

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Autonomous Institution of the Department of Atomic Energy, Government of India
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Website www.tifr.res.in

Ref.: TIFR/PD/CF17-139/172438

March 09, 2018

NIT cum Tender Document (TWO PART PUBLIC TENDER) for the following works:

Underground Trench & adjacent Footpath Repairing & Construction of Inspection Chambers connected to Chilled Water trench passing from Air Conditioning Plant to B-Block, TIFR, Mumbai

| | |
|--|---|
| Tender No. | TIFR/PD/CF17-139/172438 |
| Estimate Cost | Rs. 7 Lakhs |
| Tender Fee | Rs. 500/- by way of Demand Draft in favour of Registrar, TIFR, Mumbai |
| EMD | Rs. 14,000/- by way of Demand Draft in favour of Registrar, TIFR, Mumbai |
| Type of Tender | Two Part Public Tender |
| Time of Completion | 180 (One Hundred And Eighty) Days |
| Contact Persons | Shri R.H. Jagtap (Tel : 22782596), Shri Amar Rupadja (Tel. 22782097), Shri Sangam Sinha (Tel. 22782325) Technical Service for any technical clarifications. |
| Last Date for Submission of Tender | 23rd March 2018 on or before 1730 Hours |
| Date of Opening Technical Bid (Part "A") | 26th March 2018 at 1500 Hours (Only Technical Bid Part "A") |

Both Technical Bid (Part A) and Financial Bid (Part B) to be submitted within the due date and time in separate envelopes and marked on top as Part A and Part B. These two sealed envelopes should be further put in one Master Envelope superscribed with the Tender No., Due Date in Bold Letters.

All prospective bidders are requested to visit our website regularly for any such updates/corrigendums.

Please see attached sheet for conditions of tender.

TECHNICAL BID PART 'A'
TATA INSTITUTE OF FUNDAMENTAL RESEARCH

- **Eligibility criteria:** Bidders are required to comply with the following eligibility criteria.
- i) Registration / empanelment with Government organizations like CPWD, MES, Railways, State PWDs etc./ Semi Government organizations, PSUs etc./ reputed private organizations in appropriate class OR having experience in execution of similar nature of works.
- ii) Annual turnover as per ITCC or profit & loss statement for the last 5 years. Average annual turnover for the last 3 financial years should be at least **Rs. 6, 90,000/-**, not having incurred any loss in more than 2 years during last 5 years ending.
- iii) Experience of having successfully completed at least 1 similar work completed costing not less than **Rs. 5,52,000/- (Rs Five lakhs Fifty Two thousand Only)** each; Or 2 similar works completed costing not less than **Rs 4,14,000/- (Rs Four Lakhs Fourteen thousand Only)** each; Or 3 similar works completed costing not less than **Rs 2,76,000/- (Rs Two Lakhs Seventy Six thousand Only)** during last **seven** years ending March 2017.

NOTE:

1. The value of executed works shall be brought to current costing level by enhancing the actual value of work at simple rate of 7% per annum; calculated from the date of completion to the last date of receipt of applications for tender.
 2. **Similar works shall mean civil construction and repairing.**
- iv) Latest Bank Solvency from nationalized/ scheduled bank for a minimum amount of **Rs. 4, 14,000/- (Rs Four Lakhs Fourteen thousand Only).**
 - v) **Site Inspection/Assessment is mandatory in this regards, acknowledgment from Technical Services Engineer must be enclosed.**
 - vi) **Bidder who have not accepted the order/job awarded to them or withdrawn from the tender process OR whose EMD/Security Deposit has been forfeited in the past, their bid will not be considered and treated as ineligible/disqualified.**

BIDDERS ARE REQUESTED TO INSPECT THE ALREADY COMPLETED WORKS BY TIFR AND PROPOSED SITE, BEFORE QUOTING FOR EXACT NATURE OF WORK INVOLVED. (SITE INSPECTION IS MANDATORY, IN THIS REGARD ACKNOWLEDGEMENT FROM TSR ENGINEER MUST ENCLOSED)

Signature of Contractor_____

“TECHNICAL BID PART A”: This will contain the following:

- i) Earnest Money Deposit (original DD)
- ii) Tender Fee (original DD)
- iii) Registration / empanelment certificate with government organization / semi-govt organization / PSU/ reputed private organization etc.
- iv) Copy of PAN (Permanent Account Number) card.
- v) List of similar works in hand & works carried out by them for last 7 years indicating A) Agency for whom executed, B) Value of work, C) Completion time as stipulated and actual, or present position of the work.
- vi) Performance Certificate/Purchase Order Copies
- vii) Experience testimonials along with work orders and completion certificates.
- viii) Bank solvency certificate
- ix) Certificate of Registration for GST and acknowledgement of up to date filed return if required.
- x) List of construction plant, machinery, equipments, accessories & infrastructure facilities possessed by the bidder
- xi) List of Technical staff possessed by the bidding agency.
- xii) Site Inspection Assessment is mandatory in this regards, acknowledgment from technical services engineer must be enclosed.
- xiii) Only authorized paint manufacture’s applicators (i.e. contractor) are allowed to participate in this painting Tender.

The Bids received without payment of tender cost or EMD shall be summarily rejected.

“FINANCIAL BID PART B”: This will contain the complete bidding document with duly filled in and signed by the bidder on each page. **The Bids with conditions or conditional rebates shall be summarily rejected.**

Signature of Contractor_____

- 1. Performance guarantee:** The tenderer, whose tender is accepted, will be required to furnish a performance guarantee of 5% of the tendered amount within 7 (seven) working days from the date of intimation. This guarantee shall be in the form Demand Draft / Pay Order / Banker's cheque issued by a Scheduled Bank.

The performance guarantee shall be returned to the contractor, without any interest, after recording of the completion certificate for the work by the competent authority.

The Engineer-in-charge shall make a claim under the Performance guarantee for amounts to which the Director, TIFR entitled under the contract (notwithstanding and / or without prejudice to any other provisions in the contract agreement) in the event of:

- a) Failure by the contractor to pay Director, TIFR any amount due, either as agreed by the contractor or determined under any of the Clauses / Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-charge.

In the event of the contract being determined under provisions of any of the relevant clauses of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the Director, TIFR.

- 2. Security Deposit:** The tenderer, whose tender is accepted, will also be required to furnish by way of Security Deposit for fulfillment of his contract, an amount equal to 2.5% of the tendered value of the work. **For successful tenderer the EMD shall be returned to the contractor, without any interest, after receiving of Performance Guarantee and for unsuccessful Tenderers EMD will be refunded after placing the order on successful tenderer.**

The successful tenderer shall permit TIFR at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 2.5% of the gross amount of each running bill. **The Security Deposit shall be released after the defect liability period of 06 months reckoned from the date of completion as certified by Chief Engineer.**

All compensation or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by TIFR or any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by scheduled banks (if deposited for more than 12 months) endorsed in favour of the Registrar, TIFR, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof.

Defect Liability period: Six (06) months from the satisfactory completion of work.

- 3. Acceptance of Tender:** The competent authority, on behalf of Director, Tata Institute of Fundamental Research, Mumbai, does not bind himself to accept the lowest or any other tender, and reserves to himself the authority to reject any or all the tenders received, without assignment of any reason. All tenders, in which any of the prescribed condition is not fulfilled or any condition, including that of conditional rebates is put forth by the tenderer, shall be summarily rejected.

The Competent Authority, on behalf of the Tata Institute of Fundamental Research, Mumbai reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest tender or any other tender.

- 4. Validity of Tender:** The tender for the work shall remain open for acceptance for a period of 90 days from the last date of submission of tenders. If any tenderer withdraws his tender before the said period, or before issue of Letter of Intent, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to the Department, then Tata Institute of Fundamental Research, Mumbai shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said earnest money absolutely. Further the tenderer shall not be allowed to participate in the retendering process of the work.
- 5. Levy / Taxes payable by contractor:**
 - i. GST on materials and services in respect of this contract shall be payable by the contractor.
 - ii. The contractor shall deposit royalty and obtain necessary permit as required for supply of the sand, aggregate, stone etc. from local authorities.

Signature of Contractor _____

6. **Deduction of Income Tax** : As per Section 194-C of Income tax Act 1961, as amended by letter No. 275/9/72/9-TJ (Circular No. 86) dated 19.5.72 and No. 275/14/91-IT (B) (Circular No. 593) dated 5.2.91, received from Ministry of Finance, Department of Revenue, Central Board of Direct Taxes, New Delhi, the Income tax @ 2% and Surcharge thereon @12% (or any other amended rate by Ministry of Finance from time to time), of the gross value of the work done will be recovered from the bills. A certificate for the amount so recovered will be issued by the Department.
7. **Site visit by the tenderer before tendering:** Tenderers are advised to inspect and examine the site and its surroundings during working hours and satisfy themselves before submitting their tenders as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. A tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.
8. **Signing of Tender and receipts for payments:** In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act-1952. Receipts for payments made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.
9. **Tenderer's responsibilities:** The tenderer shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a tender by a tenderer implies that he has read this notice & all other contract documents, and has made himself aware of the scope & specifications of the work to be done and local conditions and factors having a bearing on the execution of the work. Water and electricity shall be provided for the work by TIFR free of charge.
10. **Signing of contract:** The Notice Inviting Tender shall form a part of the contract document. The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of: the Notice Inviting Tender, all the documents including all conditions, specifications and drawings, if any, forms the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
11. **Canvassing**, either directly or indirectly, in connection with the tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection and may be barred from the future participation in TIFR works.

Purchase Officer

For and on behalf of Tata Institute of Fundamental Research, Mumbai

Signature of Contractor _____

UNDERTAKING BY THE TENDERER

I / We have read and examined the Tender document including terms & conditions, specifications, bill of quantities, drawings and designs, general rules & directions, General Conditions of Contract, Special Conditions of Contract and all relevant other documents, publications and rules referred to in the Conditions of Contract and all other contents in the tender documents for the work.

I / We, hereby tender for execution of the work specified for the Tata Institute of Fundamental Research, Mumbai within the time specified and in accordance in all respects with the specifications, designs, drawings and instructions in writing.

We agree to keep the tender open for **Ninety (90) days** from the last date of its submission and not to make any modifications in its terms and conditions. A sum of Rs has been deposited in cash / receipt treasury challan / deposit at call receipt of scheduled bank / fixed deposit receipt of scheduled bank / demand draft of a scheduled bank / Bank Guarantee issued by a Scheduled Bank as earnest money. If I / we, fail to furnish the prescribed performance guarantee within prescribed period, I / we agree that the said Director, Tata Institute of Fundamental Research, Mumbai or his authorized officer shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I / we fail to commence work as specified, I / we agree that the Director, Tata Institute of Fundamental Research, Mumbai shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein.

Further, I / We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I / We shall be debarred for participation in the re-tendering process of the work.

I / We hereby declare that I / We shall treat the tender documents, drawings and other records connected with the work as secret / confidential documents and shall not communicate information derived there-from to any person other than a person to whom I / We am / are authorised to communicate the same or use the information in any manner prejudicial to the safety of the State.

Seal & Signature of Contractor
Postal Address

Dated

Witness

Address

Occupation

Signature of Contractor _____

i. **Definitions:**

- a) The '**Contract**' means the documents forming the tender and acceptance thereof and the formal agreement executed between the Competent authority on behalf of the Director, TIFR and the Contractor together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
- b) The expression '**Works**' or '**Work**' shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent and whether original, altered, substituted or additional.
- c) The '**Site**' shall mean the land or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
- d) The '**Contractor**' shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personnel representative of such individual or the persons composing such firm or company or the successors of such firm or company and the permitted assignees of such individual, firm or company.
- e) The '**Engineer-in-Charge**' means the Engineer / Officer, who shall supervise and be in charge of the work on behalf of TIFR.
- f) '**Temporary Work**' means all temporary works of every kind required in or about the execution, completion and maintenance of the works.
- g) '**Market Rate**' shall be the rate as decided by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus 15% to cover, all overheads and profits.
- h) '**TIFR**' means Tata Institute of Fundamental Research, Mumbai.
- i) '**Tendered value**' means the value of the entire work as stipulated in the letter of award.
- j) '**Time Limit**: The time allowed for carrying out the work reckoned from 10th day of the date of issue of work order.

ii. **Declaration by tenderer:** The tenderers shall sign a declaration under the Official Secret Act-1923 for maintaining secrecy of the tender documents, drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them.

iii. **Filling up of rates:** All rates shall be quoted on the tender form by the tenderers in figures and words, and the amount in figures only. All rates shall be quoted on the prescribed tender form. The amount for each item should be worked out and requisite totals given.

- i. The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paise and considering more than fifty paise as rupee one.
- ii. If a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall, unless otherwise proved, be taken as correct.
- iii. If the amount of an item is not worked out by the tenderer, or it does not correspond with the rate written either in figures or in words, then the rates quoted by the tenderer in words shall be taken as correct.
- iv. Where the rate quoted by the tenderer in figures and in words tally but the amount is not worked out correctly, the rate quoted by the tenderer will, unless otherwise proved, be taken as correct and not the amount.

iv. **Quoted rates to includes all taxes:** GST on materials and services in respect of this contract, shall be payable by the contractor. As per the directives of the Government Authorities, the tax due at the rates notified by the Government from time to time, shall be deducted from the bills payable to the Contractors, for which TDS certificate shall be issued by the Department.

v. **Action in case of un realistic rates:** In the case of any tender where unit rate of any item (s) appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.

vi. **Contractor to depute his representative at site:** The successful tenderer for the work should have responsible and responsive representative with adequate powers to take speedy decisions during the entire period of execution at the Work place. On acceptance of the tender, the name of the accredited representative(s) of the contractor, who would be responsible for taking instructions from the Engineer-in-Charge, shall be communicated in writing to the Engr-in-Charge.

Signature of Contractor _____

vii. **List of works in hand:** The contractor shall submit list of works which are in hand / in progress in the following form:

| Name of work | Name & address of the establishment under whom the work is being executed | Value of the work | Completion time as per the contract | Position of the works in progress | Remarks |
|--------------|---|-------------------|-------------------------------------|-----------------------------------|---------|
| 1 | 2 | 3 | 4 | 5 | 6 |
| | | | | | |
| | | | | | |
| | | | | | |

viii. **Sufficiency of Tender:** The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Bill of Quantities, at which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.

ix. **Signing of Contract:** The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of complete tender document including conditions, bill of quantities, drawings, if any, and acceptance thereof together with any correspondence leading thereto along with DAE Safety Code and Model Rules for the protection of health, sanitary arrangements for workers employed by DAE or its contractors, DAE Contractor’s Labour Regulations, List of Acts and omissions for which fines can be imposed. No payment for the work done will be made unless contract is signed by the contractor.

Signature of Contractor_____

1. **Compensation for delay:** If the contractor fails to maintain the required progress in terms of contract or to complete the work and clear the site on or before the stipulated or extended date of completion, he shall, without prejudice to any other right or remedy available under the Law to the Govt. on account of such breach, pay as agreed compensation the amount calculated at **1.5% per month of delay to be computed on per day basis** on the amount of tendered value of the work for every completed day / month (as applicable) that the progress remains below that specified or that the work remains incomplete. Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work or of the tendered value of the item or group of items of work for which a separate period of completion is originally given.
2. **Determination of contract:** Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other right or remedy against the contractor in respect of any delay, inferior workmanship, any claim for damages and /or any other provisions of this contract or otherwise, and whether the date for completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:
- i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman-like manner shall omit to comply with the requirements of such notice for a period of 7 days thereafter.
 - ii. if the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continue to do so after a notice in writing of 7 days from the Engineer-in-Charge.
 - iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.
 - iv. If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
 - v. If the contractor shall offer or give or agree to give to any person in TIFR or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for TIFR.
 - vi. If the contractor shall obtain a contract elsewhere as a result of wrong tendering or other non-bonafide methods of competitive tendering.
 - vii. If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.
 - viii. If the work is not started by the contractor within 1 / 8th of the stipulated time.
 - ix. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the Director, TIFR shall have powers:
 - A) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee under the contract, shall be liable to be forfeited, and shall be absolutely at the disposal of TIFR.
 - B) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be unexecuted out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work.
 - x. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provisions aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Signature of Contractor _____

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

4. Time Extension for delay: The time allowed for execution of the works as stipulated in the contract or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in contract. If the Contractor commits default in commencing the execution of the work as aforesaid, TIFR shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money & performance guarantee absolutely.

As soon as possible after the Contract is signed, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) to complete the work as per the mile stones given.

If the work(s) be delayed by:

- i. Force majeure, or
- ii. Abnormally bad weather, or
- iii. Serious loss or damage by fire, or
- iv. Civil commotion, local commotion of workmen, strike or lock out, affecting any of the trades employed on the work, or
- v. Delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- vi. Non-availability of stores, which are the responsibility of TIFR to supply or
- vii. Non-availability or break down of tools and plant to be supplied or supplied by TIFR or
- viii. Any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control, then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

Request for rescheduling of Mile stones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within 14 days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired. In any such case the **Engineer-in-Charge** may give a fair and reasonable extension of time and reschedule the mile stones for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-Charge in writing, within 3 months of the date of receipt of such request. Non application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and this shall be binding on the contractor.

5. Measurements and Payments of work done:

- a) Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement, the value in accordance with the contract of work done. All measurement of all items having financial value shall be entered in Measurement Book and/or level field book so that a complete record is obtained of all works performed under the contract. All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorised representative and by the contractor or his authorised representative from time to time during the progress of the work and such measurements shall be signed and dated by the Engineer-in-Charge and the contractor or their representatives in token of their acceptance. If the contractor objects to any of the measurements recorded, a note shall be made to that effect with reason and signed by both the parties. If for any reason the contractor or his authorised representative is not available and the work of recording measurements is suspended by the Engineer-in-Charge or his representative,

Signature of Contractor _____

the Engineer-in-Charge and the Department shall not entertain any claim from contractor for any loss or damages on this account. If the contractor or his authorised representative does not remain present at the time of such measurements after the contractor or his authorised representative has been given a notice in writing three (3) days in advance or fails to countersign or to record objection within a week from the date of the measurement, then such measurements recorded in his absence by the Engineer-in-Charge or his representative shall be deemed to be accepted by the Contractor.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for measurements and recording levels. Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards and if for any item no such standard is available, then a mutually agreed method shall be followed.

The contractor shall give, not less than 7 days notice to the Engineer-in-Charge or his authorized representative in-charge of the work, before covering up or otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in-charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of measurements without such notice having been given or the Engineer-in-Charge's consent being obtained in writing, the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

Engineer-in-Charge or his authorised representative may cause either themselves or through another officer of the department to check the measurements recorded jointly or otherwise as aforesaid and all provisions stipulated herein above shall be applicable to such checking of measurements or levels. It is also a term of this contract that recording of measurements of any item of work in the measurement book and/or its payment in the interim, on account or final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

b) Payments : No payment shall be made for work estimated to cost Rs.20,000/- or less till after whole of the work shall have been completed and completion of certification given. For works estimated to cost over Rs.20,000/-, the interim or running account bill shall be submitted by the contractor for the work executed on the basis of such recorded measurement on the format of the Department in triplicate on or before the date of every month fixed for the same by the Engineer-in-charge. The contractor shall not be entitled to be paid any such interim payment if the gross work done together with net payment/ adjustment of advances for material collected, if any, since the last such payment is less than Rs 1,00,000/- in which case the interim bill shall be prepared on the appointed date of the month after the requisite progress is achieved. Engineer in-charge shall arrange to have the bill verified by taking or causing to be taken, where necessary, the requisite measurement of the work. In the event of the failure of the contractor to submit the bills, Engineer-In-charge shall prepare or cause to be prepared such bills in which event no claims whatsoever due to delays on payment including that of interest shall be payable to the contractor. Payment on account of admissible shall be made by Engineer Incharge certifying the sum to which the contractor is considered entitled by way of interim payment at such rates as decided by the Engineer-in-charge. The amount admissible shall be paid by 10th working day after the day of presentation of the bill by the contractor to the Engineer incharge or his representative together with the account of the material issued by the department or dismantled material if any. In the case of work outside the headquarters of the Engineer in-charge, the period of 10 working days will be extended to 15 working days

6. Completion Certificate: Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in- Charge and within fifteen days of the receipt of such notice, the Engineer-in-Charge shall inspect the work, and if there is no defect in the work, shall furnish the contractor with a certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and / or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed, all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements, required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floors or other parts the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of the work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish, etc., and dispose off the same as he thinks fit and clean off such dirt as aforesaid; and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realised by the sale thereof.

Signature of Contractor _____

7. **Contractor to keep site clean :** When the annual repair and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc. on wall, floors, doors, windows etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc. where the work is done without waiting for the actual completion of all the other items of work in contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-Charge shall give **10** days notice in writing to the contractor.
8. **Completion plans to be submitted by the contractor:** The contractor shall submit completion plan required as per Specifications for Electrical works as applicable within 30 days of the completion of the work. In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 2.50% of the value of the work subject to a ceiling of Rs.15,000/- as may be fixed by the Engineer-in-Charge and in this respect the decision of the Engineer-in-Charge shall be final and binding on the contractor.
9. **Payment of Final Bill:** The final bill shall be submitted by the contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in-Charge whichever is earlier. No further claims shall be made by the contractor after submission of the final bill and these shall be deemed to have been waived and extinguished. Payments of those items of the bill in respect of which there is no dispute and of items in dispute, for quantities and rates as approved by Engineer-in-Charge, will, as far as possible be made within the period specified herein-under, the period being reckoned from the date of receipt of the bill by the Engineer-in-Charge or his authorised representative, complete with account of materials issued by the Department and dismantled materials.
- i. If the Tendered value of work is upto Rs. 15 lakhs, 3 months
 - ii. If the Tendered value of work exceeds Rs. 15 lakhs 6 months
10. **Materials to be provided by the contractor:** The contractor shall, at his own expense, provide all materials, required for the works other than those specified otherwise. The contractor shall, at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Engineer-in-Charge shall within thirty days of supply of samples or within such further period as he may require intimate to the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-Charge for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge shall be issued after the test results are received.
- The Contractor shall at his risk and cost submit the samples of materials to be tested or analysed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.
- The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Engineer-in-Charge may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Engineer-in-Charge and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorised representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.
- The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.
- The contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in the contract.
11. **Secured advance on non-perishable materials :** The contractor, on signing an indenture in the form to be specified by the Engineer-in-Charge, shall be entitled to be paid during the progress of the execution of the work up to **90%** of the assessed value of any materials which are in the opinion of the Engineer-in-Charge nonperishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been

Signature of Contractor_____

made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered / deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of Engineer-in-Charge provided the contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on perishable or high risk materials such as ordinary glass, sand, petrol, diesel etc.

- 12. Excavated / dismantled material will be TIFR's property:** The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as TIFR property and such materials shall be disposed off to the best advantage of TIFR according to the instructions in writing issued by the Engineer-in-Charge.
- 13. Work to be executed in accordance with specifications, drawings, orders, etc. :** The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge. The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale. The following order of preference shall be observed :
- a) Description of Bill of Quantities.
 - b) Particular Specifications and Special Clauses, if any.
 - c) Drawings.
 - d) Department of Atomic Energy Specifications
 - e) C.P.W.D. Specifications.
 - f) Indian Standard Specifications of B.I.S.
 - g) Manufacturer's specifications

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction. The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction. Contractor shall be required to submit a guarantee bond for all the water proofing works carried out by him as per Annexure- II. Contractor shall use the items of approved makes as per Annexure-III.

- 14. Deviations / Variations : Extent And Pricing:** The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

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

- i. In the proportion which the additional cost of the altered, additional or substituted work, bears to the original tendered value, plus
- ii. 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

B. Extra Items and Pricing: In the case of extra item(s) which cannot be determined under Part-B of the schedule of quantities, the contractor may within fifteen days of receipt of order or occurrence of the item(s), claim rates, supported by proper analysis, for the work and the engineer-in-charge shall within one month of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

In the case of substituted items, the rate for the agreement items (to be substituted) and substituted item shall also be determined in the manner as mentioned in the **following** para:

Signature of Contractor _____

C Substituted Items and Pricing:

- i. If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted) the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- ii. If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted) the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

D. Deviated Quantities, Pricing: In the case of contract items, substituted items, contract cum substituted items, which exceed the limits of 30% for building work, 100% for foundation work and 50% for maintenance work 50%, the contractor may within **15 days** of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis, for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within one month of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the aforesaid limits, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within **15 days** of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of **15 days** having regard to the market rates.

The contractor shall send to the Engineer-in-Charge once every **3 months** an upto date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work ordered by the Engineer-in-Charge, which he has executed during the preceding quarter, failing which the contractor shall be deemed to have waived his right. However, the Engineer-in-Charge may authorize consideration of such claims on merits.

For the purpose of operation of this clause the following works shall be treated as works relating to foundation.

- i. **For buildings, compound walls:** plinth level or 1.2 metres (4 feet) above ground level, whichever is lower, excluding items of flooring and D.P.C. but including base concrete below the floors.
- ii. **For abutments, piers, retaining walls of culverts and bridges, walls of water reservoirs:** the bed of floor level.
- iii. **For retaining walls where floor level is not determinate:** 1.2 metres above the average ground level or bed level.
- iv. **For roads:** all items of excavations and filling including treatment of sub-base and soling work.
- v. **For water supply lines, sewer lines, under ground SWD & similar works:** all items of work below ground level except items of piping work.
- vi. **For open storm water drains:** all items of work except lining of drains.

Any operation incidental to or necessarily has to be in contemplation of tenderer while filing tender, or necessary for proper execution of the item included in the Bill of Quantities mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer. Nothing extra shall be admissible for such operations.

15. Foreclosure of contract due to abandonment or reduction in scope of work: If at any time after acceptance of the tender, TIFR shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates full amount for works executed at site and in addition, a reasonable amount as certified by the Engineer-in-charge for the items hereunder mentioned which could not be utilised on the work to the full extent in view of the foreclosure.

- i. Any expenditure incurred on preliminary site work, e.g temporary access roads, temporary labour huts, staff quarters and site office, storage accommodation and water storage tanks.
- ii. TIFR shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work) provided however, TIFR shall be bound to take over the materials or such portions thereof as the contractor does not desire to retain. For materials taken over or to be taken over by TIFR, cost of such materials as detailed by

Signature of Contractor _____

Engineer-in-charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

- iii. If any materials supplied by TIFR are rendered surplus, the same except normal wastage shall be returned by the contractor to TIFR at rates not exceeding those at which these were originally issued less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to TIFR stores, if so required by TIFR, shall be paid.
- iv. Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.
- v. Reasonable compensation for repatriation of contractor's site staff and imported labour to the extent necessary. The contractor shall, if required by the Engineer-in-charge furnish to him books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by TIFR as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by TIFR from the contractor under the terms of the contract.

16. Suspension of work :

- i. The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
 - a. on account of any default on the part of the contractor or;
 - b. for proper execution of the works or part thereof for reasons other than the default of the contractor; or
 - c. for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

- ii. If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
 - a. the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
 - b. If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- iii. If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by TIFR or where it affects whole of the works, as an abandonment of the works by TIFR, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by TIFR, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

17. **Action in case of work not done as per specifications:** All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-charge, his authorised subordinates in charge of the work and all the superior officers of the

Signature of Contractor _____

Department or any organization engaged by the Department for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorised subordinates in-charge of the work or his subordinate officers or the officers of the organization engaged by the Department for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lakh and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause III(1) of the contract (for non completion of the work in time) for this default. In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

- 18. Contractor liable for damages, defects during Maintenance (Defect Liability Period):** If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within **12 months (6 months** in the case of work costing **Rs. 10,00,000/- and below** except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defective or improper materials or workmanship, the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense, or in default, the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due, or at any time thereafter may become due to the contractor, or from his security deposit, or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of **12 months (6 months** in the case of work costing **Rs. 10,00,000/- and below** except road work) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided that in the case of road work, if in the opinion of the Engineer-in-Charge, half of the security deposit is sufficient to meet all the liabilities of the contractor under this contract, half of the security deposit will be refundable after **6 months** and the remaining half after **12 months** of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later. Performance guarantee shall be refunded to the contractor after completion of the work and recording the completion certificate.
- 19. Contractor to supply tools & plants etc.:** The contractor shall provide at his own cost all materials (except such special materials, if any, as may in accordance with the contract be supplied from the Engineer-in-Charge's stores), machinery, tools & plants. in addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffoldings and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specification or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting in the measurement or examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under the contract and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.
- 20. Recovery of compensation paid to workmen :** In every case in which by virtue of the provisions of section 12 sub-section (1) of the Workmen's Compensation Act. 1923, TIFR is obliged to pay compensation to a workman employed by the contractor, in execution of the works, TIFR will recover from the contractor the amount of the compensation so paid; and, without prejudice to the rights of TIFR under Section 12, sub-section (2) of the said Act, TIFR shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by TIFR to the contractor whether under this contract or otherwise. TIFR shall not be bound to contest any claim made against it under section 12, sub-section (1) of the said Act, except on the written request of the contractor and upon his giving to TIFR full security for all costs for which TIFR might become liable in consequence of contesting such claim.

Signature of Contractor_____

- 21. Ensuring payment and amenities to workers if contractor fails:** In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and of the contract labour (Regulation and Abolition) Central Rules, 1971, TIFR is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the Rules, under Clause 19 H or under the DAE Contractor's Labour Regulations, or under the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by Department of Atomic Energy contractors, TIFR will recover from the contractor the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of TIFR under Section 20, sub-section (2) and Section 21, sub-section (4) of the contract labour (Regulation and Abolition) Act, 1970, TIFR shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by TIFR to the contractor whether under this agreement or otherwise. TIFR shall not be bound to contest any claim made against it under Section 20, subsection (1) and section 21, sub-section (4) of the said Act, except on the written request of the contractor and upon his giving to TIFR full security for all costs for which TIFR might become liable in contesting such claim.
- 22. Labour laws to be complied by the contractor :** The contractor shall obtain a valid license under the Contract Labour (R & A) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provision of the Child Labour Prohibition & Regulation) Act-1998. The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996. Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non execution of the work.
- 23. Minimum wages act to be complied with :** The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970 and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.
- 24. Settlement of Disputes & Arbitration:** Any dispute arising from this contract will be referred to two arbitrators one to be appointed by you and one by us. The two arbitrators, in the event of their disagreement will appoint an Umpire. The decision of the Umpire shall be final and binding. The arbitration will proceed as per Indian Arbitration Act, 1940, as amended upto date.
- 25. Confidential Information :** The drawings, specifications, proto-type, samples and such other information furnished to the contractor relating to the supply / work, sub-systems / equipment etc. are to be treated as confidential which shall be held by the contractor in confidence and shall not be divulged to any third party without the prior written consent of the Department. The contractor, therefore, binds himself, his successors, heirs, executors, administrators, employees and the permitted assignees or such other persons or agents directly or indirectly concerned with the work / supply to the confidential nature of the drawings, specifications, proto-type samples etc. It is a further condition of the contract that the contractor shall not, without prior written permission from the Department, transmit, transfer, exchange, gift or communicate any such confidential information, and also the component, sub assembly, products, by-products etc. pursuant to the fabrication under taken by the contractor, to any third party.
- 26. Safety with Scaffolding and Mobile Elevated Platform:** Every scaffold or mobile elevated platform and its supporting members, railings, Tee-boards, ropes should be designed to support given load, with a safety factor of at least four. No alterations should be made that might impair the strength of such structures, no improvised, make-shift or substandard scaffold should be permitted even for the most temporary use. All work in connection with such structures, including construction, operation, maintenance, alteration and removal should be carefully done under the direction and supervision of persons with specialized experience in such works. A safe and convenient means of access should be provided to the platform or scaffold. Means of access may be a portable ladder, fixed ladder, ramp or it may be a stairway. The use of cross braces or frame work as means of access to the working surface should not be permitted.

27. THE SPECIAL CONDITIONS:

a) This work shall be inclusive of all necessary scaffolding required. Contractor has to use appropriate M.S. Scaffolding (H-frames/Cup lock type/ or any other type ensuring safety and stability) maximum upto height of 50 mtrs, wherever required. Use of bamboo scaffolding shall be permitted only for internal works.

b) TIFR shall not provide any space at site for labour hutments

c) Removal of debris generated during the work is entirely contractor's responsibility & same should be disposed to the nearest BMC dumping yard by necessary mechanical means. No extra payment will be made for debris removal from TIFR.

Signature of Contractor _____

LIST OF APPROVED MAKES / MANUFACTURERS OF BUILDING MATERIALS

| Sl. No. | Description of materials | List of Manufacturers |
|---------|--|--|
| 1 | a Ordinary Portland Cement of Grade 43 | ACC, Birla Rajshree, Ultratech, Narmada |
| | c White Cement | J.K. Cement & Birla White |
| 2 | a HYSD Bars (TMT Bars) | M/s TISCO, SAIL, RINL |
| 3 | Structural Plates and Steel Sections | M/s SAIL, RINL |
| 5 | Anti-Termite treatment | M/s PARAGON, PEECOPP, Express Pesticides Corporation, Elite Corporation, Pest Control (I) Ltd. & NOCIL Chemicals, |
| 6 | Tiles: | |
| | a Terrazzo Tiles | M/s NITCO, BHARAT, G.K. BANSAL, Acme Tiles & Super Tiles |
| | b Ceramic Tiles | H.R. Johnson (I) Ltd., Somany, Kajaria |
| | c Glazed Tiles | M/s H.R. Johnson (I) Ltd., Somany, Kajaria |
| | d Vitrified Floor Tiles | M/s H.R. Johnson, RAK Ceramics, Bell Granito |
| | e P V C flooring | M/s Premier Vinyl Flooring Ltd., Royal Cushion Vinyl Product Ltd., Armstrong, Responsive Industries Ltd. |
| | f Paver Blocks, Polymer moulded Paver Blocks, Chequered concrete Floor Tiles | Super Tiles |
| 7 | Metallic Floor Hardner | Triveni Colour Industries (Floor), Heatly & Gresham (India) Ltd., De Rust Chemical Corporation of India (Fermonite), Cement Research Corporation (stilonite), Ironite India Ltd. |
| 8 | Pressed Steel Door Frame | M/s. Sen Harvic, TECHOME, Nishan Solid Door Frame, Anjali Enterprises, M/s SUNBEAM, Windoors Bharat Steel Industries, Pune, M/s AGEW, Strategic, Building Systems |
| 9 | Wooden Doors | |
| | a Flush Door Shutter | Indian Plywood, Kitply, Sitapur, Kutty Flush Doors, Mysore Plywood, Shreejee, Anand Wood Crafts, Sejpat and others (Anand Doors) |
| | b Factory made panel door shutter | Wooden Design — Bangalore, Shankar Ramchandra & Joinery Manufacturer |
| | c Masonite Wooden Panel Doors | Kutty flush doors, Sejpal & others |
| | d FRP Door Shutter | Advance FRP & House of Doors |
| | e Pressed steel doors & fire resistant steel doors | Godrej, Windoors, Strategic Building Systems & Kutty Flush Doors |
| | f Mild Steel Rolling Shutters, G I Rolling Shutters, Stainless steel & aluminum rolling shutters | SWASTIC, Windoors. Dodia, Trupti, Bharath & Larsen Engineering |

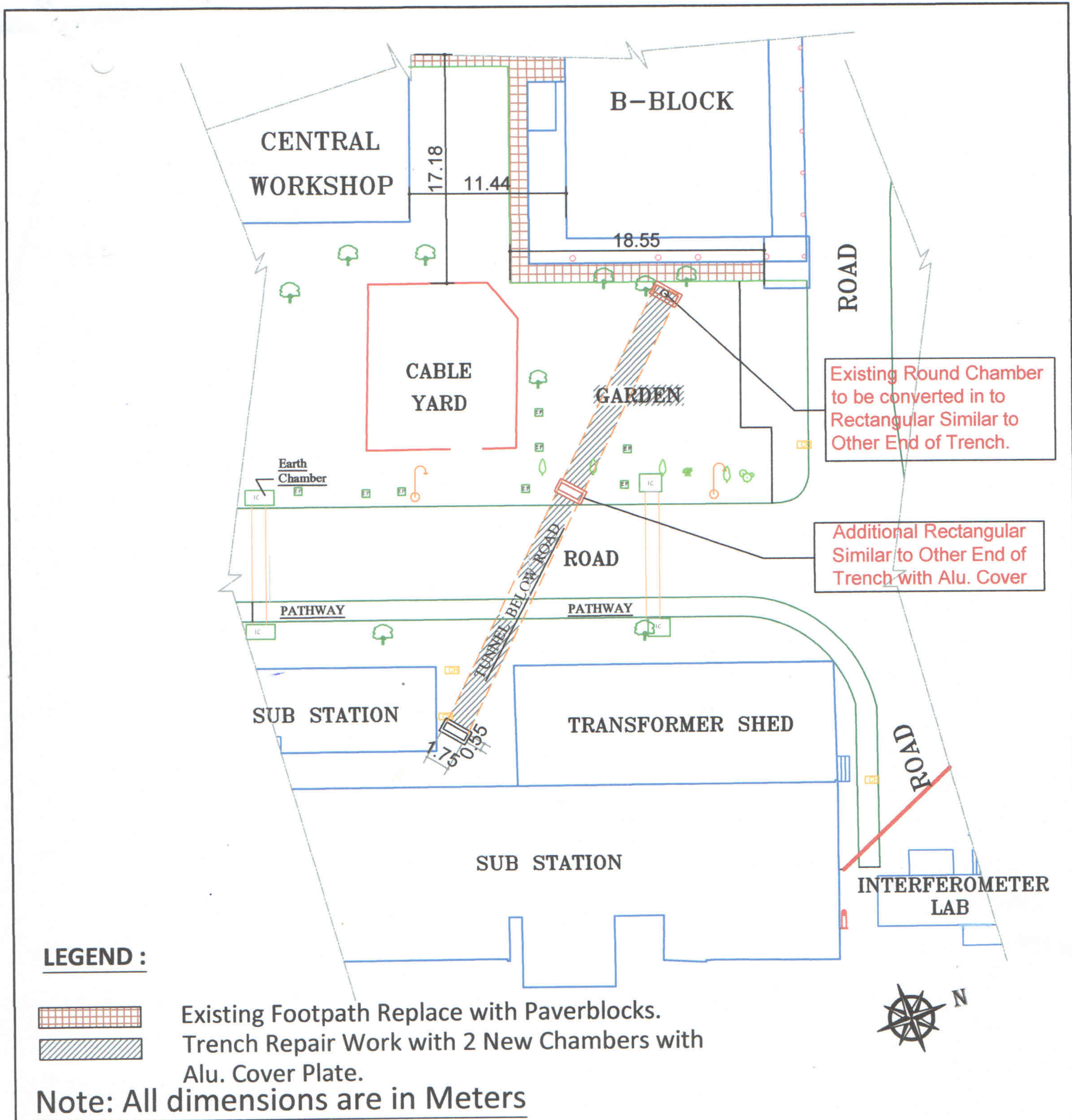
Signature of Contractor_____

| | | | |
|----|---|--|---|
| | g | Block Board | Wood India — Calcutta, Sejal & others Pioneer Timber Products, Chandigarh, Northern Door |
| | h | Ply Wood | Indian Plywood Mfg. Ltd., Kitply, Century Plywood, Nuboard & Nashik Plywood Industries |
| | i | Pre Laminated & Plain Particle Boards | NOVAPAN, Anchor |
| | j | Adhesive for wood | Fevicol, Vamicol, Dunlop, Araldite |
| 10 | | Aluminium Grills | M/s Alurniprofiles, Decogrills |
| 11 | | Fittings & fixtures | M/s Jayant Metal, Shalimar hardware, Everite, Garnish, Diamond, Navbharat, SAIF Enterprises, Hardwin Traders, Godrej, DE Lock Industries, Explore Engineers, Garg Hinges |
| 12 | | Aluminium Extruded Sections | Jindal, Indal, Hindalco & Bhoruka |
| 13 | | Aluminium Powder Coated Curtain rods | Bilmate, Elite |
| 15 | | Lime | Janatacem, Asian Paint |
| 16 | | Neeru | More (Peacock), Kamal |
| 17 | | Cement Based Paint | M/s Snowcem India Ltd. (Super snowcem, Sandex Matt), N1TCO (Nitcocom) Paints, Hindustan Colour Chemical, Jayant colour, Surfa coat, Terraco, Berger- Rabiaceem, Apporva Buildcare & Decocem |
| 18 | | Distemper & Paints | MA Asian Paints, Kansai Nerolac Paints Ltd., ICI Paints, Noble Paints, Berger Paints India Ltd., Jenson Nicholson, Garware Paints Ltd. & Shalimar Paints |
| 19 | | Integral Waterproofing Compound | Sunanda Chemicals, Mc-Bauchemie, FOSROC, Pidilite, Roffe, |
| 21 | | Water stops | M/s Omai Plastics, Basecon Pask , Asian Engineering Products, Caprihans India Ltd., R.C. Enterprises, Kanta Polymers (Kanta flex) & Fixopan |
| 22 | | Expansion Joint Boards & Tarfelts | M/s Shalitex, S.T.P. Ltd., Lloyd Insulation, Tiki Tar Industries |
| 23 | | Expansion Joint Filters | M/s Shalitex, S.T.P. Ltd., Lloyd Insulation & BASF Chemicals |
| 24 | | Glass for Doors / Windows | Modi Guard, Continental, Emirates, Saint Gobain, Asahi & Sejal |
| 25 | | Plain Glass Mirror | M/s Modi Float Glass, Eagle, Atul, Saint Gobain, Asahi |
| 26 | | Sanitary Wares | M/s Parryware, Hindustan, Cera, Neycer |
| 27 | | C.P. Brass Fittings & Fixtures | GEM, Techno, Lalsons KINGSTON, JAGUAR, Metro, ESSCO, MARC |
| 28 | | C.P. Brass Coupling and Bottle Trap | ESSCO, GEM, Kingston, Jaguar, Metro, Marc |
| 29 | | C.I. Flushing Cistern | Mis A-1 (J.S.), HJN, JAMCO, Neco, HIF |
| 30 | | C.P. BRASS Urinal Waste & Flush pipes | Orient, PARKO, Elite, Jaguar & Metro |
| 31 | | Plastic Sheet & Cover | M/s Commander, Diplomat, Admiral, Patel, Champion, Parryware & Hindvvare |
| 32 | | S.S. Sink | M/s Diamond, Niraii |
| 33 | | G.I. Pipes | M/s TATA |
| 34 | | G.I. Pipes other than TATA make if specified | Zenith, Jindal or ISI mark |
| 35 | | G.I. Finings | PEG, MJM, Sims!, R-Brand, UNIK, Plumb well and other brands approved by ISI mark |
| 36 | | G.M. Gate / Globe Valves | Nets, SANT, M/s Leader Valves |
| 37 | | Copper ball Valve | Techno, M/s GEM, ESSCO, Leader, A-1 JS |
| 38 | | Air Valve | Leader, Sant, HAWN M/s Kirloskar |
| 39 | | Water Meter | Capstan, Keycee, Paramount |

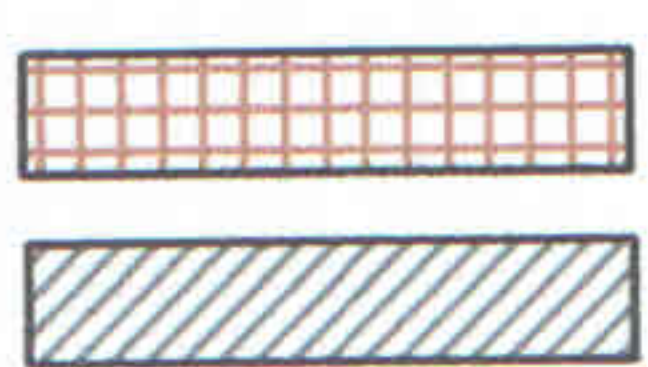
Signature of Contractor _____

| | | |
|----|---|---|
| 40 | Sluice Valves | Kirloskar, Minoti, ESSCO & Burn, Hawa |
| 41 | CI water quality pipes | Deem) steel castings, Jindal, Lanco |
| 42 | Cast Iron Valves | Kirloskar, Leader, HAWA |
| 43 | C.1. Soil Quality pipes | NECO, BC, RIFCO ₃ ASP, A-1, PARAS, HIF, Kajeriwal |
| 44 | S.W. Pipes & Gully Trap | Perfect, Kashmira, BURN, RK, ANAND, ISI marked |
| 45 | RCC Hume Pipes | Mis Indian Hume Pipes, Pranali, Cement pipe, Ghambir, Kore Cement confirm to ISI |
| 46 | HDPE Pipes & HDPE fittings | Prince, Gautam M/s Hastil, Sangir pipes, Supreme |
| 47 | RCC frame, covers & SFRC | M/s Pratibha, Bharath, Vikrant |
| 49 | PIG LEAD | M/s Hindustan Zinc Ltd. |
| 50 | CL frame & covers | RIFCO, NECO, PARAS, A-1, M/s. Ashok Iron, Foundry, HIF |
| 51 | CPVC, UPVC, SWR Pipes | Finolex, Prince & Supreme |
| 52 | Poly Propylene — R Pipes | Supreme & Sakthi Polymers |
| 53 | PVC Plastic High / Low level cistern | Commander, Elite Dual, Champion, Parryware-similine, Hindware |
| 54 | PVC Inlet connection & Waste Pipes | Kohinoor, ECCSO, GEM & Elite |
| 55 | CP Brass towel rods and accessories | Elite, GEM, Jacquar, ESSCO |
| 56 | Concrete Admixtures | Sunanda Chemicals, Mc-Bauchemie, FOSROC, Pidilite, Roffe, BASF |
| 57 | Asbestos Roofing Sheets | Everest, Charminar & Asbestos Cement Ltd. |
| 58 | Colour Coated Steel / Zinc-alu alloy roofing sheets | Kirby, Steelfah & Colour Roof India Ltd. |
| 59 | UPVC Doors / Windows | Fenesta, Aluplast, Lingel, Shuco, Winpro, Rehau |

Signature of Contractor_____




LEGEND :



Existing Footpath Replace with Paverblocks.
 Trench Repair Work with 2 New Chambers with Alu. Cover Plate.

Note: All dimensions are in Meters

| | | |
|---|---|-------------------------------|
| date: 11.12.2017 | drg. no.: TFR/ TSR / 2428 | |
| scale: N.T.S. | title: <u>REPAIR OF UNDERGROUND TRENCH AND FOOTPATH NEAR B- BLOCK & SUB-STATION.</u> | |
| drn. by: RAJEEV | chkd. by: A.Rupadja. V.Srivastava | appd. by: S.Sinha . |
|  | TATA INSTITUTE OF FUNDAMENTAL RESEARCH. National Center of the Government of India for Nuclear Science and Mathematics. Homi Bhabha Road, Navy Nagar, Colaba, Mumbai-400 005 | |

BILL OF QUANTITIES

FINANCIAL BID PART "B"

N/W Underground Trench & adjacent Footpath Repairing and Construction of Inspection Chambers connected to Chilled Water trench passing from Air-Conditioning Plant to B-Block, TIFR, Colaba, Mumbai - 005

| Sr. No. | Description | Qty | Unit | Rate | Amount |
|---------|--|-----|------|------|--------|
| 1 | EARTH WORK | | | | |
| 1.1 | Earth work excavation by mechanical means (Hydraulic excavator)/manual means in all types of soil other than soft and hard rock, dressing the sides of foundation, ramming of bottom etc. including shoring and dewatering (if necessary)and refilling with selected excavated earth in layers of not more than 500 mm thick, each layer well rammed and consolidated including disposing the surplus earth within a distance of 200 m all as per specifications including clearing ungle, uprooting of vegetation, grass, etc. complete and as directed by the Engineer-in-charge (a) From 0.00 to 1.50 m depth from Average Ground Level, including removal of unwanted debries/earth etc. | 55 | cum | | |
| 2 | CONCRETE WORK | | | | |
| 2.1 | Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level : | | | | |
| 2.1.1 | 1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size). | 2 | cum | | |
| 2.1.2 | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) | 8 | cum | | |
| 2.1.3 | 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size). | 8 | cum | | |
| 3 | REINFORCED CEMENT CONCRETE | | | | |
| 3.1 | Centring and shuttering including strutting, propping etc. and removal of form for : | | | | |
| 3.1.1 | Suspended floors, roofs, landings, balconies and access platform. with water proof ply 12mm thick. | 15 | sqm | | |

| Sr. No. | Description | Qty | Unit | Rate | Amount |
|---------|---|-----|------|------|--------|
| 4 | BRICK WORK | | | | |
| 4.1 | Providing and constructing brick work in Cement mortar 1:4 using crush sand and using standard bricks of approved class/quality, make or brand in foundation and plinth including curing, raking out joints, simultaneous pointing below plinth level if specified, complete as per drawings, specifications and as directed by the Engineer-in-charge. | 2 | cum | | |
| 5 | STONE WORK | | | | |
| 5.1 | Supplying, stacking and Laying of 150 mm thick rubble soling stones as under floor base including packing with smaller stone and compacting, ramming including spreading and consolidation of blinding material, moorum etc. complete all as per specifications and as directed by the Engineer-in-charge | 120 | sqm | | |
| 6 | FINISHING | | | | |
| 6.1 | Providing 15 mm thick Internal plaster in cement mortar 1:4 without cement punning (using Crushed Sand) finished smooth, including sieving of sand to required fineness, preparation of the surface, scaffolding, curing all as per specifications, drawings and as directed at site complete. | 60 | sqm. | | |
| 7 | REPAIRS TO BUILDINGS | | | | |
| 7.1 | Providing structural repairs in old damaged concrete structures/surfaces with approved Polymer with following operations 1) Removal of loose/Spalled or damaged concrete by chipping and cleaning the concrete surface and reinforcement steel with wire brush and with water 2) cleaning these bars with Acetone for complete rust removal and washing with water to make the surface clean. 3) Applying protective coat/bond coat using polymer and cement in the proportion of 1:1.5 (1 part of polymer and 1.5 parts of cement in synthetic enamel paint like consistency with brush 4) Reinstatement of the area with polymer modified mortar in layers of maximum 20 mm with the proportion of Cement 50 Kg: washed and dried river sand 87.50 kg; silica sand 37.50 Kg. mixed with 10 litres of Polymer (or 1 Kg cement: 1.75 kg washed and dried river sand ; 0.75 Kg silica sand : 200 ml polymer) | 20 | Ltr. | | |

| Sr. No. | Description | Qty | Unit | Rate | Amount |
|---------|--|-----|------|------|--------|
| 8 | DISMANTLING & DEMOLISHING | | | | |
| 8.1 | Dismantling stone slab flooring laid in cement mortar including stacking of serviceable material and disposal of unserviceable material within 50 metres lead. | 120 | sqm | | |
| 8.2 | Taking out C.I. cover with frame from R.C.C. top slab of manholes of various sizes including demolishing of R.C.C. work manually/ by mechanical means and stacking of useful materials near the site and disposal of unserviceable materials within 50 metres lead as per direction of Engineer-in-charge. | 2 | each | | |
| 8.3 | Demolishing R.C.C. work manually/by mechanical means including stacking of steel bars and disposal of unserviceable material, debries/earth/Boken unwanted pieces etc. removing & disposing of it to BMC Dunning yard. | 3 | cum | | |
| 9 | ROAD WORK | | | | |
| 9.1 | Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of fine sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge. | 120 | sqm | | |
| 9.2 | Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand) including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge). | 5 | cum | | |
| 10 | DRAINAGE | | | | |
| 10.1 | Providing & fixing, Aluminium plate cover with suitable bracing angles, tees etc. as per site requirements and as instructed, including concrete smooth finishing around Aluminium angles for proper fixing and synthetic enamel painting over surface area of plate. | 180 | Kg. | | |
| | Grand Total (Part-A) | | | | |

| Sr. No. | Description | Qty | Unit | Rate | Amount |
|---|--|------------|-------------------------------------|--|-------------------|
| PART-B | | | | | |
| Sr No. | Description/ Item | Base Value | Percentage (both in number & words) | (+)Plus/ (-)Minus (both in symbol and words) | Effective Amount* |
| | B1 | BV | P | | |
| | Any unforeseen item not covered above, executed from CPWD Delhi Schedule of Rates 2012 | 32000 | | | |
| | | | | | |
| | * Note | | | | |
| Effective amount in B1 shall be $BV \times (1 + P/100)$ for plus percentage and $BV \times (1 - P/100)$ for minus percentage. | | | | | |
| | | | | | |
| | GRAND TOTAL (Total A + {B1}) | | | | |

Note Removal of debris generated during the work is entirely contractor's responsibility & same should be disposed to the nearest BMC dumping yard by necessary mechanical means. No extra payment will be made for debris removal from TIFR.