily rejected at the first instance itself.

DEPARTMENT PENALTY PER CLAUSE AS

G.O.Ms.NO.2659,PublicWorksDepartment,DATED23.12.1970and

Extract from the Tamil Nadu Buildings Practice Volume II

56. Delays in commencement or progress or neglect of work or suspension of work by the contractor and forfeiture of Earnest Money Security Deposit and withheld amounts.

Time shall be considered as the essence of the contract. If at any time, the Managing Director, TNFDC Ltd., shall be of the opinion that the contractor is delaying commencement of the work, neglecting or delaying the progress of work as defined in the tabular statement "Rate of progress:" in the Article of Agreement or the contractor fails to maintain the rate of progress in the Article of Agreement plus any extension of time or the contractor shall suspend the works or sublet the work or a portion thereof without the sanction of the Managing Director, TNFDC or violates any of the provisions of the contract, the Managing Director shall so advise the contractor and at the same time demand compliance. If the contractor neglects to comply with such demand within seven days after receipt of such notice, it shall then or at any time thereafter be lawful for the Managing Director, TNFDC to impose a penalty or forfeiture on the contractor from the deposit or to determine the contract.

The Penalty or forfeiture referred to in Clause 57.1 shall not exceed 5% of the value of the work executed and is imposed in cases where the contractor is allowed to proceed with the whole or part and complete the whole or such part of works. The penalty or forfeiture imposed by the Managing Director, TNFDC under this Clause is however subject to modification or waiver at the absolute discretion of any authority higher in rank than the Managing Director, TNFDC.

It shall be a further right of the Managing Director, TNFDC to give any part of the work to any other contractor at his discretion or have it done TNFDC in order to maintain the rate of progress and the contract shall then be determined for only that portion of the work given to other contractor or done, TNFDC. The forfeiture under Clause 57.2 will in these circumstances be applied and any expenditure incurred on this account shall be recovered from the original contractor.

Determination of the contractor referred to in Clause 57.1 shall carry with it the forfeiture of the Security Deposit. After determining the contract, the Managing Director, TNFDC shall have the right to give any part of work to any other contractor in the unexecuted portion of the contract in which case any expenses which may be incurred in excess of such amount which would have been paid to the original contractor if the whole work had been executed by him shall be borne and paid by the original contractor, and may be deducted from any money due to him by the Government under this contract or any other account whatsoever. Provided, also that if the expenses incurred by the Government are less than the amount payable to the contractor at his agreement rates, the difference will not be paid to the contractor.

In the event of any one of the above Clauses being adopted by the Managing Director, TNFDC, the contractor shall have no compensation for any loss sustained by him by reason of his having purchased or processed any materials or entered in to any engagement or made any advance on account or with a view to the execution of the work or the performance of contract and in case action is taken under any of the provisions afore said the contractor shall not be entitled to be paid any sum for any work actually performed under the contract unless and until the Managing Director, TNFDC has certified in writing the

performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

In the event of the Managing Director, TNFDC putting in force all or any of the powers vested in him under the Clause 57.4, he may, if he so desires, after giving a notice in writing to the contractor, take possession of the works and site and all such plant and materials thereon (or any ground contiguous thereto) and all such plant and materials as above mentioned shall thereupon be at the disposal of Government absolutely for the purpose of completing the work. After such notices shall have been given, the contractor shall not be at liberty to remove from the site of work or from the ground contiguous there to any plant or materials belonging to him which shall have been placed thereon for the purpose of the above work. Government shall not be liable to make any payment to the contractor or account of use of such plant for the completion of the works, under the provision here in before contained. On taking possession of the materials and stores belonging to the contractor or procured by the contractor and intended to be used for the execution of the work or any part thereof, the contractor shall be paid for the same in account, at the contract rates to be certified thereof, shall be final. Otherwise the TNFDC may give notice in writing to the contractor to remove any of his plant or materials from the site and not required for the completion of the works. If such plants or materials are not removed within 14 days after notice shall have been so given, the TNFDC may remove and sell the same, holding the proceeds less the cost of removal and sale, to the credit of the contractor. The certificate of the Engineer in charge as to the expense of any such removal and sale shall be final and binding on the contractor.

OFFICE OF THE MANAGING DIRECTOR, TAMIL NADU
FISHERIES DEVELOPMENT CORPORATION LIMITED,
CHENNAI-35.

LIST OF APPROVED MATERIALS

1. 5A and 15A flush type switches, ceiling Rose, Batten Holder, 5A and 15A, switch and socket combined 5 Amps & 15 Amps plug sockets etc.
KUNDAN/ANCHOR/DASPAN
2. Modular type switch/switch Box/flush mounted socket/Fan Regulator
MK India/ANCHOR ROMA/CRAB TREE
3. Fuse Units
GEM/KUNDAN/ANCHOR/STANDARD/Controls and switchgear
4. Industrial type plug & Sockets
**HAVELLS/HAVER/FLIGHER/BHARTIA CUTLER
HAMMER/LEGRAND**
5. Protection Relays and Auxiliary Relays
SIEMENS/L&T/ALSTHOM/Controls & Switchgear
6. Instruments
AE/IMP/ENERCON/SECURE
7. CTs/PTs
KAPPA/PRAGATHI/INSTRANS/AE
8. Control switch/Indication Lamps/Push Button
SIEMENS/TEKNICK/KAYCEE/L&T
9. Iron and Metal Clad switches and Double break metal switches with HRC fuses or rewirable uses.
GEM/KUNDAN/HPL/HAVELLS/STANDARD
10. Special type main switches Cubical type
L&T/ENGLISH ELECTRIC/SIEMENS
11. Water tight bulk head fitting
PHILIPS/BAJAJ/CROMPTON GREAVES/K-LITE
12. LTUG Cables & H.T.U.G. Cables **TROPODUR /CCI /UNISTAR /PARAGON
/RALLISON /UNIFLEX/HAVELLS/POLYCAB/ RPG/FINOLEX**
13. Cable Termination kits
CCI/RAYCHEM/BIRLA-3M/M-SEAL
14. Cable glands
COMET/PRABHAT/STANDARD
15. Cable trays & accessories
PROFAB/TECHNOFAB
16. Rising Mains
C&S/MERLIN GERIN/GE/KLOCKNER MOELL
17. Wiring Cables PVC sheathed and unsheathed copper cables.
**KUNDAN/RRCABLES/ORBIT/FINOLEX/ATLAS/Q-FLEX/POLYCAB/INDO
ASIAN/HAVELLS/L&T/RPG/ANCHOR/ATCCABLES/TEKMAK/V-GUARD/ DASPAN/
JAIMEX GOLD**
18. Distribution Board
KUNDAN/GEM/STANDARD/HPL/HAVELLS
19. Fluorescent fittings

**FIXOLITE/GLOLITE/ATLAS/DELTA/CROMPTON
GREAVES/BAJAJ/PHILIPS/WIPRO/HAVELLS**

20. PL & CFL fittings/Lamps

PHILIPS/OSRAM/ANCHOR/CROMPTON/DASPAR

21. Street light fluorescent fitting

**FIXOLITE/GLOLITE/ATLAS/DELTA/CROMPTON
GREAVES/BAJAJ/PHILIPS/WIPRO**

22. Decorative type fluorescent fitting

**FIXOLITE/GLOLITE/ATLAS/DELTA/CROMPTON
GREAVES/BAJAJ/PHILIPS/WIPRO**

23. Special type decorative box type & Street light fittings

PHILIPS/CROMPTON GREAVES/WIPRO

24. MCB, ELCB, RCCB

GEM/KUNDAN/STANDARD/HPL/HAVELLS/LEGRAND(MDS)HAGER

(L&T)

/ MERLINGERIN/AXIOM

25. Moulded Case Circuit Breaker

MERLIN GERIN/SIEMENS/SSG/GE/ABB

26. Ceiling fans, exhaust fans, table fans, wall mounting fans and pedestal fan

**CROMPTON GREAVES/USHA/ORIENT/BAJAJ/KHAITHAN/HAVELLS/ALMONARD/
ROOPA/APEXLEHAR/ORTEM/MARC**

27. **Stepped Electronic square type fan Regulator and Dimmer type Electronic
square type Fan Regulator.**

ANCHOR DELUXE/CROMPTON GREAVES

28. Storage type Water Heaters

VENUS/RACOLD/ELAC/MARC

29. Indoor VCB

EXCEL/STALMAC

1. The material used should be got approved by the Engineer in charges of the Department during execution.
2. The makes specified if any in the agreement should be adopted during execution wherever applicable.

SPECIAL CONDITION FOR
LIFTTERMS &
CONDITIONS

1. TERMS OF PAYMENT:

- a) 85% cost of materials will be released after receipt of materials at site in good condition.
- b) Balance amount after retaining 5% of contract value will be paid on completion of work (i.e) on Commissioning and handing over of the plant to the Department in Satisfactory working condition.
- c) The withheld amount of 5% of contract value will be recovered in each and every part bill of payment. The withheld amount of 5% value of contract along with 2% S.D. will be released only after the guarantee period after ascertaining satisfactory performance of the plant in the form of TNFDC. Cheque as per the rules prevailing at that time.

2. GUARANTEE:

The Lift should be guaranteed against faulty design, materials manufacture and work-man ship for a period of 12 months from the date of handing over Lift in perfect working condition. If the Lifts go 'Out of Order' during the Guarantee period, the Guarantee period will be extended by the period during which the Lift is out of order and not functioning.

The Guarantee should cover replacement of defective parts, lubricating the parts, during the Guarantee period. Transport charges for taking the defective material to the company / Factory and bringing them back to the site should be to the account to the contractor.

3. FREE SERVICING:

The plant should be serviced regularly every month during the GUARANTEE PERIOD FREE OF CHARGE. Break down calls should be attended immediately free of charge. The firms capability in ensuring required after sales Services must be stated. Firm having full Fledged Service, Station in Madras for nearby will be preferred. The location of the Service station should be stated.

4.COMPLETION PERIOD.

The offer should be for delivery of entire materials at site, erecting the same and commissioning the plant to the entire satisfaction of the TNFDC within **Sixty** Days from the date of handing over.

5. ARBITRATION CLAUSE:

The Chief Engineer Fishing Harbor Project Circle, Department of Fisheries and Fishermen Welfare Department shall be the sole Arbitrator for disputes if any arising out of this Contract.

6.TRAINING THE TNFDC PERSONS:

The tenderer should be ready to train the TNFDC persons on the Operation maintenance and fault detection and design of the plant during the erection period and servicing period also.

7. SALES TAX / GST: The contractor shall be solely responsible for the payment of GST /Sales Tax under the provision of the TamilNadu General Act, 1939 (Madras Act of 1939) as in force of the time being and the rates for the various items for the works shall remain unaffected by any change that may be made from time to time in the rate which Sales Tax/GST is payable.

All rates quoted in the Tender, shall be inclusive of GST/ Sales Tax payable under General Sales Tax Act as amended from time to time (including Amendment Act 28/84) and that the contractor is Responsible to file the Sales Tax/GST return and pay the amount of Tax as demand by the Commercial Tax Department. No request for payment of Sales Tax/GST separately in addition to Tendered rates due to any plea, subsequent levy or increase in Tax, will be entertained vide clause 38(8) of General Conditions to contract.

c) FREE SERVICING:

The Lift should be thoroughly serviced regularly every month during the Guarantee period of 12 months. Breakdown Calls should be attended to immediately FREE of CHARGE during the Guarantee period. The Tenderer is capable in ensuring required after Sales Services must be stated.

d)Firm having fully fledged Service station in the city or nearby will be preferred. The location of the Service Station should be stated.

10)PERIOD OF COMPLETION:

- a. The Lift Shaft and machine will be made available or commencing the erection work by 60 days. Hence Price variation clause for erection portion if applicable will be considered with effect from or from the date of completion of supply of materials whichever is later. The price quoted for erection portion shall be firm up to 30 days or the date of supply of materials whichever is later. The offer of the firm who are acceptable to this condition only will be considered.
- b. The successful Tenderer should submit the G.A. Drawings within 1 week from the date of receipt of formal supply order in consulation with the under signed and get the approval of the G.A. Drawings within 1week from the date of submission of G.A. Drawings from the under signed by specially deputing a responsible person. The correspondences by position this regard should be totally avoided.
- c. Materials should be supplied within 1 month from the date of approval of G.A.Drawings Erection shall be completed within one month from the date of readiness of the Lift shaft and Lift machine room.
- d.The extension of time if required to complete the work should be obtained by indicating the reasons for the delays sand that any period not covered by the extension of time will be treated as unauthenticated calling for penal action.
- e.Proper evidence should be produced by the firm to the satisfaction of the Chief Engineer, whenever Force adjure conditions arise.

11. GENERAL CONDITIONS:

Unless otherwise specified, the conditions put forth in the General specifications for Electrical Work and Special conditions for Electrical Works P.W.II(1) and P.W.II(2) will hold good.

- a) Any damage or disfigurement caused to the Building by the contractor during the execution of the work should be made good at the contractor's cost.
- b) The work should be carried out in cooperation with the TNFDC.
- c) For slow progress of Work/Bad work-man ship/leaving the work incomplete shape the corporation will take action to impose fine / penalty as per corporation penalty clause enclosed separately.

- d) The Contractor engaging the Labourers for the work is wholly responsible for any accident or death occurring to the Labourers while carrying out the work and the corporation shall not be held responsible for such occurrence and for payment of compensation to the labourers.
- e) The contractors shall have option either to present the Tender directly or to send it by Registered Post with acknowledgement due.
- f) The work in Public Works Department (Buildings) executed by the contractor under the Contract shall be maintained by the Contractor until the work is taken over by the Electrical Engineer, "The Contractor shall according arrange his own Insurance against fire, flood, Volcano eruption earthquake other conditions of nature and all other natural calamities, risk arising out of acts of God during such period and that the Government shall be liable for any LOSS. Or damages occasioned by arising out of any such acts of God.
- g) Provided however that the contractor shall not be liable for all or any loss of Damage occasioned by or arising out of acts of Foreign enemies, invasion, hostilities or war like operations, (Before or after declaration of war) rebellion, Military or usurped power.

12. RISK INSURANCE:

The work executed by the Contractor under this Contract shall be maintained at the Contractor's risk until the work is taken over by the Electrical Engineer. The Government shall not be liable to pay for any loss or Damages occasioned by (or) arising due to flood volcanic, eruption, earthquake other conditions if nature and all other natural calamities risks arising out of acts of God during such period and that the Option whether to insurance coverage (or) not to cover such risks is left to the contractor.

CONSTRUCTION OF ICE PLANT CUM COLD STROAGE FACILITIES IN WHOLESALE FISH MARKET AT UKKADAM COIMBATORE DISTRICT

SCHEDULE

E.M.D. Amount:Rs.1,10,000/- DD infavour of the Managing Director, TNFDC Ltd., Chennai-35

Tender Date:20.04.2022

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
1	107 m ³ (One Hundrend seven cubic meters)	Earthwork excavation for foundation in all soils and sub soils and to the full depth as may be diverted except hard rock requiring blasting inclusive of shoring, strutting and baling water wherever necessary refilling the sides of foundation with excavated earth SS20B.		1 m ³ (One cubic metre)	
2	74.50 m ³ (Seventy four point five zero cubic meters)	Supply and filling in foudation and basement with excavated soil in layers of not more than 15cm thick well rammed and consolidated etc., as per standard specification.		1 m ³ (One cubic metre)	
3	27.50 m ³ (Twenty seven point five zero cubic meters)	Supplying and filling of stone dust including cost of materials, conveyance and consolidation not more than 15 cm thick in each layer as per standard specifications		1 m ³ (One cubic metre)	
4	34.50 m ³ (Thirty four point five zero cubic meters)	Cement concrete of mix 1:4:8 (One cement four sand and eight aggregate) using 40 mm gauge HBG Jelly for foundation and flooring including cost and conveyance of all material and labour charges for laying land in layer of not more than 15 cm thick well rammed and curing etc., complete as per standard specifications		1 m ³ (One cubic metre)	
5		Reinforced cement concrete M20 grade , 1: 1 1/2: 3 using 20 mm gauge HBG stone jelly including cost and conveyance of all materials to site excluding centering strutting and cost of reinforcement grill in position but including laying curing etc., complete.			
a	51.50 m ³ (Fifty one point five zero cubic meters)	Upto Basement		1 m ³ (One cubic metre)	

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
b	51 m ³ (Fifty one cubic meters)	Above Basement		1 m ³ (One cubic metre)	
6		Supplying and erecting Centring (Steel) for sides & soffites including such as RCC foundations, beam, lintels, & bed blocks,walls etc., complete at all levels			
a	101 m ² (One hundrend and one square meters)	Without strutting		1 m ² (One square metre)	
b	206 m ² (Two hundrend and six square meters)	For column and sunshade		1 m ² (One square metre)	
c	302 m ² (Three hundrend and two square meters)	For roof slab, beams etc.,		1 m ² (One square metre)	
7	102.50 Qtl (One hundrend and two point five zero quintals)	Supplying, fabricating and placing in position plain/ ribbed Tor steel for all RCC works including binding wire, cutting, bending, tying etc.,. The rate is inclusive of coat of binding wires etc., and conveyance of steel from plant to site of work		1 Qtl (One quintal)	
8		Brick work in cement mortar 1:5,using country bricks of size 8 3/4"x 4 1/4"x 2 1/4"for foundation and basement and superstructure etc., complete.			
a	31.50 m ³ (Thirty one point five zero cubic meters)	Upto Basement		1 m ³ (One cubic metre)	

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
b	64.50 m ³ (Sixty four point five zero cubic meters)	SUPER STRUCTURE (ABOVE FFL)		1 m ³ (One cubic metre)	
9	507 m ² (Five hundrend and seven square meters)	Special ceiling Plastering with cement mortar 1:3 - 10mm thick including curing and finishing etc., complete.		1 m ² (One square metre)	
10	48.50 m ² (Forty eight point five zero square meters)	Floor finising with cement mortar 1:4 - 20mm thick including cost of all materials and curing etc complete as per standard specifcations		1 m ² (One square metre)	
11	795 m ² (Seven hundrend and ninety five square meters)	Plastering with cement mortar 1:5 - 12mm thick for all external surface exposed surfaces including curing etc., complete.		1 m ² (One square metre)	
12	72 m ² (Seventy two square meters)	Finishing the flooring with Granolythic floor finish 1:2:4 using 10-12mm gauge HBG stone jelly, 25 mm thick including curing etc., complete		1 m ² (One square metre)	
13	18 m ³ (Eighteen cubic meters)	Weathering course using broken brick jelly 20mm gauge in pure slaked lime (No sand to be used) over RCC roof slab as directed by Departmental officers		1 m ³ (One cubic metre)	
14	178 m ² (One hundrend Seventy eight square meters)	Finishing the top of the roof one course of machine pressed tiles of size 20x20x2cm of approved quality laid in layer of cement mortar 1:3 (one cement and three sand) mixed with 2% of water proofing compound etc., complete.		1 m ² (One square metre)	
15	44 m ² (Forty four square meters)	Providing R.C.C.Jolly 5 cm thick including cost of materials, labour for fixing etc.		1 m ² (One square metre)	

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
16	8 m ² (Eight square meters)	Fabricating, supplying and fixing in position of aluminium anodised natural colour matt finished Door of double leaved with shutters panelled top 2/3rd portion with plain glass of 5.5 mm thick and aluminium grill of 10 mm thick standard pattern (diamond shape) and botto 1/3rd portion with both side per laminated particle board of 12mm thick. The door frame shall be of anodised alluminium box type section or size 101.0 X 44.45 X3.18 mm @ 0.319kg/m and the shutter frame shall be of alluminium anodised box type section of size 50 X 44.25 X 2.5 mm @1.202 kg/m and rock rail using box type section of 50 X 44.45 X 2.5 mm @ 1.292 kg/m and bottom rail using box type section of 100.40 X 44.45 X 2.5 mm @ 1.974 kg/m .		1 m ² (One square metre)	
17	119 m ² (One hundred and ninteen square meters)	Flooring with 20mm thick Kota stone slabs using cement mortar 1:3, 25mm thick over existing cement concrete bed or top of roof laid to line and level and jointed with cement slurry mixed with pigment to match the shade of the slab, , including cost of materials, labour, curing, polishing complete as per specifications.		1 m ² (One square metre)	
18	1302 m ² (One thousand three hundred and two square meters)	Painting two coats of plastered wall surface with ready mixed plastic emulsion paint of first class quality and of approved colour over a priming coat including thorough scrapping, clean removal of dirt, and including necessary plaster of paris putty, wherever required etc., complete complying with standard specification.		1 m ² (One square metre)	
19	18 m ² (Eighteen square meters)	Supply and erecting pull and push type rolling shutter with ISI make of approved size and section using 18 GI sheet. The shutter shall be painted with one coat of red oxide primer and the rate is inclusive of hood cover, transportation charges etc., Rolling shutters (With ISI Monogram): Gear Operated type.		1 m ² (One square metre)	

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
20	20 Rm (Twenty running meters)	Providing& fixing pvc rainwater downfall pipe of the following dia with necessary T.W clamps plugs, shoes ,bend , other clamps, screws, nails etc complete complying with std specifications the rate is inclusive of cost removable iron gratings of appropriate size of T.W plugs used is 150x25mm in front and 200x75mm in rear (wall side) with a depth 110mm. The pipe is to be fixed by means of U CLAMPS at the center of pipes to be fixed.		1 Rm (One running metre)	
21	57 m ² (Fifty seven square meters)	Painting the new iron work in all floors two coats of best synthetic enamel paint of approved quality, colour and brand (to be approved by departmental officers before use on works), including cost of brushes, high scaffolding charges neat finishing.		1 m ² (One square metre)	
22	9.50 m ³ (Nine point five zero cubic meters)	Supplying and fixing in position wooden log in country wooden Cover frame of cross section of 400 X 200 mm as directed by the departmental officers.		1 m ³ (One cubic metre)	
23	6 m ² (Six square meters)	UPVC Window Supplying and fixing UPVC (Un-Plasticized Polyvinyl Chloride) Windows of casement type (open) from the profile the size of outer frame 60mm x 58mm and shutter profile are reinforcement with GI/1mm 125GSM and 100% corrosion free, the profiles are multi chambered sections with wall thick of 2mm. The EPDM rubber (black colour) covered with over all the edges of frame and shutter the shutter will be provided with Espag multi power point locks and also it operates as handle. The corners and joints should be welded and cleaned. Radiations free pin headed plain or brown colour glass 4mm thick should be provided to the shutter and it should not allow leakage of water even at most ranging storms and should have key lockable action, security protective hinges, strong locking systems and as per size for arresting noise and energy loss. The connecting mechanism between sash and outer frame that enables opening of the window. The window should be fixed to the wall with 100% packing with screws and silicon packing all round the frames. The window should be got approved from the Executive Engineer before use on work		1 m ² (One square metre)	

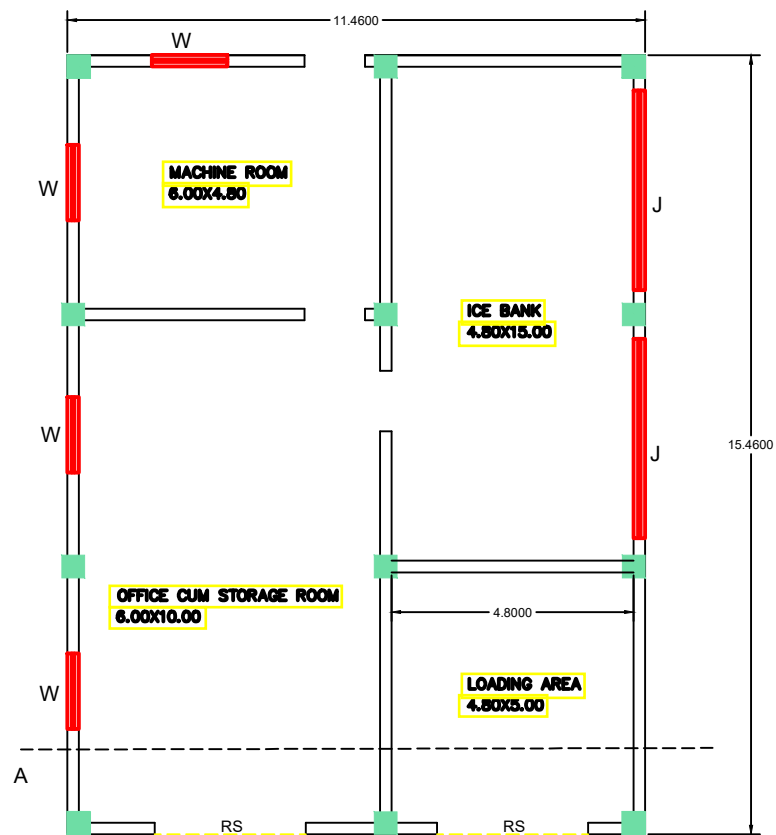
SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
24	115.50 Kg (One hundred and fifteen point five zero kilograms)	Supplying and fixing M.S. grills for door, windows, ventilator, gate and ladder including cost of one coat of priming etc., as per standard specifications		1 kg (One Kilograms)	
		Electrical Works			
25	27 Pt (Twenty Seven Point)	Wiring with 2x1.5 sqmm (22/0.3) PVC insulated SC.unsheathed Cu. Conductor of 1100 V grade in suitable PVC rigid pipe on wall and ceiling with PVC accessories in flush with wall with MS Modular Junction and Modular Swith Box and 6 A modular FT switch (Crabtree/Legrand / Hanger/ Equivalent) with modular front plate in flush with wall and making good of the concealed portion with suitable colour for concealed light point / fan point (For electronic regulator) (5 points per coil) (SD 18)		1 No (Each)	
26	6 Pt (Six Point)	Wiring with 2x1.5sq.mm (22/0.3) PVC insulated single core unsheathed copper conductor cable of 1100V grade in suitable heavy gauge M.S. conduit pipe on wall and ceiling with MS accessories in flush with wall with 150mm x 100mm x 75mm MS switch box with 3mm thick hylum sheet cover for 5A 3 pin non interlocking CS plug with continuous earthwire connection of 14 SWGTC wire and making good of the concealed portion with suitable colour for concealed plug point (SD 10)		1 No (Each)	
27	6 Pt (Six Point)	Wiring with 2x4 sqmm(56/0.3) PVC insulated SC unsheathed Cu.Conductor cable of 1100V grade in suitable PVC rigid pipe on wall and ceiling with PVC accessories with 150mm x100mm x113mm MS modular Junction box and modular switch Box for 15 A 3 pin flush type non inter locking Wall socket with 15A Flush type switch with continuous earth wire connection of 14 SWG TC wire for open PVC power plug point. (SD 41)		1 No (Each)	
28	4 Nos (Four numbers)	Supply and fixing of 300 mm (12") sweep (light duty) AC exhaust fan complete with necessary wall opening and making good of the wall (SD 114)		1 No (Each)	
29	3 Nos (Three numbers)	Supply and fixing of 1200 mm (48") AC ceiling fan complete with stepped electronic 300W regulator with 300mm down rod on the existing clamp (SD 107)		1 No (Each)	

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
30	20 Nos (Twenty numbers)	Supply and fixing of 4' 18 W Crystal Glass LED Tube Light fitting complete on ceiling with necessary fittings		1 No (Each)	
31		ICE PLANT			
	1 set (One Numbers)	1. Ice Making capacity - 10000 kg / day 2. Ice making time - 8 h / batch 3. No. of Batches - 03 4. Ice Weight- 25 kg 5. Block size - 120 x 360 x 750 mm 6. Total no. of Ice Blocks - 400 pcs 7. Ice Mold material and thickness - ANSI 304 SS / 1.5 mm 8. Cooling Capacity - 55 kw 9. Ambient Temperature - 30-40 C 10. Water input temperature - Max. 30 C 11. Refrigerant - R 404 A/ R410A 12. Compressor Capacity - 60HP 13. Compressor Type - Open or Semi - Hermetic type, Danfoss / Copeland / Emerson / Blitzer or any Standard Make 14. Compressor Drive - Belt / Direct Drive 15. Electric Motor with suitable control drives based on the secondary refrigerant 16. Secondary Refrigerant Brine solution 17. Oil separator, Shut - off valves at inlet and outlet, suitable crankcase heater should be mounted in the Compressor unit. 18. Suction side of the compressor should be suitably insulated for minimizing the heat infiltration. 19. The mountings for compressor should have damping to reduce floor vibration. 20. Pressure & Temperature gauges at the inlet and outlet of the		1 No (Each)	

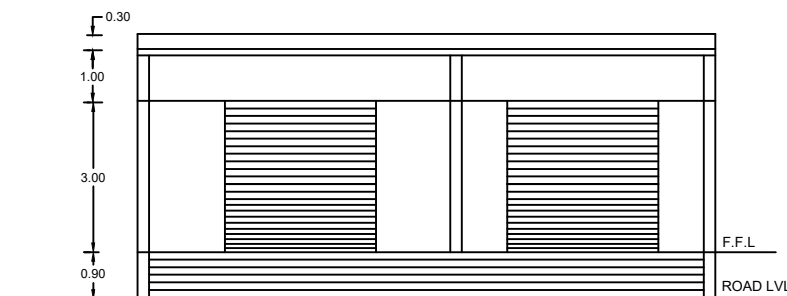
SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
		<p>compressor and condenser should be mounted at appropriate locations.</p> <p>21. Electrical panel board, controllers, starters, cables should be of standard make.</p> <p>22.Evaporator Type - Tube type</p> <p>23.Evaporator Coil Material - Copper</p> <p>24.Pressure Switch and regulating valves should be provided</p> <p>25.Condenser Type. water cooled shell and tube condenser</p> <p>26.Cooling Tower capacity - Nearly 80 kw</p> <p>27.Cooling Tower Type - Forced or induced Draught Type, Counter flow</p> <p>28. The Cooling tower should be a package unit</p> <p>29.Material of Construction for Cooling Tower : FRP</p> <p>30.Suitable Centrifugal Pump with VFD control should be placed in the Cooling Tower circuit.</p> <p>31.Necessary drift eliminators in cooling towers should be provided.</p> <p>32. Brine Pool Inner Wall Coating should be insulated with Polyester or any other equivalent insulation.</p> <p>33.Agitator with a suitable motor capacity should be provided for attaining the required flow rate of brine from Evaporator Unit to Pool.</p> <p>34.Electrical panel board, Controllers, starters, cables should be of standard make with required MCB and relays.</p> <p>35. Pre - insulated pipes should be used every where for minimizingthe energy loss</p> <p>36.The brine Pool should be covered with openable panel doors with proper insulation for minimizing the heat infiltration.</p> <p>37.Power supply - 3 Phase / 400 -440 V / 50-60 Hz</p> <p>38.Digital type Energy meter should be provided at the plant.</p> <p>39.All exposed panels should be coated with suitable primer and anti – corrosive paints. 40.Necessary crane for loading and unloading ice</p>			

SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
32		COLD STORAGE -10 MT			
	1 set (One Numbers)	<p>1. Cold room outer size (ft) - 15'x16' x 11' (WxDxH)</p> <p>2. product to be preserved - Seafood</p> <p>3.Safety Alarm - Visual and Audible Alarm as per ISO 27000</p> <p>4.Lighting - LED Bulkhead Light</p> <p>5.Pressure Relief valve - Required</p> <p>6. Product Storage-10 MT</p> <p>7.Packing type- Perforated Plastic Crates / Box</p> <p>8.Cold Room Temperature - 4 C to 6 C</p> <p>9. pull down time - 12 h</p> <p>10. Electric Panel Board & Sensors:-</p> <p>i.Thermostat arrangement should be provided in the unit for Temperature control in the conditioned space.</p> <p>ii. Minimum of 5-6 Temperature Sensors should be placed at different locations in the cold room.</p> <p>iii. Pressure and Temperature sensors at the inlet and outlet of the compressor and condenser</p> <p>iv. Electric Panel Board with MCB, Relay and Digital Energy meter should be installed at the plant.</p> <p>v. Electric Cabling should be carried out as per the site requirement.</p> <p>Panel for Cold Room:-</p> <p>11. Panel Material & Construction- Prefabricated sandwich panels made of Flame retardant Polyisocyanurate (PIR) or Polyurethane foam (PUF) with cam lock 7 Rubber Gasket between panels, panels with grooves to increase the strength. Wall, ceiling & floor all get together by the mentioned arrangements.</p> <p>12. Panel Thickness - Minimum 80 mm</p> <p>13. Panel Surface Material - 80 mm Coated GI sheet sandwiched</p>		1 No (Each)	

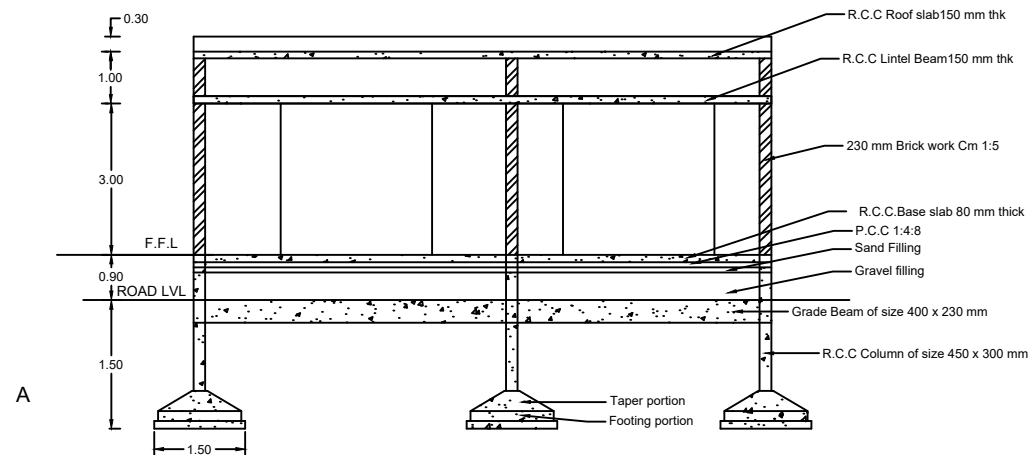
SI No	Quantity	Description	Rate in Figures & in Words	Unit	Amount (Rs.)
		flame retardant PIR /PUF 14.Floor Panels- 80mm PIR / PUF panels with Tar Sheet for Flooring 15.Door - Sliding / Hinged Doors insulated with 80 mm PIR 16. Air curtain for door opening - Mechanized air Curtain & Plastic Srtip Curtain Refrigeration system:- 17. Cooling capacity - 12 kW each 18. Refrigeration System - Air Cooled split Type 19.Refrigerant - R404a 20.No .of Refrigeration- 02 Nos.(including a Standby unit) 21.Evaporator Coil -Copper / Aluminium Coil fitted with fins of desired geometry 22.Compressor - Hermetically Sealed Scroll type /Danfoss/ Copeland / Emerson / Blitzer or any Standard Make 23. Condenser Coil - Air Cooled Type with Copper Coils and Aluminium Fins 24. Maximum Ambient - 50 C 25.Power Supply- 3 Phase, 440V, 50 Hz			
		Sub Total Rs			
		Provision for GST @ 12%			
		Grand Total Rs			



PLAN



ELEVATION



SECTION A-A

ALL DIMENSIONS ARE IN "METER"

LEGEND:- Doors & Windows		
S.no	Description	Size
1	RS	3.00mx3.00m
2	Door	1.20mx2.10m
3	Window	1.20mx1.20m

PROPOSED ICE PLANT CUM STORAGE FACILITIES IN UKKADAM WHOLE FISH MARKET AT COIMBATORE DISTRICT

