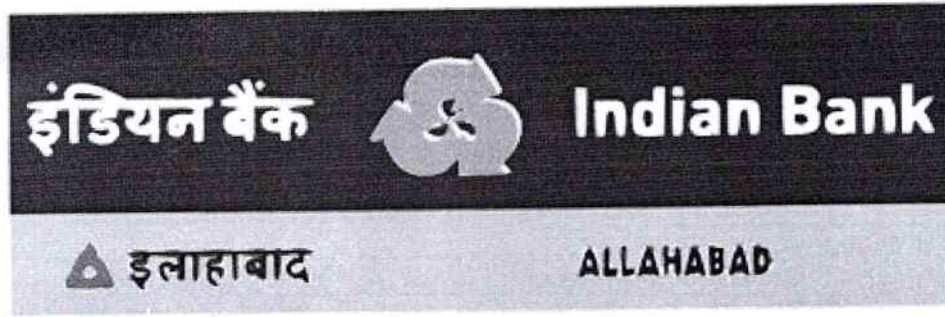


**TENDER COPY**

**PART-I**



**INDIAN BANK**

**TENDER FOR TECHNICAL BID**

**Construction of RSETI Building at Midnapur, WB**

**DUE ON : 28.04.2025 UPTO 15:00 HRS.**

**COPY ISSUED TO : M/s.** \_\_\_\_\_  
\_\_\_\_\_

**CLIENT :**

**INDIAN BANK**

Zonal Office: Midnapur  
1<sup>st</sup> Floor, Bidhan Nagar  
Near Old Water Tank  
Midnapur, WB

**Architect & Consultants**

M/S. Dhar & Associates Pvt Ltd  
7, Red Cross Place, 4<sup>th</sup> Floor, Kolkata-700001  
Ph .No. 033-22131496

**This Tender Documents Contain 127 nos. Pages.**

## NOTICE INVITING TENDER

Sealed tenders on item rate basis are invited from ~~Prequalified~~reputed Contractors for civil, sanitary, plumbing and electric works for proposed INDSETI Building at Midnapur. Tender document to be issued free of cost and can only be downloaded from Bank's website [www.indianbank.in](http://www.indianbank.in).

|                                                                           |                                                                                                                                                                                                                                                                                                               |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Issue of Tender Documents Date                                            | From: 07.04.2025 to 28.04.2025<br>(Except holidays)                                                                                                                                                                                                                                                           |
| Time- Monday to Friday<br>Saturday                                        | From 10 am to 5 pm<br>From 10 am to 2 pm                                                                                                                                                                                                                                                                      |
| Estimated cost of work (approx.)                                          | <b>Rs 269.34 lacs Plus GST</b>                                                                                                                                                                                                                                                                                |
| Earnest money                                                             | Rs. 2.69 Lacs (Rupees Two Lacs and Sixty nine Thousands Only lac) by crossed demand draft/ Banker's Cheque favouring INDIAN BANK payable at Midnapur                                                                                                                                                          |
| Site Visit                                                                | Intended participators are requested to visit site from 21.04.2025 to 22.04.2025 in office hours.                                                                                                                                                                                                             |
| Pre-Bid Meeting                                                           | At 11:00 A.M. on 21.04.2025 at Indian Bank, Zonal office, 1 <sup>st</sup> Floor, Bidhan Nagar Near Old Water Tank, Midnapur, WB                                                                                                                                                                               |
| Time of Completion                                                        | 12 (Twelve) calendar months from the date of commencement including rainy season.                                                                                                                                                                                                                             |
| Submission of Tender                                                      | Before 15:00 Hrs. on 28.04.2025.                                                                                                                                                                                                                                                                              |
| Opening of Part I (TD) of tender                                          | At 15:30 Hrs on 28.04.2025                                                                                                                                                                                                                                                                                    |
| Opening of Part II (PS) of tender                                         | Date and Time of opening of Price –Bid will be inform to the bidders who are qualified in the Technical Bid.                                                                                                                                                                                                  |
| Performance Bank Guarantee                                                | 10% of Waterproofing works done at terrace, chajjas, overhead water tank, toilets, kitchen.<br><br>Performance Guarantee to be submitted in form of DD of Bank Guarantee (all nationalized bank other than Indian Bank) and shall be valid upto 10 years from the completion of work extended period thereof. |
| Defect Liability Period                                                   | 12 months from the date of handing over of project as certified by Engineer in Charge.                                                                                                                                                                                                                        |
| Taxes                                                                     | TDS for work contract tax etc. shall be deducted as applicable from all bills / payments made in connection with this work.                                                                                                                                                                                   |
| GST                                                                       | Percentage of GST is to be mentioned in the Financial Bid.                                                                                                                                                                                                                                                    |
| Bank Account Details for the purpose of preparation of Bank Guarantee/EMD | Account Name: Routing Account<br>Bank A/c No. : 98741097239<br>Bank Name : Indian Bank<br>IFSC Code: IDIB0009723<br>Branch Name: ZO MIDNAPORE                                                                                                                                                                 |

The Bank will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.



## INSTRUCTIONS TO TENDERERS

Sealed tenders on item rate basis are invited in two bid system from eligible reputed and quality conscious civil contractors as per eligibility criteria for the **Construction of Proposed RSETI Building at Midnapore, West Bengal.**

1. Contractors are advised to attend the pre-bid meeting online / offline on the date indicated in the tender notice for seeking any clarifications. Any discrepancies should be brought to the notice of the Bank. Further, it is also advised to furnish the enquiries in advance to enable the Bank to clarify the same.
2. The Tenderer is required to check the numbers of the pages and should not be found missing, or the figure or writing indistinct, he must inform the Architect/Bank at once and have the same rectified. Should the Contractor be in doubt about the precise meaning of any item or any provision or if he wants any clarification, he must inform the Bank in writing before the Pre-Bid meeting. No claim will be allowed in respect of errors in the Contractors tender due to any mistake in the Schedule of Quantities, which should have been but was not rectified in the manner described above.
3. Tenderers are requested to put their firm's endorsement on each page of the tender documents as a token of acceptance.
4. Tenderers should fill in all the relevant blanks and put their signature in the relevant places indicated in the documents.
5. No alterations or additions are to be made by the Tenderers to the tender document. Violation of this instruction will attract rejection of the tender at the discretion of Bank.
6. Earnest money of Rs. 2.69 Lakh accompanying the tender will be accepted only in the form of Crossed Demand Draft on any of the nationalized Banks in Midnapore drawn in favour of Indian Bank Zonal Office Midnapore and payable at Midnapore & not in favour of any other authority. Any tender, which is not accompanied by Earnest Money Deposit in the form of DD, shall be summarily rejected. EMD of unsuccessful tenderers will be refunded without any interest.
7. The contract agreement should not be filled. This will be done at the time the contract is awarded, in the case of the successful tenderer only. Contractors are forewarned that no errors whatsoever arithmetical or otherwise will be permitted in their tenders. Tenders containing many errors are liable to be considered as Nonbonafide at the discretion of Bank. Tenderers should note that their tenders should remain open for consideration for a minimum period of 90 days from the date of the opening of tenders.
8. The technical bid volume 1 duly filled in, signed in all the pages and stamped by the tenderer to be submitted giving the details of company profile, audited Balance Sheet for last 5 financial years, Proof of submission of Income Tax returns, PAN No., GST No., Work experience of similar works during the last 7 years may be submitted in a separate sealed COVER1 with the EMD DD super scribing as "Technical Bid & Name of the work". The Volume 2 – Price bid duly filled and signed to be placed in a separate sealed COVER2 super scribing as "Price Bid & Name of the work". Both the technical and Price bid to be enclosed within another



|                         |  |
|-------------------------|--|
| 2021 – 2022             |  |
| 2022 – 2023             |  |
| 2023 – 2024             |  |
| AVERAGE ANNUAL TURNOVER |  |

Note: 1. All individual firms must complete the information in this form. The information supplied should be the annual construction turnover in terms of the amount billed to clients for each year in progress or completed during the last three years.

2. Attested Copy of the audited balance sheets and profit & loss account for the last 3 years shall be enclosed.

### C. CERTIFICATES

| CERTIFICATES                            | Yes | No |
|-----------------------------------------|-----|----|
| Income Tax returns filed Certificate    |     |    |
| GST/ Sales Tax registration Certificate |     |    |
| Provident Fund registration Certificate |     |    |
| Work completion certificates            |     |    |
| PAN Card                                |     |    |

Note: Attach attested copies of Items Answered Yes above

### D. KEY PERSONNEL OF THE ORGANISATION

| S.No | Name | Designation | Qualification | Professional Experience | No. of years working with the organization. |
|------|------|-------------|---------------|-------------------------|---------------------------------------------|
|      |      |             |               |                         |                                             |
|      |      |             |               |                         |                                             |
|      |      |             |               |                         |                                             |
|      |      |             |               |                         |                                             |
|      |      |             |               |                         |                                             |
|      |      |             |               |                         |                                             |

### E. PLANT & EQUIPMENT OWNED BY THE ORGANISATION AND AVAILABLE FOR THIS WORK

| S.N. | Equipment | Year of Manufacture | Capacity | Number / Quantity |
|------|-----------|---------------------|----------|-------------------|
|      |           |                     |          |                   |
|      |           |                     |          |                   |
|      |           |                     |          |                   |
|      |           |                     |          |                   |



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|--|--|--|--|--|--|--|
|  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|

## TENDER ISSUE LETTER

TO,

M/s. \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Dear Sirs,

**Civil, Sanitary, Plumbing, Electrical Works for Construction of  
Proposed INDSETI Building at Midnapur, WB**

Tender document in two Bid (I- Technical & II-Commercial) along with drawings for the captioned project is hereby issued which is to be submitted as advised below-

1. Both parts of the tender are to be submitted in separate sealed envelopes marked as-
  - i) Envelope containing forwarding letter, part-I of tender and earnest money shall be marked "Part-I" and the envelope containing price schedule shall be marked as "Part-II".
  - ii) Name of the project as **"TENDER FOR CIVIL, SANITAR, PLUMBING, ELECTRICAL WORKS FOR CONSTRUCTION OF PROPOSED BANK'S INDSETI BUILDING AT Midnapur"** Opening scheduled at 15.30 hrs as mentioned in NIT. The name of tender submitting firm shall be marked clearly on both the envelopes.
2. Tenderers are advised not to give any clues regarding their tendered rates/amount or financial stipulations in Part-I. However, conditions, if any, may be mentioned in a SEPARATE SHEET attached to part-I only. If any condition found attached with part-II of Tender (Price Bid) the condition will be treated as null & void.
3. Earnest money of Rs. 2.69 Lacs. (Rupees Two Lakhs and Sixty Nine Thousands only) should be in the form of crossed Demand Draft/ Banker's Cheque from any Nationalized Bank (other than Indian Bank) favouring INDIAN BANK and payable at Midnapur.
4. This letter shall become part of the contract. Hence; it shall be signed and submitted along with the tender.
5. Tenders are to be submitted and will be opened as per schedule given in NIT.

The Bank will not be bound to accept the lowest tender and reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.

Yours faithfully,

Asst. General Manager



I/We agree that INDIAN BANK shall without prejudice to any of their rights or remedy be at liberty to forfeit the said earnest money absolutely.

Date \_\_\_\_\_ Signature in the capacity of \_\_\_\_\_  
Duly authorized to sign the tender on behalf of \_\_\_\_\_



**within 14 days** of written acceptance of the tender. The Total Security Deposit shall be collected as detailed in relevant clause (clause-11) of the General Conditions of Contract. The Earnest Money Deposit of the contractor, whose tender is accepted, shall be forfeited in full, in case he does not remit the **Initial Security Deposit within stipulated period or start the work by the stipulated date mentioned in the award letter.**

09. The acceptance of a tender will rest with Indian Bank which does not bind itself to accept the lowest tender, and reserves to itself the authority to reject any or all of the tenders received without the assignment of a reason. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect are liable to be rejected.

The Bank reserves the right to accept the tender in full or in part and the Tenderers shall have no claim for revision of rates or other conditions if his tender is accepted in parts.

10. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractor who resort to canvassing will be liable to rejection.
11. All rates shall be quoted on the proper form of the tender alone.
12. An item rate tender containing percentage below / above will be summarily rejected. However any unconditional rebate on quoted rates may be accepted.
13. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Employer / Architects shall be communicated to the Employer.
14. Special care should be taken to write the rates in figures as well as in words and the amounts in figures only, in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the words 'Rs.' Should be written before the figure of rupees and words 'p' after the decimal figures, e.g. Rs.2.15p and in case of words, the word "Rupees" should precede and the word 'Paise' should be written at the end, unless the rate is in whole rupees and followed by the words "only", it should invariably be up to two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
15. The bank does not bind itself to accept the lowest or any tender and reserves to itself the right of accepting the whole or any part of the tender and the Tenderers shall be bound to perform the same at the rate quoted.
16. All taxes including VAT/ Sales tax, Income tax or any other tax on material or on finished works like works contract tax or turn over tax, in respect of this contract shall be payable by the contractor and the bank will not entertain any claim whatsoever in this respect. "TDS, as applicable will be deducted from all bills / payments, made in connection with this work.
17. The contractor shall give a list of his relatives working with the Bank along with their designations and addresses.
18. No employee of the bank is allowed to work as a contractor for a period of two years, immediately following retirement from bank service, without the prior permission of the bank. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of the bank as aforesaid before submission of the tender or engagement in the contractor's service.
19. The tender for works shall remain open for acceptance for period of 120 days from the date of opening of part-I of tenders. If any Tenderers withdraws his tender before the said period, then the bank shall be at liberty to forfeit the Earnest Money paid along with the tender.

## APPENDIX TO CONDITIONS OF CONTRACT

|                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) Date of commencement                                                                                                                                                                                                                                                                            | 1) 2 <sup>nd</sup> day from the date of the agreement or the date of handing over the site whichever is later. Agreement is to be executed within fifteen days of letter of acceptance, issued by the Bank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 2) Completion period                                                                                                                                                                                                                                                                               | 2) 12 (Twelve) calendar months                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 3) Total Security Deposit i.e (Earnest Money Deposit+ Initial Security Deposit + Retention Money) (Clause 11 <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                               | 3) <del>10% on the first Rs.1,00,000/- of the cost</del><br><del>7.5% on the next Rs.1,00,000/- of the cost</del><br><del>5% on the next amount</del><br>7% of the cost                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 4) Value of work for Interim Payment (Clause 32 of <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                                                                                         | 4) Maximum one interim bill per month subject to minimum amount of Rs.4025.00 lacs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 5) Period of honouring certificate for payment (From the date of Architects certificate received by ZO )                                                                                                                                                                                           | 5)(a) R/A Bills - 75% of payable amount - 10 days<br>(b) - 25% of payable amount - 30 days<br>© Final Bill - 100% of payable amount - 90 days                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 6) Period of final measurements                                                                                                                                                                                                                                                                    | 6) 90 days from virtual completion of work                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 7) Deduction of Tax at source (clause 8 <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                                                                                                    | 7) As per statutory provision of income tax Act and / or latest amendments thereof. VAT/Sales tax, works contracts tax or other taxes as applicable from time to time as per rules will also be deducted as applicable.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 8) Defect Liability Period (DLP) (Clause-34 <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                                                                                                | 8) 12 months from the date of virtual completion of work as certified by the Architects and Bank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 9) Liquidated damages for delay (Clause-14 <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                                                                                                 | 9) 1 % of the accepted tender amount per week subject to maximum of 10% of the accepted contracted amount but not exceeding the total Security Deposit of contract.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 10)(a) Refund of Earnest Money Deposit, (Clause 11 <b>GENERAL CONDITIONS OF CONTRACT</b> )<br><br>(b) Refund of Earnest Money & Initial security money (Clause 11 <b>GENERAL CONDITIONS OF CONTRACT</b> )<br><br>(c ) Refund of Retention Money (Clause 11 <b>GENERAL CONDITIONS OF CONTRACT</b> ) | 10) (a) The earnest money deposit of the unsuccessful Tenderers will be refunded without any interest soon after the decision to award the work is taken or after expiry of validity period of the tender.<br>(b) The Initial Security deposit including (E.M.D) will be invested by the Employer in a fixed deposit account for the duration of the contract period. It shall be refunded to the contractor along with accrued interest within 14 days after the issue of virtual completion.<br>(c ) Retention Money shall be refunded to the contractor 14 (fourteen) days after the end of defect liability period provided he has satisfactorily carried out of all the works and attended to all defects in accordance with the conditions of the contract. No interest is allowed on retention money. |
| 11) Insurance (Clause 28 & 29 <b>GENERAL CONDITIONS OF CONTRACT</b> )                                                                                                                                                                                                                              | 11) Contractor to get the work insured for contract sum and keeps the same valid till virtual completion. Premium should be deposited within 21 days from the date of issue of work order. Policy should be submitted to bank                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

8

7. In case of dispute or difference pertaining to the under noted matters (called expected matters), the decision in writing of the The Deputy General Manager, Indian Bank, Zonal Office \_\_\_\_\_, shall be final, conclusive and binding on the parties.

- i) Instructions.
- ii) Transactions.
- iii) Quality of materials.
- iv) Assigning or under letting of the contract.
- v) Certificate as to reasons of delay on the part of contractor and extension of time.
- vi) Rectification of defects, pointed out during the "Defect liability period".
- vii) Notice of the contractor to the effect that he is not proceeding with due diligence.
- viii) Certificate that the contractor has abandoned the contract.
- ix) Notice of determination of the contract by the Employer.

8. As the several parts of this contract have been read to us and fully understood by us, we set out hands and seal this \_\_\_\_\_ day of \_\_\_\_\_ 2025

**Signed by the Said  
In the Presence of**

**INDIAN BANK**



**Signed by the said  
In the Presence of**

**CONTRACTOR**

*8*

- x) **"Priced Schedule of Quantities"** shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.
- xi) **"Notice in Writing"** or Written Notice shall mean a notice in written / typed or printed characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.
- xii) **"Virtual Completion"** shall mean that the work in the opinion of the Employer / Architects is fit for utility and put into serviceable conditions.

## 2. SCOPE

The work consists of construction (civil, sanitary, plumbing, fire, site development, construction of internal road/pathways and Electrical works) of proposed Indian Bank Building, at Debra, Midnapur, WB in accordance with the specifications, drawings and "Schedule of Quantities". The civil, sanitary, plumbing, fire, site development, construction of internal road/pathways, landscaping and electrical works etc., are within the scope of this tender. It includes providing/furnishing all materials, labour, tools and equipment and management necessary for and incidental to the proper execution/construction and completion of the work. All work, during its progress and upon completion, shall conform to the lines, elevations and grades as shown on the drawings furnished by the Employer / Architects. Should any details essential for efficient completion of the work be omitted from the drawings and specifications, it shall be the responsibility of the contractor to inform the Employer / Architects well in advance and to furnish and install such detail with Employer's / Architect's concurrence, so that upon completion of the proposed work the same will be acceptable and ready for use. Employer / Architects may in their absolute discretion issue further drawings and/or written instructions, details, directions and explanations, which are, hereafter collectively referred to as "The Employer's /Architect's instructions" in regard to: -

- The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.
- Any discrepancy in the drawings or between the schedule of quantities and / or drawings and / or specifications.
- The removal from the site of any defective material brought thereon by the contractor And the substitution of any other material thereof.
- The demolition removal and/or re-execution of any work executed by the contractor/s.
- The dismissal from the work of any persons employed thereupon.
- The opening up for inspection of any work covered up.
- The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the maintenance period (Retention Period).

The contractor shall forthwith comply with and duly execute any work comprised in such Employer's/Architect's instructions, provided always that verbal instructions, directions and explanations given to the contractor's or his representative upon the works by the Employer/Architects shall, if involving a variation, be confirmed in writing to the contractor/s within seven days. No works, for which rates are not specifically mentioned in the priced schedule of quantities, shall be taken up without written permission of the Employer or his agent/ Architects. Rates of items not mentioned in the priced schedule of quantities shall be fixed by the Employer in consultation with the Architects as provided in **clause "variation"**.

The contractor shall set up a field laboratory with necessary equipments for day-to-day testing of materials like grading of course and fine aggregates, silt content and bulk age of sand etc. Regarding all factory made products for which ISI marked products are available, only product bearing ISI mark shall be used in the work.



The Employer has power to add to, omit from any work as shown in drawings or described in specifications or included in schedule of quantities and intimate the same in writing but no addition, omissions or variation shall be made by the contractor without authorization from the Employer. No variation shall vitiate the contract.

The Tenderers shall note that his tender shall remain open for consideration for a period of 120 days from the date of opening of the tender.

## 5. AGREEMENT

The successful contractor shall be required to sign agreement within fifteen days from written acceptance of tender and shall pay for all stamps legal expenses, incidental thereto. A model Article of Agreement is enclosed with the tender document.

## 6. PERMITS AND LICENCES

Permits and Licenses for release of materials which are under Government control. The Employer will render necessary assistance, sign any forms, drawings or applications that may be necessary. It may be clearly understood that no compensation or additional charges can be claimed by the contractor for non-receipt of the controlled materials in due time on this account or according to his own requirements.

The Employer / Architects shall be indemnified against all Government or legal actions for theft or misuse cement, M.S rods and any controlled materials in the custody of the contractor.

## 7. GOVERNMENT AND LOCAL RULES

The contractor shall conform to the provisions of all local Bye-laws and Acts relating to the work and to the Regulations etc. of the Government and local Authorities and of any company with whose system the structure is proposed to be connected/**constructed**. The contractor shall give all notices required by said Act, Rules, Regulations, and Bye laws etc and pay all fees payable to such authority / authorities for execution of work involved.

The contractor will make necessary liaison work with Electric Supply co. BEST or other departments for obtaining required Electric load Kwt meters.

The contractor will arrange all the document/formalities required for getting Electric load & deposit the same duly filled by the Bank.

The security & other charges as demanded by Power supply co. as per their demand note issued by them will be paid by the Bank.

The cost, if any, shall be deemed to have been included in his quoted rates, taking into account all liabilities for licenses, fees for footpath encroachment and restorations etc. and shall indemnify the Employer against such liabilities and shall defend all actions arising from such claims or liabilities.

## 8. TAXES AND DUTIES

- a) The Tenderers must include in their tender prices quoted for all duties, royalties, cess or any other taxes or local charges if applicable. No extra claim on this account will in any case be entertained. **TDS, as applicable will be deducted from all bills / payments, made in connection with this work as per provision of Income tax Act and or latest amendments thereof.**
- b) **GST on works Contracts** : The rates quoted shall be exclusive of GST on Works. Owner shall paid GST (if any) extra as per GOI norms on works contracts.



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

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

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

### 13. TIME OF COMPLETION, EXTENTION OF TIME & PROGRESS CHART

1. **Time of completion:** The entire work is to be completed in all respects within the stipulated period of 12 months including rainy season. The work shall be deemed to be commenced from 2nd day from the date of agreement or date of handing over of site to the contractor, whichever is later. Time is the essence of the contract and shall be strictly observed by the contractor.

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

2. **Certificate of Completion:** When the whole of the works are substantially completed and have satisfactorily passed any final test prescribed in the contract, Contractor shall give a written notice to that effect to the Architects with an undertaking to finish any outstanding defect during Defect Liability Period for issue of Certificate of Completion in respect of the works.

The Architects within 10 days of receipt of such notice either issue to the employer, a certificate, as per following proforma, stating the date on which to his opinion the works were substantially completed in terms of the contract. Then the employer will record the completion certificate in MB (Measurement Book) as per the agreement.

I have inspected the work of \_\_\_\_\_ (Name of work) \_\_\_\_\_ contract value of which is Rs-----  
----- on \_\_\_\_\_ (date) \_\_\_\_\_. As result of this inspection and my previous inspections, I certify  
that the work has been carried out as per specification and completed satisfactorily. There are  
no noticeable defects, except for the following:

a) ----- b) ----- c) ----- d) -----

Date-

Signature of the Architect  
With Seal



**PROFORMA FOR APPLICATION FOR  
EXTENSION OF TIME PERIOD**

1. Name of contractor :
2. Name of the work as given in the Agreement :
3. Agreement No. :
4. Estimated tender amount :
5. Date of commencement of work as per Agreement :
6. Period allowed for completion of work as per Agreement :
7. Date of completion stipulated in Agreement :
8. Period for which extension of time has been given previously :

a) 1<sup>st</sup> extension vide  
Architect's/Bank's letter  
No dated Month Days

b) 2<sup>nd</sup> extension vide  
Architect's /Bank's letter  
No.datedMonthDays

c) 3<sup>rd</sup> extension vide  
Architect's/Bank's letter  
No.datedMonth Days

d) 4<sup>th</sup> extension vide  
Architect's/Bank's letter  
No. dated Month Days

Total extension previously given

9. Reasons for which extensions have been previously given :  
(copies of the previous applications should be attached)

10. Period for which extension is applied for :

11. Hindrances on account of which extension is applied for with dates on which hindrances occurred and the period for which these are likely to last:

a) Serial No. :

b) Nature of hindrance :



## 15. TOOLS, STORAGES OF MATERIALS, PROTECTIVE WORKS AND SITE OFFICE REQUIREMENTS

The contractor shall provide, fix up and maintain in an approved position proper office accommodation for the its representatives and staff, which offices shall be opened at all reasonable hours to receive instructions notices or communications and clear away on completion of the works and make good all work disturbed.

All drawings maintained on the site are to be carefully kept with cloth pasted on back side of each drawings. They are to be protected from ravages of termites, ants, and other insects.

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

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

The contractor shall arrange for temporary latrines for the use of workers and field staff and keep the same in a clear and sanitary condition to the satisfaction of the Public Health Authorities and shall cause such latrines and soil to be cleared away whenever necessary and shall make good all the works disturbed by these conveniences.

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

**Protective Measures :** The contractor from the time of being-placed in possession of the site must make suitable arrangements for watching, lighting and protecting the work, the site and surrounding property by day, by night, on Sundays and other holidays. Contractor shall indemnify the Employer against any possible damage to the building, roads, or member of the public in course of execution of the work.

The contractor shall provide necessary temporary enclosures, gates, entrances, etc for the protection of the work and materials and for altering and adopting the same as may be required and removing on completion of the works and making good all works disturbed.

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

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

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

**Construction chemicals shall be stacked and stored in a separate room, which shall be cool and dust proof.** Care shall be taken to see that no volatile material and fire of any kind are near this room. Adequate Fire safety measures shall be taken.

**Tools :** Theodolite, levels, prismatic compass, chain, steel and metallic tapes and all other surveying instruments found necessary of the works shall be provided by the contractor for the due performance of this contract as instructed by the site engineer. Contractor shall provide and **maintain an electronic balance** to weigh construction chemicals accurately as per manufacturer's specifications. All measuring tapes shall be of steel and suitable steel scaffolding and ladders that may required for safely taking measurements shall be supplied by the contractor.



will be driven on the top of salwood post on the center lines of columns, walls, inside and outside faces of foundations trenches, in order that lines may be stretched between the benches and accurate intersection of excavation. Centre lines of walls, columns etc., may be clearly indicated and checked at any time if it is so required.

## **20. CONTRACTOR IMMEDIATELY TO REMOVE ALL OFFENSIVE MATTERS**

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

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

## **21. ACCESS**

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

## **22. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS**

All the works specified and provided for in the specifications or which may be required to be done in order to perform and complete any part thereof shall be executed in the best and approved quality of the respective kinds in accordance with particulars contained in and implied by the specifications and as represented by the drawings or according to such other additional particulars, and instructions as may from time to time be given by the Employer / Architects during the execution of the work, and to his entire satisfaction,

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

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

During the inclement whether the contractor shall suspend concreting and plastering for such time as the Employer / Architects may direct and shall protect from injury all work when in



contractor side to sign Bank's documents/MB & received letter etc .at site as required by the Bank.

The Contractor shall employ in connection with the work persons having the appropriate skill or ability to perform their jobs efficiently. The contractor shall employ local labourers on the work as far as possible. **No labour below the age of eighteen years and who is not an Indian National** shall be employed on the work.

Any labour supplied by the contractor to be engaged on the work on day-work basis either wholly or partly under the direct order or control of the Employer or his representative shall be deemed to be a person employed by the contractor. The contractor shall comply with the provisions of all labour legislation including the requirement of

- a) The payment of Wages Act.
- b) Employer's liability Act.
- c) Workmen's compensation Act.
- d) Contract labour (Regulation & Abolition) Act, 1970 and Central Rules 1971.
- e) Apprentices Act 1961.
- f) Minimum wages Act.
- g) Employees Insurance Act etc.
- h) Any other Act or enactment relating thereto and rules framed there under from time to time.

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

The contractor shall comply at his own cost with the order of requirement of any Health Officer of the state or any local authority or of the Employer regarding the maintenance of proper environmental sanitation of the area where the contractor's labourers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The contractor shall provide, maintain and keep in good sanitary condition adequate sanitary accommodation and provide facility for pure drinking water at all times for the use of men engaged on the works and shall remove and clear away the same on completion of the works. Adequate precautions shall be taken by the contractor to prevent nuisance of any kind on the works or the lands adjoining the same. The contractor shall arrange to provide first-aid treatment to the labourers engaged on the works. He shall within 24 hours of occurrence of any accident at or about the site or in connection with execution of works, report such accident to the employer and also to the competent authority where such report is required by law.

## 26. DISMISSAL OF WORKMEN

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

## 27. ASSIGNMENT

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



the contract, the value of the difference in the quantity of the materials he was required to use and that he actually used shall be deducted from his dues. The decision of the Employer shall be final and binding on the contractor as to the amount or materials the contractor is required to use for any work under this contract.

**31. Before taking any measurement of** any work, the Site Engineer or a Subordinate deputed by him shall give reasonable notice to the contractor. If the contractor fails to attend at the measurements after such notice or fails to countersign or to record the difference within a week from the date of measurement in the manner required by the Site Engineer then in any such event the measurements taken by the site engineer or by the subordinate deputed by him as the case may be is final and binding on the contractor and the contractor shall have no right to dispute the same.

## **32. PAYMENTS**

All bills shall be prepared by the contractor in the form prescribed by the Employer / Architects. Normally one interim bill shall be prepared each month subject to minimum value for interim certificate as stated in these documents. The bills in proper form must be duly accompanied by detailed measurements in support of the quantities of work done and must show deductions for all previous payments, retention money etc.

The Employer/Architects shall issue a certificate after due scrutiny of the contractors bill stating the amount due to the contractor from the Employer and the contractor shall be entitled to payment thereof, within the period of honoring certificates named in these documents. In case of delay due to some reasons in the processing of such bills for payment, an additional advance of 75% of the billed amount duly certified by the Architect may be paid on the request of the contractor for the smooth progress of the work.

The amount stated in an interim certificate shall be the total value of work properly executed less the amount to be retained by the Employer as retention money vide clause-11 of these conditions. The Employer will deduct previous payments, TDS, any other taxes and retention money. The refund of Retention Money will be made as specified in this document. If the Employer has supplied any materials or goods to the contractor, the cost of any such materials or goods will be progressively deducted from the amount due to the contractor in accordance with the quantities consumed in the work.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, it conclude, determine or affect in anyway the power of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract.

## **FINAL PAYMENT**

The final bill shall be submitted by the contractor within one month of the date fixed for completion of the work or of the date of certificate of completion furnished by the Employer/Architects and payment shall be made within three months.

The final bill shall be accompanied by a certificate of completion from the Employer / Architects. Payments of final bill shall be made after deduction of all previous payments, TDS, any other tax and retention money as specified in relevant clause of these conditions. The acceptance of payment of the final bill by the contractor would indicate that he will have no further claim in respect of the work executed.

The contractor/Firm shall submit the As-built Drawing including electric and plumbing detailed Layout shown distinctly on the As-built Drawing.



materials. Should any dispute or differences arise after the execution of any work as to measurements etc. or other matters which cannot be conveniently tested or checked, the notes of the Employer / Architects shall be accepted as correct and binding on the contractor.

### **39. ESCALATION**

The rate quoted shall be firm throughout the tenure of the contract (including extension of time, if any, granted) and will not be subject to any fluctuation due to increase in cost of materials, labour, Tax, octroi etc.

### **40. IDLE LABOUR**

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

### **41. SUSPENSION**

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

After such notice shall have been given the contractor shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the contractor fails to start the work within 7 (Seven) days after such notice has been given to proceed with the works as therein prescribed, the Employer may proceed as provided in clause-42 (Termination of contract by Employer).

### **42. TERMINATION OF CONTRACT BY EMPLOYER**

If the contractor being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the official Assignee in insolvency, or the Receiver of the contractor in insolvency, shall repudiate the contract or if a Receiver of the contractor's firm appointed by the court shall be unable, within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfill the contract, and if so required by the employer to give reasonable security therefore, or if the contractor shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditor's of the contractor, or shall assign, charge or encumber this contract or any payments due or which may become due to the contractor, there under, or shall neglect or fails to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the contractor within three clear days after the notice shall have been given to the contractor in manner hereinafter mentioned requiring the contractor to observe or perform the same or shall use improper materials or workmanship in carrying on the works, or shall in the opinion of the Employer not exercise such due diligence and make such due progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the Employer after three clear days notice requiring the contractor so to do shall have been given to contractor as hereinafter mentioned, or shall abandon the contract, then and in any of the said cases, the Bank may not withstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the Employer of the obligations and liabilities of the contractor the whole of which shall continue in force as fully as if the contract,



The work under the contract shall, however, continue during the arbitration proceedings and no payment due or payable to the contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing the date of the first hearing. The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

The Arbitrator shall give a separate award in respect of each dispute or difference referred to him. The Arbitrator shall decide each dispute in accordance with the terms of the contract and give a reasoned award. The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

The fees, if any, of the Arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award including the fees, if any, of the Arbitrator who may direct to and by whom and in what manner, such costs or any part thereof shall be paid and may fix or settle and amount of costs to be so paid.

The award of the Arbitrator shall be final and binding on both the parties.

Subject to aforesaid the provisions of the Arbitration Act 1992 or any statutory modification or re-enactment thereof and the rules made thereunder, and for the time being in force shall apply to the arbitration proceeding under this clause.

The Employer and the contractor hereby also agree that arbitration under clause shall be a condition precedent to any right to action under the contract with regard to the matters hereby expressly agreed to be so referred to arbitration.

#### **44. OFFICE ACCOMMODATION FOR THE SITE ENGINEER**

The contractor shall provide, erect and maintain at his cost a separate simple watertight office accommodation for the Site Engineer. This accommodation shall be well lighted and ventilated and provided with windows, door with a lock. the Site Engineer office shall be minimum of 150Sft and the contractor shall provide a table/desk, chairs, drawers for keeping drawings, a almirah/cupboard having proper lock and a tack board for displaying drawings. The accommodation shall be demolished when directed.

#### **45. MEASUREMENT**

##### **(A) Measurement Books**

A.1 The number of pages for measurements alone shall be 100 per book. The pages shall be serially machine numbered. The book shall be in the custody of the Site Engineer.

A.2 Each book shall bear an identifying number.

##### **(B) Recording of Measurements**

B.1 The measurements shall be recorded by the Site Engineer or by an employee or an agency of the of the Bank, specifically authorized for the purpose.

B.2 The Site engineer (or his representative) shall take joint measurements (i.e. accompanied by the contractors/ their authorized representative and Architect/ their authorized representative) of the work as it progresses and record them directly in the Measurement Books.

B.3 It shall be ensured that the method of measurement is in accordance with the contract. The precision in measurements shall be as laid down in IS-1200. Any points of disagreement with the contractor pertaining to measurements shall be promptly referred to the decision of the competent authority.

B.4 Extra / deviated items, as claimed by the contractor, shall not be recorded in Measurement Book until they are approved by the competent authority.

B.5 In case some allegedly extra/deviated item is carried out by the contractor while complying with approved drawings and specifications and the same is to be covered up, the Site Engineer shall check the item and its specification and record its measurements but simultaneously enter



D.7 The foregoing may appear to be in perfectionist's rule for a site with difficult terrain and unpredictable subsurface. In such a case where excavations and concreting are carried- out in discontinuous and irregular manner, the measurements have, perforce, to be taken. in the same sequence as the work was actually done. Inorder to ensure that such piecemeal measurements do not result in either omissions or double entries of overlapping parts, it will be a good plan for the Site Engineer to check-mark each measurement recorded in Measurement Book by a line (Colored for different offsets/levels) on a line plan of foundation and tallying the overall lengths as recorded with those on drawing.

D.8 The position of extra Pockets, steps and overlaps in foundation concretes should be clearly indicated in location notes.

D.9 When measuring lengths of walls and beams, those running from left to right should be measured in full (i.e. out to out length) while those meeting them at right angles for their in-between lengths. Care should always be taken to watch that the passing (i.e. overlaps at junctions) are properly accounted for.

D.10 Deductions for openings, penetration of dissimilar material as in wall seatings, bearing ends etc., as stipulated by the Standard Method of Measurement (SMM) should be properly accounted for.

D.11 Although the work as built is to be measured in order to confirm the accuracy of the line out and the fidelity of construction, the dimension – entries shall be only those figures on drawings or those ascertained from the verified dimensions on drawing, and not those found at site. Generally, such work where the measurements are to be restricted to "authorized dimensions" only occurs in the following trade/sections.

D.11.1 Excavations beyond contract widths and depths (authorized dimensions) and concreting to these enlarged dimensions.

D.11.2 Concrete footings. /rotary drilling and macro piling.

D.11.3 Brickwork – widths. **And R.C.C walls wherever shown in drawing.**

D.12 The entire record of measurements of work should be so methodical that after the perusal of a few pages only, any one should be able to follow the measurer's procedure or recording entries.

#### **(E). Checking of Measurements**

Checking of the measurements shall be as under. It shall not be perfunctory and should result in revealing errors, accidental or deliberate, by the staff. It should also serve as a process of instruction to junior staff.

E.1 Measurements recorded shall be checked not less than 25% by an Engineer from the Premises Department of the Bank periodically.

E.2 All hidden measurements which cannot be checked at a later stage viz., of the Under noted categories of works, shall be checked not less than 25% by an Engineer of the Premises Department of the Bank.

E.2.1 Foundation: Earthwork, concrete, masonry/macro piling, pile caps if necessary.

E.2.2 Soiling and concrete bedding.

E.2.3 Steel Reinforcement for all RCC work

E.2.4 Concealed - pipe work, conduits, and etc

E.3 He should also certify in the MB after the abstract of cost that the work done is as per the approved drawings and specifications.



the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

x) The contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions and to pay any such persons or which may with the consent of the contractor, be paid to compromise any claim by any such person.

### **Demolition**

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

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

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

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

### **Personal Safety Equipments**

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

a) Workers employed on mixing asphaltting materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

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

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

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

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

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

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

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

iii) Overalls shall be supplied by the contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.



# MODELS RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS

## 1. Application

These rules shall apply to all buildings and construction works in charge of Construction of proposed Bank's Building at \_\_\_\_\_

## Definitions

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

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

## First Aid

3.a) At every work place there shall be maintained, in readily accessible place, first aid appliance including an adequate supply of sterilized dressings and sterilized cotton wool. The appliance shall kept in good order and in large work place they shall be readily available during working hours.

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

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

d) Where large work places are situated in cities, towns in their suburbs and no beds are considered necessary owing to the proximity of city or town, hospitals, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals.

At other work places, some conveyance facilities, such as a car, shall be kept readily available to take injured person or persons suddenly taken ill to the nearest hospital.

## Drinking Water

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

b) Where drinking water is obtained from an intermittent public water supply, each work shall be provided with storage where such drinking water shall be stored.

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

d) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning inspection which shall be done at least once a month.

## Washing and bathing places

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

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

## Scale of Accommodation in Latrines and Urinals

6. There shall be provided within the premises of every work place latrines and Urinals in and accessible placed and the accommodation, separately for each of them shall not be less than the following scale:

|                                                                    | No of seats.        |
|--------------------------------------------------------------------|---------------------|
| a) Where the number of persons does not exceed 50                  | 2 seats             |
| b) Where the number of persons exceeds 50, but does not exceed 100 | 3 seats.            |
| c) For every additional 100                                        | 3 seats per hundred |

In particular cases, the Engineer shall have the powers to vary the scales where necessary.



Date :

Signature of Tenderers with seal

**Proforma For Running A/C. Bill**

- 1) Name of Contractor/Agency :
- 2) Name of work :
- 3) SI. No. of this Bill :
- 4) No. and date of Pervious Bill :
- 5) Reference to Agreement No. :
- 6) Date of Written Order to commence :
- 7) Date of Completion as per Agreement :

| Sr. No | Item of Description | Unit | Rate (Rs.) | As per Tender |              | Upto Previous R.A.Bill |              | Upto Date (Gross) |              | Present Bill |              | Remark |
|--------|---------------------|------|------------|---------------|--------------|------------------------|--------------|-------------------|--------------|--------------|--------------|--------|
|        |                     |      |            | Qty           | Amount (Rs.) | Qty                    | Amount (Rs.) | Qty               | Amount (Rs.) | Qty          | Amount (Rs.) |        |
| 1      | 2                   | 3    | 4          | 5             |              | 6                      |              | 7                 |              | 8            |              | 9      |
|        |                     |      |            |               |              |                        |              |                   |              |              |              |        |



### SPECIAL CONDITIONS OF CONTRACT

1. For precautionary measures to avoid dust nuisance such as erection of G.I. sheets screens at plot boundaries up to reasonable height shall be provided at site before starting the construction work by contractor.
2. The contractor shall make arrangements at his cost for all anti-malaria measures to be provided for the labors employed on the work. The anti-malaria measure shall be provided as directed by the Assistant Director of Public Health. The contractor shall also to pay pest control charges (PCO) to office of the pest control Dept.
3. The construction activity for work of necessary piling shall be carried out by employing modern techniques such as rotary drilling, micro piling etc. instead of conventional jack and hammer to avoid nuisance damage to adjoining building by the contractor, if requires.
4. The work shall be carried out on working days, from 9.00 A.M to 6.00 P.M Contractor will be given one hour prior to beginning of work for preparations The work may however be carried out during Day time on Holiday Sunday with prior Permission from the Owner in writing.
5. The successful Tenderers shall have to work in co-ordination and co-operation with any other contract agencies appointed by the INDIAN BANK to work simultaneously in the same or adjoining area. The decision of the INDIAN BANK in the case of any dispute between the different agencies appointed by the INDIAN BANK shall be final and binding
6. Water supply and Electricity arrangement, at work site shall be arranged by the contractor. Water brought to site of work for use in construction works shall be tested by the contractor for construction purpose, from Government approved laboratory at his own expense and it should be confirmed to IS: 456-2000 and any further amendments to it.

#### 7. Possession prior to completion.

The Employer / Architects shall have the right to take possession of or use any completed or partially completed work or part of work. Such possessions or use shall not be deemed to be an acceptance of any work completed in accordance with the contract agreement. For taking such possession the contractor should take necessary action as directed by the Employer / Architects.

8. The Contractor will not be allowed to construct any temporary hutments for labour to stay at site. However, if required for above works maximum 5 labourers ( bachelors only ) could be permitted on site with prior permission, necessary photo identity will have to be provided to labour staying on site, if at any given time, identity is not furnished, the labour will have to leave the premises immediately or action will be taken by the bank against the Contractor.

### PROTECTION OF ENVIRONMENT

- a. The contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.
- b. During continuance of the contract, the contractor and his sub-contractors shall abide at all times by all existing enactments on environmental protection and rules made there under, regulations, notifications and bye-laws of the State or Central Government, or local authorities and any other law, bye-law, regulations that may be passed or notification that



## GENERAL TECHNICAL SPECIFICATIONS FOR CIVIL, SANITARY, ETC. WORK

### INDEX

SECTION - A : MATERIALS AND LIST OF APPROVED MATERIALS BRAND AND/OR MANUFACTURE.

SECTION - B : EARTHWORK

SECTION - C : PLAIN AND REINFORCED CEMENT CONCRETE

SECTION - D : BRICK MASONRY

SECTION - E : PLASTERING

SECTION - F : FLOOR FINISHING

SECTION - G : EXTERNAL AND INTERNAL PAINTING WORKS

SECTION - H : METAL DOORS & WINDOWS

SECTION - I : SPECIFICATION FOR WATER PROOFING

SECTION - J : WOOD WORK AND JOINERY

SECTION - K : ANTI-TERMITE TREATMENT



cement register at site and submitted to representative of Employer/Consultant if called for. Theoretical consumption of cement for different materials brought at site by the Contractor shall also be submitted with proper documents with every bill for verification. The consumption of cement for different items of work shall be as given in the tender and in its absence as per C. P. W. D. schedule. Consumption of cement in the corresponding items of work under the contract shall be computed on the basis of the quantities shown in the table subject to a variation of plus/minus three percent. The weight of 1 cum. of cement shall be taken as 1440 kg. Cement stored for more than three months shall be got tested before using it in work.

### 9.3 Lime

Lime shall be made from approved Lime Stone or Kankar and properly burnt and shall be of appropriate class for specific work given in IS: 712-1984. It shall be free from excess of unburnt kankar or lime stone ashes or other extraneous materials and shall be stored to prevent damage by rain, moisture or air slaking. Lime shall be used within 14 days from the date of stacking and damaged lime shall not be used but shall be removed from the site of work forthwith at contractors cost.

### 9.4 Fine Aggregate

Shall be from natural source, chemically inert, clean, sharp, hard, durable and well graded and free from deleterious materials not exceeding the permissible limit as per IS : 383-1970. The Silt Content shall be within 8%. If it is in excess, washing shall be done in an approved manner to bring it within allowable limit. The fine aggregate for concrete shall be graded and the Fineness Modulus shall be between 2.60 to 3.20. The Fineness Modulus of fine aggregate shall be between 1.80 to 2.60 for plaster & masonry work.

The fine aggregate shall be stacked carefully on a clean and dry surface so that it will mixed up with deleterious foreign materials. If such a Surface is not available, thick floor or a thin layer of lean concrete shall be prepared. The percentage of Materials shall be within the permissible limits as specified in IS 383-1970.

### 9.5 COURSE AGGREGATE

It shall consist of crushed or broken stone 95% which shall be retained on 4.75 Mm IS test Sieve. It shall be obtained from crushing Granite, Trap, Basalt or Similar approved stones. Coarse aggregate shall be chemically inert when Mixed with cement and shall be roughly cubical in shape and free from soft friable, thin, laminated or Flaky pieces. Maximum percentage of deleterious materials shall not exceed those specified in IS 383-1970. The coarse aggregate used in the work shall conform to the grading as limits specified in IS: 383-1970. It shall be washed if so desired by the Employer / Architects. Aggregates shall be Stored on platforms or otherwise so as to avoid inclusion of foreign materials. It shall be thoroughly wetted before being charged into tile hopper of the concrete mixer.

### 9.6 Reinforcement

#### High Strength Deformed Bars

Unless specified otherwise, high strength deformed bars shall conform to IS: 1786-1985 of grade Fe 500/ 500 D and obtained from approved manufacturer.

Where mild steel bars are specified they shall conform to IS - 432 Part-I and shall be obtained from approved manufacturer.

Contractor shall get steel reinforcement tested at his cost as and when required and directed by the Employer/Architects/Consultants.



## 9.10 Steel Windows, Doors & Ventilators

Steel windows and doors shall be fabricated out of approved steel sections. They shall be obtained from approved manufacturers. Unless otherwise stated the Indian Standard Specifications applicable for steel doors, Windows and ventilations shall be IS:1038. Wherever rolled steel sections are used the section should however conform to I.S. 226 and I.S. 1977 latest addition, and steel should be of weldable quality.

## 9.11 Ceramic Tiles

White or colored ceramic glazed/unglazed tiles shall be obtained from approved manufacturer and shall be flat and true to shape. They shall be free from cracks, crazing, spots, chipped edges and corners. The glazing and colour shall be of uniform shade. Tolerance in dimension shall be  $\pm 1.0$  mm in sizes and  $\pm 0.5$  mm in thickness The rear face shall be grooved and recessed in parts to provide the necessary key for mortar. They shall generally conform to I.S. 777.

## 9.12 Kota/Cudappah Stone

Sabs shall be of selected quality, hard, sound, dense and homogenous in texture, free from cracks, decay, weathering and flaws. They shall be hand/machine cut to the specified thickness and of approved quality and size shall be uniform in colour with straight edges. The tolerance in thickness shall be  $\pm 2$  mm. Before starting the work, the contractor shall get the samples approved from Employer/Consultant.

## 9.13 Marble Slabs

Marble shall conform to the following characteristics :-

Moisture absorption after 24 hours immersion

: Max. 0.4% by weight tested as per  
I.S.1124.

Hardness : Min. 3 on Mhos scaler

Specific Gravity : Min. 2.5 tested as per I.S. 1122.

The thickness shall be as specified with a tolerance  $\pm 2$  mm.

## 9.14 Glazing

Glass used for glazing shall be sheet glass/float glass as specified, clear or obscured as directed by the Employer/Consultant of approved quality free from flaws, specks bubbles.

## 9.15 C. I. Rain Water Pipes

All C. I. pipes and fittings shall be of approved manufacturer free from cracks, chipped edges or corners and other damages. The pipes shall be IS stamped and shall conform I.S. 3989.

## 9.16 Collapsible Gates

These shall be of approved manufacturer and fabricated from MS sections consisting of vertical double channels each 18 x 9 x 3 mm at 100 mm c/s braced with flat iron diagonals 18 x 5 mm and top and bottom rails of either T's or E's with minimum web of 40 x 12 mm and flange 40 x 6 mm. The roller wheels shall be of grey iron castings and rivets shall be snap headed and not less than 6 mm dia.

The gates shall be provided with necessary bolts and nuts, loading arrangements, stoppers, handles etc. even if not specified.

## 9.17 Rolling Shutter

Rolling shutter shall be of approved manufacturer as described in the schedule of quantities and fabricated from M.S. laths in single pieces, machine rolled and straightened with an effective bridge



## LIST OF MATERIALS OF APPROVED BRAND AND / OR MANUFACTURE

|                                    |                                                                                 |
|------------------------------------|---------------------------------------------------------------------------------|
| CEMENT                             | Grade 43 & 53 OP or Slag cement of<br>ACCMODI/L&T/CENTURY/LAFARGE/AMBUJA/BIRLA. |
| WHITE CEMENT                       | JK & BIRLA.                                                                     |
| STEEL                              | JSW, TISCO, SAIL, RINL or any ISI approved manufacturer                         |
| CERAMIC TILES                      |                                                                                 |
| I) UNGLAZED                        | SPARTEX, KAJARIA PLUS, NITCO, Regency.                                          |
| 1I) GLAZED                         | First Quality of .<br>i) H & R Johnson<br>II) Somani<br>iii) Cera<br>iv) Decora |
| WATERPROOFING COMPOUND :           | ROFFE, PIDILITE, SIKA QUALCRETE, CICO OF APPROVOVDE GRADE.                      |
| RED OXIDE ZINC CHROMATE :          | Shalimar, Asian Paints, Jenson and Nicholson.                                   |
| WATERPROOF CIMENT PAINT :          | SNOECEM PLUS OR SIMILAR APPROVATE BRAND.                                        |
| GLAZING :                          | Modifloat and Asahifloat.                                                       |
| SHEET GLASS :                      | Indo Ashal, Tribeni & Shreevallabh                                              |
| SYNTHETIC ENAMEL PAINT :           | DULUX (ICI), LUXOL (BERGER)                                                     |
| ACRYLIC Emulsion :                 | ICI, BERGER, JOHNSON & NICHOLKSON, ASIAN                                        |
| FLUSH DOOR :                       | GREEN PLY, CENTURY, SYLVAN OR EQUIVALENT                                        |
| <u>HARDWERE FITTINGS</u>           |                                                                                 |
| I) FERROUS :                       | MOWJEE AND EARL BIHARI OR EQUIVALANT                                            |
| ii) NON-FERROUS<br>PRODUCT         | EARL BIHARI, METACO & ARGENT OR EQUIVALENT ISI STAMPED                          |
| COLLAPSIBLE GA TE<br>MANUFACTURER. | : & ROLLING SHUTTER ANY ISI APPROVED                                            |
| ALUMINIUM Work :                   | ANY ISI APPROVED MANUFACTURER                                                   |



dry necessary for the construction of foundation and sub-structure including mass excavation for underground reservoir, chess pits, septic tanks etc. where applicable, exactly in accordance with lines, levels, grades and curves shown in the drawings or as directed by the representative of Employer/Consultant. The bottoms of excavation shall be leveled both longitudinally and transversely or as directed by the representative of Employer/Consultant. Should the contractors excavate to a greater depth or width than shown on the drawings or as directed by the representative of Employer/Consultant, he shall at his own expenses fill the extra depth or width in cement concrete in proportion as directed by the representative of Employer/Consultant but in no case with concrete of thin linear than 1:5:10 cement concrete.

The contractor shall report to the representative of Employer/Consultant when they are ready to receive concrete. No concrete shall be placed in foundations until the contractor has obtained representative of Employer/Consultant approval. In case excavation is done through different strata of soil and if the same is payable as per provision in the Schedule of Quantities the contractor shall set the dimensions or the strata decided by the representative of Employer/Consultant for payment. If no specific provisions are made in the schedule of quantities, it will be presumed that excavation shall be in all types of strata except hard rock and the contractor's rate shall cover for the same, which are treated as a single entity.

After the excavation is passed by the representative of Employer/consultant and before having the concrete, the contractor shall get the depth and dimensions of excavations, levels, nature of strata as applicable as per schedule of quantities and measurements recorded from the representative of Employer and Consultant.

### 5.1 Shoring

The sides of the excavations, if required, should be protected by shoring in such a way as is necessary to secure them from falling in, and the shoring shall be maintained in position as long as necessary. The Contractor shall be responsible for the proper design of the shoring to hold the sides of the excavation in position and ensure safety of persons and properties etc. The shoring shall be removed as directed after the items for which it is required are completed. No extra payment will be made for shoring.

### 5.2 Protection

If instructed by the representative of Employer/Consultant all foundation pits, and similar excavations shall be strongly fenced and marked with red lights at night to avoid accidents. Adequate protective measures shall be taken to see that the excavation does not affect or damage adjoining structures. All measures required for the safety of the excavations, the people working in and near the foundation trenches and people in vicinity shall be taken by the contractor at his own cost.

The contractor will be entirely responsible for any injury or damage to property caused by his negligence of accident due to his constructional operations.

### 5.3 Stacking of Excavated Materials

All materials excavated will remain the property of the employer. The excavated materials at the first instance shall be sorted as directed by representative of Employer/Consultant and stacked appropriately by the sides of trenches as directed by the representative of Employer/Consultant before they are disposed off and leveled within the site at locations directed by the representative of Employer/Consultant. Materials suitable and useful for back filling, plinth filling or leveling of the plot or other use shall be stacked in convenient places in such a way so as not to obstruct free movement of men, animals and vehicles or encroach on the area required for constructional purposes. The cost on account of sorting out useful materials/disposal within the site and removal or spoils etc outside in conformity with Local Municipal Rules will not be additionally paid for.



Plinth filling shall be measured as net consolidated volume in cum as per drawing.

## SECTION - C

### 1.0 PLAIN AND REINFORCED CEMENT CONCRETE

All concrete work shall be carried out by the contractor under the supervision of a concrete foreman sufficiently experienced in this type of work.

**Ingredients to be used in concrete and Reinforced concrete work :**

Ingredients to be used in concrete should conform to the specifications as indicated under "Technical Specifications for Materials" given earlier.

As regards admixture, this shall be used with prior approval of representative of Employer/Consultant.

#### 1.1 Mix Proportion.

The mix proportions shall be selected to ensure that the workability of the fresh concrete is suitable for the conditions of handling and placing so that after compaction it surrounds all reinforcements and completely fills the form work.

The determinations of the proportions of cement, aggregates and water to attain the required strength & workability shall be made as follows :

- By designing the concrete mix such concrete shall be called "Design Mix Concrete" and will be permitted for use when complete quality control is ensured through use of weigh-batches, equipped field laboratory, approved transportation method and skilled technician.
- By adopting nominal concrete mix, such concrete shall be called "Nominal Mix Concrete". The minimum cement content for nominal mix concrete shall be as under :

| <u>Grade of Concrete</u> | <u>Cement/cum. of concrete (in kg)</u> |
|--------------------------|----------------------------------------|
| M 20                     | 400                                    |
| M 15                     | 317                                    |
| 1:3:6                    | 235                                    |
| 1:4:8                    | 180                                    |

#### 1.2 Design Mix Concrete:

The mix shall be designed to produce the grade of concrete having the required workability and a characteristic strength not less than values given in table A". The procedure given in Indian standard should be preferred for the design but other Standard methods may also be followed. As long as quality of material does not change a mix design done earlier may be considered adequate for later work.

When mix is designed, the records shall be maintained in the format annexed.

**TABLE A-GRADES OF CONCRETE**

| <u>GRADE OF CONCRETE</u> | <u>SPECIFIED CHARACTERISTIC COMPRESSIVE STRENGTH</u> |                           |
|--------------------------|------------------------------------------------------|---------------------------|
|                          | <u>AT 7 DAYS N/SQ.MM</u>                             | <u>AT 28 DAYS N/SQ.MM</u> |
| M10                      | 7.0                                                  | 10                        |
| M15                      | 10.0                                                 | 15                        |
| M20                      | 13.5                                                 | 20                        |
| M25                      | 17.0                                                 | 25                        |
| M30                      | 20.0                                                 | 30                        |
| M35                      | 23.5                                                 | 35                        |



the grading of aggregate should be controlled by obtaining the coarse aggregate in different sizes and blending them in right proportions, as required, the different sizes being stacked in separate Stock-piles. The grading of coarse and fine aggregate should be checked as frequently as possible to ensure that the specified grading is being maintained. No change in proportions or substitutions in materials shall be made without additional tests to show that the quality and strength of concrete are satisfactory.

## 2.1 Mixing

Concrete shall be mixed in a standard mechanical mixer. The mixing shall be continued until there is a uniform distribution of the materials and the mass is uniform in colour and consistency. If there is segregation after unloading from the mixer the concrete should be remixed. The mixing time may be 1-1/2 to 2 minutes generally. In exceptional circumstances such as mechanical breakdown of mixer, work in remote areas or when the quantity of concrete work is very small, hand mixing may be permitted subject to adding 10% extra cement for which no extra payment will be made to the contractor. When hand mixing is permitted it shall be carried out on a water tight platform and concrete is uniform in colour and consistency.

Workability of concrete should be controlled by direct measurement of water content and it should be checked at frequent intervals. For Nominal Mix workability measured by slump test may have values given in table "C".

**TABLE 'C'**

| Sl. No. Type of work                                                      | When vibrated                 | When not vibrated              |
|---------------------------------------------------------------------------|-------------------------------|--------------------------------|
| 1. Mass concrete in RCC foundation footings, retaining walls and pavement | 2.5 cm<br>(1")                | 5 cm<br>(2")                   |
| 2. Beams, slabs, columns                                                  | 2.5 cms to 5 cms              | 5 cms to 10 cms                |
| With sample reinforcement                                                 | (1" to 2")                    | (2" to 4")                     |
| 3. Thin sections with congested reinforcement                             | 5 cms to 10 cms<br>(2" to 4") | 10 cms to 15 cms<br>(4" to 6") |

**Note:** Should conditions governing slump and workability change pointing to advisability of an increased slump, this shall only be done by decreasing the amount of aggregate and not by increasing the amount of water.

## 2.2 Transportation

The method of transportation shall be got pre-approved from Consultant/Employer. Concrete shall be transported from the mixer to the formwork as rapidly as possible by methods, which will prevent the segregation or loss of any of the ingredients and maintaining the required workability. In no case, more than 30 minutes shall elapse between mixing and consolidation in its position.

During hot and cold weather, concrete shall be transported by deep containers. Other suitable methods to reduce the loss of water by evaporation in hot weather and heat loss in cold weather may also be adopted.

For buildings with height more than 18.0 Meter, transportation of concrete by suitable and pre-approved mechanical devices is essential.

## 2.3 Placing



Approved curing compounds may be used at no additional cost to the owner in lieu of moist curing with the permission of the representative of Employer/Consultant. Such compounds shall be applied to all exposed surfaces of the concrete as soon as possible after the concrete has set.

## **5.0 FACILITIES FOR PREPARATION AND TESTING OF CONCRETE AT SITE**

In order to exercise the required degree of constant control over the concrete materials and its preparation the contractor is expected to set up and maintain at his own expense a Testing Laboratory at Site equipped with at least the following equipments :-

- i) Compression Testing machine of capacity 80t/100t;
- ii) A set of standard sieves;
- iii) Measuring cylinders, adequate number of cube and cylinder moulds and slumps cones;
- iv) Weighing balance,
- v) Vicat apparatus;
- vi) Curing tanks for Cubes.

### **5.1 Sampling, Testing and Acceptance of Concrete**

Samples from fresh concrete shall be taken and cubes shall be made, cured and tested at 28 days in accordance with IS 516.

Tests shall be conducted for compressive strength on 15 cm x 15 cm x 15 cm Cubes of Concrete. Companion Specimens shall be cast from a single batch of concrete and shall be of the same age at the time of testing. In order to get a relatively quicker idea of the quality of concrete, additional tests of compressive strength tests at 7 days shall be carried out in addition to 28 days compressive strength tests. In all cases, 28 days compressive strength specified in Table 'A' shall alone be the criterion for acceptance or rejection of the concrete.

### **5.2 Frequency of Sampling**

The frequency of sampling shall be as indicated in the list of mandatory tests.

Works test cubes shall represent quality of concrete incorporated in the work and taken out in sets of 6 cubes. The concrete for preparation of one set of 6 cubes shall be taken from one batch of mixed concrete discharged from mixer. The cubes shall be moulded in accordance with IS Code of practice. Out of 6 cubes, 3 cubes shall be tested at an age of 7 days. In case of testing in an approved laboratory the contractor shall arrange to transport the cubes from site to the laboratory and forward the test results to the representative of Employer/Consultant. The contractor shall bear all expenses in connection with the preparation of test cubes, cost of concrete, labour and transportation charges to the approved laboratory etc. including laboratory testing charges and his rate for concrete item shall be quoted accordingly.

The Specimens shall be tested as per IS : 516. The samples may be tested at site laboratory generally but should be tested in any other Government Test House or approved laboratory whenever asked for by the representative of Employer/Consultant for which no additional payment shall be made.

The work's concrete cubes shall be deemed to comply with the strength requirements if, the individual variation is not more than +/- 15% of the average test strength of three specimens. For mix design, however, acceptance criterion will be decided based on "Standard Deviation" as per IS : 456.

### **5.3 Concreting under special condition**



Craft paper or polythene sheets shall be used by the Contractor to ensure water tightness without additional costs to the Employer. Form work or centering shall be constructed of steel or timber or shuttering ply and adequately designed to support the impact load of full load of weight concrete and labourers without detection and retain its form during laying and setting of concrete. Timber used shall be properly seasoned so as to prevent warping when wetted. A camber in all directions of 6 mm for every 5 meter span in all slab and beam centering shall be provided to allow for unavoidable sagging due to compression or other causes.

All props either timber or steel, shall be straight and of full height and no joints shall be allowed. Where timber props like bullies are used, they shall have a minimum diameter of 100 mm and shall be straight and adequately strong. Props shall be braced with wooden battens and where additional staging is necessary extra care shall be taken to use bigger diameter props with bracing at 4 or 5 levels at no extra cost. All prop shall be supported on sole plates and double wedges. At the time of removing props, wedges shall be gently eased off and not knocked out.

All rubbish, chippings, shavings and saw dust shall be removed from the interior of the forms and shall be cleaned and thoroughly wetted or treated, if considered necessary, with any approved material before concrete is poured at contractor's own cost. Care shall be taken that for such approved material is kept out of contact with the requirement.

Form work shall be removed when the concrete has reached a strength of at least twice the stress to which the concrete may be subjected at the time of removal of formwork.

This shall be stripped without shock or vibration and shall be eased off carefully in order to allow the structure to take up its load gradually. Forms shall not be disturbed until concrete has adequately hardened to take up the superimposed load.

In normal circumstances (generally where temperatures are above 20 degree Centigrade and where ordinary Portland cement is used) forms shall be struck after expiry of the following periods unless otherwise directed at site by the representative of Employer/Consultant:

#### Location Striking time in days

|                                                                     |    |
|---------------------------------------------------------------------|----|
| a) Vertical sides of walls, slabs, beams and columns                | 2  |
| b) Bottoms of slabs upto 4.5 m span                                 | 7  |
| c) Bottom of slabs above 4.5 m span & bottom of beams upto 6 m span | 14 |
| d) Bottom of beams over 6 m span                                    | 21 |

### **8.0 REINFORCEMENT CLEANING, BENDING, PLACING ETC.**

#### **8.1 Cleaning of Reinforcement**

Before steel reinforcement is placed in position, the surface of the reinforcement shall be cleaned of rust, dust, grease and any other objectionable substances.

#### **8.2 Bar Bending schedule of reinforcement**

On receipt of structural drawing, contractor shall prepare bar bending schedule of reinforcement and shall get it approved by the representative of Employer/Consultant.

#### **8.3 Cutting in Reinforcement**



- d) For reinforcement in any other member such as a lintel, chajja, canopy or pardi, 15 mm or the diameters of such reinforcements, whichever is greater,
- e) For main reinforcement in isolated footing (side and bottom) clear cover shall be 50mm,
- f) For column bars clear cover shall be 40 mm, unless otherwise specified in drawings,
- g) For bars in slabs of strip footings and mat foundations clear cover shall be 50 mm. Slab bars shall be placed over beam bars, in the case of beam and slab type foundations.
- h) For any other types covers is specified in I.S. 456 shall be provided.

#### **8.10 High Strength deformed Bars/Steel**

High strength deformed bars manufactured by approved manufacturer conform to Fe 415 Gr. IS 1786-1985 shall be used in work.

#### **9.0 PRE-CAST CONCRETE**

All thin pre-cast RCC members shall be cast using ply board base and timbered side shuttering s. Casting on floor over sand bed is not permitted.

Reinforcement cage to proper size as per design or instruction shall be placed after pouring concrete for the cover portion, duly leveled.

The top surfaces shall be finished smooth with additional cement in simultaneous operation.

Deshuttering shall be done carefully and rendering with cement mortar shall be immediately carried out.

Pre-cast members shall be fixed in position only after 15 days curing.

#### **10.0 METHOD OF MEASUREMENTS**

##### **10.1 Concrete**

a) Actual net volume of work as actually executed and accepted based on the drawing and authorized variation if any shall be measured in Cum unless stated otherwise. No deduction for reinforcements shall be made.

b) Precast concrete work shall be measured in the same way as specified in the foregoing paragraph

##### **10.2 Form Work and Centering**

a) Actual net area of form work in contact with concrete shall be measured in Sq m unless stated otherwise, small charmers or fillet (Each not exceeding 10 sq cm. in cross section) and voids not exceeding 200 sq cm each on the exposed surface shall be ignored as if those are non-existent.

b) No separate payment shall be made for form work in case of precast units.

c) The work and payment thereof includes stripping off after completion of the work.

##### **10.3 Reinforcement**

a) Actually net measurements by weight of reinforcement as actually used in the permanent works and accepted shall be paid for. Authorized extra for laps, hooks, steel chairs, spacer bars for keeping reinforcements in position shall be measured and paid for. The weight of binding wire or any fixture, shall be excluded from the measurement. The weight of bars shall be as per IS Code taken up to three decimal places. No extra for wastage, unnecessary overlaps or rolling margin shall be paid for.

b) Bar neither shown in drawings nor instructed by the representative of Employer/Consultant but



## **SECTION -D**

### **BRICK MASONRY**

#### **1.0 BRICK WORK**

##### **1.1 General**

All brick work shall be carried out as shown on the drawings with setbacks, projections, curvatures, cuttings, footings etc. No additional cost for use of cut backs shall be allowed. Wherever the *proportion* of cement mortar has not been specifically mentioned, cement mortar in the proportion of 1:6 shall be used. Flat brick arches shall be provided wherever required without any extra cost. Brick work shall be kept wet while in progress, till mortar has properly set. Minimum curing period for work shall be 10 (ten) days. On holidays or when work is stopped, top of all unfinished masonry shall be kept wet. Should the mortar become dry, white or powdery, for want of curing, work shall be pulled down and rebuilt at the contractor's expense. All external brick work shall be done from outside by erecting rigid external scaffolds only.

#### **2.0 BRICK MASONRY**

##### **2.1 Soaking**

All bricks shall be immersed in water for twenty-four hours before being put into work so that they will be saturated and will not absorb water from the mortar.

##### **2.2 Bats**

No bats or cut bricks shall be used in the work unless absolutely necessary around irregular openings or for adjusting the dimensions of different course and for closures, in which case, full bricks shall be laid at corners, the bats being placed on the middle of the courses.

##### **2.3 Laying**

Unless otherwise specified, the brick work shall be laid in English bond. The brick shall be *laid in* cement mortar to line, level and thoroughly bedded in mortar and all joints shall be properly flushed and packed with mortar and no hollows left anywhere. Brick shall be handled carefully so as not to damage their edges. They should not also be thrown from any height to the ground *but* should be put down gently. *All courses shall* be laid truly horizontal and all vertical joints made truly vertical. Vertical joints on the course and the next below should not come over one another and shall not normally be nearer than quarter of a brick length. Fixtures, lugs, frames etc, *if* any, shall be built in at places shown in the plans while laying the course only and not later by removal of bricks already laid unless instructed by the representative of Employer/Consultant.

Care shall be taken during construction to see that edges of bricks are not damaged.

The vertically of the walls and horizontally if the courses shall be checked very often with plumb bob and spirit level respectively.

##### **2.4 Joints**

Joints shall preferably not exceed 10 mm (about 3/8") in thickness.



The surface shall be scrubbed clean with wire brush/coir brush to remove dirt, dust etc. and the surface thoroughly washed with clean water to remove efflorescence, grease and oil etc. and shall be kept thoroughly wet prior to application of plaster.

### **1.2 Ordinary Cement Plaster**

The preparation of surface shall be as stated above. The thickness and proportion of plaster shall be as specified in the schedule of Items.

The mortar shall be applied evenly with force on the surface to be plastered. The mortar surface shall be finished at once by being rubbed over with a trowel till the cement appears on the surface. All corners, angles and junctions shall be truly vertical and horizontal as the case may be and neatly finished. Rounding of corners and junctions where required shall be done without extra charges. Plastering in narrow grooves or making designed grooves on plastered surfaces are not separately payable. The mortar shall adhere to the surface intimately when set and there should be no hollow sound when struck

The completed plastered surface shall be cured for a minimum period of 10 days.

### **2.0 NEERUFINISH**

'Neeru' shall be made of pure fat lime conforming to appropriate class mentioned in IS: 712.

The lime shall be slaked with fresh water and thereafter shifted and reduced to a thick paste by grinding in a mill.

'Neeru' thus prepared shall be kept moist until use and shall be utilized within 15 days after preparation.

A thin layer of 'Neeru' shall then be applied on the plastered surface while it is still green. 'Neeru' shall be rubbed into the surface by trowelling until an even and smooth finish is obtained. Any leveling work etc shall be carried out at the plastering stage itself and not while putting 'Neeru' finish.

The surface shall be kept moist for seven days following which a coat of white wash may be applied, if specified.

### **3.0 PLASTER OF PARIS**

Surface of walls/ceiling where specified shall be treated with plaster of Paris calcium sulphate Hemihydrates materials. It shall have a fineness such that residue after sieving of dry materials for 5 minutes through IS. Sieve designation 3.75 mm. will not exceed 1% by weight & initial setting time shall not be less than 13 minutes. The particular brand of this special plaster and its composition must be previously approved by the Consultant/Employer.

The paste of material made with water shall be applied by means of English Trowel.

The entire surface must be very smooth on completion and unevenness must be removed. Special trained and skilled artisans with previous experience of this work will have to be employed for the purpose of achieving high grade finish. Before application of plaster of paris, the surface to be treated shall be thoroughly cleaned, brushed and patching must be scraped properly and all holes, cracks and patches shall made good with approved materials.

### **3.0 METHOD OF MEASUREMENT**

Measurement shall be in sq. mt as per drawing or actual whichever is less. Half the area of opening shall be deducted for each face of wall plaster and jambs and soffits will not be separately paid for. Deduction for ends of dissimilar materials if less than 0.5 sq. mt. will not be made.



|   |      |    |
|---|------|----|
| 1 | 4-7  | 9  |
| 2 | 7-10 | 12 |

Where aggregate of size larger than 10 mm are used the minimum thickness of topping shall not be less than 1.5 times the maximum size of the chips. Where large size chips such as 20 mm or 25 mm are used they shall be used only with a flat shape and bedded on the flat face so as to keep the maximum thickness of wearing layer. Before starting the work, the Contractor shall get the sample of marble chips approved by the representative of Employer/Consultant. The cement to be used shall be ordinary grey cement, white cement, colored cement or cement with admixture of coloring matter of approved quality in the ratio specified in the description of the Item or in the ratio to get the required shade as ordered by the representative of Employer/Consultant. Coloring matter where specified, shall be mixed dry thoroughly with the cement and marble powder and then chips added and mixed as specified above. The full quantity of dry mixture of mortar required for a room shall be prepared in a lot in order to ensure a uniform colour. This mixture shall be stored in a dry place and well covered and protected from moisture. The dry mortar shall be mixed with water in the usual way as and when required. The mixed mortar shall be homogeneous and stiff and contain just sufficient water to make it workable.

The terrazzo topping shall be laid while the under layer is still plastic but has hardened sufficiently to prevent cement from rising to the surface. This is normally achieved between 18 to 24 hours after the under layer has been laid. A cement slurry preferably of the same color as the topping shall be brushed on the surface immediately before laying is commenced. It shall be laid to a uniform thickness slightly more than that specified in order to get the specified finished thickness after rubbing. The surface of the top layer shall be toweled over, pressed and brought true to required level by a straight edge and steel floats in such a manner that the maximum amount of marble chips come up and are spread uniformly over the surface.

#### **1.5 Polishing, Curing and Finishing**

Polishing shall be done by machine. About 36 hours after laying the top layer, the surface shall be watered and ground evenly with machine fitted with special rapid cutting grit blocks (carborundum stone) of coarse grade (No 60) till the marble chips are evenly exposed and the floor is smooth. After the first grinding, the surface shall be thoroughly washed to remove all grinding mud and covered with a grout of cement or/and coloring matter in same mix and proportion as the topping in order to fill any pin holes that appear. The surface shall be allowed to cure for 5 to 7 days and then ground with machine fitted with fine grit blocks (No.120). The surface is cleaned and repaired as before and allowed to cure again for 3 to 50 days. Finally the third grinding shall be done with machine fitted with fines grade grit blocks (No.320) to get even and smooth surface without pin holes. The finished surface should show the marble chips evenly exposed.

Where use of machine for polishing is not feasible or possible, rubbing and polishing shall be done by hand, in the same manner as specified for machine polishing except that carborundum stone of coarse grade (No 60) shall be used for the 1<sup>st</sup> rubbing, stone of medium grade (No. 80) for second rubbing and stone of fine grade (No 120) for final rubbing and polishing.

After the final polish either by machine or by hand, oxalic acid shall be dusted over the surface @ 33 gm per square meter sprinkled with water and rubbed hard with a namdah block (Pad of woolen rags). The following day, the floor shall be wiped with a moist rag and dried with a soft cloth and finished clean.

Curing shall be done by suitable means such as laying moist, sawdust or ponding water. The finished floor shall not sound hollow when lapped with a wooden mallet.

#### **1.6 Precautions :**



### 3.2 Pointing and Finishing :

The grey cement grouts in joints shall be cleaned off with wire brush or trowel to a depth of 2 mm to 3 mm and all dust and loose mortar removed. Joints shall then be flush pointed with white cement added with pigment if required to match the colour of tiles. The floor shall then be kept wet for 7 days. After curing, the surface shall be washed and finished clean. The finished floor shall not sound hollow when tapped with a wooden.

## 4.0 CERAMIC TILES IN SKIRTING AND DADO

### 4.1 Laying

Tiles shall be laid either on 12 mm thick plaster of cement mortar 1:3 (1 cement : 3 coarse sand) or mix as specified shall be applied and allowed to harden. The plaster shall be roughened with wire brushes or by scratching diagonally closed intervals. The plaster thickness shall be reduced, as directed only for a leveling course, when ready to use approved cement based mortar is used.

The tiles should be soaked in water, washed clean and a coat of cement slurry or ready to use cement based mortar as the case may be applied liberally at the back of tiles and set in the bedding mortar. Approved epoxy adhesives, if specified in the bill of quantities shall be used in lieu of cement slurry as per manufacturer. The tiles shall be tamped and corrected to proper plane and lines. The tiles shall be set in the required pattern and butt jointed. The joints shall be as fine as possible. Top of skirting of dado shall be truly horizontally except where otherwise indicated. Full size tiles cannot be fixed, these shall be cut (sawn) to the required size and their edges rubbed smooth.

### 4.2 Curing and Finishing:

The joints shall be cleaned off the grey cement grout with wire brush or trowel to a depth of 2 mm to 3 mm and all dust and loose mortar removed. Joints shall then be flush pointed with white cement added with pigments if required to match the color of tiles. The surface shall then be kept wet for 7 days.

After curing, the surface shall be washed and finished clean. The finished work shall not sound hollow when tapped with a wooden matter.

## 5.0 KOTA / CUDOAPAH STONE FLOORING

### 5.1 Dressing:

Every slab shall be cut to the required size and shape and fine chisel dressed on the sides to the full depth so that a straight edge laid along the side of the stone shall be full contact with it. The sides (edges) shall be table rubbed with coarse sand or machine rubbed before paving. All angles and edges of the tiles shall be true, square and free from chippings and the surface shall be true and plane.

### 5.2 Preparation of Surface and Laving :

The sub-grade concrete or the RCC slab on which the slabs are to be laid shall be cleaned, wetted and mopped. The bedding for the slabs shall be with cement mortar 1:4 (1 cement : 4 coarse sand) or with lime mortar (1 lime putty: 1 surkhi : 1 coarse sand) as given in the description of the item except that the edges of the slabs to be jointed shall be buttered with grey cement, with admixture of pigment to match the shade of the slab.

### 5.3 Polishing and Finishing:

The day after the slabs are laid all joints shall be cleaned off the grey cement grout with a wire brush



proportion and thickness shall be laid in alternate panels to required level and shape and thoroughly tamped.

#### **7.4 Finishing the surface**

After the concrete has been fully compacted it shall be finished by troweling or floating with mixed cement rendering. Finishing operations shall start shortly after the compaction of concrete and the surface shall be troweled three times at intervals so as to produce a uniform and hard surface. The satisfactory resistance of floor to wear depends largely upon the care with which trowelling is carried out. The time interval allowed between successive troweling is very important. *Immediately* after placing cement rendering, only just sufficient trowelling shall be done to give a level surface. Excessive trowelling in the earlier stages shall be avoided as this tends to bring a layer rich in cement to the surface. Some time, after the first trowelling the duration depending upon the temperature, atmospheric condition and the rate of set of cement used, the surface shall be re-trowelled to close any pores in the surface and to bring the surface and to scrap off the excess water in concrete. No dry cement shall be used directly on the surface to absorb moisture or to stiffen the mix. The final trowelling shall be done well before the concrete has become too hard but at such a time that considerable pressure is required to make any impression on the surface. If directed by the representative of Employer/Consultant, approved mineral pigment shall be added to the rendering to give desired color and shape, to the flooring at no extra cost. The finished floor shall not sound hollow when tamped with a wooden mallet.

#### **8.0 CHEQUERED TILES:**

The tiles of approved color shall be of normal size as 20 x 20 cm, 25 x 25 cm and 30 x 30 cm or of standards sizes with equal sides. The size of tiles to be used shall be as shown in drawings or as required by the representative of Employer/Consultant. The centre to centre distance of chequers shall not be less than 2.5 cm and not more than 5 cm.

The grooves in the chequers shall be uniform and straight. The depth of the grooves shall not be less than 3 mm.

The chequered tiles shall be cement tiles, or terrazzo tiles as specified in the description of the item. The thickness of the upper layer measured from the top of the chequers shall not be less than 6 mm. The tiles shall be given the first grinding with machine before delivery to site.

The tiles shall be manufactured under hydraulic pressure of not less than 140 kg per square centimeter and shall be given the first grinding with machine before delivery to site.

All exposed joints shall be pointed using mortars/water proof adhesives, as specified with admixture of pigment, duly approved by representative of Employer/Consultant to match the shade of marble.

Green work shall be protected from rains/adverse weather conditions by suitably covering the same. The work shall be kept constantly moist for a period of 7 days.

The entire work shall be cleaned by acid polishing on completion of work.

The proportion at cement to aggregate in the backing of the tiles shall not be leaner than 1:3 by weight. Similarly, the proportion of cement to marble chips aggregate in the wearing layer of the tiles and the proportion of pigment to be used therein shall not exceed 10 per cent of weight of cement used in mix.

#### **8.1 Laying and Curing**

Laying and curing shall be as specified for terrazzo tiles.

#### **9.0 CRAZY MARBLE FLOORING**

Crazy marble flooring shall be laid on cement concrete sub-grade. The surface of the sub-grade shall be hacked roughened with steel wire brushes, washed clean & scared with a floating coat of cement slurry @ 2 Kg/Sq Cm to provide bond between sub-grade and flooring.

The under layer of specified thickness and mix shall then be laid over it.



meter long,  
so as to obtain a true surface With the required slope.

#### 11.1.8

Where full sizes tiles cannot be fixed, these shall be cut (sawn) to the required size and their edges rubbed smooth to ensure a straight and true joint.

#### 11.1.9

Tiles which are fixed in the floor adjoining the wall shall enter not less than 12 mm under the plaster, skirting or dado. The junction between wall plaster and tile work shall be finished neatly and without waviness.

#### 11.1.10

After the tiles have been laid, surplus cement grout that may have come out of the joint shall be cleaned off.

### 11 2 Curing, Polishing and Finishing:

#### 11.2.1

The day after the tiles are laid all joints shall be cleaned of the grey cement grout with a wire brush or trowel to a depth of 5 mm and all dust and loose mortar removed and cleaned. Joints shall than be grouted with grey or white cement mixed with or without pigment to match the shade of the topping of the wearing layer of the tiles. The same cement slurry shall be applied to the entire surface of the tiles in a thin coat with a view to protect the surface from abrasive damage and fill the pinholes that may exists on the surface.

#### 11.2.2

The floor shall than be kept wet for a minimum period of 7 days. The surface Shall thereafter be grounded evenly with machine fitted with coarse grade grit Blocks (No 60). Water shall be used profusely during grinding. After grinding the surface shall be thoroughly washed to remove all grinding mud, cleaned and mopped. It shall It than be covered with a thin coat of grey or white cement, fixed with or without pigment to match the color of the topping of the wearing surface in order to fill any pin hole that appear. The surface shall be again cured. The second grinding shall then be carried out with machine fitted with fine grade grit blocks (No. 120).

#### 11 2:3

The final grinding with machine fitted with the finest grade grit blocks (No. 320) shall be carried out the day after the second grinding described in the preceding Para or before handing over the floor, as ordered.

For hand polishing the following carborundum stones, shall be used:

1st grinding-coarse grade stone (No. 60).

Second grinding-medium grade (No. 80).

Final grinding-fine grade (No 120).

In all other respects, the process shall be similar as for machine polishing.

#### 11. 2.4

After the final polish, oxalic acid shall be dusted over the surface at the rate of 33 gm per square meter sprinkled with water and rubbed hard with a 'namdah' block (pad of woolen rags). The following day the floor shall be wiped with a moist rag and dried with a soft cloth and finished clean.



**12.1.4** The average thickness of the bedding mortar under the slab shall be 20 mm and the thickness at any place *under* the slab not be less than 12 mm.

**12.1.5** The slab shall be laid in the following manner :-

Mortar of the specified mix shall be spread under tile area of each slab, roughly to the average thickness specified in the item. The slab shall be washed clean before laying. It shall be laid on top, pressed tapped with wooden mallet and brought it to level with the adjoining slabs. It shall be lifted and laid aside. The top surface of the mortar shall then be corrected by adding fresh mortar at hollows. The mortar is allowed to harden a bit and cement slurry of honey like consistency shall be spread over the same at the rate of 4.4 kg. of cement per sq. mt. The edges of the slab already paved shall be buttered with grey or white cement with or without admixture of pigment to match the shade of the marble slabs as given in the description of the item. The slab to be paved shall then be lowered gently back in position and tapped with wooden mallet till it is property bedded in level with and close to the adjoining slab with as fine a joint as possible. Subsequent slabs shall be laid in the same manner. After each slab has been laid, surplus cement on the surface of the slabs shall be cleaned off. The flooring shall be cured for a minimum period of seven days. The surface of the flooring as laid shall be true to levels and slopes as instructed.

**12.1.6** The slabs shall be matched as shown in drawings or as instructed by the Consultant Employer.

**12.1.7** Slabs which are fixed in the floor adjoining the wall shall enter not less than 12 mm under the plaster skirting or dado. The junction between wall plaster and floor shall be finished neatly and without waviness.

**12.1.8 Polishing and Finishing :**

Slight unevenness at the meeting edges of slabs shall then be removed by the chiseling finished in the same manner as specified in 11.2 of Terrazo Mosaic flooring except that cement slurry with or without pigments shall not be applied on the surface before each polishing.

**12.1.9 Measurements**

Marble stone flooring with different kind of marble shall be measured separately and in square meter correct to two places of decimal. Length and breadth shall be measured between the finished faces of skirting, dado or wall plaster as the case may be, correct to a cm. No deduction shall be made nor extras paid for any opening in the floor of area up to 0.05 sq m (5 dm<sup>2</sup>). No extra shall be paid for laying the floor at different levels. Steps and treads of stairs paved with marble stone slabs shall also be measured under the item of "Marble stone flooring". The width of treads in all cases shall be measured from the outer line to the finished face of riser.

**12.1.10 Rate:**

The rate shall include the cost of all materials and labor involved in all the operation described above.

**12.2 Marbles stone in Risers of steps, Dado and Skirting**

**12.2.1** Marble stone slabs and dressing of slabs shall be as specified in 12.1.1 except that the thickness of slabs shall be as specified in the schedule quantities. A tolerance of +/- 2 mm shall be allowed unless otherwise specified in the description of the item.

**12.2.2 Preparation of Surface :**

The joints shall be racked out to a depth of at least 15 mm in masonry walls, while the masonry is



arranged in the manner to give the desired matching of grains. Any adjustment needed for achieving the best results shall be then carried out by replacing or interchanging the particular slabs. Special care shall be taken to achieve the continuity of grains between the two slabs one above the other along the horizontal joints. This shall then be got approved from me Consultant/Employer and each marble slab numbered properly and the same number shall be marked on a separate drawing as well as on the surface to be actually veneered, so as to ensure the fixing of the particulars slab on the correct location.

In case of marble slabs, granite slabs, dholpur stone adjoining pieces shall be secured to each other by means of 75 mm long 6 mm dia brass pins. The slabs shall also be secured to the backing masonry or concrete surface by means of 25 mm x 6 mm size brass cramps of suitable length. Pins cramps shall be got approved before use. They shall be fixed using cement mortar.

For the facing of the columns also the same procedure as mentioned above shall be followed.

### **13.1.3 Joints:**

All joints shall be full of mortar. Special case shall be taken to see that groundings for veneer work are full of mortar. If any hollow groundings are detected by tapping the face stones, these shall be taken out and re-laid. The thickness of the face joints shall be uniform, straight and as fine as possible not more than 1.5 mm and in the face Joint the top 6 mm depth shall be filled with mortar specified for the pointing.

### **13.1.4 Mortar:**

The mortar used for jointing shall be as specified in the bill of quantities.

**13.1.5 Curing:** - The work shall be kept constantly moist on all faces for period of at least 7 days.

**13.1.6 Finishing :-** After the marble work is cured, it shall be rubbed with carborandum stone of different grades, No 60, 120 and 320 In succession, so as to give a plane true and highly smooth surface. It shall then be cleaned with a solution of oxalic acid washed and finished clean.

**13.1.7: Protection :-** Green work shall be protected from rain by suitable coverings. The work shall also be suitably protected from damage during construction.

**13.1.8: Scaffolding :-** Double scaffolding having two sets of vertical supports shall be provided, where necessary. The supports shall be sound and strong, tied together by horizontal pieces, over which the scaffolding planks shall be fixed.

### **13.1.9 Tolerances:**

#### **13.1.10 Slabs:**

- (a) Length + 2 percent
- (b) width
- (c) Thickness  $\pm$  3 percent

#### **13.1.11 Measurements:**

The length and breadth shall be measured correct to a cm. The area shall be calculated in square meter nearest to two places of decimal.

1

#### **3.1.12 Rate:**

The rate includes the cost of material and labor required for all the operations described above,



The rate shall include the cost of all materials and labor involved in all operations described above including application of cement slurry on RCC slab or on sub- grade including roughening and cleaning the surface etc.

## **SECTION - G**

### **EXTERNAL AND INTERNAL PAINTING WORKS**

#### **1.0 WHITE WASHING WITH LIME**

##### **1.1 Scaffolding**

Wherever scaffolding is necessary, it shall be erected on double supports tied together by horizontal pieces, over which scaffolding planks shall be fixed. No bullies, bamboos or planks shall rest on or touch the surface which is being white washed.

For all exposed brick work or tile work, double scaffolding having two sets of vertical supports shall be provided. The supports shall be sound and strong, tied together with horizontal pieces over which scaffolding planks shall be fixed.

**Note** In case of special type of brick work, scaffolding shall be got approved from representative of Employer/Consultant in advance.

Where ladders are used, pieces of old gunny bags shall be tied on their tops to avoid damage or scratches to walls.

For while washing the ceiling, proper stage scaffolding shall be created.

##### **1.2 Preparation of surface**

Before new work is white washed the surface shall be thoroughly brushed free from mortar droppings and foreign matter.

In the case of old work, all loose pieces and scale shall be scrapped off and holes in plaster as well as patches of less than 50 sq.cm. area shall be filled up with mortar of the same mix where so specifically ordered by the representative of Employer /Consultant, the entire surface of old white wash shall be thoroughly removed by scrapping and this shall be paid for separately.

##### **1.3 Preparation of Lime Wash**

The wash shall be prepared from good quality fresh stone white lime. The lime shall be thoroughly slaked on the spot, mixed and stirred with sufficient water to make a thin cream. This shall be allowed to stand for a period of 24 hours and then shall be screened through a clean coarse cloth. 40 gm of gum dissolved in hot water, shall be added to each 10 cubic decimeter of the cream. The approximate quantity of water to be added in making the cream will be 5 liters of water to one kg of lime.

If not directed otherwise, Indigo (Neel) upto 3 gm per kg of lime dissolved in water shall be added and wash stirred well. Water shall than be added at the rate of about 5 liters per kg of lime to produce a milky solution. In case of lime wash on the surface finished with lime punning no indigo should be used unless otherwise directed by the representative of Employer/Consultant.

##### **1.4 Application**



completed surface shall be watered after the day's work.

The second coat shall be applied after the first coat has been set for at least 24 hours. Before application of the second or subsequent coats, the surface of the previous coat shall not be wetted. For new work, the surface shall be treated with three or more coats of water proof cement paint as found necessary to get a uniform shade.

For old work, the treatment shall be with one or more coats as found necessary to get a uniform shade.

## **2.4 Precaution**

Waterproof cement based paint shall not be applied on surfaces already treated with white wash, color wash, distemper dry or oil bound, varnishes, paints, etc. It shall not be applied on gypsum, wood and metal surfaces.

The specifications in respect of scaffolding, protective measures, measurements and rate shall not be as described under white washing with lime.

## **3.0 PAINTING**

Approved paints, oils or varnishes shall be brought to the site of work by the contractor in their original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The empties shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the representative of Employer/Consultant.

### **3.1 Commencing Work**

Painting shall not be started until the representative of Employer/Consultant has inspected the items of work to be painted, satisfied themselves about their proper quality and given their approval to commence the painting work. Painting of external surface should not be done in adverse weather condition like hail, storm and dust storm. Painting, except the priming coat shall generally be taken in hand after practically finishing all other builders work. The rooms should be thoroughly swept out and the entire building cleaned up at least one day in advance of the paint work being started.

### **3.2 Preparation of Surface**

The surface shall be thoroughly cleaned and dusted. All rust, dirt, scales, smoke and grease shall be thoroughly removed before painting is started. The prepared surface shall receive the approval of the representative of Employer/Consultant after inspection, before painting is commenced.

### **3.3 Application**

Before pouring into smaller containers for use, the paint shall be stirred thoroughly in the containers. When applying also, the paint shall be continuously stirred in smaller containers so that its consistency is kept uniform.

If for any reason, thinning is necessary in case of ready mixed paint, the brand of thinner recommended by the manufacturer or as instructed by the representative of Employer/Consultant shall be used.

The painting shall be laid on evenly and smoothly by means of crossing and laying off, the latter in the direction of the grain of wood. The crossing and laying off consists of covering the area over with paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat. Where so stipulated, the painting shall be done by spraying. Spray machine used may be (a) high pressure (small air aperture) type or (b) a low



dried before priming coat is undertaken.

### iii) Plastered surface

The surface shall ordinarily not be painted until it has dried completely. Trial patches of primer shall be laid at intervals and where drying is satisfactory, painting shall then be taken in hand. Before primer is applied, holes and undulations, shall be filled up with plaster of paris and rubbed smooth.

#### 4.2 Application

The primer shall be applied with brushes, worked well into the surface and spread even and smooth. The painting shall be done by crossing and laying off as described in cement paint above.

### 5.0 PAINTING WITH READY MIXED PAINT / SYNTHETIC ENAMEL PAINT

#### 5.1 Painting on new surface

The surface which has not been painted earlier, or the paint has been removed by paint remover, burning, caustic Soda etc. shall be considered to be new surface.

#### 5.2 Preparation of Surface

##### i) Wood work

The surface shall be cleaned and all unevenness removed as specified in wooden surface. Knots, if visible, shall be covered with a preparation of red lead. Holes and indentations on the surface shall be filled in with glazier's putty or wood putty and rubbed smooth before painting is done.

The surface should be thoroughly dry before painting

##### ii) Iron and Steel Work

The priming coat- shall have dried up completely before painting is started. Rust and scaling shall be carefully removed by scrapping or by brushing with steel wire brushes, AU dust and dirt shall be carefully and thoroughly wiped away.

##### iii) plastered surface

The priming coat shall have dried up completely before painting is started. All dust or dirt that has settled on the priming coat shall be thoroughly wiped away before painting is started

#### 5.3 Application

The specifications described in Cement paint shall hold good as far as applicable. The number of coats to be applied will be as stipulated in the item. The powder surface shall present a *uniform* appeared Ice and glossy/mat finish 2S described in schedule of quantities free from streaks, blisters etc.

### 6.0 FRENCH SPIRIT POLISHIN

Pure shellac varying from pale orange to lemon color free from raisin or shall be dissolved in mentholated spirit at the rate of 140 gm of shellac to 1 lt of spirit. Suitable pigment shall be added to get the required : 13dc.

#### 6.1 Polishing new surface

Preparation of surface : The surface shall be cleaned. All unevenness shall be rubbed down smooth with sand paper and well dusted. Knots, if visible, shall be covered with a preparation of red lead and glue sized and used hot. Holes and indentations on the surface shall be stopped with glaziers putty The surface shall be then given a Coat of wood filler made by mixing whiting (ground chalk in mentholated spirit at tile rate (If 1 5 kg of whiting per liters of spirit). The surface shall again be rubbed down peddle smooth with glass paper and wired clean.

### 7.0 METHOD OF MEASUREMENT

Measurements for painting on plastered surfaces shall be the same as that for plaster. For doors,



## **METAL DOORS/WINDOWS**

### **1.0 STEEL DOORS, WINDOWS ETC**

The windows shall be obtained from approved specialized manufacturers. The frames of doors, windows, ventilators etc. shall be formed by cutting section to required lengths and mitered. The corners shall be welded to form a solid framed welded joints. Sash bars of units shall be tinned and riveted into the frames and where they intersect the vertical tie shall be broached and the horizontal tie threaded through it, and the intersection closed by hydraulic pressure. For fixing steel hinges, slots shall be cut in the fixed frame and the hinges inserted inside and welded to the frame at the back. For fixing hinges to inside frame, the method described for fixing to outside frame may be adopted but weld shall be cleaned or holes made in the inside frame and hinge riveted. The hinge pin and washer shall be galvanized or, aluminum alloy 51 S-WP of suitable thickness.

The handle shall be mounted on handle plate which shall be welded to the opening frames. The handle shall have a two points nose which will engage with suitable tapered striking plate provided on the fixed frame

Top hung and bottom hung ventilators shall be provided with two plain hinges, with peg stays of sufficient length 3~ specified earlier

Centre hung ventilators shall be made with two outer frames, With mastic water-proof compound embedded between these two (Jute) frames Unless otherwise specials the ventilators shall be provided with spring catch whir-l) when pulled by a Cord, will allow the shutter bolero half to open outside and the top half opening inside.

Steel windows and ventilators shall be fixed to brick or concrete surface as shown in drawing or with M. S. Jugs of sizes 100 x 16 x 3 mm and to concrete work by means of 125 mm long counter sunk screw, or raw rules or other approved fastener after drilling into concrete With a power drill as specified in the item The lug shall be grouted in concrete (1:2:4) mix of dimension as directed.

The frames should not be fixed in position until the structural work has been completed and the free deflection has taken place. The doors, wiredraws, etc. shall be erected in true plumb, line and level. All steel doors, windows, ventilators shall be given a coat of anti-corrosive primer at the shop before delivery to site for erection but in no case prior to the materials have been inspected by the representative of Employer/Consultant.

Final painting shall be done after obtaining approval from the representative of Employer / Consultant

### **2.0 STEEL GRILL AND RAILINGS**

The grills and railings for windows, verandah and balcony etc. shall be of mild steel. The design of grills/railings and shape and sizes of various components shall be according to the drawings. Where ever grills integrated with windows are specified they shall be manufactured at windows manufacturers shop

The edge angles and corners shall be cleaned and true to shape. The joints, if possible, shall be mechanically interlocked and neatly spot welded in such a way that the grill is rigid. Grinding of the joints to achieve a neat regular finish shall be done. The grills shall be fixed to true plumb, line and level as per drawing.

All grills, railings etc. after being fixed in position, shall be cleaned off dust, dirt, rust and loose scales before applying a coat of protective zinc chromate primer.

### **3.0 ROLLER SHUTTER**

These shall be fixed in position as shown in drawing.

Brackets shall be fixed on the lintel or under the lintel as specified with rawl-plugs, and screw bolts etc. The shaft along with the spring shall then be fixed on the brackets.

The lath portion (shutter) shall be laid on ground and the side guide channels shall be bound with it





as in doors. This will be paid as a separate Item as described in Schedule of Quantities.

**Holdfasts:** Three holdfasts shall be fixed to each post of the door frame. The MS holdfasts shall be of the size 37 cm x 10 mm x 3 mm or as mentioned in the Schedule of Quantities and shall be fixed to the frames by means of screws and not nails. The other end of the holdfasts shall be fixed into jambs with 1:2:4 P.C.C of dimensions as directed. Ends of holdfast will be fish tailed

Whenever the frames are abutting to concrete surface approved metal expansion as directed shall be provided for frame, hangers rough grounds

The rates quoted for woodwork and joinery shall exclude the cost for all types of holdfasts or Raw Plugs or other frames shall be out and shall not be used as holdfasts,

The items of holdfast, metal fasteners etc. shall be paid as a separate item as described In Schedule of Quantities The rate for holdfasts shall include for cement grouting and fixing to frame work with screws etc. The rate for *metal* fasteners shall *include* for nuts etc. as required.

## **2.0 Door/window Frame**

Specified timber shall be in the direction of grain and truly straight and square shall be used. The scanting shall be planed smooth and accurate to the full dimension, rebates, rounding & moulding as shown in the drawing before assembling. All joints shall be mortice and Tenon type, simple near strong the joint shall be glued framed put together and pinned with timber.

## **2.1 WOODEN FLUSH SHUTTER (SOLID CORE TYPE)**

Wooden flush shutters shall be of solid core type: and obtained from approved manufacturer pressed and phenol formaldehyde synthetic resin shall also be provided with external lapping fixed to shutter with synthetic adhesives & head-less pins

## **2.2 Paneled Shutters:**

Where specified in the Schedule of quantities Shutters shall be manufactured from Kiln Seasoned and chemically treated commercial hardwood of approved quality Thickness and sizes of styles rails and panels etc. shall be as specified in the Schedule of Quantities and/or drawings Panel shall be in a single width piece. Shutters shall be manufactured conforming to the relevant IS Specification and an approved sample shall be kept in the site office of the representative of Employer/Consultant.

## **2.3 Teak wood glazed shutters :**

The general specifications for glazed shutter shall be similar to that for paneled shutters described. Styles and rails in the glazed shutters shall be rebated 5/8" x 1/2" (16 mm x 12 mm) to receive the glass unless otherwise specified.

Sash bars shall be of full thickness of the shutter and of width as shown in the drawings. These shall be molded and rebated miter on side to receive the glass as per drawing unless otherwise specified glass panels shall be fixed by means of molded teak beads and suitable G.I screws. Finished thickness of the shutter shall be as mentioned in the schedule of quantities. The rate shall be for the completed work fitted and fixed in position. An approved sample should be kept in the office of the representative of Employer/Consultant at the site for reference. The glass shall conform to specification as described under head galliard. The thickness of glass shall be mentioned in the Schedule of Quantities

## **3.0 Method of measurements**

Door shutters shall be measured in square meter upto two decimal places The height and width shall be clear height and width of shutter.

Frames shall be measured along the centre line, no extra being allowed for embedment in floors.

## **2.1 WOODEN FLUSH SHUTTER (SOLID TYPE)**

Wooden flush shutters shall be of solid core type and obtained from approved manufacturers as listed, Shutters shall be hot pressed and phenol formaldehyde synthetic resin shall also be provided with external lapping fixed to shutter with synthetic adhesives & head-less pins.

## **2.2 Paneled Shutters:**

Where specified in the Schedule of Quantities Shutter shall be manufactured from Kiln Seasoned



Special care shall be taken to establish continuity of the chemical barrier on the inner wall surface from ground level. To achieve this a small channel of 30 mm x 30 mm shall be made at the junction of walls and columns with the floor and rod holes made in the channel up to ground level 150 mm apart and the iron rod moved backward to break up the earth and chemical emulsion poured along the channel at the rate of 7.5 litres per square meter of the vertical wall or column surface so as to soak the soil right to the bottom

#### **2.4.2 TREATMENT OF TOP SURFACE OF PLINTH FILLING**

The top surface! of the consolidated earth within plinth wells shall be treated with chemical emulsion at the rate of ~ liters per square meter of U1e surface before the sub-grade is laid. If the filled earth has been well rammed and the surface does not allow the emulsion to seep through, notes up to 50 to 70 mm deep at 150 mm centre both ways may be made with 12 mm diameter mild steel rod on the surface to facilitate saturation of the soil with the chemical emulsion.

#### **2.4.3 Treatment of soil surrounding Pipes, Wastes and Conduits**

When pipes, wastes and conduits enter the solid inside the area of the foundations, soils surrounding the point of entry shall be loosened around each of such pipe, waste or conduit for a distance of 150 mm and to a depth of 75 mm before treatment is commenced. When they' enter the soil external to the foundations, they shall be similarly treated for a distance of over 300 mm unless they stand clear of the walls of the building by about 75 mm.

#### **2.4.4 Treatment of soil along External Perimeter of Building:**

After the building is completed the earth along the external perimeter of the building should be rotted at intervals of 150 mm and to a depth of 300 mm. The rod should be moved backward and forward parallel to the wall to back up the earth and chemical emulsion poured along the wall at the rate of 7.5 fit res per square meter of vertical surfaces After the treatment, the earth should be tamped back into place. Should the earth outside the building be graded on completion of the building, this treatment should be carried out on completion of such grading.

In the event of filling being more than 300 mm, the external perimeter treatment shall be extended to the full depth of tilling up to the ground level so as to ensure continuity of the chemical harrier.

2.5 Treatment Shall not be made if the soil or fill is excessively wet or immediately after heavy rains to avoid surface flow of toxicant from application site. Unless the treated areas are to be immediately covered, percolation shall be taken to prevent distribution of the treatment by human or animal contact with treated soil.

2. 6. Guarantee : 10 (ten) years guarantee should be submitted on non-judicial stamp paper as per the Performa attached. The guarantee shall be signed by the main contractor and the specialized who have execute the work. In the unlikely event of any treatment becoming necessary subsequently during the guarantee period, required inspection and treatment shall be carried out free of cost.

2.7 The work should be executed in stages according to the progress and in Co-ordination with the general building and other contractors. Idle labour, if any, for the same shall not be entertained.

2.8 **Stages of Payment:** The work has to be carried out in stages according to the progress of works.

2.8.1 The contractor shall have to furnish a guarantee on non-judicial stamp paper for 10 years as per the Performa. In the unlikely event of any treatment becoming necessary subsequently during the guarantee period, required inspection and treatment shall be carried out free of cost by the contractor.

2.8.2 Payment will be made on the plinth/floor area measurement and the rates should include to cover treatment to parts of structure as detailed out subject to deduction 1 for retention



## SECTION - I

### TECHNICAL SPECIFICATIONS FOR SANTARY FITTINGS

#### 1.0 SANITARY AND ALLIED FITTINGS

All sanitary wares with their allied fittings must be first quality (best) of approved make and brand.

#### 2.0 SQUATTING PATTERN W.C. PAN (INDIAN TYPE)

The W. C. Pan shall be of white vitreous China of specified size and pattern (Orissa or long pattern as specified) with an integral flushing rim. It shall have the flushing horn in the back unless it is not possible to accommodate cistern to suit this design. The pan shall be of approved quality. It shall have 100 mm C. I. Of porcelain trap 'P' or 'S' type with minimum effective seal of 50 mm and 50 vent ann.

##### 2.1 Fixing of W.C. Pan

'The Squatting type W. C. Pan shall be sunk in floor sloped toward" the pan in a workmanship like manner, care being taken not to damage the pan in the process of fixing. If damaged it shall be replaced at Contractor's cost. It shall be fixed on a proper cement concrete base of 1 :3:6 proportion taking care that the cushion is uniform and even without having any hollows between the concrete base and pan and finished just below level of rim of pan to receive the specified thickness of the floor finishing. No extra for concrete bed shall be paid for.

'The joint between the pan and the trap shall be made with cement mortar 1: 1 and shall be leak proof.

#### 3.0 PEDESTAL WASHDOWN SYPHONIC (SINGLE OR DOUBLE TRAP)WATER CLOSET (EUROPEAN TYPE)

The W. C. pan shall be of white vitreous China unless otherwise specified of one piece construction of wash down type with integral P or S trap as required. It shall be of approved quality and pattern.

##### 3.1 Installation

The weight of the fixture and user arc supported on the floor and not on The drainage pipe and this should be done in standard approved method.

##### 3.2 seat and cover

The double solid scat with lid shall be of well plastic seat as specified in the schedule with rubber buffers and shall be fixed in position by using Chromium plated brass hinges and screws. It shall be non-absorptive and free from crack and crevices in the materials, The plastic seat and cover, where specified, shall conform to I.S. Specifications, and shall be of white colour unless otherwise specified.

##### 3.3 Flushing

The flushing of the Squatting and pedestal w.c. Pan shall be done by 10w level' valueless symphonic flushing cistern of approved quality and capacity, as specified. In the former case, the connection between the flush pipe of the cistern and w.c. pan shall be made by using Rigid PVC pipe connection as specified. The other specification will be as for Squatting pattern w.c. Pan.



1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

## 6.0 SQUATTING URINALS

The urinal plates shall be of white glazed vitreous China with integral flushing rim of size 600 mm X 350 mm or as specified. There shall be white vitreous channel with stop and outlet pieces in front. The plate and channel shall be of approved quality. The joint between the urinal plate and the flush pipes shall be made with putty or white lead mixed with chopped hemp.

**6.2 Outlet**  
The squatting plate or a range of squatting plates shall be provided with a 65 mm dia. standard urinal C.I trap with vent arm having 65 mm C.P. brass outlet grating or as specified,

**6.3 Walling**  
The squatting plate shall have 1.22 M high wall in front and on either side, these shall be lined as specified.

## 7.1 Material

if not specified a high level cistern is intended to operate with minimum height of 191 cm and a low level cistern with a height of 60 cm approx. from the floor finish and the underside of the cistern. The body thickness of an earthenware cistern 1.3 cm. The cistern with internal parts shall be free from manufacturing faults and other defects and operate smoothly and efficiently. The cistern shall be considered mosquito proof only if there is no clearance anywhere which would permit a 1.6 mm wire to pass through coupling in the permanent position (i. e. flushing or filling) or the cistern. The outlet tilting of each cistern shall be securely concern to the cistern. In the case die outlet shall be fix low level 40 mm dia.

Nominal bore). The outlet of flush pipe from the cistern shall be connected to the pan by means of putty or cement and for E.P.W.C. with rubber joint and putty. The Wish pipe shall he fixed 10 wall by using holder hat clamps.

The discharge rate of cistern shall be about 5 liters in 3 seconds when connected to an appropriate flush pipe and there shall be no appreciable change in the full discharge. The cistern shall have discharge capacity of 5,10, 12.5, and 13 liters with tolerance of +/- 0.5 ltr.

### 7.2CAPACITY OF CISTERNS AND THE SIZE OF FLUSH PIPE FOR FLAT BACK (BOWL) URINAL

**Capacity:** The capacity of the flushing cistern and the Size of the Hush pipe for the number of urinals in a range *will* be as follows

| Number of urinals in range | Capacity of flushing cistern | size of pipe |              |
|----------------------------|------------------------------|--------------|--------------|
|                            |                              | Main         | distribution |
| 1                          | 5 liters                     | 20 mm        | 15 mm        |
| 2                          | 10 liters                    | 20 mm        | 15mm         |



to required shade including a coat of anticorrosive paint.

### **9.3 Waste Connection**

The waste shall discharge into a floor trap leading to a gully trap, OJ) ground floor and on upper floor it may be connected to waste pipe stack with bottle trap P.v.c. waste pipe.

## **10.0 TOILET REQUISITES**

### **10.1 Mirror**

The mirror shall be of approved make glass with beveled edges. The size and shape of the mirror shall be as specified. It shall be mounted on an asbestos sheet back and provided with fiberglass frame.

### **10.2 Shelf**

The shelf shall be of glass of approved quality with edge rounded off or of vitreous China (colored or white) of approved make. The size of the shelf shall be as specified. The shelf shall have C.P, brass or aluminum guard rail with rubber washers on positions resting on 11 class plate and C P. brass Of aluminum brackets which shall be fixed with c.p. brass or aluminum screws 10 wooden plug firmly embedded in the wall.

### **10.3 Towel Rail**

The towel rail shall be of C. P. brass or aluminum with two C. P. brass or aluminum brackets. The size of the rail shall be as specified. The bracket shall be fixed by means of c.p. brass or aluminum screws to wooden cleats firmly embedded in the wall which are projected 75 mm from wall surface,

### **10.4 chromium plated stop cock, taps, bib cocks, shower set, gun metal peets valves**

If not mentioned otherwise in schedule, cocks and taps are to be of brass standard head chromium plated of approved make and pattern. They must be capable to withstand at least 10.5 kg per sq.cm. pressure applied for 5 minutes without leakage. The valve are to be of peel type gunmetal valves. Other conditions remain same as cocks and taps.

### **10.5 Liquid Soap Holder**

This shall be glass Of P.V.C. Of C.P. brass as specified. It shall be fixed in position by means of c.P. brass screw to wooden cleats embedded in the wall. The liquid soap holder shall be of approved make,

### **10.6 Toilet Paper Holder**

The paper holder shall be of C.P brass or vitreous china as specified. The rolled wooden paper holder shall be made of well seasoned teak wood. This should preferably be recessed type.

## **Section-II**

### **SOIL, WASTE, RAIN WATER PIPES & FITTINGS**

UPVC SWR(soil, waste, rain water) drawings system provides a range of pipes and fittings for soil, waste, vent, sewer and rain water drainage application and are extremely light in weight.

SWR drainage system is designed to carry discharge from toilets, baths and basins. It consists of a range of pipes and injection molded fittings which are required to connect the waste and vent from each fixture to the sewer drain.

All traps are to be supplied with either inlet (socketed) of 125 mm or 110 mm and outlet (spigot



items of this tender and subsequent mending damages are to be included in the rates and not to be paid extra unless otherwise specified.

### 1.3 External Line

Where the pipes run underground these must be fixed at least 45cm below ground level, The galvanized iron pipes and fittings shall be laid in trenches, the width and depth of the trenches for different dimensions of the pipes shall be as given below :

| Dia. Of pipe    | width of trench | depth of trench |
|-----------------|-----------------|-----------------|
| 15 mm to 50 mm  | 30 cm           | 60 cm           |
| 65 mm to 100 mm | 45 cm           | 75 cm           |

At joints the trench width shall be widened where necessary.

The pipe shall be painted with two coats of anticorrosive bit mastic paint of approved quality. The pipes shall be laid on a layer of 7.5 mm sand and filled up to 15 mm above pipes and the remaining shall then be filled with excavated earth with proper ramming as described in Excavation and refilling. Pipes shall not be hid so as to pass through manhole, catch pit drain under any circumstances. Where it is unavoidable, the pipe shall be carried in sleeve MS/GI pipe as approved by the Consultant/Employer, cost of which should be included in the item rate. Where the service pipe will enter the building below ground level a sleeve pipe is to be provided. The underground water service pipe should be kept at a sufficient distance apart from sewer line, at least 30 cm above where it will cross over the sewer pipe or in common trench. The rates for all above work should be included in item of pipes.

### 1.4 Internal work

Where the pipes run along walls these are to be fixed at 25 mm away by clamps fixed at a distance not exceeding 1.80 m apart and both sides of turning point. Where the pipe lines are chased in wall as shown in the drawing or specified in the bill of quantities the pipes are to be secured to wall by hook fixed at an interval of 1 m and hooks at all sides of the branches and turning point. Where the pipes cross RCC/masonry wall, column, beam or pillar, these must pass through the appropriate higher sizes of CI/GI sleeve pipe and arc to be included in the rates. No extra claim will be entertained. In case the pipe is embedded in walls and floors, it should be painted with anticorrosive bit mastic paint of approved quality and the pipe shall be wrapped in burlap or hessian cloth impregnated with bitumen. The wrapping shall be made to fit tightly over the pipe and where wrapping with a new piece it shall overlap the old one and the joint shall be tied with M.S. wire or nylon thread.

It should not come in contact with lime mortar or. Lime concrete as it is corroded by lime. All pipes should be fixed truly horizontal and vertical,

Under the floor the pipes shall be laid till a layer of sand filling done under concrete floors. For pipes 15 mm to 50 mm diameter the holes in the walls and Floors shall be made by drilling 'With chisel or jumper and not dismantling the brick work Of concrete. After fixing, the holes shall be made good with cement mortar 1:3 and properly Finished to match the adjacent surface. Union is to be provided in each of the vertical riser or drop on and from water tank one each near the peets valve. The long screw fittings are to be fitted at an interval of 3 meters for long horizontal line and inside the lavatory/kitchen/laboratory etc after 2 meters,

### 1.5 Testing the Joints and Lines

After laying and jointing the pipes and Linings shall be inspected under working condition of pressure and flow. Any joint found leaking should be removed and replaced without extra cost The pipes and fittings after they are laid shall be tested to hydraulic pressure of 6 kg/sq.cm. (60 meter or double



The length of pipes shall be 60 cm exclusive of the internal depth of socket

### 1.3 EXCAVATION OF TRENCHES

The gradient is to be set out by means of sight and bonning rods and the required depth be excavated at any point. The trench shall be excavated as directed the consultant/employer. The depth of the trench shall not be less than 1 meter measured from the top of the pipe to the surface of the ground under roads and less than 0.75 m elsewhere. The width of the trench shall be nominal diameter of the pipe plus 40 cm but it shall not be less than 80 cm in case all kind of soil excluding rocks and not less than 55 cm. in case of work.

The bed of the trench, if in soil of made up earth, shall be well watered and rammed before laying (he pipes and the depressions if any shall be properly tilled with earth ahead consolidated in 20 cm layers. If rock is met with, it shall be removed to 15 cm below the level of the pipe and the trench will be refilled with excavated materials and consolidated. the excavated materials shall not be placed within 1 (one) meter or half of the depth of the trench whichever is greater from the edge of the trench, I. The materials excavated shall be separated and stacked so that in refilling they may be re-laid and compacted in the same order to the satisfaction of the Consultant/Employer.

After the excavation of the trench is completed, foundation of cement concrete (1 :3 :6) or lime cone. as specified of proper width and thickness to be laid with proper level all along under the length of the pipe with hunching as per drawing.

### 1.4 Laying, Jointing, t launching of the pipe and fittings

The rain pipes shall be laid in straight lines and to even gradients as shown on the drawings. The socket end of the pipes shall face upstream. Adequate care shall be exercised in gelling out and determining the levels of the pipes and the contractor shall provide suitable instruments, templates sight rails, bending rods and equipments necessary for the purpose tilt: joints are to be kept wet until the cement joints are properly set with wet bag. The cement mortar joints shall be cured at least for seven days.

In case of S. W. Pipes joint" (socket and spigot), they should be caulked first with tarred jute (spun) soaked in cement slurry of requisite diameter, almost quarter depth of the socket, at ("T which cement mortar (1: 1) is pushed in with wooden chisel and finished beveled at outside at 45 degree. Instead of jute or hemp rubber gasket of proper size may also be used.

in case of pipes less than 25 cm ,dia. joints should be made at ground level with 3 pipes at a time and for larger ones 2 pipes at. a time and after curing they should be rolled in foundation with the help of ropes ..

An pipes should be properly launched and/or provided with chair as per drawing. Details of the foundation and covering etc. are to be taken from the drawing provided. Where the pipes are crossing the building or road around concrete 1:4:8 is to be done to 15 cm thick over the barrel of the pipe.

Any treasure-trove, coin or object or antiquity which may be found on the site shall be molded over the Employer.

### 5.0 CHAMBERS/MANHOLES

#### 5.1 Size

At every change of alignment, gradient or diameter of a drain there shall be a manhole or inspection pit. The maximum distance between manhole chamber shall be 30 M for road, 15 M within compound.

#### 5.2 Size

All manholes shall have internal dimensions as shown on drawings The depth of invert shall be according (0 the gradient.



### S.W. GULLY TRAP

S. W. Gully trap of specified sizes and quality shall be fixed on 15 cm thick cement concrete 1:3 :6 bedding and tile gully outlet of the branch drain shall be joined similar to joining of S. W. pips, A brick masonry chamber 30 cm x 30 cm internally shall be constructed half brick masonry with 1 :6 cement mortar and the space between the trap and the wall filled up with cement concretel:4:~ and the upper portion of the chamber finished internally with 1:3 cement mortar and finished with neat cement, the corners and the bottom of the chamber shall be rounded off so as to slope towards the grating. in addition the chamber shall have a C.I. grating with frame 30 cm x 30 cm (inside) with machined seating faces, fixed on the top of be brick with cement concrete 1:2:4 and rendered smooth. The weight off grating shall not be Jess than 4.53 kg. and that of frame 2.72 kgs.

### SANITARY AND PLUMBING WORKS

#### LIST OF APPROVADE BRAND AND MANUFACTURERS

1. SANITARY FIXTURE(FIRST QUALITY VITREOUS CHINA):  
M/S PARRY INDIA LTD,M/S HINDUSTAN SANITARY WARES.M/S  
MADHUSUDAN CERAMICS
2. FOR stainless steel sink: M/S EID PARRY INDIA LTD,M/S SAIL,M/S JYOTI  
INDUSTRIES(NIRALI) JAYNA BRAND
3. PVC FLUSHING CISTERNS – SLIMELINE/COMMANDO/DUROLITE
4. CHROMIUM PLATED BRASS FITI1NGS: ESSCO, Jaquar Kingston, MARE, ESSESS,
5. a) UPVC(SWR). SOIL, WASTE RAIN WATER PIPE AND FITTINGS -IS 13592  
SUPREME,PRINCE,ORIPLAST .  
b)HCl son, WASTE PIPE AND FITTING IS 1729 : ALC, BIC, AMC,
- 6)GALVANISED IRON PIPES –IS 1239 :TATA ,NEZONE JINDAL I
- 8.G.I. FITTINGS: IS:879 'R' Brand manufactured by M's R.M. Engineering Ltd.,  
Ahmedabad, 'SUN' Brand, NMC, AA, I-IB, Nil
- 9.GUNiv1ETAL VALVE &COCK: IS:778-84  
'Leader' Jallundhcr, MIs Bombay Metal &Alloy Mfg. Co.(J» Ltd.,  
Zoloto Industries, lallamlhar.
11. GLAZED STONWE WERE PIPE & FITTING IS-651/1955 M/s I LIND CERARNICS LTD.
12. WHITE REGID PVC PIPES & FITTING IS 4985 SQER SUPRIM, PRINCE, ORIPLAST.
- 13.H.D.P.E. PIPE & FITTINGS IS 4984 ORIPLAST, EMCO BRAND.

### NOTE

- 1 THE ARCHITECT / BANK RESERVES THE RIGHT TO CHOOSE ANY ONE OF THE MAKES OF MATERIALS IN THE APPROVED LIST.
- 2 THE CONTRACTOR SHALL FURNISH, AS AND WHEN DEMANDED BY THE EMPLOYER/ CONSULTANT, THE INVOICE/ BILLS OF PURCHASE FOR VERIFICATION OF QUALITY QUANTITY AND MAKE OF THE MATERIALS.

Signature of Contractor: Name of Contractor  
Address of the Contractor Date and Seal:



Those shall be subsequently furnished properly to the satisfaction of Engineer. Care shall be taken to prevent damage of finishing.

### 3.5 PROTECTION

All work, equipment and material shall be protected at all times to prevent obstructions, damage or breakage. All equipments shall be covered and protected against water, dust, sand as well as chemical and or mechanical damage. At the completion of the work, all equipment shall be thoroughly cleaned and delivered in a perfect unblemished and working conditions.

### 3.6 CONTRACT RATES

The rates and prices shall be deemed to have included all labour, materials used, plants and tools, temporary works, minor building works like cutting, chases, holes, making good, grouting, finishing etc., insurance, sales tax, local taxes and duties, establishment charges, profit, supervision, transport, storage, testing & commissioning and other charges and fees and every expenses required to be incurred for proper and due execution including approval from Electrical Inspector and/or from all other statutory authorities or may be required and amended by laws till commissioning of the project.

### 3.7 COMPETENCY OF ELECTRICAL STAFF

Accepted norms of good workmanship is required. The electrical works shall be done by qualified and trained staff having First Class Wireman's license and Supervisory Competency Certificate having sufficient competency in electrical works and under the overall supervision of electrical contractors.

### 3.8 APPROVAL OF MATERIALS

All materials used on the works shall be new and of the best quality available, conforming to the relevant specifications and approved makes list. Prior approval should be obtained in writing from the Engineer for all materials proposed to be purchased of makes not included in 'Approved Makes list' and when necessary, approved sample duly identified and labeled shall be deposited with the Engineer.

### 3.9 AS BUILT DRAWINGS

On completion of work, the contractor shall submit to the Engineer, a reproducible and five copies of as built drawings showing :-

- a) Conduit layout, location of junction boxes and number of wires through each section of conduit.
- b) Circuit distribution scheme for each main and sub-distribution board. This shall indicate various outlets controlled by each fuse/circuit breaker and phase wise distribution of load.
- c) Location of distribution and sub-distribution boards.
- d) Distribution layout of telephone system.
- e) Distribution layout of computer network.
- f) Earthing system

## 4.0 LIGHTING SYSTEM EQUIPMENT

### 4.1 SCOPE

This specification covers the design, manufacture, testing, inspection and delivery to site of lighting system equipment such as light control switches, lighting and power receptacle units, ceiling fans, lighting fixtures conduits and other similar items necessary for lighting system.

### 4.2 SUB-DISTRIBUTION BOARDS (NORMAL & EMERGENCY)

#### 4.2.1 CONSTRUCTIONAL FEATURES



MCB shall be provided with overload/short-circuit protective device for protection under overload and short-circuit conditions. The minimum breaking capacity of MCBs shall be 10 kA r.m.s. at 415V.

#### 4.4.2 Internal Wiring

Panel/boards shall be supplied completely wired, ready for the PURCHASER's external connections at the terminal blocks. Wiring shall be carried out with 1100/650V grade, PVC insulated, stranded copper, conductors. Conductors of adequate size shall be used to suit the rated circuit current.

Engraved identification ferrules, marked to correspond with the wiring diagram shall be fitted at both ends of each wire.

All wiring shall be terminated on terminal blocks. Terminal blocks shall be one piece moulded 650V, of reputed make, preferably stud type for higher current ratings such that wires are connected by cable-lugs and complete with nuts and washers. Terminals shall be adequately rated for the circuit current, the minimum rating shall be 20A.

Terminals for circuits with voltage exceeding 125V shall be shrouded.

Terminals shall be numbered and provided with identification strip for identification of the circuit.

#### 4.4.3 Label & Diagram Plate

All door mounted equipment as well as equipment mounted inside the switchboards/panels shall be provided with individual labels with equipment designation/rating. Also the boards/panels shall be provided on the front with a label engraved with the designation of the board/panel as furnished by the PURCHASER.

Labels shall be made of non-rusting metals, 3-ply lamicaid or engraved PVC.

Inside the door of the 1 phase ways lighting panels a circuit diagram/description shall be fixed for reference and identification.

#### 4.5 Light Control Switches

Light control switches of ratings and types, i.e. decorative shall be supplied as indicated in BOQ. The switches shall be grid plate type/Piano Key type suitable for use on 240V, 1 Phase, 50 Hz supply.

Switches shall be of flush type for mounting behind an insulated plate or incorporated with a switch plate for mounting flush with the surface of wall or switch box/suitable enclosure. The switch box/enclosure may be recessed into or mounted on a wall as per the requirements of project layouts.

The size of enclosure boxes shall be chosen to accommodate the number of switches to installed at the particular location. The enclosures shall be 16 SWG sheet steel stove enameled/galvanized. The enclosure box shall be covered with perspex/insulating cover. An enclosure intended for surface mounting shall not have holes or gaps in its sides other than those expressly provided for cable entry.

#### 4.6 Receptacle Units

Receptacle units shall consist of socket outlet with associated switch and plug. The sockets outlet and switch or MCB shall be flush mounted within a stove enameled 16 SWG steel enclosure with Perspex/insulating cover. The box may be recessed into or mounted on a wall as per requirements of project layouts.

The receptacle units shall be suitable for 240V, 1 phase, 50 Hz/415V, 3 phase, 5Hz supply as indicated. Single phase receptacles shall be associated with a switch/MCB of same current rating and the receptacle shall become live only when the associated switch/MCB is in "ON" position.

The plugs shall be provided with cord grips to prevent strain and damage to conductors/wires at connection and entry points.

The types and current rating of receptacle units shall be as indicated in BOQ and they shall conform to the applicable standards.

Whenever required, receptacle units may be provided with MCBs instead of switch.



The supply of all mounting accessories, earthing wires and incidental hardware and consumables like fixing saddles, spacer plates, junction boxes and conduits required for the fitting fixing/suspension points, point boxes and connectors, jointing ferrules, all fixing brackets, screws and studs, shall be deemed to be included as part of installation work. Mounting accessories like saddles, spacer plates, joint boxes, junction boxes and fixing hardware shall be of galvanized mild steel.

The CONTRACTOR shall work in co-ordination with the Civil and Air- conditioning Contractors and where holes or openings in walls and floors, cut-outs in false ceilings are required the CONTRACTOR shall inform the ENGINEER and other respective Contractors. Holes in walls made by the CONTRACTOR shall necessarily be patched by him in a good and approved manner, using the same kind of masonry as in the uncut surfaces.

The CONTRACTOR shall be responsible if parts of panels, fittings, etc. are lost or damaged and all damage and thefts shall be made good by the CONTRACTOR till the installation is handed over to the PURCHASER.

The CONTRACTOR shall touch-up painting on lighting panels/boards if the same is damaged during installation handling.

#### 5.3 Point Wiring

Whenever asked for, if installation is to be carried out on point wiring basis, the supply of following shall be deemed to be included as part of the installation work, in addition to the items mentioned in para 4.3.3.

- a) 650/1100V lighting wires for conduit wiring, minimum size of 1.5 sq. mm PVC insulated copper conductor.
- b) MS conduits with all relevant accessories and junction/inspection boxes. Minimum size 20 mm for exposed/concealed conduits respectively.
- c) Necessary 6A/16A light control switches of grid plate type on MS boxes.
- d) Required switch and receptacles units in similar boxes as in item (d) above. Wiring of each lighting fitting/receptacle unit/ceiling fan/bell etc. shall be considered as one point. However, when two or more receptacles are to be wired at the same location/in the same box. Wiring of first receptacle shall be considered as one point and wiring of each of subsequent receptacle at that location shall be considered as half point each.

#### 5.4 Concealed Wiring

For installations requiring concealed conduit wiring, the supply routing and laying of UPVC conduits of minimum size 20mm in walls/ceiling, from lighting panels upto fittings, receptacles, inspection/junction boxes etc. shall be in the CONTRACTOR's scope. The CONTRACTOR shall closely co-ordinate his work with that of the Civil Contractor. The CONTRACTOR shall prepare and furnish drawings showing the location of the embedded conduits/junction boxes/inspection boxes, based on the PURCHASER's lighting layout drawings.

#### 5.5 Wiring

Unless otherwise stated wiring shall be carried out in UPVC conduits. All types of wiring, concealed or unconcealed shall be capable of easy inspection.

Unconcealed wiring when run along walls shall be as near the ceiling as possible. In all types of wiring, due consideration shall be given for neatness and good appearance.

Wherever specified, Emergency lighting shall be switched in through change-over Switch on AC mains failure, and manually switched in for testing, independently of normal lighting. Emergency lighting cables shall run in a separate conduit system. In large rooms, the lighting system shall be



Fittings shall be designed for continuous trouble free operation under atmospheric conditions as specified (in Sections B & C of project information) without reduction in lamp life or without deterioration of materials and internal wiring. Outdoor fittings shall be weather-proof and rain-proof type.

The fittings shall be designed so as to facilitate easy maintenance, including cleaning, replacement of lamps/ starters etc.

Connections between different components shall be made in such a way that they will not work loose by small vibration.

For each type of lighting fitting the VENDOR shall supply the utilization factor to indicate the proportion of the light emitted by the bare lamps which falls on the working plane.

All fittings shall be supplied complete with lamps suitable for operation on a supply voltage and the variation in supply voltage.

The fittings and accessories shall be designed to have low temperature rise. The Temperature rise above the ambient temperature shall be as indicated in the relevant standards.

All mercury vapour and sodium vapour lamp fittings shall be complete with accessories like lamps, ballasts, power factor improvement capacitors, starters wherever applicable etc. These shall be mounted as far as possible in the fitting assembly only. If these cannot be accommodated inside, then a separate metal enclosed box shall be included to accommodate the accessories and in addition with a fuse and a terminal block suitable for loop-in, loop-out connections. Outdoor type fittings shall be provided with outdoor type weather-proof box.

All fluorescent lamp fittings shall be complete with all accessories like ballasts, power factor improvement capacitors, lamps, starters and capacitors for correction of stroboscopic effect.

Each fitting shall have a terminal block suitable for loop-in, loop-out and T-off connection by 650/1100V, 3 core, PVC insulated Cu conductor cable of 2.5 sq. mm. in size unless otherwise specified in Data Sheet A1. The internal wiring should be completed by the MANUFACTURER by means of stranded copper wire and terminated on the terminal block.

The mounting facility and conduit knock-outs for the fixtures shall be as specified.

All hardware used in the luminaire shall be suitably plated or anodized and passivated for use in chemical industrial and power plants.

#### 6.4 Earthing

Each lighting fitting shall be provided with an earthing terminal suitable for connection to the earthing conductor.

All metal or metal enclosed parts of the housing shall be bounded and connected to the earthing terminal so as to ensure satisfactory earthing continuity throughout the fixture.

#### 6.5 Painting / Finish

All surfaces of the fittings shall be thoroughly cleaned and degreased. The fittings shall be free from scale, rust sharp edges and burrs.

When enamel finish is specified, it shall have a minimum thickness of 2 mills for outside surface and 1.5 mills for inside surface. The finish shall be non-porous and free from blemishes, blisters and fading. The housing shall be stove-enameled/epoxy stove-enameled-vitreous enameled or anodized as indicated on flame-proof fittings is prohibited.

The surface shall be scratch resistant and shall show no sign of cracking or flaking when bent through 900 over 1/2" dia mandrel.



Wherever earthing conductors cross underground service ducts and pipes, it will be laid 300mm below, the earthing conductor shall be bounded to such service ducts/pipes.

Wherever main earthing conductor crosses cable trenches, they shall be buried below the trench floor.

Suitable earth risers approved by the ENGINEER shall be provided above finished floor/ground level, if the equipment is not available at the time of laying of the main earth conductors. The minimum length of such riser inside the building shall be 200 mm and outdoors shall be 500 mm above ground level. The risers to be provided shall be marked in project drawings.

Earth leads and risers between equipment earthing terminals and the earthing grid shall follow as direct and short a path as possible.

Neutral connection shall never be used for the equipment earthing. Each neutral point of a transformer shall be earthed to two separate earth electrodes for connection with earthing system.

Shield wire in sub-stations shall be connected to the earthing grid through test links at every alternate switchyard portal tower.

An earthing pad as shown in the drawings shall be provided under each operating handle of the isolator and operating mechanism of HV breakers. Operating handle of the isolator and supporting structure shall be bonded together by a flexible connection and connected to the earthing grid.

A separate earth electrode bed shall be provided adjacent to structures supporting lightning arrestors and coupling capacitors. Each connections shall be as short and as straight as practicable. For arrestors mounted near transformers, earth conductors shall be located clear of the tank and coolers.

Whenever earthing conductor passes through walls, galvanized iron sleeves shall be provided for the passage of earthing conductor. The pipe ends shall be sealed by the CONTRACTOR by suitable water proof compound. Water stops shall be provided wherever earthing conductor enters the building from outside below grade level. Water stops and above mentioned sleeves shall be provided by the civil contractor.

#### 7.5 Earthing Connections

All connections in the main earth conductors buried in earth/concrete shall be welded/brazed type. Connection between main earthing conductor and earth leads also be a welded/brazed type. Cad welding type connections shall be done if specifically indicated.

Connection between earth leads and equipments shall be of bolted type, unless, otherwise specified or shown in the drawings. Equipment vendors shall provide earthing terminals on their equipments.

Welding and brazing operations and fluxes/alloys shall be of approved standards.

All connections shall be of low resistance. Contact resistance also shall be minimum.

All bimetallic connections shall be treated with suitable compound to prevent moisture ingress.

Metallic conduits and pipes shall be connected to the earthing system unless, otherwise specified.

Lightning protection system down conductors shall not be connected to other earthing conductors above ground level. Also no intermediate earthing connection shall be made to lightning arrestor, transformer and CVT earthing leads which shall be directly connected to pipe plate/rod electrode.

#### 7.6 Earth Electrode

Electrodes shall as far as practicable, be embedded below permanent moisture level.

Some electrodes shall be housed in test pits with concrete covers for periodic testing of earth resistivity. Installation of rod/pipe/plate electrodes in test pits shall be convenient for inspection,



The lightning conductors shall be secured at not more than 2 m apart for horizontal run and 1.0 m for vertical run by fasteners resistive to corrosion. Earth down conductor shall have an independent earth termination. The interconnection of all the earth terminals shall be preferred. It should be capable of isolation for testing purpose by "Testing Joints". The whole of lightning protective system should have combined resistance to earth not exceeding 10 ohm before any bonding has been affected to metal in or on a structure of surface below ground. In addition the resistance from the earth electrode to the nearest test clamps shall not exceed 0.2 ohm.

## 8.0 GENERAL INSTRUCTIONS ON ELECTRICAL PRE-COMMISSIONING ARRANGEMENT AND TESTS .

8.1 All tests shall be carried out by the Contractor using his own instruments , testing equipments as well as qualified testing personnel .

8.2 The result of all tests shall conform to the specification requirements as well as any specific performance data guaranteed during finalization of contract .

8.3 Cable termination and jointing.

Termination and jointing of alluminium conductor power cable shall be by means of compression method using compression type alluminium lugs . Copper conductor control cables shall be terminated directly into screwed type terminals provided in the equipment . Wherever control cables are to be terminated by means of terminal lugs , the same shall be of tinned copper compression type .

8.4 Testing and Commissioning of Electrical Equipment Installation

8.4.1 General

The testing and commissioning for all electrical equipment at site shall be according to the procedure laid down below .

All electrical equipments shall be tested , installed and commissioned in accordance with the latest relevant standards and codes of practice published by Indian Standard Institution where ever available and stipulations and in relevant general specifications .

8.4.2 Polarity test of Switches

In a two wire installation a test shall be made to verify that all switches in every circuit have been fitted in the same conductor throughout and such conductor shall be labelled or marked for connection to the phase conductor or to the non earthed conductor of the supply .

A verification of polarity shall be made and shall be ensured that all fuses and single pole control devices are connected in the live conductor only and for socket outlets that the wiring is correctly connected .

8.4.3 Earth Electrode Resistance Test

The earth resistance of the earth electrode is to be measured by an earth testing 'Megger' provided with a direct reading Ohmmeter . Readings obtained in ohms shall not be more than 1 ohms .

If necessary , with the approval of Engineer -in-Charge additional electrode shall be provided away from the resistance and linked to the electrode system .

8.4.4 Insulation resistance test should be made before the installation is permanently connected to the Electric supply . The insulation resistance to be measured by using an approved portable hand operated insulation resistance tester reading directly in Ohms .

8.4.5 Earth continuity test

The earth continuity conductor should be tested for continuity to ensure that there is no breakage or loose connections in the system .

8.4.6 The installation with fittings complete shall before the current is switched on satisfactorily pass the following tests a) All lamps and appliances having been connected and all switches 'ON' a pressure of not less than twice the working pressure ( subject to a limit of 500 V ) shall be applied and insulation resistance of the whole or any part of installation to earth , must not be less than 50 Mega Ohms divided by the number of points .

b) With all lamps and appliance removed from the circuit and all switches 'ON' a similar test between poles shall satisfy the above requirement

c) Test to ensure that all single pole switches are on the live side of the apparatus they control .



|    |                                                                             |   |                         |
|----|-----------------------------------------------------------------------------|---|-------------------------|
| 13 | CURRENT TRANSFORMER                                                         | : | KPPA / A.E.             |
| 14 | INCATING METERS<br>(AMMETER/VOLTMETER/FREQUENCY<br>METER ETC. (ANALOG TYPE) | : | A.E / IMP               |
| 15 | SELECTOR SWITCH (AMMETER /<br>VOLTMETER)                                    | : | KAYCEE / HPL / VAISHNO  |
| 16 | INCATING LAMP                                                               | : | VAISHNO / BINAY         |
| 17 | MCCB (MP THERMAL I MAGNATE<br>RELEASE)                                      | : | L&T / SIEMENS / HAGER   |
| 18 | SWITCH DISCONNECTOR FUSE<br>(HRC) UNIT ( OPEN & SS<br>ENCLOSURE UNIT)       | : | L&T / ABB / SIEMENS     |
| 19 | ON - LOAD CHANGE OVER SWITCH<br>( OPEN & SS ENCLOSURE UNIT)                 | : | L&T / ABB / LEGRAND     |
| 20 | XIPE - ARMOURED AL CABLE                                                    | : | NICCO / GLOSTER         |
| 21 | MCB CHANGE OVER<br>ISOLATO(CENTRE OFF)                                      | : | ABB / HAVELLS / LEGRAND |
| 22 | METAL CLADED POWER PLUG &<br>SOCKET (FLUSH TYPE)                            | : | LEGRAND / SIEMENS       |

Note: 1) Architects reserves the right to insist contractor for use of any specific brand / make etc.  
2) In case any materials are not available from the above brands, Architect will suggest names of other brands / manufacturers and contractor will have to abide by the same.

Date:

Signature of Contractor with Seal



details as mentioned in the "Guidelines on Indian Agents of Foreign Suppliers" shall be disclosed by the Bidder(s)/Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent/representative have to be in Indian Rupees only. Copy of the "Guidelines on Indian Agents of Foreign Suppliers" is placed at (page nos. 6- 7).

- (e) The Bidder(s)/ Contractor(s) will, when presenting their bid, disclose any and all payments made, are committed to or intend to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- (f) Bidder(s) /Contractor(s) who have signed the integrity Pact shall not approach the Courts while representing the matter to IEMs and shall wait for their decision in the matter.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3- Disqualification from tender process and exclusion from future contracts-**

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put their reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the tender process or take action as per the procedure mentioned in the "Guidelines on Banning of business dealings".

### **Section 4 - Compensation for Damages**

- 4.1 If the Principal has disqualified the Bidder(s) from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

### **Section 5 - Previous transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last three years with any other Company in any country conforming to the anti-corruption approach or with a Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this subject, he can be disqualified from the tender process or action can be taken as per the procedure mentioned in "Guidelines on Banning of business dealings".

### **Section 6 - Equal treatment of all Bidders | Contractors | Subcontractors**

- 6.1 In case of Sub-contracting, the Principal Contractor shall take the responsibility of the adoption of Integrity Pact by the Sub-contractor.
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this Pact or violate its provisions..

### **Section 7 - Criminal charges against violating Bidder(s)/ contractor(s)/ Subcontractor(s)**

- 7.1 If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

### **Section 8 - Independent External Monitor**

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact after approval by Central Vigilance Commission. The task of the Monitor is to review independently and objectively, whether and to what extent parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his/her functions neutrally and independently. The Monitor would have access to all Contract documents, whenever required. It will be obligatory for him/her to treat the information



- (a) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the Bidder. However, the proceedings with the other Bidder(s) would continue.
- (b) The Earnest Money/Security Deposit/Performance Bond shall stand forfeited either fully or partially, as decided by the Buyer and the Buyer shall not be required to assign any reason therefore.
- (c) To immediately cancel the contract, if already signed, without giving any compensation to the Bidder.
- (d) To recover all sums already paid by the Buyer, and in case of an Indian Bidder with interest thereon at 2% higher than the prevailing Prime Lending Rate, while in case of a Bidder from a country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the Buyer from the Bidder in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- (e) To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the Bidder, in order to recover the payments, already made by the Buyer, along with interest.
- (f) To cancel all or any other Contracts with the Bidder.
- (g) To debar the Bidder from entering into any bid from the Government of India for a minimum period of five years, which may be further extended at the discretion of the Bank.
- (h) To recover all sums paid in violation of this Pact by Bidder(s) to any middleman or agent or broker with a view to securing the contract.

10.2 If the Bidder or any employee of the Bidder or any person acting on behalf of the Bidder, either directly or indirectly, is closely related to any of the officers of the Buyer, or alternatively, if any close relative of an officer of the Buyer has financial interest/stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of filing of tender. Any failure to disclose the interest involved shall entitle the Buyer to rescind the contract without payment of any compensation to the Bidder. The term 'close relative' for this purpose would mean spouse whether residing with the Government servant or not, but not include a spouse separated from the Government servant by a decree or order of a competent court; son or daughter or step son or step daughter and wholly dependent upon Government servant, but does not include a child or step child who is no longer in any way dependent upon the Government servant or of whose custody the Government servant has been deprived of by or under any law; any other person related, whether by blood or marriage, to the Government servant or to the Government servant's wife or husband and wholly dependent upon Government servant.

10.3 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Buyer, and if he does so, the Buyer shall be entitled forthwith to rescind the contract and all other contracts with the Bidder. The Bidder shall be liable to pay compensation for any loss or damage to the Buyer resulting from such rescission and the Buyer shall be entitled to deduct the amount so payable from the money(s) due to the Bidder.

10.4 In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the Buyer with the Bidder, the same shall not be opened.

10.5 The decision of the Buyer to the effect that a breach of the provisions of this Integrity Pact has been committed by the Bidder shall be final and binding on the Bidder, however, the Bidder can approach the monitor(s) appointed for the purposes of this Pact.

#### **Section 11- Fall Clause**

11.1 The Bidder undertakes that he has not supplied/is not supplying the similar systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India and if it is found at any stage that the similar system or sub-system was supplied by the Bidder to any other Ministry/Department of the Government of India at a lower price, then that very price will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Buyer, if the contract has already been concluded.

#### **Section 12 - Pact Duration**



B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.

| PART-'A' |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | CONSTRUCTION OF BOUNDARY WALL,'PLOT-B' |     |        |        |
|----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|-----|--------|--------|
| SL       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        |     | RATE   | AMOUNT |
| No       | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | UNIT                                   | QNT | Rs. P. | Rs. P. |
| 1        | Earth work in excavation of foundation trenches for boundary wall, in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing. Spreading or stacking the spoils within a lead of 75m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water etc. as required complete.                                                                                                               |                                        |     |        |        |
|          | Depth of excavation not exceeding 1500mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cum                                    | 96  |        |        |
| 2        | Filling in foundation trench plinth with earth obtained from excavation of foundation in layers not exceeding 150mm, as directed and consolidating the same by thorough saturation with water, ramming complete.                                                                                                                                                                                                                                                                                               | Cum                                    | 57  |        |        |
| 3        | Removal of rubbish from the working site and disposal of the same, beyond the compound exceeding 10 Km. and depositing and levelling in conformity with the Municipal/ Corporation Rules for such disposal, loading into truck and cleaning the site in all respect as per direction of E.I.C.                                                                                                                                                                                                                 | Cum                                    | 39  |        |        |
| 4        | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering.                                                                                                                                                                                                                                                                                                                                                                                            |                                        |     |        |        |
| a        | 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum                                    | 15  |        |        |
| b        | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum                                    | 6   |        |        |
| 5        | 125 mm thick Brick masonry work in cement mortar (1:4) using approved H.B. netting in every third layer with approved 1st class bricks ( 250 x 125 x 75 ) having minimum crushing strength of 105 kg per Cmsq. including curing at least for 7 days, before using it for work cleaning and soaking the brick at least for 24 hours, scaffolding, staging, all leads and lifts from any point to any point inside the site, in all structures such as walls / pillars / supports etc. as directed by the E.I.C. | Sqm                                    | 173 |        |        |
| 6        | Reinforcement Cement concrete (mix 1:2:4) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement,if any, in ground floor as per relevant IS codes.                                                                                                                                                                                                                                                                                                                                | Cum                                    | 45  |        |        |
| 7        | Hire and labour charges for shuttering with centering and necessary staging upto 4 M. using approved stout proper and hard wood planks of approved thickness with required bracing for concrete slabs, beams, stairs, columns, walls, lintel, any curved member, fins, chajjas and fascia etc. including fitting, fixing and striking out after completion of mandatory period as specified.                                                                                                                   |                                        |     |        |        |
|          | Steel shuttering or 9 mm to 12 mm thick approved quality ply board shuttering in any concrete work.                                                                                                                                                                                                                                                                                                                                                                                                            | Sqm                                    | 465 |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE, WEST BENGAL.**

| SL              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     | RATE   | AMOUNT |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|--------|
| No              | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | UNIT | QNT | Rs. P. | Rs. P. |
| 16              | Supplyng, fitting and fixing grill gate, frame made from 50 mm x 6 mm M.S. flat iron with another horizontal flat at the middle, 20 mm dia M.S.bars at 200 mm apart from bottom flat to top and 20 mm dia M.S. bars at 200 mm apart from bottom flat to middle flat including drilling, welding etc. complete. All vertical bars are to be protruded at least 100 mm above the middle and top flat is to be flattended and pointed as directed. Necessary locking arrangement on both faces, arrangement for temporary closing the gate and 2 nos strong iron hinges of M.S. bars and flat of same sizes on each leaf to be embeded in C.C. brick / R.C.C. pillars as necessary including a red oxide painting to all iron works as directed and | Kg   | 540 |        |        |
| 17              | M.S.works in post made of angles, tees et. To sizes spec ialybent, twisted, forged; making holes drilled and fitted with necessary bolts, asherorsc rews etc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Kg   | 525 |        |        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |        |        |
|                 | <b>PART-'A': TOTAL CARRIED TO GENERAL SUMMARY</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |        |        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |        |        |
| <b>PART-'B'</b> | <b>CIVIL WORK</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |        |        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |        |        |
| 1               | Earth work in excavation of foundation trenches for boundary wall, in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing. Spreading or stacking the spoils within a lead of 75m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water etc. as required complete.                                                                                                                                                                                                                                                                                                                                                 |      |     |        |        |
| a               | Depth of excavation not exceeding 1500mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum  | 350 |        |        |
| b               | Depth of excavation for additional depth beyind 1500 mm and upto 3000 mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Cum  | 25  |        |        |
| 2               | Filling in foundation trench plinth with earth obtained from excavation of foundation in layers not exceeding 150mm, as directed and consolidating the same by thorough saturation with water, ramming complete.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum  | 125 |        |        |
| 3               | Filling in foundation trench plinth with silver sands in layers not exceeding 150mm, as directed and consolidating the same by thorough saturation with water, ramming complete including the cost of supply of silver sand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cum  | 150 |        |        |
| 4               | Removal of rubbish from the working site and disposal of the same, beyond the compound exceding 10 Km. and depositing and levelling in conformity with the Municipal/ Corporation Rules for such disposal, loading into truck and cleaning the site in all respect as per direction of E.I.C.                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Cum  | 250 |        |        |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |      |     |        |        |



**B.O.Q. FOR CIVIL,SANITARY, BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE, WEST BENGAL.**

| SL |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |      | RATE   | AMOUNT |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|--------|--------|
| No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | UNIT | QNT  | Rs. P. | Rs. P. |
| 11 | Providing and laying Design mix concrete of M-25 grade ( BMC / RMC ) with well graded stone chips of maximum size 20mm containing designed quantity of cement per Cu.m. of wet concrete produced in computerized batching plant under controlled condition using approved super plastisizer designing concrete mix following I.S. 10262 and I.S. 456 transporting the mix with agitation in transit mixer to work site depositing the mix on a plat form erected for the purpose at required levels of concreting and then placing the mix in its final location of form work compacting and curing the same complete as per specification & direction of the Engineer-in-charge including computerized batching plant, transit mixer with all accessories vibrators etc. inclusive of all other incidental charges in this connection complete including the cost of platform and its supporting staging. With approved concrete pump. | Cum  | 451  |        |        |
| 12 | Hire and labour charges for shuttering with centering and necessary staging upto 4 M. using approved stout proper and hard wood planks of approved thickness with required bracing for concrete slabs, beams, stairs, columns, walls, lintel, any curved member, fins, chajjas and fascia etc. including fitting, fixing and striking out after completion of mandatory period as specified.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |      |        |        |
| a  | Steel shuttering or 9 mm to 12 mm thick approved quality ply board shuttering in any concrete work.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sqm  | 3610 |        |        |
| b  | Add extra over normal shuttering for staging beyond 4 M in any floor (mode of measurement : area in plan x mean height of staging up soffit of shuttering above intial 4 M)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Cum  | 150  |        |        |
| 13 | Reinforcement steel (Fe-500) for reinforced concrete work in all sorts of structures including distribution bars, stirrups binders etc. including supply of steel bars, initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape placing in proper position and binding with 16 gauge black annealed wire at every inter-section, complete as per drawing and direction of E.I.C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | MT   | 61   |        |        |
| 14 | Providing & applying 10mm thick Plaster in cement mortar (1:4) to all RCC. surfaces including ceiling with cement and sand mortar (1 part of cement + 4 parts of sand) including necessary scaffolding, rounding off or chamfering corners as directed and raking out joints & roughening of concrete surface, including throating, nosing , groove where ever required , curing at least for 7 days etc. complete as per the drawings and specifications / as directed by the E.I.C.                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sqm  | 950  |        |        |
| 15 | Providing & applying 15 mm thick Plaster in cement mortar (1:6) to all internal wall surfaces with cement and sand mortar ( 1 part of cement + 6 parts of sand ) including necessary scaffolding, rounding off or chamfering corners as directed and raking out joints & roughening of concrete surface, including throating, nosing, groove where ever required , curing at least for 7 days etc. complete as per the drawings and specifications / as directed by the E.I.C.                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 1570 |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | UNIT | QNT | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----------------|------------------|
| 21    | 25 mm thick damp proof with cement concrete (1 : 1-1/2 : 3 )(with graded stone chips 10 mm normal size) and admixture of water proofing compound as per manufacture's soecification followed by two coat of of polymer based paint ( 1st coat after 4 to 5 days of concrete laying and 2nd coat just before brick masonry work ) as directed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Sqm  | 50  |                |                  |
| a     | Extra rate over item No. 26 for using water proofing and plasticising admixture @ 0.2% by weight of cement ( or at manufacturer's specified rate ) for concrete of various grades.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Kg   | 5   |                |                  |
| b     | Extra rate over item No. 36 for applying 2 coats of bonding agent with syntheticmulfi functional rubber emulasion having adhesive and water proofing properties by mixing with in properition ( 1 bonding agent : 4 water : 6 cement ) as per manufacturer's soecification.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Sqm  | 50  |                |                  |
| 22    | M.S. structural steel works for fire stair in columns, beams etc. with simple rolled structure members joists, angle, channel section conforming to IS : 226, IS : 800 & SP (6) 1964 connected to one another with bracket, gussct, cleats as per design, direction of E.I.C. complete including cutting to requisite size, fabrication with necessary metal arc welding conforming to IS : 816 - 1956 & IS : 1995 using electrodes of approved make and brand conforming to IS : 814 - 1957,haulage, hoisting and erection at roof levl of multiplexes all complet. The rate includes the cost of rolled steel section. consumables such as electrodes, gas and hire charges of all tools and plants and labour required for the work and one coat of red oxide zinc chromath promer including all incidental charges such as electricity charges, labour insurance charges etc. | Mt   | 4   |                |                  |
| 23    | Kota stone slabs 20 mm thick in floor, treads and risers, skirting etc. laid on 20 mm (average) thick cement mortar 1 : 4 ( 1 cement : 4 coarse sand ) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including providing grooves on treads and rubbing and polishing complete. Moulding and groove measured separately. complete in all respect as per drawing and specifications and as per direction of Architect/E.I.C. -Basic Price Rs.377/- <del>SoM</del>                                                                                                                                                                                                                                                                                                                                                                         | Sqm  | 83  |                |                  |
| 24    | Providing edge moulding for srair/counters /others place including machine polishing to edge to give high gloss finish etc. complete as per design approved by E.I.C.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Rm   | 100 |                |                  |
| 25    | Making 6 mm wide, 3 mm deep groove on stair with machine cut finish in true line and level complete                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Rm   | 300 |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL<br>No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
| 30       | Supplying, lifting, cutting and laying / fixing of 25 mm thick 600 mm wide single pice cuddapah stone Slab for kitchen platform horizontally and vertically. Cudappah stone min. 25 mm deep inserted to wall, jamming by cement mortar & fixing by araldite, finished to all shapes (curved or straight), making Hole for traps, pipes, electric box, cutting openings for Kitchen sink, Cladding, copla, V groove cutting (with moulding) & polishing and filling the proper joints with matching colour pigment, curing etc as per drawings, specifications and direction of the EIC. -Basic Price Rs.344/- SqM. | Sqm. | 2    |                |                  |
| 31       | Supplying, lifting, cutting and laying / fixing of 20 mm thick 450 mm to 600 mm wide single pice pre-polished Granite Slab for toilet counter / basin top fixed 25 mm deep inserted to wall and jamming by cement mortar. Making Hole for traps / pipes with moulding & polishing and filling the proper joints with matching colour pigment, curing etc as per drawings, specifications and direction of the EIC.-Basic Price Rs.3000/- SqM.                                                                                                                                                                      | Sqm. | 5    |                |                  |
| 32       | Providing & laying Artificial stone floor (P.C.C. flooring) with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone chips) laid in panels as directed with 3mm thick topping made with ordinary grey cement and marble dust in proportion (2 : 1) including smooth, finishing and application of cement slurry before flooring works using cement @ 1.75 kg./Sqm. All complete including all material and labours as per specification and direction of E.I.C. 25mm thick.                                                                                                                                  | Sqm  | 50   |                |                  |
| 33       | Providing two coats of (Birla White/J.K. white or other equivalent) Wall Care Putty (Water Resistant White Cement based putty for walls and ceiling both internal and external) after removing all loosely adhering material from the wall surface with the help of emery stone, putty blade or wire brush and moistening the wall with sufficient quantity of clean water as specified and directed by the department (Total thickness of two coats is maximum 1.5mm).                                                                                                                                            | Sqm  | 2420 |                |                  |
| 34       | Applying interior grade Acrylic primer (Double coat) of approved quality and brand on plastered or concrete surface to receive acrylic emulsion paint or other interior paint including smoothening the surface by sand papering and scaffolding etc. complete in all respect as per direction of the E.I.C.                                                                                                                                                                                                                                                                                                       | Sqm  | 2420 |                |                  |
| 35       | Applying exterior grade Acrylic primer (Double coat) of approved quality and brand on plastered or concrete surface to receive decorative textured or smooth finish acrylic exterior emulsion paint including smoothening the surface by sand papering and scaffolding etc. complete in all respect as per direction of the E.I.C.                                                                                                                                                                                                                                                                                 | Sqm  | 1160 |                |                  |
| 36       | Priming Double coats on wooden surface with synthetic oil bound primer of approved make and brand including smoothening the surface by sand papering and scaffolding etc.                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 65   |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |      | RATE   | AMOUNT |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|--------|--------|
| No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | UNIT | QNT  | Rs. P. | Rs. P. |
| 45 | Supplying 35 mm thick solid flush type doors of deluxe decorative one side laminated finished quality conforming to IS : 2202, the timber frame consisting of top and bottom rails and side styles of well seasoned timber 65mm wide each and the entire frame fitted with 37.5mm wide battens placed both ways in order to make the door of solid core and internal lipping with teak, mahogany or rose or similar wood veneers using phenol for maldehyde as glue etc. complete, including fitting, fixing shutters in position but excluding the cost of hinges and other fittings.                                                                                                                                                                                                  | Sqm  | 38   |        |        |
| 46 | Providing and fixing 15micron colour anodised aluminium work for windows, ventilators made with extruded built up standard tubular section / appropriate Z section and other sections of approved make conforming to IS: 733 and IS : 1285 fixed with dash fasteners of required dia and size, including necessary filling up the gaps at junctions i.e. at top, bottom and sides with silicone sealant with approved EPDM gasket. Aluminium snap beading for glazing/ panelling, C.P. brass/ stainless steel screws, all accessories etc. complete as per architectural drawings Including fixing of glass. Alluminium fabricator shall be a reputed fabricator and to be got approved from E.I.C. including all fitting and fixture like handel, locking agreement etc. At any level. |      |      |        |        |
| a  | Sliding window (two tract) fixed with 5 mm thick clear glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Sqm  | 13.5 |        |        |
| b  | Sliding window (three tract) fixed with 5 mm thick clear glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sqm  | 52   |        |        |
| c  | Fixed glass louver with 5 mm thick clear glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Sqm  | 2    |        |        |
| d  | Partly fixed & partly glass louver fixed with 4 mm thick fosted glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Sqm  | 6    |        |        |
| e  | Full glass double leaf door fixed with 8 mm thick glass.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Sqm  | 8.4  |        |        |
| 47 | Providing and fixing 50mm thick, one hour fire resistant rating insulated wooden fire floor. door shutter (single leaf) with frame including heat activated seal, in fill insulating materials and fire resistant coating, TAC approved and commercial Veneering and conforming to relevant Indian Standards complete with all necessary and required fittings and fixtures as per drawing, design and direction of Architect/ E.I.C.                                                                                                                                                                                                                                                                                                                                                   | Sqm  | 4.2  |        |        |
| 48 | Collapsible gate with 40 mm x 40 mm x 6 mm tee as top and bottom guide rail 20 mm x 10 mm x 2 mm vertical channels 100 mm apart in fully stretchedf position 20 mm x 5 mm M.S. flats as collapsible bracings properly rivetted and washered including 38 mm steel rollers including locking arragements, fitted and fixed in position with lugs set in cement concrete and including cutting necessary holes, chasing etc. in walls, floors etc. and making good damagess complete.                                                                                                                                                                                                                                                                                                     | Sqm  | 10   |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE, WEST BENGAL.**

| SL<br>No | DESCRIPTION                                                                                                                                                                                                                     | UNIT | QNT | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----------------|------------------|
| 2        | Supplying, fitting and fixing Orissa pattern water closet 580mm x 440 mm size with cistern complete with cement concrete complete                                                                                               | Nos. | 2   |                |                  |
| 3        | Supplying fitting & fixing white vitrious china Wash Basin with C.P. waste, long threads. etc. complete in all respects. (Size 550mm X 400mm)                                                                                   | Nos. | 12  |                |                  |
| 4        | Supplying fitting and fixing white vitrious large type Urinal with C.P. waste grating angular stop cock, spreader, connector, with brass screws, PVC waste pipe with coupling complete in all respect. (590mm X 390mm x 380mm). | Nos. | 10  |                |                  |
| 5        | Supplying fitting and fixing urinal Partion Wall. (Porcelain) (Size 618mm X 310mm)                                                                                                                                              | Nos  | 7   |                |                  |
| 6        | 15 dia C.P. heavy Pillar cock                                                                                                                                                                                                   | Nos. | 12  |                |                  |
| 7        | Supplying, fitting & fixing C.P Health faucet [Hand shower] with flexible tube [1mtr long] with wall hook etc. complete in all respects.                                                                                        | Nos. | 17  |                |                  |
| 8        | Supplying, fitting and fixing C.P. two in one Bib Cock of approved make and brand tested to 21 kg. Per sq.cm. 15mm.                                                                                                             | Nos. | 17  |                |                  |
| 9        | Supplying, fitting and fixing C.P. Angular Stop Cock of approved make complete in all respect.                                                                                                                                  | Nos. | 36  |                |                  |
| 10       | Supplying, fitting and fixing C.P. Bottle Trap. 32mm. dia. etc. complete in all respects.                                                                                                                                       | Set  | 12  |                |                  |
| 11       | Supplying, fitting and fixing Liquid Soap holder / Dish with C.P. brass screws etc. complete in all respect.                                                                                                                    | Nos. | 12  |                |                  |
| 12       | Supplying, fitting and fixing Towel Rail with two brackets 25mm dia. C.P. on brass 450mm. long of approved make with C.P. brass screws complete.                                                                                | Nos. | 8   |                |                  |
| 13       | Supplying, fitting and fixing C.P Soap dispenser with glass bottle with approved make.                                                                                                                                          | Nos. | 8   |                |                  |
| 14       | Supplying, fitting and fixing C.P. Robe hook with approved make.                                                                                                                                                                | Nos. | 25  |                |                  |
| 15       | Supplying, fitting and fixing C.P. Towel ring with approved make.                                                                                                                                                               | Nos. | 4   |                |                  |
| 16       | Supplying, fitting and fixing C.P. Connector of approved make complete in all respect. 600mm long.                                                                                                                              | Nos. | 36  |                |                  |
| 17       | Supplying, fitting and fixing cement joint brass on C.P. grating of approved make complete in all respect. 125 mm dia (cockroch type)                                                                                           | Nos. | 35  |                |                  |
| 18       | Supplying, fitting and fixiang C.P. long body bib cock.                                                                                                                                                                         | Sets | 2   |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |     | RATE   | AMOUNT |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|--------|
| No   | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | UNIT | QNT | Rs. P. | Rs. P. |
| 19   | Supplying, fitting and fixing stainless steel sink without drain board with waste including C.I. Brackets on 75mm.x 75mm. wooden blocks with brass screws etc. complete in all respects (size 630mm x 550mm. x 180mm).                                                                                                                                                                                                                                                                                                                                                                                                                                | Each | 1   |        |        |
| 20   | Supplying, fitting & fixing 25mm/32mm dia. ball cock with polythene ball for O.H. Tank etc. complete in all respects.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Each | 1   |        |        |
| 21   | Supplying fitting & fixing Bevelled Edge Mirror 5.5mm thick silver red as per IS 3438/1965 together with brass C.P.hinges. Including approved becking wooden board complete in all respects.                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 8   |        |        |
| 22   | Supplying, fitting and fixing G.I. Waste Pipe for (basin, urinal, bath tub and sink) with C.I. specials with (concealed) cutting floor and wall and chasing floor as per drawing and direction G.I. waste pipe for basin, complete in all respects. (Each length 2000mm. from bottle trap waste to floor trap. (TATA make 'M' class).                                                                                                                                                                                                                                                                                                                 |      |     |        |        |
|      | 32mm/40mm. dia.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Nos. | 21  |        |        |
| 23   | S. I. T. & C. in position Chlorinated Polyvinyl Chloride (CPVC) SDR-11 pipes as per ASTM D-2846 standard, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including concealing the pipes in walls or under floors, including making chases in the walls, fixing in the wall with M.S. clamps and making good the wall surface fixing the pipe with support clamps at 1.00 m spacing, includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints at pressure 10Kg.Cm <sup>2</sup> , etc. complete as per direction by our Architects (work within toilet) |      |     |        |        |
| a    | 15 mm nominal outer dia Pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mtr. | 88  |        |        |
| b    | 20 mm nominal outer dia Pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mtr. | 44  |        |        |
| c    | 25 mm nominal outer dia Pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mtr. | 47  |        |        |
| d    | 32 mm nominal outer dia Pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mtr. | 6   |        |        |
| e    | 40 mm nominal outer dia Pipes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Mtr. | 30  |        |        |
| 24   | Supply, Laying SITC in position Unplasticised PVC pipes conforming to IS : 13592 - 1992, Type - B, SWR quality, along with fittings like bends, couplers, cleanouts with rubber ring joints / solvent cement joint.M.S. brackets or clamps support at every 2m so as to keep the pipes away from the wall including all scaffolding, water testing after laying the pipes as specified and painting etc complete. Routing of pipes show in drawings is only indicative.The contractor to consider all the required number of fittings to do piping for smooth and efficient flow of sewage all complete as per direction by our Architects            |      |     |        |        |
| 24.1 | 110 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Mtr  | 105 |        |        |
| 24.2 | 75 mm dia                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mtr  | 105 |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE, WEST BENGAL.**

| SL |                                                                                                                                                                                                                                                                                               |      |     | RATE   | AMOUNT |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|--------|
| No | DESCRIPTION                                                                                                                                                                                                                                                                                   | UNIT | QNT | Rs. P. | Rs. P. |
|    | out side wall upto 500mm deep from cover level with cement mortar 1:6 ( 1 cement:6 fine sand) completely as per standard design including excavation, dewatering if any, shuttering, shoring, refilling and disposal f surplus earth within plot complete as per specifications and drawings. |      |     |        |        |
|    | Inside size 45cm x 45cm. and upto 600 cm. deep including CI cover /CI grating /Road type grating thick brick work total weight of grating cover and frame to be not less than 38 Kgs. including M.S. foot rest as per instruction.                                                            | Nos. | 20  |        |        |
|    | <b>NOTE :</b>                                                                                                                                                                                                                                                                                 |      |     |        |        |
|    | Type of cover and M.S. rung to be mension in drawing. (cost of M.S. rung to be considered in above rates (position of M.S. Rung, I.P., Manhole & for U.G./O.H water reservoir).                                                                                                               |      |     |        |        |
| 30 | Providing and laying concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 112.5mm. and down) for Bed Concrete for pipe line, including 75mm. thick all round concrete on pipe or henching and concrete chair as per drawing and direction.(For S.W. pipe).                     | Cum. | 10  |        |        |
| 31 | Construction of septic tank 50 users capacity as per approved drawing .                                                                                                                                                                                                                       | No   | 1   |        |        |
| 32 | Construction of Soak Well Etc. complete in all respects.                                                                                                                                                                                                                                      | No   | 1   |        |        |
| 33 | Construction of chlorination chamber as per drawing & direction. Size 900mm x 1500mm.                                                                                                                                                                                                         | No   | 1   |        |        |
|    | <b>PART-'C': TOTAL CAPRIED TO GENERAL SUMMARY</b>                                                                                                                                                                                                                                             |      |     |        |        |
|    | <b>PART-'D': SITE DEVELOPMENT,ROADS,ETC.WORK</b>                                                                                                                                                                                                                                              |      |     |        |        |
|    | FOR DEVELOPMENT OF LAND INCLUDING LEVELLING AND GRADING, PROVISION OF ROADS,PATH WAYS, PARKING, LANDSCAPING AND ALLIED WORKS                                                                                                                                                                  |      |     |        |        |
| 1  | Earth work in filling in compound, tank, low land, ditches etc. with good earth, in layers not exceeding 150 mm. including breaking clods and consolidating the same by ramming and dressing complete. (Payment will be made on profile measurement before and after the work)                |      |     |        |        |
|    | With carried earth arranged by the contractor within a radius exceeding 5 km. but not exceeding 10 km. including cost of carried earth.                                                                                                                                                       | Cum  | 250 |        |        |
| 2  | Box cutting or filling in road embankment in all sorts of soil including spreading the spoils properly and rooling the sub-grade with power roller to proper camber and grade as per direction and satisfaction of E.I.C.                                                                     |      |     |        |        |
| a  | Depth up to 150 mm.                                                                                                                                                                                                                                                                           | Sqm. | 82  |        |        |
| b  | For each additional depth of 150 mm and part thereof.                                                                                                                                                                                                                                         | Sqm. | 122 |        |        |



**B.O.Q. FOR CIVIL, SANITARY, BOUNDARY WALL, SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE, WEST BENGAL.**

| SL No                                | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UNIT | QNT | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----------------|------------------|
| <b>PART-'E': ELECTRICAL WORK</b>     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |     |                |                  |
| <b>A - POWER DISTRIBUTION WORK :</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |     |                |                  |
| 1                                    | Supplying and fixing 415V, 315A, TPN SFU with sheet steel enclosure on flat iron/angle iron frame on wall with nuts bolts etc incl. S & F 3 nos. DIN type HRC fuse as per rating.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1    | Set |                |                  |
| 2. a)                                | Supply at site the 14 SWG MS Sheet metal fabricated free standing on floor Main LT Distribution Panel Board based on the ISMC - 75 Channel, to be of size not over 1750mm (Length) x 1500mm (Ht.) x 350mm (Depth). The Panel Board Would be completed with the Cable Alleys at both side, Bus Alley and powder coat painting 'Siemens Grey' and also by the all sorts of internal wiring by the PVC insulated 'FR', 1100V Grade Copper Wires incl. finishing their every ends by suitable size tinned copper socket (of Dowell's make) and PVC insulating tapes. The panel Bord will be containing the following electrical switching / Measuring / Indicating & <u>Current Russing accessories</u><br>Referring the 'SLD' for the same :- |      |     |                |                  |
| A)                                   | <b>Switching Accessories : All 'L&amp;T' Make,</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |                |                  |
|                                      | Following all the MCCB, by Thermal Magnetic and Adjustable / Fixed OL - Range as undementioned and complete with the direct rotary handle, Auxilary and trip Alarm Contact & Spreader Terminal as per following mention :-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |     |                |                  |
|                                      | i) 250A (200 - 250) A, 4 Pole, 415V, Br. Cap. 50 KA as Incomer, (Type DN2 - 250N) - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |      |     |                |                  |
|                                      | ii) 160A Fixed OL, 3 Pole, 415V, Br. Cap. 50 KA as outgoing Fdr., (Type DN 1 - 160 M) - 1 Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |     |                |                  |
|                                      | iii) 125A (100 - 125)A, 4 Pole, 415 V, Br. Cap 30 KA as outgoing (3 sets) & spare (1 set) - 4 Sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |                |                  |
|                                      | (Type DU125H) With 415V AC Shunt Trip Release - 4 Sets.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |                |                  |
| B)                                   | <b>Change Over Switch :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |                |                  |
|                                      | i) 'L&T' make, 125A / 415V, 4-Pole ON-LOAD centre OFF open executed Switch - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |      |     |                |                  |
| C)                                   | <b>Measuring, Indicating &amp; Alarming &amp; Allied Accessories :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |      |     |                |                  |
|                                      | i) 'L&T' make (96 x 96) Sqmm. Digital Ammeter 3Ph, Cl.1.0 (1 xxx Series) (Sel Switch - 2 Sets in built)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |     |                |                  |
|                                      | ii) 'L&T' make (96 x 96) Sqmm Digital Voltmeter 3Ph, Cl.1.0 (1 XXX Series) (Sel Switch inbuilt) - 2 Sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |      |     |                |                  |
|                                      | iii) Kappa / AE Make CT, Cl.1.0, 5.0VA each by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |      |     |                |                  |
|                                      | a) Set of 3 X 100/5A - 1 Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |     |                |                  |
|                                      | b) Set of 3 X 100/5A - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |     |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL  |                                                                                                                                                                                                                                                                                                                                                                                              |      |      | RATE   | AMOUNT |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|--------|--------|
| No  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                  | UNIT | QNT  | Rs. P. | Rs. P. |
| 4.c | Supplying and fixing 240 V SP MCB of Breaking capacity 10kA & C characteristics on din rail of existing DBs and necessary connection 6/ 10A to be of same make of DB to the above DB.                                                                                                                                                                                                        | 48   | No   |        |        |
| 5.a | Supplying and fixing double door Vertical TPN MCB Distribution board for MCCB incomer with IP-42/43 protection, on angle iron frame on wall & mending good the damages to original finish incl. Inter connection with suitable size of copper wire and neutral link & provision for earthing attachment as per approved Vendor make list 6 - Way upto 160A                                   | 2    | Set  |        |        |
| 5.b | Supplying and fixing 415 V 100A Four Pole MCCB of Breaking capacity 25kA/35kA with adjustable thermal and fixed magnetic setting in existing DBs / enclosure and necessary connection as per approved Vendor make and same make to that of the DB - Enclosure                                                                                                                                | 2    | Set  |        |        |
| 5.c | Supplying and fixing 415 V, 3 X25 & 3X32A, TP-C MCB of Breaking capacity 10kA & C characteristics on din rail of existing DBs and necessary connection as per approved Vendor make and same make to the DB @ 6 nos / Brd X 2 = 12 Nos.                                                                                                                                                       | 12   | Each |        |        |
| 6   | Supplying and fixing double door sheet steel (16SWG), powder coated cable end box for TPN DB horizontal / vertical enclosure with IP-42/43 protection, on angle iron frame on wall & mending good the damages to original finish with nuts bolts etc incl. provision for earthing attachment @ 2 sets / VTPN - BDB both top & bottom X BDB = 4 Sets both at Stair Case wall of Ground Floor. | 4    | Set  |        |        |
| 7   | Supply at site the undermentioned XLPE / Armoured -Al. Conductor Cable of 1100 V Grade of approved make:                                                                                                                                                                                                                                                                                     |      |      |        |        |
|     | i) 4C - 120 Sq.mm.                                                                                                                                                                                                                                                                                                                                                                           | 12   | Mtr  |        |        |
|     | ii) 3.5C - 95 Sq.mm                                                                                                                                                                                                                                                                                                                                                                          | 70   | Mtr  |        |        |
|     | iii) 4C - 70 Sq.mm                                                                                                                                                                                                                                                                                                                                                                           | 80   | Mtr  |        |        |
| 8   | <b>Laying of the above Cable by the following Way :</b>                                                                                                                                                                                                                                                                                                                                      |      |      |        |        |
| a   | Laying of cable above 3½ core 90 sqmm and upto 3½ core 150 sqmm on wall/surface including S & F MS clams with earthing attachment in 2 x 10 SWG GI (Hot Dip) Wire, making hole etc. as necy., mending good damages and painting                                                                                                                                                              | 11   | Mtr  |        |        |
| b   | <b>Laying Through UG Trench :</b>                                                                                                                                                                                                                                                                                                                                                            |      |      |        |        |
| i   | Laying of one No. cable above 35 sqmm and upto 185 sqmm in underground trench 460mm wide x 760mm average depth, with brick protection on the top of the cable with 8 (eight) Nos. bricks per Mtr. including filling the space between the bricks and cable and also the trenchwith shifted soil, leveling up and restoring surface duly rammed                                               |      |      |        |        |
|     | For - i) 1x3.5C - 95 Sq.mm. - 57 mtr.                                                                                                                                                                                                                                                                                                                                                        |      |      |        |        |
|     | ii) 1 x 4C - 70 Sq. mm. - 70 mtr.                                                                                                                                                                                                                                                                                                                                                            |      |      |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                  | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
| 11    | Supplying and fixing polythene pipe complete with fittings as necy. under ceiling/beam, bound with 22 SWG GI binding wire incl. supplying and drawing 1x18 SWG GI Wire as fish wire inside the pipes and fittings and providing 50 mm dia disc of MS sheet (20 SWG) having colour paint at one face fastened at the load point end of the polythene pipe with fish wire (synchronizing with roof/beam casting work of building construction) |      |      |                |                  |
| a     | 25 mm dia 3 mm thick Polythene Pipe (for TPN - BDB, from the end of the VTPN - BDB ; average 20 mtrs per floor run X 2 floors = 40 Mtrs.                                                                                                                                                                                                                                                                                                     | 40   | Mtr  |                |                  |
| b     | 19mm dia 3 mm thick Polythene Pipe from the TPN-BDB to SPN - BDB and also to the proposed position of the General Power Plug & Computer Power Plugs, average 180 mtrs./floor x 2 floors = 360 mtrs.                                                                                                                                                                                                                                          | 360  | Mtr  |                |                  |
| 12    | Cutting Channel of following size on the masonry wall                                                                                                                                                                                                                                                                                                                                                                                        |      |      |                |                  |
| a     | (43 mm X 43 mm) Channel for 25 mm dia Polythene Pipe without Earth Continuty Wire average 1.5 mtrs / run X 2 runs = 3 mtrs.                                                                                                                                                                                                                                                                                                                  | 3    | Mtr  |                |                  |
| b     | (40 mm x 40 mm) channel for 19 mm dia Polythene Pipe without earth Continuty wire average 1.5 mtrs / run x 24 runs / floor X 2 Floor                                                                                                                                                                                                                                                                                                         | 72   | Mtr  |                |                  |
| 13    | Supplying & Fixing sheet metal inspection box (16 SWG) of the following sizes flushed in wall by housing the same after cutting brick wall incl. making earthing attachment, painting and mending good damages to building works, size 200 mm X 150 mm X 65 mm                                                                                                                                                                               | 65   | Each |                |                  |
| 14    | Supplying and Drawing 1.1 KV single core stranded 'FR' PVC insulated & unsheathed single core stranded copper wire (Brand approved by EIC) of the following sizes in the prelaid polythene pipe and by the prelaid GI fish wire and making necy. connection as required                                                                                                                                                                      |      |      |                |                  |
| a     | By (4 X 1C - 6 + 2 X 1C - 4) Sqmm. Wires from the end of the VTPN-BDB and upto the TPN - BDB (incl. the extra length of the wires) for keeping the length inside the Switch Board and the BDB (average 13 mtrs / runs X 6 runs = 78 mtrs)                                                                                                                                                                                                    | 78   | Mtr  |                |                  |
| b     | By (2X1C - 4 + 2 X 1C - 2.5) Sqmm. Wires, from the end of the TPN-BDB & upto the AC M/C P/Plug via the starters SPN-BDB and also average 20mtrs /run X 14 runs incl. the extra length of the wires for keeping inside the TPN & SPN BDB's & also inside the Starters etc.                                                                                                                                                                    | 280  | Mtr  |                |                  |
| c     | By (2X1C - 2.5 + 1X1C-1.5) Sqmm. Wires from the end of the TPN-BDB and upto the General Power & Computers Plug Boards by extension of runs from one comp. Plug board to another as per direction, average 16 mtrs/run X 40run)                                                                                                                                                                                                               | 640  | Mtr  |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL |                                                                                                                                                                                                                                                                                 |      |     | RATE   | AMOUNT |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|--------|
| No | DESCRIPTION                                                                                                                                                                                                                                                                     | UNIT | QNT | Rs. P. | Rs. P. |
| 18 | Supply at site under the original packed condition the following make & size (by Sweep) AC High Speed Exhaust Fan, compl. With all the relevant components.                                                                                                                     |      |     |        |        |
| a  | 12 inch (=300mm) Sweep ; (Colour-Grey) 'USHA' make, model name : 'Turbo LD DBB' (or equivalent 'Orient' make, model name: Power Flow).                                                                                                                                          | 1    | Set |        |        |
| b  | 9 inch (=225mm) Sweep ; (Colour - Grey) 'USHA' make, Model Name: 'Turbo LD Jet Dir' (or equivalent 'Orient make, Model Name: 'Hi-Speed')                                                                                                                                        | 17   | Set |        |        |
| 19 | Supply at site under the original packed condition, the following make & model, 16 inch (=400mm) Sweep, White Colour Wall Bracket Fan, Cord operated, Make - 'USHA' ; Model - 'Striker High Speed' or equivalent Make of Orient, Model - 'Wall - 47 - High Speed'.              | 19   | Set |        |        |
| 20 | Installation of the above supplied electrical utilities by the undermentioned way as per the electrical Layout or as per the direction of the Eng.-in-Charge :-                                                                                                                 |      |     |        |        |
| a  |                                                                                                                                                                                                                                                                                 |      |     |        |        |
|    | i) Twin Set :                                                                                                                                                                                                                                                                   |      |     |        |        |
|    | Ground Floor - 36 Sets & 1st Floor - 14 Sets.                                                                                                                                                                                                                                   |      |     |        |        |
|    | ii) Single Set:                                                                                                                                                                                                                                                                 |      |     |        |        |
|    | Ground Floor-0Set & 1st Floor - 35 Sets (Total 85 Sts)                                                                                                                                                                                                                          | 85   | Set |        |        |
| b  |                                                                                                                                                                                                                                                                                 |      |     |        |        |
|    | i) Stair Case of the Administrative Building - 2 sets                                                                                                                                                                                                                           |      |     |        |        |
|    | ii) Electrical Meter Room - 2 Sets                                                                                                                                                                                                                                              | 4    | Set |        |        |
| c  | The 15 & 10 Watt Surface Mounted LED squared Luminaire directly on the ceiling by S&F MS Screws.                                                                                                                                                                                |      |     |        |        |
|    | i) 15 Watt LED                                                                                                                                                                                                                                                                  |      |     |        |        |
|    | Gr. Glr.-9 sets + 1st Flr. 24 sets = 33 sets                                                                                                                                                                                                                                    |      |     |        |        |
|    | ii) 10 Watt LED                                                                                                                                                                                                                                                                 |      |     |        |        |
|    | Gr. Glr.-9 sets + 1st Flr. 18 sets = 27 sets                                                                                                                                                                                                                                    |      |     |        |        |
|    | Total - 60 Sets                                                                                                                                                                                                                                                                 | 60   | Set |        |        |
| d  | The 10 Watt LED Surface/Suspended Luminaire directly on the Wall of the Toilet Block of Ground Floor only.                                                                                                                                                                      | 11   | Set |        |        |
| e  | Fixing only the 48 inch ceiling fan by fixing complete with blades, canopy, fork, rubber bush etc. incl. S&F connecting wire for down rod upto 30 cm incl. painting the rod with approved paint and making necessary connection as required by 2x1.5 sqmm flexible copper wire. | 52   | Nos |        |        |
| f  | Fixing only the exhaust fan after making hole in wall and making good damages and smooth cement finish etc. as practicable as possible and providing necy. length of PVC Insulated wire and making connection for exhaust of following diameter:                                |      |     |        |        |
| i  | For 9 inch (=230mm) Sweep Fan.                                                                                                                                                                                                                                                  |      |     |        |        |
|    | Gr. Floor - 7 Nos. & 1st Flr. - 11 nos. = 18 nos.                                                                                                                                                                                                                               | 18   | Nos |        |        |
| ii | For 12 inch (=300mm) Sweep Fan                                                                                                                                                                                                                                                  |      |     |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No    | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
| 29. a.   | Supplying & Fixing 240 V AC/DC superior type Ding-Dong Call Bell (Anchor) on HW board incl. S&F HW board one each on the entrance wall of Principal Room & Faculty Room                                                                                                                                                                                                                                                                                                                                                                           | 2    | Set  |                |                  |
| 29. b.   | Supply & Fixing 0.5 Watt/240V LED Coloured (Blue or Amber) Bulbs in the existing batten holder meant for night camp in the Dormitory, 1st Floor .<br>(Make PHILIPS / CGL)                                                                                                                                                                                                                                                                                                                                                                         | 8    | Nos  |                |                  |
| <b>C</b> | <b><u>CIRCUIT &amp; DISTRIBUTION WIRING OF POINTS &amp; ALLIED WORKS :</u></b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |      |      |                |                  |
| 30       | Supply & Fixing 19mm dia 3mm thick Polythene Pipe complete with fittings as necy. under ceiling/beam, bound with 22 SWG GI binding wire incl. supplying and drawing 1x18 SWG GI Wire as fish wire inside the pipes and fittings and providing 50 mm dia disc of MS sheet (20 SWG) having colour paint at one face fastened at the load point end of the polythene pipe with fish wire (synchronizing with roof/beam casting work of building construction) for all the wires, proposed for the general plug boards, 'LAN', TV & Telephone points. | 650  | Rm   |                |                  |
| 31       | Cutting channel of 40 mm x 40 mm size on masonry wall incl. S&F heavy gauge polythene pipe 19 mm dia 3 mm thick polythene pipe without earth continuity wire, by means of iron hooks and supplying and drawing 18 SWG GI Wire as fish wire incl. mending good damages to building works for the vertical extension of the aforesaid Wires as per I/No.-1                                                                                                                                                                                          | 260  | Mtrs |                |                  |
| 32       | Supplying & Fixing CRC sheet metal (16 SWG) JB-cum- Switch Board of the 175 mm x 100 mm x 65 mm complete with three no. suitable size Copper bar with holes (for Ph, N & E) fixed on bakelite/Hard Rubber insulator over the MS welded chairs incl. bakelite/Perspex/coloured Perspex (wall matching colour) top cover 3 mm thick flushed in wall for housing the board after cutting the brick wall incl. making earthing attachment, painting and mending good damages to building works.                                                       | 42   | Nos  |                |                  |
| 33       | Making Channel on R.C.C. Casting/Floor, 40mm depth X 40 mm Width and S & Drawing 19 mm OD thin flexible PVC Pipe.                                                                                                                                                                                                                                                                                                                                                                                                                                 | 12   | Mtrs |                |                  |
| 34       | Supplying and Drawing 1.1 KV single core stranded 'FR' PVC insulated & unsheathed single core stranded copper wire (Brand approved by EIC) of the following sizes in the prelaidd polythene pipe and by the prelaidd GI fish wire and making necy. connection as required, all from the end of the respective TPN-BDB and considering the extra run of the wires at both Line and Load end.                                                                                                                                                       |      |      |                |                  |
| a        | 2 X 1C - 4+ 1 X 1C - 205 Sq. mm Wires, upto the 25A Plug Socket via the AC M/C Starter (average 16 mtrs/run X 16 runs) = 256 mtrs                                                                                                                                                                                                                                                                                                                                                                                                                 | 256  | Mtrs |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | UNIT | QNT | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|----------------|------------------|
| 37     | Distribution wiring in 1.1 KV grade 2x22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed copper wire (Brand approved by EIC) partly in 20mm size PVC rigid conduit 'FR' (Precision make) [for ceiling portion only] and in 19mm bore, 3mm thick polythene pipe [for horizontal & vertical run embedded in wall], with 1x22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed copper wire for ECC, to light/fan/call bell points with Modular type switch (Brand approved by EIC) fixed on Modular GI switch board complete with 2 no. suitable size "Ph & N" copper bar with top cover plate making earthing attachment fixed on wall incl. mending good damages to original finish. [only PVC Rigid Conduit on ceiling and remaining portion concealed] for the Ceiling Recessed Luminaire at Gr. Floor average run 9.0 mtrs/pt | 40   | Pt. |                |                  |
| 38     | Distn. wiring in 22/0.3 (1.5 sqmm) single core stranded 'FR' PVC insulated & unsheathed single core stranded copper wire (Brand approved by EIC) in 19 mm bore, 3 mm thick polythen pipe complete with all accessories embedded in wall to 240 V 6A 5 pin plug point incl. S&F 240 V 6A 3 pin Modular type plug socket & Modular type switch (Brand approved by EIC) incl. S&F earth continuity wire, fixed on 4 Module GI switch board with 3/4 Module top cover plate flushed in wall incl. mending good damages to original finish                                                                                                                                                                                                                                                                                                                                  |      |     |                |                  |
| a      | On the respective Switch Board :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |     |                |                  |
|        | Gr. Flr. - 20 Sets (+), 1st Flr. - 10sets ; Total - 30 Sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 30   | Set |                |                  |
| b      | Away From the Room's Sw. Brd, i.e. on separate Sw. Brd.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |     |                |                  |
|        | Average run 3.0 mtrs/pt (or Set)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |      |     |                |                  |
|        | Gr. Flr. - 21Sets (+), 1st Flr. - 20sets ; Total - 41 Sets                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 41   | Set |                |                  |
| 39. a. | Supplying & Drawing LAN cable (CAT6) (Brand approved by EIC) in prelaid PVC rigid conduit/ in polythene pipe embeded in wall.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 80   | Rm  |                |                  |
| 39. b. | Supplying & Drawing 2-pair Telephone cables with high density polyethylene insulated solid annealed high conductivity bare copper of dia 0.5mm in prelaid PVC rigid conduit/ in polythene pipe embeded in wall.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 120  | Rm  |                |                  |
| D      | <b>SUPPLY &amp; INSTALLATION OF DRINKING CUM WORKING WATER PUMP MOTOR &amp; ALLIED WORKS :</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |      |     |                |                  |
| 40. a. | Supply at site, 'CGL' (Crompton Greaves Ltd.) make "OPENWELL SUBMERCIBLE MONOSET HORIZONTAL" Pump Motor Set, of 2.2Kw/3.0HP @ Maximum Head 36 Mtrs with 80LPM discharge with outlet size 40mm (1.5 inch) with SS Shaft & Thurst Bearing, 'Type OWKS32SS'                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2    | Set |                |                  |
| 40. b. | Installation of the above supplied 'PM' Set in the UG-Reservoir on the pre-installed MS Iron frame by S&F SS Nut, Bolt & Washer.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2    | Set |                |                  |
| 40. c. | Installation of the Hot Dip GI, MS Channel made frame on the PCC Base in the Reservoir by S&F the MS Channel Frame made from ISMC75.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2    | Set |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |      |     | RATE   | AMOUNT |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|--------|--------|
| No     | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UNIT | QNT | Rs. P. | Rs. P. |
| 43     | Supplying and fixing 2.5 mm OD PVC Rigid Conduit 'FR' [Precision Make] on wall, ceiling with saddles and other accessories as required and mending good damages to building works, average 8 mtrs/run X 2 run = 16 mtrs.                                                                                                                                                                                                                                                                   | 16   | Mtr |        |        |
| 44     | Supply & Drawing 'Gloster/Polycab' make 3-Core, 2.5 Sq.mm. Flat PVC insulated & sheathed, 1100V Grade Copper Cable through the above PVC Rigid Pipe including making connections.                                                                                                                                                                                                                                                                                                          | 20   | Mtr |        |        |
| E      | <b><u>LIGHTING ARRESTER INSTALLATION WORKS (BY CONVENTIONAL SYSTEM):</u></b>                                                                                                                                                                                                                                                                                                                                                                                                               |      |     |        |        |
| 45     | S & F Lightning conductor Air-terminals made of 15 mm dia 1500 mm long GI pipe (ISI Medium) having five prongs of 4 SWG GI (Hot Dip) wire at top with 85 mm dia 6 mm thick GI base plate at bottom incl. necessary holes etc. duly grouted on the parapet etc. in CC mortar (4:2:1).                                                                                                                                                                                                       | 8    | Nos |        |        |
| 46. a. | Supply & fixing GI (Hot Dip) strips 20 mm x 3 mm thick for horizontal run on the Parapet/Roof/ Wall with GI Saddles 1100 mm apart incl. mending good the damages to building works                                                                                                                                                                                                                                                                                                         | 147  | Mtr |        |        |
| 46. b. | Supply & fixing of GI (Hot Dip) strips 20 mm x 3 mm thick for down vertical run on the building outer wall with GI saddles spaced not exceeding 1000 mm apart incl. mending good damages to building work , average 7.5 mtrs/run X 6 runs                                                                                                                                                                                                                                                  | 45   | Mtr |        |        |
| 47     | Supply & Fixing of Testing Joints by 20 mm x 3 mm thick GI (Hot Dip) strip 125 mm long grouted on wall having clearance of 6 mm from wall for making connection with thimbles at the end of 7/10 SWG GI (Hot Dip) stranded Wire and 4 SWG GI (Hot Dip) wire of vertical conductor and conductor from earth electrode complete with S & F thimbles, GI bolts, nuts, check-nuts, spring washers etc. as required on the each Vertical/Down Conductor at a height of 0.75 mtr. above the G.L. | 6    | Set |        |        |
| 48     | Making the soldered joints between conductors and down pipes/ other metallic objects for 14 SWG GI (Hot Dip) wire including supply of necessary 4 SWG GI (Hot Dip) wire, jointing materials and painting with 2 (two) coats of bituminous paint                                                                                                                                                                                                                                            | 12   | Set |        |        |
| 49     | Hiring charges for Scaffolding arrangement including dismantling at the end of work and carriage for the installation of Vertical Conductor, @ 6.0 mtr/Vert. Conductor = 6 x 6 = 36 mtrs.                                                                                                                                                                                                                                                                                                  | 36   | Mtr |        |        |
| F      | <b><u>COMPOUND &amp; AREA LIGHTING INSTALLATION &amp; ALLIED E.I. WORKS :</u></b>                                                                                                                                                                                                                                                                                                                                                                                                          |      |     |        |        |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
| 55     | Fixing of the supplied LED Luminaries of 88 Watt LED fittings, (Ref. Supply item no. 16h), with the Arm bracket and also making internal connection by S&F drawing (3X1C - 1.5) Sq.mm. PVC Copper Wire by supplying and installation 19mm OD PVC flexible / corrugated Pipe starting from the end of the Loop Box and upto the Terminal Block of the Luminaire by using ladder etc. (Compl. item of Works).                                                                                                                                                                                                                                                                                                                                                        | 13   | Set  |                |                  |
| 56     | Supply & Drawing 25mm OD, 3mm thick Polethene Pipe, 2 Sets at each Pole below the foundation block of the each pole average length 1.0 mtr. (one for I/C Cable & other for O/G Cable) (Compl. Item of Works & all in a set).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 25   | Set  |                |                  |
| 57. a. | Painting of Steel Tubular Pole of lengths and no. of coats of paint, as given below with ready mixed paint/primer of approved make, and brand incl. preparation of surface by sand paper/emery paper, cleaning etc. for receiving fresh coat of paint by                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |      |      |                |                  |
|        | i) One coat of Red Coad/Zinc Chromate Printing & (ii) 2nd Coat of Synthetic enamel paint over the 1st coat of paint (Compl. Items of Work and in a set)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 13   | Set  |                |                  |
| 57. b. | Painting with Lime Washing the Mutting Block over the GI as per direction of the E.I.C. in respect of selection of the paint colour etc. (Complete item of works).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 13   | Set  |                |                  |
| 58. a. | Installation by S&F of the 40 mm OD GI Pipe by direct grouting over the Gate Pillar, at a depth of 0.5 mtr. And height at 0.3 mtr. Over the pillar incl. S& Drawing 2X25 mm OD & 3mm thick & 1.5 mtr each in length, Polythene Pipe from the end of the each GI Loop Box by S&F GI Loop Box in the respective Gate Pillar (Compl. item of works & all in a set)                                                                                                                                                                                                                                                                                                                                                                                                    | 2    | Set  |                |                  |
| 58. b. | S & Drawing 3 X 1C - 1.5 Sq.mm., PVC Copper Wires incl. making connection from the end of the Loop Box and upto the Terminal Block of the Luminaire through the prelaid polythene pipe, (average 3.0 mtrs/Gate X 2) = 6.0 mtrs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 6    | Mtrs |                |                  |
| 59. a. | Supply at the site 16SWG MS CRCA sheet metal fabricated 'AUTO/MANUAL' Light Control Box (for all the Roof and Outdoor Area Lighting Luminaires, etc.), to be suitable for direc wall mounting the overall dimension not to be over 750mm (Ht.) X 400mm (Width) X 300mm (depth). The control Boxes to be completed by front openable and rubber gasketed hinged door and with 12 SWG MS Sheet as the Top & Bottom detachable gland cover (plate) and also by powder coat painting alongwith 2XM8 Earthing Bolt with Nut & Washers, etc. and also to be completed by interconnection by PVC insulated 'FR' 1100V Grade multistandard / 1-Core Copper Wires for both the Powered Control Wires and by finishing the Wires and try S&F Copper Socket of Suitable size. |      |      |                |                  |
|        | The internal accessories will be as undermentioned :                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |      |      |                |                  |
|        | i) 'L&T' make 25A, 415 V, 4P-MCCB (Br.Cap. 10KA) as I/C Unit - 1 Set.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |      |      |                |                  |
|        | ii) 'L&T' make 32A/415V, 4-Pole power Contactor (AC-1 rating) Type 'MC X 03' with (2 nos. + 2 NC) add on Control Block (all in a set) - 1 Set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |      |      |                |                  |



**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL No                                                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
| 63                                                     | Extra for providing masonry enclosure on the top of the earth electrode of overall size 86.36 cm x 86.36 cm x 46 cm deep (below Ground level) complete with cemented brick work(1:6) f 25 cm width duly plastered ith cement mortar (inside) CI inged inspection cover of size 36.56 cm x 35.56 cm with locking arrangement, GI reducer including drilling of 46 nos. 12 mm dia holes on the GI pipe                                                                                                           | 11   | Set  |                |                  |
| 64                                                     | Connecting the equipments to earth busbar including S & F GI (Hot Dip) wire of size as below on wall/floor with staples buried inside wall/floor as required and making connection to equipments with bolts, nuts, washers, cable lugs etc. as required and mending good damages                                                                                                                                                                                                                               | 8    | Mtrs |                |                  |
| <b>PART-E TOTAL CARRIED TO GENERAL SUMMARY</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |                |                  |
| <b>PART-'F' CONSTRUCTION OF BOUNDARY WALL,'PLOT-A'</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |      |      |                |                  |
|                                                        | Earth work in excavation of foundation trenches for boundary wall, in all sorts of soil (including mixed soil but excluding laterite or sand stone) including removing. Spreading or stacking the spoils within a lead of 75m. as directed. The item includes necessary trimming the sides of trenches, levelling, dressing and ramming the bottom, bailing out water etc. as required complete.                                                                                                               |      |      |                |                  |
|                                                        | Depth of excavation not exceeding 1500mm.                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Cum  | 70   |                |                  |
|                                                        | Filling in foundation trench plinth with earth obtained from excavation of foundation in layers not exceeding 150mm, as directed and consolidating the same by thorough saturation with water, ramming complete.                                                                                                                                                                                                                                                                                               | Cum  | 33   |                |                  |
|                                                        | Removal of rubbish from the working site and disposal of the same, beyond the compound exceding 10 Km. and depositing and levelling in conformity with the Municipal/ Corporation Rules for such disposal, loading into truck and cleaning the site in all respect as per direction of E.I.C.                                                                                                                                                                                                                  | Cum  | 37   |                |                  |
|                                                        | Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering.                                                                                                                                                                                                                                                                                                                                                                                            |      |      |                |                  |
| PLACE:                                                 | 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum  | 7    |                |                  |
| DATE:                                                  | 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size).                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cum  | 3.5  |                |                  |
|                                                        | 125 mm thick Brick masonry work in cement mortar (1:4) using approved H.B. netting in every third layer with approved 1st class bricks ( 250 x 125 x 75 ) having minimum crushing strength of 105 kg per Cmsq. including curing at least for 7 days, before using it for work cleaning and soaking the brick at least for 24 hours, scaffolding, staging, all leads and lifts from any point to any point inside the site, in all structures such as walls / pillars / supports etc. as directed by the E.I.C. | Sqm  | 150  |                |                  |

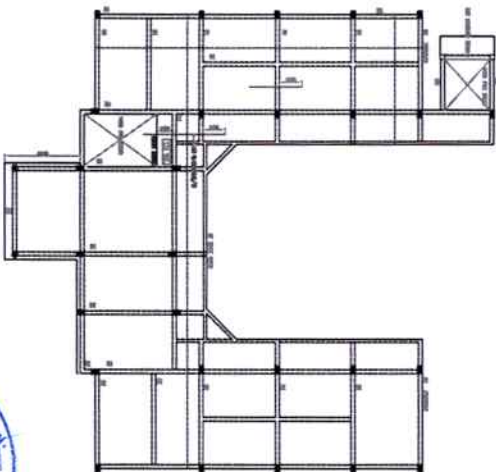
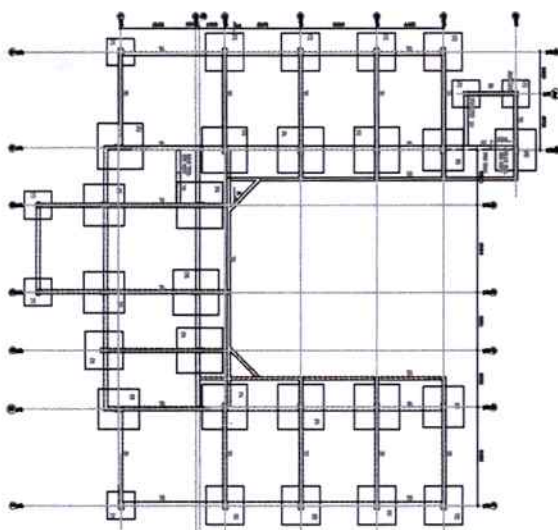


**B.O.Q. FOR CIVIL,SANITARY,BOUNDARY WALL,SITE DEVELOPMENT AND ELECTRICAL WORKS FOR INDSETI BUILDING AT  
MIDNAPUR UNDER INDIAN BANK ZONAL OFFICE,WEST BENGAL.**

| SL<br>No | DESCRIPTION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | UNIT | QNT  | RATE<br>Rs. P. | AMOUNT<br>Rs. P. |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|----------------|------------------|
|          | Reinforcement Cement concrete (mix 1:2:4) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement,if any, in ground floor as per relevant IS codes.                                                                                                                                                                                                                                                                                                                                           | Cum  | 32.5 |                |                  |
|          | Hire and labour charges for shuttering with centering and necessary staging upto 4 M. using approved stout proper and hard wood planks of approved thickness with required bracing for concrete slabs, beams, stairs, columns, walls, lintel, any curved member, fins, chajjas and fascia etc. including fitting, fixing and striking out after completion of <u>mandatory period as specified.</u>                                                                                                                       |      |      |                |                  |
|          | Steel shuttering or 9 mm to 12 mm thick approved quality ply board shuttering in any concrete work.                                                                                                                                                                                                                                                                                                                                                                                                                       | Sqm  | 345  |                |                  |
|          | Reinforcement steel (Fe-500) for reinforced concrete work in all sorts of structures including distribution bars, stirrups binders etc. including supply of steel bars, initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape placing in proper position and binding with 16 gauge black annealed wire at every inter-section, complete as per drawing and direction of E.I.C.                                                                | MT   | 4.0  |                |                  |
|          | Providing & applying 20mm thick cement plaster to external surfaces of masonry and concrete surface in two coats, underlayer 12mm thick cement mortar 1:6 ( 1 cement : 6 coarse sand ) and top layer 8mm thick cement plaster 1:6 (1 cement: 6 coarse sand) finished smooth and leveling the surface all complete. External plastering shall include roughening of the concrete surface, raking out joints of brick works including groove where ever required, curing at least for 7 days etc. scaffolding, staging etc. | Sqm  | 490  |                |                  |
|          | Neat cement punning 1.5mm thick.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Sqm  | 80   |                |                  |
|          | Applying exterior grade Acrylic primer (Single coat) of approved quality and brand on plastered or concrete surface to receive decorative textured or smooth finish acrylic exterior emulsion paint including smoothening the surface by sand papering and scaffolding etc. complete in all respect as per direction of the E.I.C.                                                                                                                                                                                        | Sqm  | 490  |                |                  |
|          | Priming single coats on steel surface with synthetic oil bound primer of approved make and brand including smoothening the surface by sand papering and scaffolding etc.                                                                                                                                                                                                                                                                                                                                                  | Sqm  | 90   |                |                  |
|          | Supplying & applying two coats of protective and decorative Acrylic smooth exterior (anti fulgal) emulsion paints of approved quality on external / internal wall surface including surface preparation, scaffolding etc. complete as per direction of E.I.C.                                                                                                                                                                                                                                                             |      |      |                |                  |
|          | Super protective 100% acrylic emulsion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Sqm  | 490  |                |                  |
|          | Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary with scaffolding, complete                                                                                                                                                                                                                                                                                           |      |      |                |                  |







| POURING SCHEDULE |     | STANDARD |       |       |   | REMARKS/REMARKS        |
|------------------|-----|----------|-------|-------|---|------------------------|
| POURING<br>MIX   | 1   | 2        | 3     | 4     | 5 |                        |
| P1               | 1.8 | 1.8      | 0.200 | 0.100 |   | 12 & 600°C/<br>solvent |
| P2               | 2.8 | 2.8      | 0.200 | 0.100 |   | 12 & 600°C/<br>solvent |
| P3               | 2.7 | 2.7      | 0.200 | 0.100 |   | 12 & 600°C/<br>solvent |
| P4               | 2.0 | 2.0      | 0.200 | 0.200 |   | 12 & 600°C/<br>solvent |

- [illegible]

|                     |                  |                     |                  |
|---------------------|------------------|---------------------|------------------|
| CLINT               | AR0047C1         | EXAMINER:           | CLINT            |
| DATE OF<br>PREPARED | DATE             | DATE OF<br>PREPARED | DATE             |
| PROJECT             | PROJECT          | PROJECT             | PROJECT          |
| SHEET               | SHEET            | SHEET               | SHEET            |
| NO. OF<br>SHEETS    | NO. OF<br>SHEETS | NO. OF<br>SHEETS    | NO. OF<br>SHEETS |
| SCALE               | SCALE            | SCALE               | SCALE            |
| 1:100               | 1:100            | 1:100               | 1:100            |
| TITLE               | TITLE            | TITLE               | TITLE            |
| 1:100               | 1:100            | 1:100               | 1:100            |





**e-Grihanaksha**

Online Building Plan Approval System

## BUILDING PERMIT

Date: 10-02-2025

From :

The Chairman

Midnapore Municipality

Building Permit Number: SWS-OBPAS/1606/2024/0481

To:

Mr. Braj Kishore Prasad

Old Water Tank, Station Road, Midnapore

**Subject:** Issue of sanction of erection of the building and issue of Building Permit under rule 21.

### Building Particulars:

|                      |                 |            |      |
|----------------------|-----------------|------------|------|
| Premises No          | 1168            | Holding No | 1168 |
| Street/Lane          | Saratpally      | Borough No | --   |
| Ward                 |                 | Block No   | --   |
| Plot No : Khatian No | LR-593 : 2557   |            |      |
| Mouza                | NARAMPUR        | JL         | 174  |
| Police Station       | Midnapore Sadar |            |      |

Sir/Madam,

With reference to your application dated **25-11-2024** for the sanction of the building with particulars mentioned above, this Building Permit is hereby granted subject to the following conditions :-

1. The Building Permit is valid up to **09-02-2028**
2. The Building Permit No. **SWS-OBPAS/1606/2024/0481** dated **10-02-2025** is valid for **Institutional** purpose
3. The construction will be undertaken as per sanctioned plan only and no deviation from West Bengal Municipal (Building) Rules 2007 (as amended) will be permitted.

Any deviation done against the said rules is liable to be demolished.



Yours faithfully,

Signature Not Verified

Digitally Signed.  
Name: SOUMEN KHAN  
Date: 10-Feb-2025 15:47:53  
Reason: Building Permit  
Location: Midnapore

SOUMEN KHAN

Chairman





TOTAL AREA LAND (A+B) - 3B-16K.-81

- 1) VINODA NORA MEMORIAL DIABETIC CLINIC
- 2) R-50/1-HOUSE OF S.ROY
- 3) R-50/2-HOUSE OF S.DESAI
- 4) R-50/3-HOUSE OF ARUP HAR (25)
- 5) GODOWN OWNER'S NAME NOT AVAILABLE
- 6) HOUSE OF SHARMILA GUHA
- 7) HOUSE UNDER CONSTRUCTION
- 8) VACANT PLOT
- 9) VACANT PLOT OF AJRI MARKETING DEPTT. ((

NOTES:-

ALL DIMENSION ARE IN MM  
WATER TO BE SUPPLIED IN TO THE HOUSE FROM WELL  
THROUGH OVER HEAD TANK BY 1 HP 2-PUMP.

CLIENT

ARCHITECT

ENGINEER

INDIAN BANK

PROPOSED SITE PLAN FOR CONSTRUCTION OF INDSETI BUILDING  
R.S PLOT NO - 34 (P), L.R. PLOT NO - 593 (P), KHATIAN NO - 2557  
MOUZA - NARAMPUR, J.L. NO - 174, P.S. - MEDINIPUR,  
HOLDING NO. 1168, MAHALLA - SARADIPALLY  
WARD NO. 23(NEW) 24(OLD), DALI. NO. 3209/17  
DIST-PASCHIM MEDINIPUR, UNDER MIDNAPUR MUNICIPALITY

DIST-PASCHIM MEDINIPUR, UNDER MIDNAPUR MUNICIPALITY

INDSETI BUILDINGS AT MIDNAPUR

SHEET: NAME DATE CONSULTANT

DRAWN S.B. 23.11.23

CHECKED A.DHAR. 23.11.23

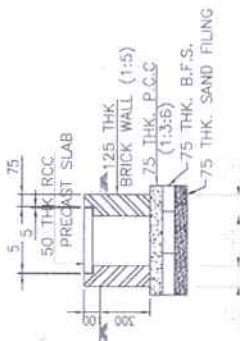
APPROVED 23.11.23

TITLE: SITE PLAN

DWG. No:

Rev.

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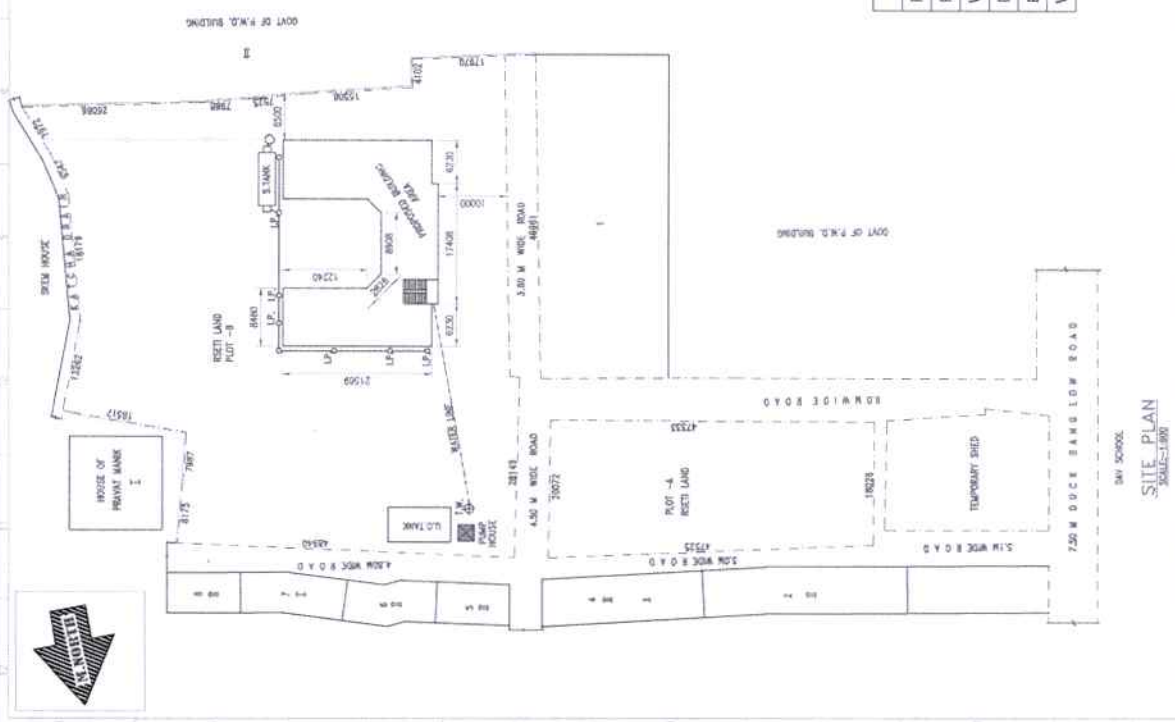
CROSS SECTION OF  
HOUSE DRAIN

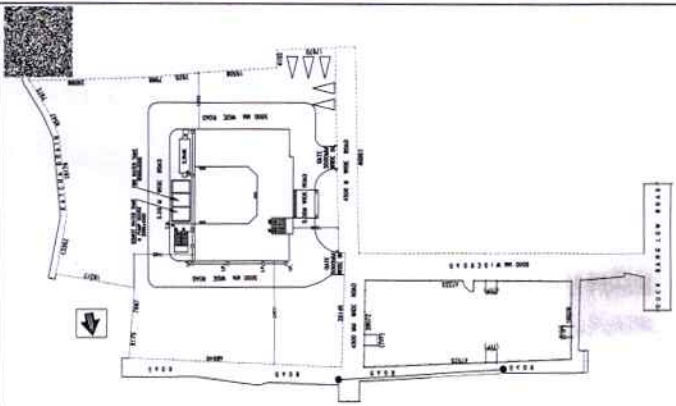


ROOF PLAN,  
SCALE:-1:800

REFERENCE

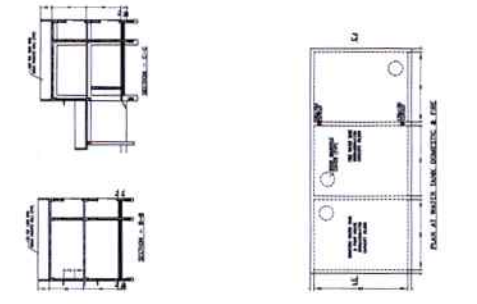
|                          |  |
|--------------------------|--|
| PLOT LINE                |  |
| PROP. DRAIN              |  |
| WATER LINE               |  |
| DRAINAGE & SEWFRAGE WORK |  |
| ELECTRIC POST            |  |
| WATERTAP                 |  |



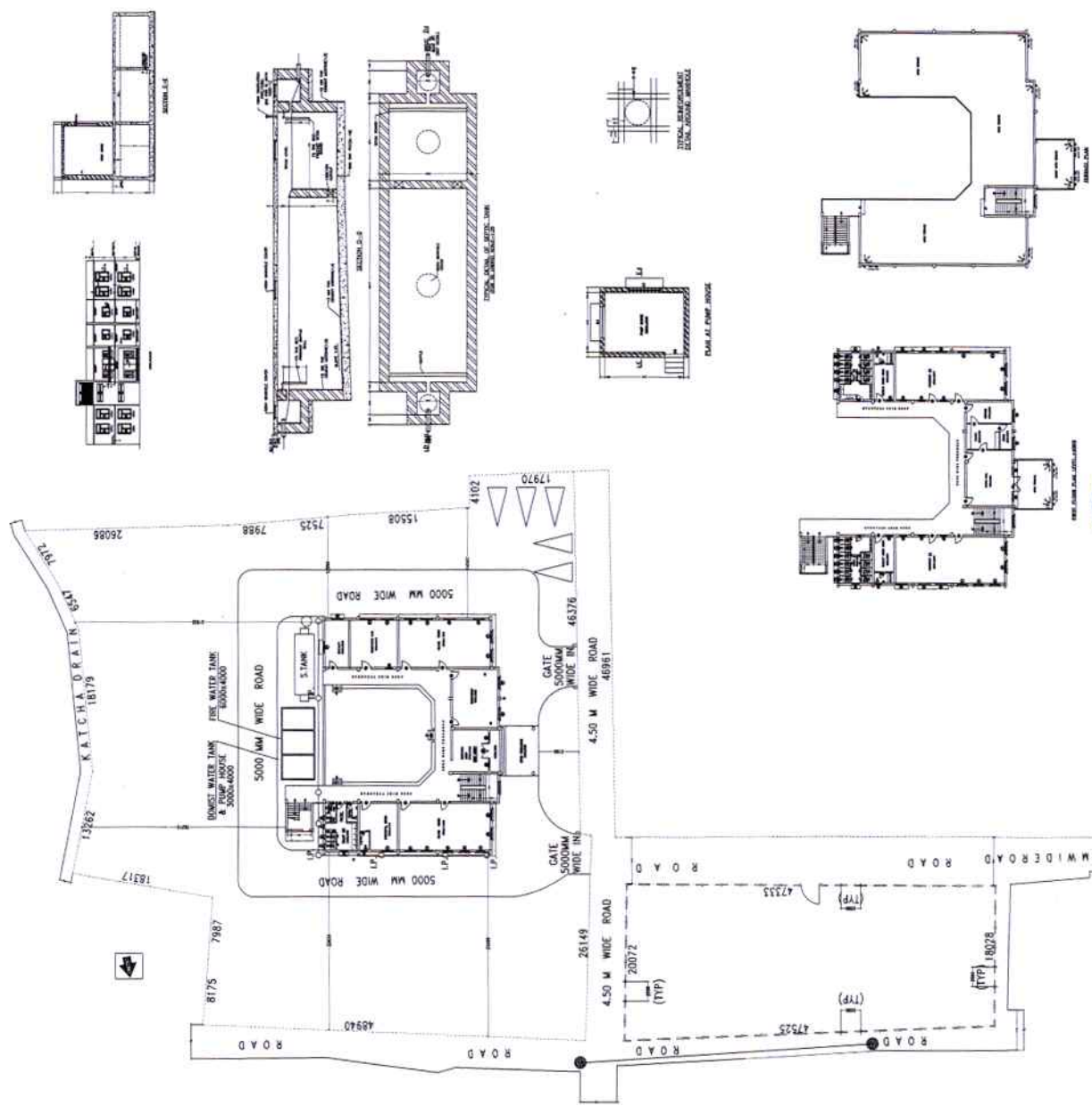


- NOTES:-
- 1) TOTAL AREA OF LAND (A+B) - 385.18 SQ. M.
  - 2) TOTAL AREA OF LAND (B) - 423.4 SQ. M.
  - 3) GROUND FLOOR COVD AREA - 652.69 SQ. M.
  - 4) TOTAL BUILDUP AREA -
  - 5) GROUND FLOOR - 862.69 SQ. M.
  - 6) FIRST FLOOR - 540.45 SQ. M.
  - 7) STAIR - 25.200 SQ. M.
  - 8) TOTAL - 1228.25 SQ. M.

|           |                                         |
|-----------|-----------------------------------------|
| CLIENT    | INDIAN BANK TRUST FOR RURAL DEVELOPMENT |
| ARCHITECT | INDIAN BANK TRUST FOR RURAL DEVELOPMENT |
| ENGINEER  | INDIAN BANK TRUST FOR RURAL DEVELOPMENT |



| NO. | DESCRIPTION | QTY | UNIT | PRICE | TOTAL |
|-----|-------------|-----|------|-------|-------|
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| 70  | ...         | ... | ...  | ...   | ...   |
| 71  | ...         | ... | ...  | ...   | ...   |
| 72  | ...         | ... | ...  | ...   | ...   |
| 73  | ...         | ... | ...  | ...   | ...   |
| 74  | ...         | ... | ...  | ...   | ...   |
| 75  | ...         | ... | ...  | ...   | ...   |
| 76  | ...         | ... | ...  | ...   | ...   |
| 77  | ...         | ... | ...  | ...   | ...   |
| 78  | ...         | ... | ...  | ...   | ...   |
| 79  | ...         | ... | ...  | ...   | ...   |
| 80  | ...         | ... | ...  | ...   | ...   |
| 81  | ...         | ... | ...  | ...   | ...   |
| 82  | ...         | ... | ...  | ...   | ...   |
| 83  | ...         | ... | ...  | ...   | ...   |
| 84  | ...         | ... | ...  | ...   | ...   |
| 85  | ...         | ... | ...  | ...   | ...   |
| 86  | ...         | ... | ...  | ...   | ...   |
| 87  | ...         | ... | ...  | ...   | ...   |
| 88  | ...         | ... | ...  | ...   | ...   |
| 89  | ...         | ... | ...  | ...   | ...   |
| 90  | ...         | ... | ...  | ...   | ...   |
| 91  | ...         | ... | ...  | ...   | ...   |
| 92  | ...         | ... | ...  | ...   | ...   |
| 93  | ...         | ... | ...  | ...   | ...   |
| 94  | ...         | ... | ...  | ...   | ...   |
| 95  | ...         | ... | ...  | ...   | ...   |
| 96  | ...         | ... | ...  | ...   | ...   |
| 97  | ...         | ... | ...  | ...   | ...   |
| 98  | ...         | ... | ...  | ...   | ...   |
| 99  | ...         | ... | ...  | ...   | ...   |
| 100 | ...         | ... | ...  | ...   | ...   |



DUCK BANGLOW ROAD



PROJECT:INDSETI BUILDING AT MIDNAPUR

CLIENT: INDIAN BANK  
ZONAL OFFICE, MIDNAPUR

**DHAR & ASSOCIATES PV. LTD.**

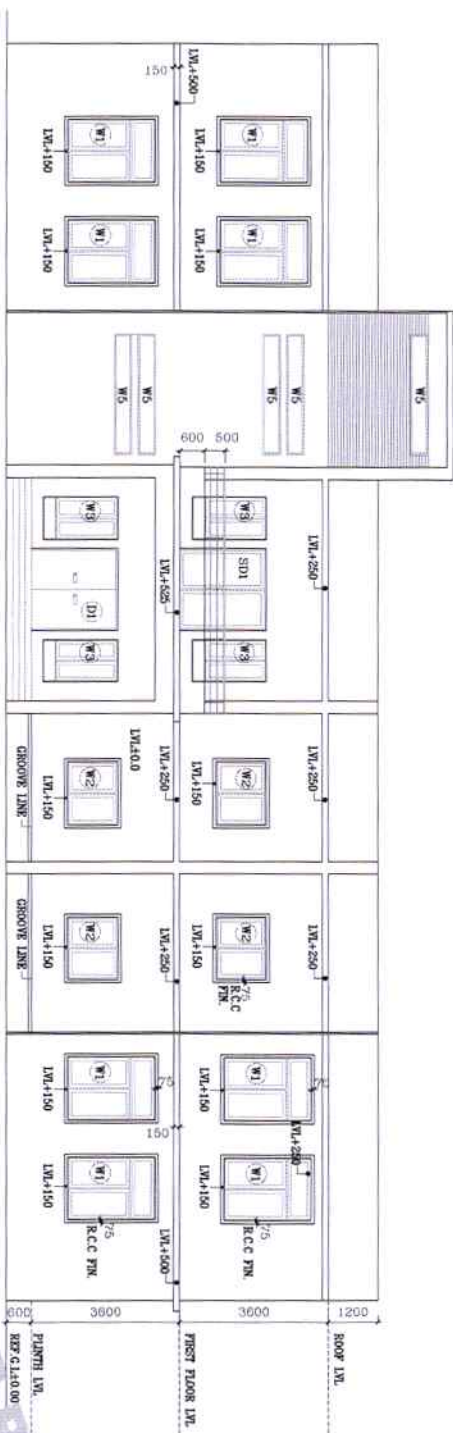
Architects, Structural Engineers:  
Industrial Credit and Interior Designers:  
7, Radcliffe House, 4th Floor, Kolkata - 700001.

ELEVATION

|     |          |
|-----|----------|
| R1: | 08.12.23 |
| P2: | 04.12.24 |

| SCALE | DRN. BY  | CHKD. BY | DRAWING NO.      | DATE |
|-------|----------|----------|------------------|------|
| 1:100 | Moushumi |          | DA/NO/INSETH/607 |      |

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PROJECT: INDSETI BUILDING AT MIDNAPUR

CLIENT: INDIAN BANK  
ZONAL OFFICE, MIDNAPUR

**DHAR & ASSOCIATES PVT. LTD.**

Architects, Structural Engineers,  
Industrial Consultants, Interior Designers  
7, Red Cross Place, 4th Floor, Kolkata - 700021

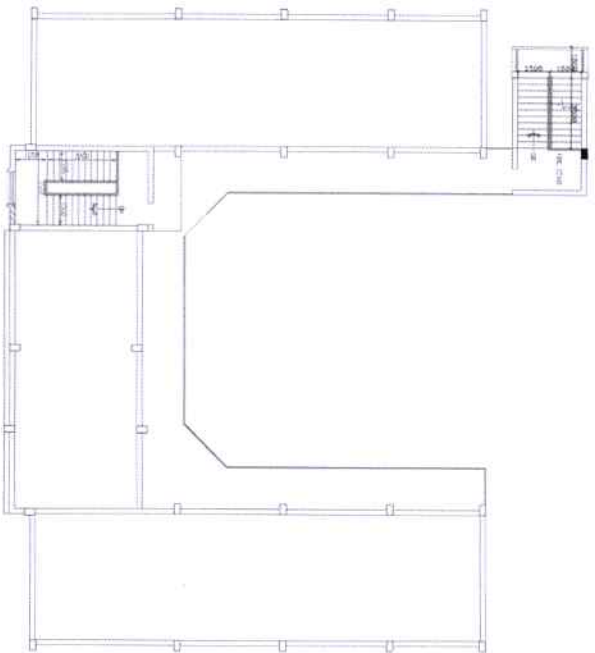
FOUNDATION, BEAM LAYOUT  
& SECTIONS

R1: 08.12.23  
R2: 04.12.24

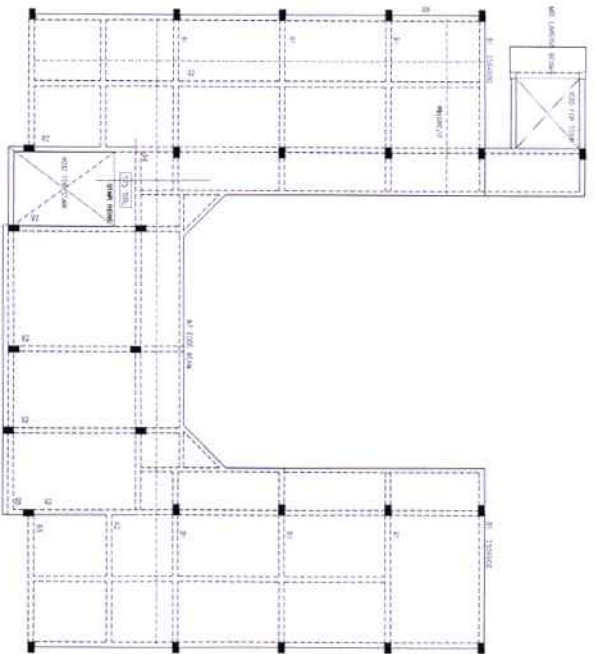
| SCALE | OPN. BY  | CHKD. BY | DRAWING NO.       | DATE       |
|-------|----------|----------|-------------------|------------|
| 1:500 | Moushumi |          | DA/IND/INDSET/606 | 23.11.2023 |

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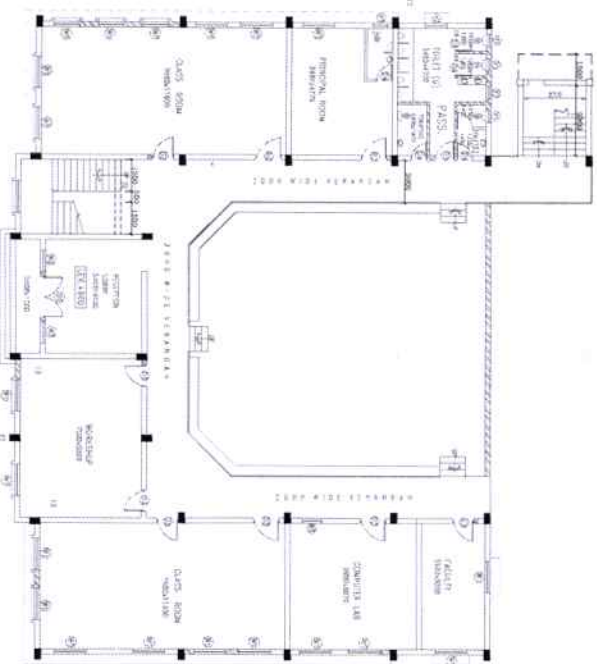




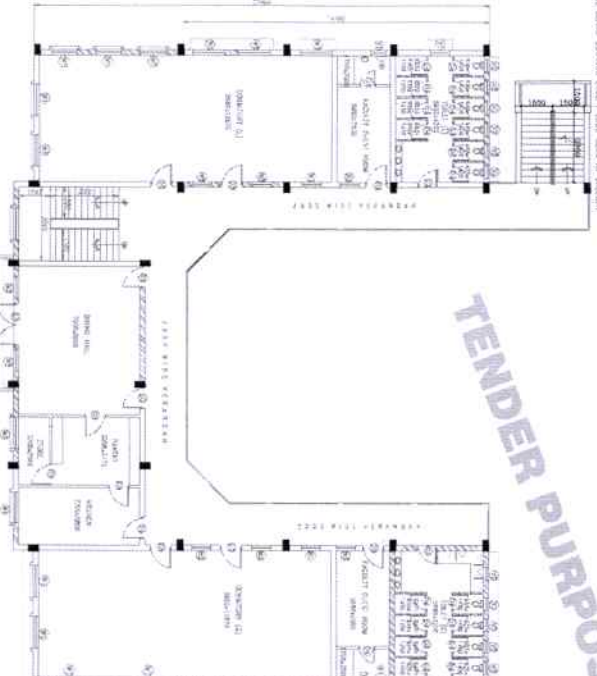
ROOF PLAN



BEAM LAYOUT & REINF. DETAIL OF SLAB AT ROOF LEVEL  
REINFORCEMENT OF SLAB IS TO BE DONE AS PER THE DESIGN  
AND BEAM 2200MM EXCEPT FOR BEAM AT BALCONY



GROUND FLOOR PLAN



FIRST FLOOR PLAN LEVEL +4500

TENDER PURPOSE ONLY



THIS DRAWING IS TENDER PURPOSE ONLY

PROJECT: INDSETI BUILDING AT MIDNAPUR

CLIENT: INDIAN BANK  
ZONAL OFFICE, MIDNAPUR

**DHAR & ASSOCIATES PVT. LTD.**

Architects, Structural Engineers,  
Industrial Consultants, Interior Designers  
7, Red Cross Place, 4th Floor, Kolkata - 700001

FIRST, SECOND, ROOF PLAN AND  
BEAM LAYOUT & REINF DETAILS

R1-08.12.23  
R2-04.12.24

SCALE: DRN. BY: CHD. BY: DRAWING NO. DATE  
1:100 Moushumi DA/MD/INDSETI/605 23.11.2023

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