

**Tender No: RailTel/Tender/OT/ER/HQ/2017-18/1039
Dt. 16.09.2017**

**TENDER DOCUMENT
FOR**

"Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region under Executive Director/ER."



**RAILTEL CORPORATION OF INDIA LIMITED
(A Government of India Enterprise)
EASTERN REGION
16th Floor, Chatterjee International Centre,
33A Jawaharlal Nehru Road,
Kolkata – 700 071.
Phone (033)44041499 FAX: (033)44041490**

COST OF EACH TENDER DOCUMENT: Rs. 5,900/- (Rupees five thousand nine hundred only) Addl Rs 500/(five hundred), by post

COPY NO. _____ : SOLD TO _____

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OPEN TENDER NOTICE (Detailed)

Tender Notice No. RailTel/Tender/OT/ER/HQ/2017-18/1039, Dt 16/09/2017

RailTel Corporation of India Ltd., 3rd Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata invites sealed tenders for the work of “Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 12 months from the date of acceptance letter under the jurisdiction of Eastern Region under Executive Director/ER.” as per the Schedule of work and specifications given in this Tender Document for the sections mentioned below:

| Section | Section Details | Estimated Cost in Rs. | Earnest Money Deposit | Period of Completion |
|--|-----------------|-----------------------|-----------------------|----------------------|
| Tender No. RailTel/Tender/OT/ER/HQ/2017-18/1039, Dt. 16.09.2017 | | | | |
| 1 | Eastern Region | Rs.7326787.00 | Rs. 146535.00 | 12 Months |

| | | |
|---|--|------------------------------------|
| a | Sale of Tender Documents. | From 21.09.2017 |
| b | Closing of sale of Tender Documents | 11/10/2017 up to 17.00hrs |
| c | Submission of tender documents. | 12/10/2017 on or before 15.00 hrs. |
| d | Opening of tender documents. | 12/10/2017 at 15.30 hrs. |
| e | Earnest Money (EMD) as specified above will be payable by Bank Draft in favour of RailTel Corporation of India Limited payable at Kolkata. | |
| f | Cost of Tender Document for Section is. Rs. 5,900/-inclusive of GST@18% (Rs 6400/- is required by post) payable by Bank Draft in favour of RailTel Corporation of India Limited. Payable at Kolkata from any scheduled bank (Non-Refundable) | |

Eligibility Criteria Per Section:

Technical : The tenderer should have completed successfully and satisfactorily, from start to finish in the last three financial years (i.e. current year and three previous financial years) at least one similar single work, for a minimum value of 35% of the advertised tender value of the work.

Financial:

- a. The turnover of the firm from the contractual payments received against supply contracts during the last three financial years plus the current financial year till the date of tender opening should be minimum of 150% of the Tender value.
- b. Tenderer shall submit audited balance sheets for work executed and for the period as specified under minimum qualifying criteria.

Cost of Tender Document and Earnest Money deposit shall be paid in the form of A/c Payee Demand Draft drawn in favour of **RailTel Corporation of India Limited**, payable at Kolkata from any scheduled bank/Nationalised Bank. Tender document can be purchased from the Office of the Executive Director (Eastern Region), RailTel Corporation of India Ltd. 3rd Floor Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata - 700 071 on any working day or can be downloaded from the web site www.railtelindia.com. Documents downloaded from website shall accompany the payment for the cost of the Tender document in the form of D.D as mentioned at clause "if" above during the submission of Tender document. Documents received without the EMD will summarily be rejected **The tender document should be sealed in a cover duly superscripted tender No., and name of the work** and shall be dropped in the Box kept in the office of Executive Director (Eastern Region), 3rd Floor Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata - 700 071, RailTel is not responsible for delay or loss in transit. The tenderer/or his representative may be present at the time of opening of tenders, if they desire. The tender offers are deemed to be valid for acceptance for a period of 120 days from the date of opening of the tender. Tender received after stipulated times will not be entitled any way. Incomplete tenders and tenders with insufficient EMD will be summarily rejected.

Care to be taken while submitting the Tender:-

(a)(i) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Clause-7 of the Standard General Condition of contract for the completion of works to the entire satisfaction of the Engineer.

(ii) Tenderers will examine the various provisions of the Central Goods and services Tax Act, 2017 (CGST)/Integrated Goods and Services Tax Act, 2017 (IGST)/Union Territory Goods and services Tax Act, 2017 (UTGST)/respective states' State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt & as amended from time to time and applicable taxes before binding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.

(iii) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.

(iv) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the railway shall deduct the applicable GST from his / their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.

Railways/PUs should modify their tender documents accordingly in the tenders to be invited now onward.

This issues with the concurrence of Accounts and finance Directorates of Ministry of Railways.

(Arun Michael)
General Manager/Operation
RailTel/Eastern Region, Kolkata

CHECK LIST (TO ENSURE COMPLETENESS OF THE OFFER)

| S. N. | Description | Yes/No. |
|--------------|---|----------------|
| 1. | Submission of Cost of Tender Document | |
| 2. | Offer letter complete duly signed (Form - 1) | |
| 3. | Submission of Earnest Money in the prescribed form | |
| 4. | Audited balance sheet duly attested by Chattered Accountant for the last three years | |
| 5. | Proposed Progress Chart (Form – 7) | |
| 6. | Constitution of Firm and Power of Attorney | |
| 7. | Similar work executed or under execution | |
| 8. | User Certificate (Form – 9) | |
| 9. | System Performance Guarantee (Form – 10) | |
| 10. | Schedule of Requirements (S.O.R.) | |
| 11. | Any other information desired to be submitted by the tenderer | |
| 12. | List of Manpower | |
| 13. | List of Plant & Machinery | |

Section – I

Chapter - 1

Form No. 1

OFFER LETTER

To
Executive Director, Eastern Region,
RailTel Corporation of India Limited,
Chatterjee International Centre,
33A, Jawaharalal Nehru Road,
Kolkata – 700 071.

I/We _____ have read the various conditions detailed in tender documents attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I/We also agree to keep this tender open for acceptance for a period of 120 days from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our Earnest Money. I/We offer to do the work of “Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 31.08.2018 under the jurisdiction of Eastern Region under Executive Director/ER.” at the rates quoted in the attached schedules and hereby bind myself/ourselves to complete the work within 12 (Twelve) month from the date of issue of Letter of Acceptance of the tender. I/We also hereby agree to abide by the various Conditions of Contract and to carry out the work according to the Specifications for materials and works laid down by the RailTel for the present contract.

2. A sum of Rs. _____ (Rupees _____ only) as a Account Payee Demand Draft No. _____ dated _____ issued by _____ is herewith forwarded as “Earnest Money”. The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if,

I/We do not execute the contract agreement within 15 days after receipt of notice issued by the RailTel that such documents are ready or,

I/We do not commence the work within 15 days after receipt of orders to that effect.

Until a formal agreement is prepared and executed the acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually

agreed to between us and indicated in the “Letter of Acceptance” of my/our offer for this work.

SIGNATURE OF CONTRACTOR (S)

Date

SIGNATURE OF WITNESS

CONTRACTOR (S) ADDRESS

- 1.
- 2.

ACCEPTENCE OF TENDERS

I accept the tender as above and agree to pay the rate as entered in Schedule of Requirements.

WITNESS For and on behalf of

for and on behalf of
RailTel Corporation of India Limited,
Eastern Regional Office, Kolkata – 700 071.

Date

SECTION – I

Chapter – 2

Preamble

1. Name of work:

“Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 31.08.2018 under the jurisdiction of Eastern Region under Executive Director/ER”.

2 Scope of work:

The scope of the work shall constitute the following responsibilities of the tenderer:

2.1 Supply:

Supply of items conforming to technical specifications & to industry standards and RDSO specification (wherever applicable) as per supply schedule and technical specifications.

2.2 Services:

Complete construction involving Civil, Structural, Interior & Exterior finishing, Electrical and allied works execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 31.08.2018 under the jurisdiction of Eastern Region under Executive Director/ER as per Schedule of Requirements and technical specifications.

3. Pre-bid conference:

Not used

4. Tender Bid

The tender bid shall be submitted in sealed envelop in single stage as to RailTel Corporation of India limited, Eastern Region, 33A Jawaharlal Nehru Road, Kolkata – 700071 within the date and time indicated in the tender notice, Bid Data Sheet(BDS) or any subsequent amendment/ corrigendum thereof.

5. Qualifying Criteria

Please refer ITT Clause No.19 it will be incumbent on the part of the tenderer to list specially the details in respect of each of the sub-clauses of the clause 19 as to how the tenderer fulfils the qualifying criteria.

6. Last date of Submission

The tender shall be received at the address and not later than the date and time indicated in the Tender Notice and also in the Bid Data Sheet (BDS) Section-I, Chapter – 5 of this Tender Document. In case the date happens to be a holiday, these shall be received on next working day.

7. Date of Opening of Tender

The tender shall be opened at the address and not later than the date and time indicated in the Tender Notice and also in the Bid Data Sheet (BDS) Section-I, Chapter-5 of this Tender Document. In case the date happens to be a holiday, these shall be dropped and shall be opened on next working day (at 15:30 hrs.)

8. Completion Period of Work:

The Completion Period shall be as has been indicated in the Tender Notice and also BDS of this Tender Document.

9. Address to which correspondence and documents relating to the Contract should be sent:

Executive Director/Eastern Region, RailTel Corporation of India Limited, Chatterjee International Centre Building, 3rd Floor, 33A, Jawaharlal Nehru Road, Kolkata - 700 071.

10. Earnest Money

Tenderer shall deposit a sum as indicated in Bid Data Sheet (BDS) Section – I, Chapter – 5 of the Tender Document as Earnest Money Deposit (EMD) in a manner prescribed in ITT clause 7.

11. Performance Bank Guarantee

On receipt of Letter of Acceptance of Tender from the RailTel, the successful tenderer shall, within a period of 15 days, deposit Performance Bank Guarantee in favour of RailTel Corporation of India Limited, Kolkata an amount as is indicated in the Bid Data Sheet (BDS), Section-I, Chapter-5 of this Tender Document.

12. Specifications

Reference of specifications of the important equipments and materials required for execution of the contract is given in the Technical Specification (Section-II of Tender Document). The work shall be executed in compliance with all the technical requirements given therein.

13. Schedule of Requirement

The various items to be supplied and services to be provided by the tenderer for the works are indicated in Schedule of Requirement as enclosed to this preamble (Section I, Chapter – 2). The tenderer is advised to quote for all the items for particular sections. The make and model of all the equipments proposed to be supplied must be indicated by the tenderer/s in the Schedule of Requirement.

The quantity indicated in the Schedule of requirement is the estimated requirement and may change depending as per site condition. On this and other developments, the purchaser may exercise the option of increase/decrease of the quantity of the supply and installation of material as specified in clause 19 Chapter – 4, Section – I (SCC)

14. Supplier's Credit

Not used

15. Work to be done by the RailTel

Items of works to be done by RailTel if any are indicated in Bid Data Sheet (BDS).

16. Materials to be supplied by RailTel

16.1 Materials to be supplied by RailTel if any, for the scope of work under this tender, are indicated in Bid Data Sheet (BDS).

16.2 In case of any material required for this work is supplied by RailTel due to failure of contractor in timely arranging the same, it will be charge @28% over and above the accepted SOR rates.

17. Materials to be supplied by Contractor

(i) Tenderers special attention is invited to the fact that no material shall be arranged/supplied except as specified in BDS by RailTel for construction of rooms. All materials including the materials covered under the Schedule of Requirement and those required to achieve the end objective of the Tender Document are to be supplied by the contractor.

(ii) The material supplied by the contractor shall conform to laid down BIS/RDSO/IRS/TEC/IS/Specs (latest). Wherever the specifications have not been mentioned/available, the material shall be of best industrial quality available in the market. The approval for supply of such materials shall be specifically taken from Executive Engineer/in charge of the work

18. As a good tender practice, the tenderer is expected to submit all information in the relevant forms attached as Annexure to this document and suitably numbering each page of the bid documents with a index listing various documents with their serial numbers. In the absence of numbering of pages and the index list, there is a likelihood of important documents going unnoticed which the tenderer shall be solely responsible.

19. Maintenance Support

The tenderer should submit their strategy for providing maintenance support during warranty and post warranty period in terms of clause no. 24 (Maintenance of Works), Clause no.27 (Placing in Service & Maintenance supervision) and Clause no. 29 (Warranty) of SCC.

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SECTION - I

CHAPTER - 3 (PART – I)

**INSTRUCTIONS TO TENDERERS AND
CONDITIONS OF TENDERING**

SECTION - I

CHAPTER - 3 (PART – I)

INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDERING

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SECTION - I

CHAPTER - 3 (PART – I)

INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDERING

1. GENERAL INSTRUCTIONS

- 1.1 These regulaton for tenders & contracts shall be read in conjunction with the General Conditions of Contract, which are rfeferred to herein and shall be subjected to modifications, additions or supersession by Special Conditons of Conntract and/ or Special specifications, if any, annexed to the Tender Forms.

2. INTERPRETATIONS & DEFINITIONS OF SOME GENERAL TERMS:

The following terms wherever occurring in the tender papers and wherever used throughout the execution of the work, shall, unless excluded by or repugnant to the context, have the meaning attributed thereto as follows:

“TENDER DOCUMENT”

The Special Conditions of Contract(SCC), , Instructions to Tenderers and Conditions of Tendering(ITT), General Conditions of Contract(GCC), Bid Data Sheet (BDS). Technical Specifications & Supplement, Preamble including Schedule of Requirements (SOR), all Annexures, Form, Corrigendum & Addendum issued, if any, etc. shall, hereafter, be collectively referred to as the "Tender Document".

“RailTel” shall mean Office of Gernal Mananger (Eastern Region) of RAILTEL CORPORATION OF INDIA LIMITED, (a Company with its Regional & Registered Corporate Office at 6th Floor, III Block, Delhi Technology Park, Shastri Park, Delhi 110053 or its authorised Officers or other Employees authorized to deal with any matters with which these persons are concerned, on its behalf.

“Executive Director” shall mean the officer incharge for the general superintendence and control of the RailTel’s Eastern Region and shall mean and include their successors of this region of RailTel.

"CONTRACT" shall mean the Contract resulting from the acceptance by the Purchaser of this Tender whether in whole or in part. “ Contract” shall mean and include the Agreement of Work Order, the acceptanced schedule of the rates or the Schedule of Rates of RailTel modified by the tender percentage for items of works quantified or not quantified, the General Conditions of Contract, the Special conditions of Contract, if any, the drawing, the specifications, the special specifications, if any, and tender forms, if any, and the document submitted by the Tenderer which have been specifically been accepted by RailTel.

"CONTRACTOR" means the successful Tenderer i.e., the Tenderer whose Tender has been accepted either in whole or in part and shall include their personel representative, successor and permitted assigns.

‘TENDER SPECIFICATION’ shall mean the special conditions, Technical Specification, Appendices, Site information and Drawing pertaining to the work for which the tenderers are required to submit their offer.

‘CONTRACTOR’S REPRESENTATIVE’ shall mean a person in supervisory capacity who shall be so declared by the contractor and shall be authorized under a duly executed Power of Attorney to receive the materials issued by the purchaser to the contractor for the works. He shall be responsible for proper execution of works at each or all places and shall take orders from purchaser’s Engineers and carry out the same.

‘LETTER OF INTENT/WORK ORDER’ shall mean the intimation by a Letter/Telegram/Telex/ FAX to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.

‘COMPLETION TIME’ shall mean the period by date specified in the letter intent/Work Order i.e. the time allowed for completion the work including Sundays and holidays from the date of issue of letter of intent/Work Order.

‘PLANT’ shall mean an connote the entire assembly of the plant and equipments covered by the contract.

“ENGINEER / ENGINEER-IN-CHARGE” shall mean an executive of RailTel in charge of works and shall include the superior executives of RailTel. He is responsible for ensuring that all field works covered by the contract are carried out in accordance with approved designs, drawings & specifications and conditions of contract as agreed to.

"ENGINEER’S REPRESENTATIVE" shall mean the supervisor of RailTel in direct charge of the works or any official nominated by Executive Director or authorised person/representative of the appointed project management consultant.

"EQUIPMENT" shall means all equipments, machineries, materials, structures, Electrical and other components of the plant covered by the contract.

‘TEST’ shall mean and include such test or tests to be carried out by the contractor as are prescribed in the contract or considered necessary by RailTel in order to ascertain the Quality, Workmanship, Performance and efficiency of the contracted work or part thereof.

‘APPROVED; DIRECTED or INSTRCTED’ shall mean approved, directed or instructed by RailTel, Easdtern Region

"MONTH" means any consecutive period of thirty days.

"MATERIALS" means all equipments, components, fittings and other materials including raw materials required to complete the work.

"PURCHASER" means RailTel Corporation of India Limited, Eastern Region, 16th Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700 071.

"PURCHASER'S ENGINEER" means the Executive Director of RailTel or successor who will decide all matters relating to design, manufacture, and installation and commissioning of the plant and equipment at site.

"SUB-CONTRACTOR" shall means an individual or a firm of Contractor or a Company registered under Indian Company Act or an approved supplier of materials to whom the Contractor sublets portions of the contract.

"CONSIGNEE" means the person specified in the Acceptance of Tender to whom Stores covered in the contract are to be delivered at the destination.

"INSPECTING OFFICER" shall means the person or organisation specified in the contract for the purpose of inspection of stores of work under the contract and includes his/their authorized representative.

"SITE" shall means the areas to be taken up by the tenderer for execution of works, together with any other area or areas as shall be determined by the Purchaser's Engineer, which may be placed at the disposal of the Contractor for the purpose of the contract and also such area or areas used for store yards, works yards or workshop in proximity of the works as the Purchaser's Engineer may have authorized as an extension of the site, irrespective of the terms and conditions under which they are occupied by the Contractor.

"BLOCK SECTION" means the distance along the railway track between two consecutive Railway stations.

"TENDERER" means and includes any firm of engineers or Contractors or any company or body, corporate or otherwise, who submit the Tender which has been invited.

'LIMITED TENDER' shall mean tenders invited from all or some contractors on the approved or selected list for the similar type of work executed and approved by the purchaser.

'OPEN TENDER' shall mean the tenders invited in open and public manner and with adequate notice.

"WORK OR WORKS" shall means all or any of the items of the work for which the Tenderer/Contractor has Tendered/contracted according to the specifications, drawings and Annexure hereto annexed or to be implied there from, or incidental thereto or to be hereafter specified or required in such explanatory instructions and drawings, being in conformity with the original specifications, drawings, Annexure and schedules and also such instructions and drawings additional to the aforementioned as may from time to time be issued by the Purchaser's Engineer during the progress of the contracted work.

'SPECIFICATION' shall mean the specification for materials and works of the RailTel issued under the authority of the Executive Director as amplified/ added to / or supported special specifications if any, appended to the tender Form

‘**DRAWINGS**’ shall mean map, drawings, plans and tracings or prints thereof annexed to the tender forms and shall include any modifications of such drawings and further drawings as may be issued by the Executive Director time to time.

"**WRITING**" includes all matters written, typewritten or printed either in whole or in part.

3. **TENDER FORM:** Tender Forms shall embody the contents of the contract documents either directly or by reference. Tender Forms shall be issued on payment of the prescribed fees or downloaded from the website of the RailTel, be furnished with Tender Forms and they shall be required to submit evidence regarding their financial status, previous experience and ability to execute the works, without which their tenders will be not be considered.
4. **ERRORS, OMISSIONS AND DISCREPANCIES:** Should a Tenderer find discrepancies or omissions from the drawings or any of the Tender Forms or should he be in doubt as to their meaning, he should at once notify the authority inviting tenders who may send a written instruction to all tenderers. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of the tender and the successful tenderer shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.

In case of any contradiction only the printed rules and books should be followed and no claim for the mis-interpretation shall be entertained.

5. **LOCAL CONDITIONS**

- 5.1 It will be imperative on each tenderer to fully acquaint himself with all the local conditions and factors which would have any effect on the performance of the contract and cost of the stores. The purchaser shall not entertain any request for clarifications from the tenderer regarding such local conditions. No request for the change of price, or time schedule of delivery of stores shall be entertained after the offer is accepted by the purchase on account of any local condition or factor after the offer is accepted by the purchaser.
- 5.2 The intending tenderer is advised to study the tender papers carefully. Any submission of a quotation/offer by the tenderer shall be deemed to have been done after a careful study and examination of these documents with full understanding of the implications thereof. These conditions and specifications shall be deemed to have been accepted unless otherwise specifically commented upon by the Tenderer in his quotation/offer. Failure to adhere to any one or all these instructions may render his offer liable to be ignored without any reference.

6. **COMPLIANCE TO TENDER CONDITIONS, SPECIFICATIONS & DRAWINGS**

- 6.1 The tenderer shall indicate clause for each section of the tender document that either his tender complies in every respect with the requirements of each clause and sub clause or if not, precisely how they differ from the requirements of the tender. In the later case, the tenderer shall enclose a separate statement as per proforma given, indicating only the deviations for any clause or sub-clause of General Conditions of Contract, Special Conditions of Contract, Instructions to Tenderers and Conditions of Tendering,

Technical Specifications, Preamble, Bid Data Sheets (BDS) etc. which the proposer with justifications for deviations proposed. The purchaser reserves the right to accept or reject these deviations and his decision thereon shall be final (see Form No. 5).

- 6.2 The tenderer should serially number all the pages of the bid. The tenderer should provide information about the compliance of various clauses/ sub clauses/ paragraphs (when tenderer plans to give separate compliance of each paragraph or sub clause) of the tender document as per following table:

| S.N. | Clause no. with chapter | First few words of clause/sub clause/ paragraph | Compliance status | Reference of clause/page no. of supporting document (this page no. shall correspond to the serial numbering of the bid) | Remarks if any |
|------|-------------------------|---|-------------------|---|----------------|
| | | | | | |

The table given above, duly filled in all respects must be submitted along with the offer.

In case of NIL deviations also the information must be submitted in Form-5, Chapter 6, Section – I

- 6.3 Firms should give a proof of work experiences {(Form-2) and (Form – 13)}. Details of work executed giving details of name of the project, date of award, value of contract, the original execution period and the actual execution time taken. The certificate from the actual user about the satisfactory performance indicating all the details as given herein shall be enclosed with the tender.

7. **EARNEST MONEY/ BID GUARANTEE**

- 7.1 The tenderer shall be required to deposit earnest money with the tender for the due performance of the stipulations to keep the offer open till such date as specified in the tender under the conditions of tender.
- The exact amount of Earnest Money required to be deposited is indicated in Bid Data Sheet (BDS) Chapter – 5, Section – I.
 - The tenderers shall hold the offer open till such date as specified in Clause-13 of this Chapter. It being understood that the tender document have been sold/ issued to the tenderer and the tenderer has been permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions, thereof in a manner not acceptable to RailTel. If the tenderer fails to observe or comply with the foregoing stipulation the aforesaid amount deposited as earnest money shall be liable to be forfeited by RailTel.
 - If the tender is accepted this earnest money mentioned in subclause (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of clause -16 of the General Conditions of Contract. The earnest money of the other tenderers shall, save as herein before provided, be returned to them, vide RTGS

detailsas&when that should be provided by the unsuccessful tenderer but RailTel shall not be responsible for any loss or depreciation that may happen thereto while in their possession nor be liable to be forfeited by RailTel.

- 7.2 Earnest Money should be in any of the following forms:
 - 7.2.1 Pay Orders and Demand Drafts. These forms of Earnrest Money could be from any scheduled bank.
 - 7.2.2 Not used
- 7.3 The Earnest Money receipt shall be incorporated in the original copy of the Bid. Other copies of the offer shall contain true copies of Earnest Money receipt.
- 7.4 Pay Orders or Demand Drafts should be drawn in favour of RailTel Corporation of India Limited and endorsed "Account Payee". **These instruments should be valid at least for the period covering 75 (Seventy five) days from the date of opening of tender.**
- 7.5 The bid guarantee / earnest money may be forfeited :
 - 7.5.1 If a tenderer withdraws its tender during the period of tenders validity specified in clause 13 of Instructions to Tenderers and Conditions of Tendering. In the case of successful tenderer, if the tenderer fails to Sign the contract in accordance with Clause 2 of Special Conditions of Contract and to furnish performance guarantee in accordance with Clause 3 of Special Conditions of Contract.
 - 7.5.2 The earnest money of unsuccessful tenderer will save as herein before provided, be returned within reasonable time to the unsuccessful tenderer but the RailTel shall not be responsible for any loss or depreciation that may happen to the security for the due performance of the above stipulation to keep offer open for the period specified in the tender documents or to the Earnest Money while in their possession nor be liable to pay interest thereon.
 - 7.5.3 Tender not accompanied by Earnest Money will be summarily rejected.

8. CARE IN SUBMISSION OF TENDERS

- (a) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Caluse-37 of the General conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
- (b) When work is tendered for by a firm or company of contractors, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
- (a) RailTel will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of contract. It may,

however recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor.

9. RIGHT TO RAILTEL TO DEAL WITH TENDERS

- 9.1 The RailTel reserves the right of not to invite tenders for any of RailTel work or works or to invite open or limited tenders and when tenders are called to accept a tender in whole or in part or reject any tender or all tenders without assigning reasons for any such action.
- 9.2 The authority for the acceptance of the tender will rest with the RailTel. It shall not be obligatory on the said authority to accept the lowest tender or any other tender and no tenderer (s) shall demand any explanation for the cause of rejection of his/their tender nor the RailTel undertake to assign reasons for declining to consider or reject any particular tender or tenders.
- 9.3 If the Tenderer (s) deliberately gives/give wrong information in his/their tender or creates/create circumstances for the acceptance of his/their tender, the RailTel reserves the right to reject such tender at any stage, duly forfeiting the deposited EMD value..
- 9.4 If the Tenderer (s)/Partner(s) expire after the submission of his/their tender or after the acceptance of his/their tender, the RailTel shall deem such tender cancelled, unless the firm retains its character.

10. SUBMISSION OF OFFERS

- 10.1 All offers in the prescribed forms should be submitted before the time and date fixed for the receipt of the offers. Offers received after the stipulated time and date will be summarily rejected or late & delayed tender should be dealt as per existing rules and procedure in vogue.
- 10.2 In case the date of opening happens to be a holiday, the tender will be received and opened at the same time on the next working day.
- 10.3 All offers shall be either type written or written neatly in indelible ink in English. Each page of the offer must be numbered consecutively. A reference to total number of pages comprising the offer must be made at the top right hand corner of the top page. The supporting documents should be submitted either in original or duly signed by the authorized signatory of the tenderer. The original documents shall be produced for verification when called for.
- 10.4 All copies of the tender papers shall be signed in ink by the tenderer, on each page including closing page in token of his having studied the tender papers carefully.
- 10.5 In case tenderer considers necessary to include new item of work not included in schedule of requirement but considered necessary for achieving the end objective he may do so by submitting a new schedule of requirement marked as "B" quoting the rates and quantities along with the detailed justification.

10.6 RATES IN FIGURES & WORDS:

- (i) **The price bid of the tender shall be on a percentage bidding system in the form(s) enclosed at, Section-I, Chapter – 8. The total schedule of requirement (SOR) is given at Section – I, Chapter – 7 where all elements of work, their quantity, unit price and total value for each item of work is clearly stipulated. The unit prices indicated is on “all inclusive” basis inclusive of all types of GST, freight, incidentals etc. Taxable value and taxable GST break up to be given separated to arrive out total value.**
- (ii) **The tenderer is expected to quote the percentage above (+) / below (-)/at par the total price indicated in the schedule of requirement for the section in which they are participating. For the purpose of submission of price bid, the format is enclosed in Section – I, Chapter – 8.**
- (iii) In the event of any discrepancy between the rates in figures and in words, the quote shall be considered taking into account the one written in words for evaluation purpose.

10.7 ATTESTATION OR ALTERATION: No scribbling is permissible in the tender documents. Tender containing erasures and alterations in the tender documents are liable to be rejected. Any correction made by the tenderer/tenderers in his/their entries must be signed (not initialed) by him/them.

10.8 The tenderer shall submit his tender in one sealed cover containing one envelope of bid document one original copy of the tender and one copy. Each copy of the tender shall be complete in all respects. The copies should be marked “original”. The original tender paper purchased from this office or down loaded from the RailTel web site shall be returned duly signed on each page along with the original offer.

10.9 The tender shall be submitted sealed in envelope. The envelope should bear the Tender No. its description and date of closing/opening.

10.10 The offer of the bidder shall consist, but not limited to, the following:

- (i) Offer letter complete. (Form No.1 of Section – I, Chapter - 6)
- (ii) Price Bid Duly filled
- (iii) Earnest Money in prescribed form (Clause 7, Chapter – 3, (Part – I), Section – 1)
- (iv) Copy of PAN Card, solvency certificate, copy of the audited balance sheet of the last three years GSTIN registration copy duly being self attested.
- (v) Not used
- (vi) Constitution of the Firm and Power of Attorney (Clause – 11, Chapter – 3, (Part – I, Section - I)
- (vii) Clause-wise compliance to tender conditions & statement of deviations (Clause 6) (Form No.5 of Chapter – 6, Section - I).

- (viii) Similar works executed or under execution. (Form No.13) (Clause 20, Chapter – 3 (Part – I), Section – I)
- (ix) User's Certificate (Form No. 2 of Chapter – 6, Section – I) (Clause 19.1.4)
- (x) System/Work performance guarantee (Clause 21) of Section – I, Chapter – 3, Partt.I (Form – 7, Chapter – 6, Section - I)
- (xi) Complete technical data and particulars descriptive literature, leaflets, Drawings, if any, complete with list etc. (Clause 19.4).
- (xii) Name of manufacturers, place of manufacture and documentary proof of equipment being proven and working for more than one year along with user certificate clearly indicating the date of commissioning in the user network.
- (xiii) Not used
- (xiv) Any other information desired to be submitted by the tenderer.
- (xv) The present work load of the civil contracts in hand as per the format (Form No. 9, Chapter – 6, Section – I)

11. CONSTITUTION OF FIRM AND POWER OF ATTORNEY

- 11.1 Any individual(s) signing the tender or other documents connected therewith should specify whether he is signing:-
 - (a) As sole proprietor of the concern or as attorney of the sole proprietor;
 - (b) As a partner or partners of the firm;
 - (c) As a Director, Manager or Secretary in the case of Limited Company duly authorized by a resolution passed by the Board of Directors or in pursuance of the authority conferred by Memorandum of Association.
- 11.2 In the case of a firm not registered under the Indian Partnership Act, all the partners or the attorney duly authorized by all of them should sign the tender and all other connected documents. The original Power of Attorney duly notarized or other documents empowering the individual or individuals to sign should be furnished to the Purchaser for verification, if required.
- 11.3 RailTel will not be bound by Power of Attorney granted by the tenderer or by the changes in the composition of the firm made subsequent to the execution of the contract agreement.
- 11.4 In case where the Power of Attorney partnership deed has not been executed in English, the true and authenticated copies of the translation of the same by

Advocate, authorized translators of Courts and Licensed Petition Writers should be supplied by the Contractor(s) while tendering for the work.

- 11.5 The duly notarized Power of Attorney, Memorandum of Joint Venture, as the case may be, shall be submitted with the offer in original. A true copy of the Partnership Deed, duly signed by all the partners, may be submitted alongwith the offer.

12. UNIT PRICES

This tender consists of a percentage bidding system. The estimated prices of each and every item of the schedule are indicated in the Schedule of Requirements. The tenderer is expected to quote the %age above (+) or below (-) the total estimated price indicated in the schedule. For the purpose of releasing payment item-wise, the total %age above/below finalized for the entire schedule will form the basis for calculation of the unit prices where the estimated prices of the individual items of the schedule will be marked up/below the final overall %age accepted.

The percentage above/below finalized for the entire schedule shall be firm and on all-inclusive basis and hence the contractor is advised to quote after taking all the relevant factors into consideration. Subsequent requests for variation of prices will not be entertained. The prices indicated in the schedule are in Indian Rupees for the units under metric system. Reference may be made to Para 38 of Special Conditions of Contract (Section II, Chapter 3). The price includes GST as payable under the law of the land and also includes freight and incidentals and the purchaser shall not accept any liability for the same after award and acceptance of contract.

13. VALIDITY OF OFFER

The tenderer shall keep the offer open for a minimum period as indicated in Bid Data Sheet (BDS) from the date of opening of tender. Within that period the tenderer can not withdraw his offer subject to the period being extended further, if required, by mutual agreement from time to time. Any contravention of the above condition will make the tenderer liable for forfeiture of his Earnest Money.

14. RATES DURING NEGOTIATION

The tenderer/s shall not increase his/their quoted rates in case the RailTel Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted will be binding on the tenderer/s.

15. INCOME TAX CLEARANCE CERTIFICATE (ITCC)

- I The Tenderer is required to enclose alongwith the tender a Photo copy of the PAN Card duly signed and a copies of Income Tax return for the last three years. Tenderer will however submit the original PAN whenever asked by purchaser for verification.
- II The successful tenderer is required to be registered under GST land in force. The GSTIN registration numbers of the successful tenderer with the concerned states shall be a pre-requisite before raising the bill for payment. More over even if the

contractor fails to comply submission of GST return then the GST as given to be deducted from the successive bill also.

16. PERIOD OF COMPLETION AND TIME PROGRESS GRAPH

- 16.1 The works/work are/is to be completed within a period as mentioned in the Bid Data Sheet from the date of issue of Letter of Acceptance of the tender.
- 16.2 The tenderer shall enclose a proposed time progress graph for each activity of work as contain in schedule of requirement to show as to how the intent to complete the works within the time schedule laid down in the contract.

17. OPENING OF TENDER:

- 17.1 Tenderer's Bid will be opened at the time & date of opening of the tender given in the Bid Data Sheet (BDS) in presence of such Tenderers/Representatives who choose to be present.
- 17.2 Late Tender: A complete tender recived after the due date and time at any means will be treated as late tender and will be summarily rejected.

17.4 NON-TRANSFERABILITY AND NON-REFUNDABILITY

The tender documents are not transferable. The cost of tender paper is not refundable.

18. CONSORTIUM BID

Not used

19. QUALIFYING CRITERIA:

19.1 General:

- 19.1.1 Qualifying criteria under this Para lays down minimum acceptable qualifications in various areas to ensure that qualified bidder has necessary experience, technical expertise, equipments and financial and human resources to successfully complete the project.

19.1.2 ELIGIBILITY CRITERIA & TECHNICAL REQUIREMENT FOR QUOTING THIS TENDER:

- 19.1.3 The work covered by this tender is skilled and technical in nature and only the firms having sufficiently skilled and experienced staff with them and who have carried out tight targeted similar works shall quote against this Tender.
- 19.1.4 The tenderer shall necessarily satisfy the eligibility conditions, Technical Requirement, Financial Requirement are given in the Bid Data Sheets Section - II Chapter – 5.

(i) **Technical** : Given in the Bid Data Sheets Section - I Chapter – 5

(ii) **Financial** : Given in the Bid Data Sheets Section - I Chapter – 5

a. The tenderer should submit copy of the following :-

PAN card

Audited Balance Sheet for last three financial years.

Registration No. for GST i.e. GSTIN to submit on acceptance of tender in respective state where work is to be executed i.e. place of supply.

b. The tenderer shall furnish such documents as to establish the financial soundness of his company.

c. For case of unregistered firm tax is subject to “Reverse charge basis”.

19.2 **TECHNICAL REQUIREMENTS**

Tenderer must have proper Office Set up, Man power and Machinery as follows:

(i) **Office Setup:** Tenderer should have a proper office with regular staff, Computers, Fax Machine and Telephone.

The Office Address, Telephone No, Fax No., E-mail ID must be specified.

(ii) **Minimum Technical Man Power:** Tenderer should have:

1. Engineer - 1No.

2. Supervisor (Diploma Holder) - 2 No.

3. Electrician - 1No.

4. Helper - 2 Nos.

5. Skilled & Unskilled Man Power - (Sufficient)

19.3 **Construction and Maintenance Machinery**

The tenderer should furnish the details of the machinery and plants to be deployed.

19.4 **Equipment/Material**

19.4.1 The tenderer shall clearly identify the sources from which the equipment/ material to be Supplied under this tender will be obtained. The tenderer should also enclose an undertaking from the sources, from where he is procuring the material to the effect that the material shall be supplied in time so as to enable the tenderer to complete the work within completion period.

19.4.2 All equipments/ materials proposed to be used shall be of proven design and performance. The equipment/ materials shall has been successfully commissioned and remained in satisfactory service atleast for a period of two years on date of tender submission. Certificate from the actual user of the equipment about satisfactory performance shall be enclosed with the tender.

19.4.3 The equipments / materials shall be covered by performance guarantee by the contractor duly supported by the original manufacturer.

19.5 Not Used.

19.6 Not used.

19.7 **WORK LOAD**

The tenderer submit the present workload. Contracts in hand as per the format (Form No.9 of Section-I, Chapter - 6). The performance of the tenderer with regard to satisfactory execution of more than one contract simultaneously in the past shall be taken into account.

20. **MEANING OF SIMILAR WORKS**

20.1 Works similar to the scope of work as contained in this tender shall mean the work as indicated in Tender Notice & Bid Data Sheet, executed in India or abroad as per the scope of the work/specifications given in the Tender document executed for Govt./PSU's /reputed Private sector telecom service providers/ Telecom Infrastructure providers.

21. **SYSTEM PERFORMANCE GUARANTEE**

21.1 The tenderer shall give unqualified and unconditional guarantee that when the equipment / material supplied or work done by him is installed and commissioned at site, it shall achieve the desired objective and that in the event of performance of the system when installed not complying with the end objective or with the specifications, he shall provide further inputs to enable the RailTel to realize the end objectives with full compliance of the specifications contained in these documents. No additional payment will be made to the contractor for supply of any additional goods and services required in this regard.

21.2 This certificate in the proforma given in Form No. 7, shall accompany the offer. Absence of this certificate, which will form part of the agreement, shall disqualify the tenderer automatically.

21.3 In case the tender is not the original equipment manufacturer, the unqualified & unconditional support to be provided by the original equipment manufacturer for the equipment to be supplied against this tender should be submitted by the tenderer.

22. **EVALUATION OF OFFER**

The authority for the acceptance of the tender rests with the Purchaser. The tenders received will be evaluated by the Purchaser to ascertain the best acceptable tender in the interest of the Purchaser.

However, the purchaser shall not be bound to accept the lowest or any tender or to assign any reason for non-acceptance or rejection of a tender. "The purchaser reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender paper or to sub-divide the work among different tenderers or to reduce the work or to accept any tender for less than the tendered quantities without assigning any reason whatsoever".

23. EXECUTION OF CONTRACT AGREEMENT

23.1 The Tenderer whose tender is accepted shall be required to appear in person in the office of Regional General Manager or in the office of concerned Engineer, as the case may be or if a firm or corporation, a duly authorized representative shall so appear and execute the contract documents within 15 days after the contract has been awarded to him as indicated in Clause 2 of Special Conditions of Contract (SCC). Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender in which case the full value of the earnest money accompanying the tender shall stand forfeited without prejudice to any other rights or remedies.

23.2 In the event of any tenderers whose tender is accepted shall refuse to execute the contract documents as herein before provided, the RailTel may determine that such tenderer has abandoned the contract and thereupon his tender and acceptance thereof shall be treated as cancelled and RailTel shall be entitled to forfeit the full amount of the Earnest Money and to recover the damages for such default.

24. FOREIGN EXCHANGE

Deleted

25. TENDERER'S ADDRESS

Tenderer shall state in the tender his postal address fully and clearly. Any communication sent to the tenderers by post at his said address shall be deemed to have reached the tenderer duly & timely, not withstanding the fact that the communication could not reach the tenderer at all or in time for whatever reason. Important documents shall be sent by Registered Post/ Speed post/Couriers. Along with the personal address live email address and mobile nos, land ph no to be provided also.

26. PREFERENCE TO PUBLIC SECTOR UNDERTAKING

Due preference as per the extant rules applicable on the day of opening of this tender will be given to Central Public Sector Undertakings as per Government of India, Department of Public Enterprises policy.

SECTION – I

CHAPTER – 3

PART - II

GENERAL CONDITIONS OF CONTRACT

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| 3. | Law governing the Contract |
| 4. | Communications to be in writing |
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| 16. | Earnest Money and Security Deposit |
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| 18. | Illegal Gratification |
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| 20. | Compliance to Engineer's Instructions |
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44. Measurements, certificates and payments
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59. Labour Camps
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63. Matters finally determined by RailTel
64. Settlement of dispute and Arbitration

SECTION –I

Chapter-3

PART - II

GENERAL CONDITIONS OF CONTRACT FOR USE IN CONNECTION WITH RAILTEL's WORKS

DEFINITIONS AND INTERPRETATION

1. Definitions:

- 1.1 The meaning of terms/interpretations shall be taken as defined in Chapter-3 (Part – I), Section – I.

(INSTRUCTIONS TO TENDERERS AND CONDITIONS OF TENDERING).

- (a) **“Constructional Plant”** shall mean all appliances or things of whatsoever nature required for the execution, completion or maintenance of the works or the temporary works (as hereinafter defined) but do not include materials or other things intended to form or forming part of the permanent work.
- (b) **“Temporary Works”** shall mean all temporary works of every kind required for the execution, completion and/or maintenance of the works.
- (c) **“Period of maintenance”** shall mean the specified period of the maintenance from the date of completion of the work as certified by the Engineer.

- 1.2 **Singular and Plural:** Works importing the singular number shall also include the plural and vice versa where the context requires.

- 1.3 **Headings & marginal headings:** The headings and marginal headings in these general conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the contract.

2. GENERAL OBLIGATIONS

2.1 Execution Co-relation and intent of contract documents:

The contract documents shall be signed in triplicate by the RailTel and the Contractor. The contract documents are complementary, and what is called for by any one shall be as binding as if called for by all; the intention of the documents is to include all labour and materials, equipments and transportation necessary for the proper execution of work. Materials or work not covered by or properly inferable from any heading or class of the specifications shall not be supplied by the RailTel to the contractors unless distinctly specified in the contract documents. Materials or works described in words, which so applied, have a well-known technical or trade meaning shall be held to refer to such

recognized standards.

- 2.2 If a work is transferred from the jurisdiction of one region of RailTel to another region or to a Project authority or vice versa while the contract is in subsistence, the contract shall be binding on the Contractor and the other region in the same manner & take effect in all respects as if the Contractor and the other region were parties thereto from the inception and the corresponding officer or the competent authority in the other region will exercise the same powers and enjoy the same authority as conferred to the Predecessor RailTel/Project under the original contract/agreement entered into.
- 2.3 If for administrative or other reasons the contract is transferred to the other region of RailTel the contract shall notwithstanding anything contained herein contrary thereto, be binding on the Contractor and the other region in the same manner and take effect in all respects as if the contractor and the other region had been parties thereto from the date of this contract.

3. **Law governing the contract**

- 3.1 The Contract shall be governed by the law for the time being in force in the Republic of India.
- 3.2 **Compliance to regulations and bye-laws** – The Contractor shall conform to the provision of any statute relating to the works and regulations and bye-laws of any local authority and of any water and lighting companies or undertakings, with whose system the work is proposed to be connected and shall before making any variation from the drawings or the specifications that may be necessitated by so confirming give to the Engineer notice specifying the variation proposed to be made and the reason for making the variation and shall not carry out such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute, regulations or bye -laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.
4. **Communications to be in writing** – All notices, communications, references and complaints made by the RailTel or the Engineer or the Engineer's representative or the Contractor interest concerning the works shall be in writing and no notice, communication, references or complaint not in writing shall be recognized.
5. **Service of Notices on Contractors** – The Contractor shall furnish to the Executive Director/RailTel the name, designation and address of his authorized agent and all complaints, notices, communications and references shall be deemed to have been duly given to the contract if delivered to the Contractor or his authorized agent or left at or posted to the address so given and shall be deemed to have been so given in the case of posting on day on which they would have reached such address in the ordinary course of post or on the day on which they were so delivered or left. In the case of contract by partners, any change in the constitution of the firm shall be forthwith notified by contractor to the Executive Director/RailTel.
6. **Occupation and use of land** – No land belonging to or in the possession of the Railway/RailTel shall be occupied by the contractor without the permission of the RailTel. The Contractor shall not use, or allow to be used, the site for any purposes other

than that of executing the works.

7. **Assignment or subletting of contract:** - The Contractor shall not assign or sublet the contract or any part thereof or allow any person to become interested therein in any manner whatsoever without the special permission in writing of the RailTel. Any breach of this condition shall entitle the RailTel to rescind the contract under clause 62 of these conditions and also render the contractor liable for payment to the RailTel in respect of any loss or damage arising or ensuring from such cancellation. Provided always that execution of the details of the work by petty contractor under the direct and personal supervision of the contractor or his agent shall not be deemed to be sub-letting under this clause. The permitted subletting of work by the contractor shall not establish any contractual relationship between the sub-contractor and the RailTel and shall not relieve the Contractor of any responsibility under the Contract.
8. **Assistance by the RailTel for the stores to be obtained by the Contractor:** Owing to difficulty in obtaining certain materials (including Tools & Plants) in the market, the RailTel may have agreed without any liability therefore, to endeavor to obtain or assist the Contractor in obtaining the required quantities of such materials as may be specified in the Tender. In the event of delay or failure in obtaining the required quantities of the aforesaid materials, the Contractor shall not be deemed absolved of his own responsibility and shall keep in touch with the day-to-day position regarding their availability and accordingly adjust progress of works including employment of labour and the RailTel shall not in any way be liable for the supply of materials or for the non supply thereof for any reasons whatsoever not for any loss or damage arising in consequence of such delay or non supply.
9. **Railway Passes** – No free Railway passes shall be issued by the RailTel to the Contractor or any of his employee/worker.
10. **Carriage of materials** – No forwarding orders shall be issued by the RailTel for the conveyance of Contractor's materials, tools and plant by Rail which may be required for use in the works and the contractor shall pay full freight at public tariff rates therefore.
11. **Force Majeure Clause**

If at any time, during the continuance of this Contract, the performance, in whole or part, by either party, of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, act of the public enemy, Civil Commotion, Sabotage, Fires, Floods, Earth quakes, explosions, strikes, epidemics, quarantine restrictions, lockouts, any statute, statutory rules/ regulations, order of requisitions issued by any Government Department or Competent Authority of acts of God (here-in-after referred to as event) then provided notice of the happening of any such event is given by either party to the other within twenty one days from the date of occurrence thereof, neither party shall, by reason of such event, be entitled to terminate this Contract nor shall either party have any claim for damage against the other in respect of such non- performance or delay in performance, and the obligations under the Contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, PROVIDED FURTHER that if the performance in whole or part of any obligation under this Contract is prevented or delayed by reason of any such event

- beyond a period as mutually agreed to by the RailTel and the Contractor after any event or 60 days in the absence of such an agreement whichever is more, either party may at its option terminate the Contract provided also that if the contract is so terminated under this clause the RailTel may at the time of such termination take over from the Contractor at prices as provided for in the contract, all works executed or works under execution.
12. **Representation on Works** – The Contractor shall, when he is not personally present on the site of the works place, keep a responsible agent at the works during working hours who shall, on receiving reasonable notice, present himself to the Regional General Manger/RailTel and orders given by the Engineer or the Engineer's Representative to the agent shall be deemed to have the same force as if they had been given to the Contractor. Before absenting himself, the Contractor shall furnish the name and address of his agent for the purpose of this clause and failure on the part of the Contractor to comply with this provision at any time will entitle the RailTel to rescind the contract under Clause 62 of these conditions.
 13. **Relics and Treasures** – All gold, silver, oil and other minerals of any description and all precious stones, coins, treasures, relics, antiquities and other similar things which shall be found in or upon the site shall be property of the RailTel and the Contractor shall duly preserve the same to the satisfaction of the RailTel and shall from time to time deliver the same to such person or persons as the RailTel may appoint to receive the same.
 14. **Excavated material** – The Contractor shall not sell or otherwise dispose of or remove except for the purpose of this contract, the sand, stone, clay ballast, earth, rock or other substances or materials which may be obtained from any excavation made for the purpose of the works or any building or produced upon the site at the time of delivery of the possession thereof but all the substances, materials, buildings, and produce shall be the property of the RailTel provided that the Contractor may, with the permission of the Regional General Manger/RailTel, use the same for the purpose of the works either free of cost or pay the cost of the same at such rates as may be determined by the Engineer.
 15. **Indemnity by Contractors** – The Contract shall indemnify and save harmless the RailTel from and against all actions, suit proceedings, losses, costs, damages, charges, claims, and demands of every nature and description brought or recovered against the RailTel by reason of any act or omission of the Contractor, his agents or employees, in the execution of the works or in his guarding of the same. All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the actual loss or damage sustained, and whether or not any damage shall have been sustained.
 16. **Security Deposit**
 - 16.1 The Earnest Money deposited by the Contractor with his tender will be retained by RailTel as part of security deposit for the due and faithful fulfillment of the contract by the contractor. The balance to make up the security deposit, may be deposited by Contractor in the form of Demand Drafts or may be recovered by percentage deduction from the contractor's "on account" bills. Provided also that in case of defaulting contractor the RailTel may retain any amount due for payment to the Contractor on the

pending “on account bills” so that the amounts so retained may not exceed 10% of the total value of the contract.

16.2 Unless otherwise specified in the special conditions, if any, the rates for Deposit / rate of recovery / mode of recovery shall be as under:

- (a) Security Deposit for each work should be 5% of the contract value.
- (b) The rate of recovery should be at the rate of 10% of the bill amount till the full security deposit is recovered.
- (c) Security Deposits will be recovered only from the running bills of the contract and no other mode of collecting SD such as SD in the form of instruments like BG, FD etc shall be accepted towards Security Deposit.

Security Deposit shall be returned to the contractor after the complete physical completion of the work as certified by the competent authority. The competent authority shall normally be the authority that is competent to sign the contract.

16.3 No interest will be payable upon the Earnest Money and Security Deposit or amounts payable to the Contractor under the Contract.

17. Completion Period

17.1 Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:

17.1.2 If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the clause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the works.

17.1.3 If in the opinion of the Engineer the progress of work has any time been delayed by any act or neglect of RailTel’s employees or by other contractor employed by the RailTel under sub-clause (4) of clause 20 of these conditions or in executing the work not forming part of the contract but on which contractor’s performance necessarily depends or by reason of proceeding taken or threat-tended by or dispute with adjoining or neighboring owners or public authority arising otherwise through the Contractor’s own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the contractor not having received in due time necessary instructions from the RailTel for which he shall have specially applied in writing to the Engineer or his authorized representative then, upon happening of any such event causing delay, the contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening but shall nevertheless make constantly his best endeavors to bring down or make good the delay and shall do all that may be reasonably required of him to

the satisfaction of the Engineer to proceed with the works.

The contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time. The engineer on receipt of such request from the contractor shall consider the same and shall grant such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time, the same rates, terms and conditions of contract being applicable as if such extended period of time was originally in the original contract itself.

17.1.4 In the event of any failure or delay by the RailTel to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the RailTel due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the contractor to damages or compensation herefore but in any such case, the RailTel may grant such extension or extensions of the completion date as may be considered reasonable.

17.2 **Extension of time for delay due to contractor** – The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract. If the contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in clause 11 and 17.1 above, the RailTel may, if satisfied that the works can be completed by the contractor within reasonable short time thereafter, allow the contractor further extension of time as the Engineer may decide. On such extension the RailTel will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the contractor as agreed damages and not by way of penalty a sum equivalent to 1/2% of the contract value of the works for each week or part of the week subject to a maximum of 10% of the contract value.

17.2.1 For the purpose of this clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 10% of the total value of the contract. Provided further, that if the RailTel is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the RailTel shall be entitled, without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's security deposit and rescind the contract under clause 62 of these conditions, whether or not actual damage is caused by such default.

18. Illegal Gratification

18.1 Any bribe, commission, gift or advantage given, promised or offered by or on behalf to the Contractor or his partner, agent or servant or anyone on his behalf, to any officer or employees of the RailTel, or to any person on his behalf in relation to obtaining or the execution of this or any other contract with the RailTel shall, in addition to any criminal liability which he may incur, subject the contractor to the rescission of the contract and

all other contracts with the RailTel and to the payment of any loss or damage resulting from such decision and the RailTel shall be entitled to deduct the amounts so payable from any moneys due to the Contractor (s) under this contract or any other contracts with the RailTel.

- 18.2 The Contractor shall not lend or borrow from or have or enter into any monetary dealings or transactions either directly or indirectly with any employee of the RailTel and if he shall do so, the RailTel shall be entitled forthwith to rescind the contract and all other contracts with the RailTel. Any question or dispute as to the commission or any offence or compensation payable to the RailTel under this clause shall be settled by the Regional General Manager of RailTel, in such a manner as shall consider fit and sufficient and his decision shall be final and conclusive. In the event of rescission of the contract under this clause, the Contractor will not be paid any compensation whatsoever except payments for the work done up-to-date of rescission.

19. EXECUTION OF WORKS

- 19.1 **Contractor's understanding** – It is understood and agreed that the Contractor has, by careful examination, satisfied himself as to the nature and location of the work, the conformation of the ground, the character, quality and quantity of the materials to be encountered, the character of equipment and facilities needed preliminary to and during the progress of the works, the general and local conditions, the labour conditions prevailing therein and all other matters which can in any way affect the works under the contract.
- 19.2 **Commencement of works** – The Contractor shall commence the works within 15 days after the receipt by him of an order in writing to this effect from the RailTel and shall proceed with the same with due expedition and without delay. The work should be started with due intimation to RailTel.
- 19.3 **Accepted programme of work** – The Contractor who has been awarded the work shall as soon as possible but not later than 7 days from the date of receipt of the acceptance letter in respect of contracts with initial completion period of one year or less or not later than 15 days for other contracts have to submit the detailed programme of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CPM. He shall also submit the details of organization (in terms of labour and supervisors) plant and machinery that he intends to utilize (from time to time) for execution of the work within stipulated date of completion. The programme of work amended as necessary by discussions with the Engineer, shall be treated as the agreed programme of the work for the purpose of this contract and the contractor shall endeavor to fulfill this programme of work. The progress of work will be watched accordingly and the liquidated damages will be with reference to the overall completion date. Nothing stated herein shall preclude the contractor in achieving earlier completion of item or whole of the works than indicated in the programme.
- 19.3 **Setting out of works** – The Contractor shall be responsible for the correct setting out of all works in relation to original reference at his cost. The Contractor shall execute the work true to specifications, drawings, plans and dimensions as mentioned in the contract document and as directed by the Engineer's representative and shall check these at frequent intervals. The Contractor shall provide all facilities like labour and instruments and shall cooperate with the Engineer's representative at all time, during the progress of the works. Any error shall appear

or arise in any part of the work, the Contractor,

on being required so to do by the Engineer's representative shall, at his own rectify such errors, to the satisfaction of the Engineer's representative. Such checking shall not absolve the Contractor of his own responsibility of maintaining accuracy in the work.

20. Compliance to Engineer's Instructions

- 20.1 The Engineer shall direct the order in which the several parts of the works shall be executed and the Contractor shall execute without delay all orders given by the Engineer from time to time but the Contractor shall not be relieved thereby from responsibility for the due performance of the works in all respects.
- 20.2 **Alterations to be authorized** – No alterations in or additions to or omissions or abandonment of any part of the works shall be deemed authorized, except under instructions from the Engineer, and the Contractor shall be responsible to obtain such instructions in each and every case in writing from the Engineer.
- 20.3 **Extra Works** – Should works over and above those included in the contract require to be executed at the site, the contractor shall have no right to be entrusted with the execution of such works, which may be carried out by another contractor or contractors or by other means at the sole discretion of the RailTel.
- 20.4 **Separate Contracts in connection with works** - The RailTel shall reserve the right to let other contracts in connection with the works. The Contractor shall afford other contractors reasonable opportunity for the storage of their materials and the execution of their works and shall properly connect and coordinate his work with theirs. If any part of the Contractor's work depends for proper execution or result upon the work of another contractor(s), the Contractor shall inspect and promptly report to the Engineer any defects in such works that render it unsuitable for such proper execution and results. The Contractor's failure so to inspect and report shall constitute as acceptance of the other contractor's work as fit and proper for the reception of his work, except as to defects which may develop in the other contractor's work after the execution of his work.

21. Instructions of Engineer's Representative – Any instructions or approval given by the Engineer's representative to Contractor in connection with the works shall bind the Contractor as though it had been given by the Engineer provided always as follows: -

- 21.1 Failure of the Engineer's representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or material and to order the removal or breaking up thereof.
- 21.2 If the Contractor shall be dissatisfied by reason of any decision of the Engineer's representative he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision.

22. Adherence to specifications and drawings

- 22.1 The whole of the works shall be executed in perfect conformity with the specifications and drawings of the contract. If the Contractor performs any works in a manner contrary to the specifications or drawings or any of them and without such reference to the

- Engineer, he shall bear all the costs arising or ensuring there-from and shall be responsible for all loss to the RailTel.
- 22.2.1 **Drawings and specifications on the works** - The contractor shall keep one copy of Drawings and specifications at the site, in good order, and such contract documents as may be necessary, available to the Engineer or the Engineer's Representative.
- 22.2.2 The supply of equipment and materials shall include supply of one set of printed documents from original equipment manufacturers with each equipment as given in technical supplement.
- 22.3 **Ownership of Drawings and Specifications** – All drawings and Specifications and copies thereof furnished by the RailTel to the Contractor are deemed to be the property of the RailTel. They shall not be used in another works and with the exception of the signed contract set, shall be returned by the Contractor to the RailTel on completion of the work or termination of the Contract.
- 22.4 **Compliance with Contractor's request for details** – The Engineer shall furnish with reasonable promptness, after receipt by him of the Contractor's request for the same, additional instructions by means of drawings or otherwise, necessary for the proper execution of the works or any part thereof. All such drawings and instructions shall be consistent with the Contract Documents and reasonably inferable there from.
- 22.5 **Meaning and Intent of specification and drawings** – If any ambiguity arises as to the meaning and intent of any portion of the Specifications and Drawings or as to execution or quality of any work or material, or as to the measurements of the works, the decision of the Engineer thereon shall be final subject to the appeal (within 7 days of such decision being intimated to the Contractor) to the competent authority in RailTel who shall have the power correct any errors, omissions, or discrepancies in aforementioned items and whose decision in the matter in dispute or doubt shall be final and conclusive.
23. **Working during night** – The Contractor shall not carry out any work between sunset and sunrise without the previous permission of the Engineer. Hence, no "night duty" shall be payable to the contractor for the portion/part of the works to be undertaken during the night.
24. **Damage to Railways/RailTel property or private life and property** – The Contractor shall be responsible for all risk to the works and for trespass and shall make good at his own expense all loss or damage whether to the works themselves or any other property of the Railways/RailTel or the lives, persons or property of others from whatsoever cause in connection with the works until they are taken over by the RailTel and this although all reasonable and proper precautions may have been taken by the Contractor, and in case the RailTel shall be called upon to make good any costs, loss or damages, or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof to any person or persons sustaining damages as aforesaid by reason of any act, or any negligence or omissions on the part of the Contractor the amount of any costs or charges including costs and charges in connection with legal proceedings, which the RailTel may incur in reference thereto, shall be charged to the Contractor. The RailTel shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the Contractor,

to take such steps as may be considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor, as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defense or compromise, and the incurring of any such expenses shall not be called in question by the Contractor.

25. **Sheds, Stores houses and Yards** – The Contractor shall at his own expense provide himself with sheds, storehouses and yards in such situations and in such numbers as in the opinion of the Engineer is requisite for carrying on the works and the Contractor shall keep at each such sheds, store houses and yards a sufficient quantity of materials and plant in stock so as not to delay the carrying out of the works with due expedition and the Engineer and the Engineer's representative shall have free access to the said sheds, store houses and yards at any time for the purpose of inspecting the stock of materials or plant so kept in hand, and any materials or plant which the Engineer may object to shall not be brought upon or used in the works, but shall be forthwith removed from the sheds, store houses or yards by the contractor. The Contractor shall at his own expenses provide and maintain suitable mortar mills, soaking vats or any other equipments necessary for the execution of the works.
26. **Provision of efficient and competent staff** – The Contractor shall place and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound and proper manner and shall employ only such supervisors, workmen and labourers in or about the execution of any of these works as are careful and skilled in various trades and callings. The Contractor shall at once remove from the works any agents, permitted sub -contractor, supervisor, workman or labourer who shall be objected to by the Engineer and if and whenever required by the Engineer, he shall submit a correct return showing the names of all staff and workmen employed by him. In the event of the Engineer being of the opinion that the Contractor is not employing on the works a sufficient number of staff and workmen as is necessary for the proper completion of the works within the time prescribed, the Contractor shall forthwith on receiving intimation to this effect take on the additional number of staff and labour specified by the Engineer within seven days of being so required and failure on the part of the Contractor to comply with such instructions will entitle the RailTel to rescind the contract under Clause 62 of these conditions.
27. **Workmanship and Testing**
 - 27.1 The whole of the works and/or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best and most approved quality of their respective kinds, agreeable to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars. Instructions and drawings may be found requisite to be given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions, which the Contractors may from time to time receive from the Engineer. The materials may be subjected to tests by Mean of such machines, instruments and appliances as the Engineer may direct and wholly at the expense of the Contractor.
 - 27.2 **Removal of Improper work and materials** – The Engineer or the Engineer's

- representative shall be entitled to order from time to time:
- 27.2.1 The removal from the site within the time specified in the order of any materials, which in his opinion are not in accordance with the specifications or drawings.
 - 27.2.2 The substitution of proper and suitable materials, and
 - 27.2.3 The removal and proper re-execution, notwithstanding any previous tests thereof or “on account” payments therefore, of any work which in respect of materials or workmanship is not in his opinion in accordance with the specifications and in case of default on the part of the Contractor in carrying out such order the RailTel shall be entitled to rescind the contract under Clause 62 of these conditions.
- 28. Facilities for Inspection:** - The Contractor shall afford the Engineer and the Engineer’s Representative every facility for entering in and upon every portion of the work at all hours for the purpose of inspection or otherwise and shall provide all labour, materials, instruments, appliances and things of every kinds required for the purpose and the Engineer and the Engineer’s representative shall at all time have free access to every part of the works and to all places at which materials for the work are stored or being prepared.
- 29. Examination of work before covering up:** - The Contractor shall give two days notice to the Engineer or the Engineer’s Representative whenever any work or materials are intended to be covered up in the earth, in bodies or walls or otherwise to be placed beyond the Reach of Measurements in order that the work may be inspected or that correct dimension may be taken before being so covered, placed beyond the reach of measurement in default whereof, the same shall at the option of the Engineer or the Engineer’s Representative be uncovered and measured at the contractor’s expense or no allowance shall be made for such work or materials.
- 30. Temporary works:** - All Temporary works necessary for the proper execution of the works shall be provided and maintained by the Contractor and subject to the consent of the Engineer, shall be removed by him at his expenses when they are no longer required and in such manner as the Engineer shall direct. In the event of failure on the part of the Contractor to remove the temporary works, the Engineer will cause them to be removed and cost as increased by supervision and other incidental charge shall be recovered from the Contractor. If temporary huts are provided by the Contractor on the RailTel/Railway land for labour engaged by him and the work is completed but the contractor’s labour refused to vacate and have to be removed by the RailTel, necessary expenses incurred by the RailTel in connection therewith shall be borne by the Contractor.
- 31. Contractor to supply water for works**
- 31.1 Unless otherwise provided in the contract, the contractor shall be responsible for arrangements to obtain supply of water for the works.
 - 31.2 Water supply from the Railway system: Deleted
 - 31.3 Water supply by Railway Transport : Deleted

- 31.4 Contractor to arrange supply of Electric power for works.
- 31.4.1 Unless otherwise provided in the contract, the contractor shall be responsible for arrangements to obtain supply of Electric Power for the works.
- 31.4.2 **Electric supply from the Railway system** – The RailTel may supply to the Contractor part or whole of the electric power wherever available and possible, required for execution of works from the Railway's existing electric supply systems at or near the site of works on specified terms and conditions and such charges as shall be determined by the RailTel and payable by the contractor provided the cost of arranging necessary connection to the Railway's Electric supply systems, and laying of underground/overhead conducts circuit protection, electric power meters, transmission structure, shall be borne by the Contractor and that the contractor shall not be entitled to any compensation for interruption or failure of the Electric supply system.

32. Property in material and Plants: Deleted

33. Tools, Plant and Materials Supplied by the RailTel

- 33.1 The Contractor shall take all responsible care of all tools, plants and materials or other property whether of a like description or not belonging to the RailTel and committed to his charge for the purpose of the works and shall be responsible for all damage or loss caused by him, his agents permitted sub-contractor or his workmen or others while they are in his charge. The Contractor shall sign accountable receipts for tools, plants and materials made over to him by the Engineer and on completion of the works shall handover the unused balance of the same to the Engineer in good order and repair, fair wear and tear excepted and shall be responsible for any failure to account for the same or any damage done thereto.

- 33.2 **Hire of RailTel's Plant:** Deleted.

34. Precaution during progress of work

- 34.1 During the execution of works, unless otherwise specified the Contractor shall at his own cost provide the materials for and execute all shoring, timbering and strutting works as is necessary for the stability and safety of all structures, excavations and works and shall ensure that no damage, injury, loss is caused or likely to be caused to any person or property.
- 34.2 **Roads and water courses:** Existing roads or water courses shall not be blocked, cut through, altered, diverted or obstructed in any way by the Contractor, except with the permission of the Engineer. All compensations claimed for any authorized closure, or his agent or his staff shall be recoverable from the Contractor by deduction from any sums which may become due to him in terms of contract or otherwise according to law.
- 34.3 **Provision of access to premises:** During progress of work in any street or thoroughfare, the Contractor shall make adequate provision of the passage of traffic, for securing safe access to all premises approached from such street or thoroughfare and for any drainage, water supply or meant for lightning which may be interrupted by reason of the execution

of the works and shall react and maintain at his own cost barriers, lights and other safeguards as prescribed by the Engineer, for the regulation of the traffic, and provide watchmen necessary to prevent accidents. The works shall in such cases be executed night and day if so ordered by the Engineer and with such vigour so that the traffic way be impeded for as short a time as possible.

- 34.4 **Safety of Public:** The Contractor shall be responsible to take all precautions to ensure the safety of the public or Railway/RailTel's property and shall post such look out men as may in the opinion of the Engineer be required to comply with regulations pertaining to the work.

- 35 **Use of Explosives:** Explosive shall not be used on the works or on the site by the Contractor without the permission of the Engineer and then only in the manner and to the extent to which such permission is given. Where explosives are required for the works, the same shall be stored in a special magazine to be provided by and at the cost of the Contractor in accordance with the Explosive Rules. The Contractor shall obtain the necessary license for the storage and the use of explosives and all operations in which or for which explosives are employed shall be at the sole risk and responsibility of the Contractor and the Contractor shall indemnify the Railway/RailTel in respect thereof.

36 **Suspension of works**

- 36.1 The Contractor shall on the order of Engineer suspend the progress of the works or any part thereof for such time or times and in such manner as the Engineer may consider necessary and shall during such suspension properly protect and secure the work so far as is necessary in the opinion of the Engineer. If such suspension is: -

- (a) Provided for in the contract, or
- (b) Necessary for the proper execution of the works or by the reason of act of God or by some default on the part of the Contractor, and or
- (c) Necessary for the safety of the works or any part thereof.

- 36.2 The Contractor shall not be entitled to the extra costs, if any, incurred by him during the period of suspension of the works; but in the event of any suspension ordered by the Engineer for reasons other than aforementioned and when each such period of suspension exceeds 14 days, the Contractor shall be entitled to such extension of time for completion of the works as the engineer may consider proper having regard to the period or periods of such suspensions and to such compensations as the Engineer may consider reasonable in respect of salaries or wages paid by the Contractor to his employees during the periods of such suspensions.

- 36.3 **Suspension lasting more than 3 months** – If the progress of the works or any part thereof is suspended on the order of the Engineer for more than three months at a time, the Contractor may serve a written notice on the Engineer requiring permission within 15 days from the receipt thereof to proceed with the works or that part thereof in regard to which progress is suspended and if such permission is not granted within that time the Contractor by further written notice so served may, but is not bound to, elect to treat the suspension where it affects part only of the works as an omission of such part or where it affects the whole of the works, as an abandonment of the contract by the RailTel.

- 37 **Rates for items of works** – The rates entered in the accepted Schedule of Rates of the

Contract are intended to provided for works duly and properly completed in accordance with the general and special conditions of the contract and the specifications and drawings together with such enlargements, extensions, diminutions, reductions, alterations or additions as may be ordered in terms of Clause 42 of these conditions and without prejudice to the generality thereof and shall be deemed to include and cover superintendence and labour, supply including full freight of materials, stores, tools and all apparatus and plant required on the works, except such tools, plant or materials as may be specified in the contract to be supplied to the Contractor by the RailTel, the erection, maintenance and removal of all temporary works and buildings, all arrangements for the safety of the public or of employees during the execution of works, all sanitary and medical arrangements for labour camps as may be prescribed by the RailTel, the setting of all work and of the construction, repair and upkeep of all center lines, bench marks and level pegs thereon, site clearance, all fees, duties, royalties, rent and compensation to owners for surface damage or taxes and impositions payable to local authorities in respect of land, structures and all material supplied for the work or other duties or expenses for which the Contractor may become liable or may be put to under any provision of law for the purpose of or in connection with the execution of the contract, and all such other incidental charges or contingencies as may have been specially provided for in the specifications.

38 Demurrage and wharfage dues

- 38.1 Demurrage charges calculated in accordance with the scale in force for the time being on the RailTel and incurred by the Contractor failing to load or unload any goods of materials within the time allowed by RailTel for loadings as also wharfage charges, of materials not removed in time as also charges due on consignments booked by or to him shall be paid by the Contractor, failing which such charges shall be debited to the Contractor's account in the hands of the RailTel and shall be deducted from any sums which may become due to him in terms of the contracts.

39 Rates for extra items of works

- 39.1 Any item of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted schedule of rates shall be executed at the rates set forth in the "Schedule of Rates" modified by the tender percentage and such items are not contained in the latter, at the rate agreed upon between the Engineer and the Contractor before the execution of such items of work and the contractors shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of works that the accepted schedule of rates does not include rate or rates for the extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the Contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the RailTel shall be entitled to execute the extra works by other means and the contractor shall have no claim for loss or damage that may result from such procedure.
- 39.2 Provided that if the Contractor commences work or incurs any expenditure in regard thereto before the rates as determined and agreed upon as lastly hereunto fore mentioned, then and in such a case the Contractor shall only be entitled to be paid in respect of the work carried out or expenditure incurred by him prior to the date of determination of the

rates as aforesaid according to the rates as shall be fixed by the Engineer. However if the contractor is not satisfied with the decision of the Engineer in this respect he may appeal to the competent authority of RailTel within 30 days of getting the decision of the Engineer, supported by analysis of the rates claimed. The competent authority of RailTel's decision after hearing both the parties in the matter would be final and binding on the Contractor.

40 Handing over of works

- 40.1 The Contractor shall be bound to hand over the works executed under the contract to the RailTel complete in all respect to the satisfaction of the Engineer. The Engineer shall determine the date on which the work is considered to have been completed, in support of which his certificate shall be regarded as sufficient evidence for all purposes. The engineer shall determine from time to time, the date on which any particular section of the work shall have been completed, and the contractor and the contractor shall be bound to observe any such determination of the Engineer.
- 40.2 **Clearance of Site on Completion:** On completion of the works the contractor shall clear away and remove from the site all constructional plant, surplus material, rubbish and temporary works of every kind and leave whole of the site and works clean and in a workman like condition to the satisfaction of the Engineer. No final payment in settlement of the accounts for the work shall be paid, held to be due or shall be made to the contractor till, in addition to any other condition necessary for such final payment, site clearance shall have been affected by him, and such clearance may be made by the Engineer at the expense of the Contractor in the event of his failure to comply with this provision within 7 days after receiving notice to that effect. Should it become necessary for the Engineer to have the site cleared at the expense of the Contractor, the RailTel shall not be held liable for any loss or damage to such of the Contractor's property as may be on the site and due to such removal there from which removal may be affected by means of public sales of such materials and property or in such a way as deemed for and convenient to the Engineer.

41 VARIATIONS IN EXTENT OF CONTRACT

- 41.1 **Modification to Contract to be in writing** – In the event of any of the provisions of the Contract requiring to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the RailTel and the Contractor, and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the Contract or any of the terms thereof shall be deemed conditional and shall not be binding on the RailTel unless and until the same is incorporated in a formal instrument and signed by the RailTel and the Contractor and till then the RailTel shall have the right to repudiate such arrangement.

42 Powers of Modification to Contract

- 42.1 The Engineer on behalf of the RailTel shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character, position, site quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled to any compensation for any increase / reduction in the quantities of work but will be paid

only for the actual amount of work done and for approved materials supplied against a specific order.

- 42.2 Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity for each individual item of the contract would be up to $\pm 25\%$ of the quantity originally contracted. The contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation, whatsoever upto the limit of $\pm 25\%$ variation in quantity of individual items of works. Quantity beyond 25% but less than 40% rate will be reduced by 2% over the accepted rate, quantity beyond 40% but less than 50% further deduction 2% over the original accepted rate will be effective beyond 50% a negotiation rate will be applicable.

- 42.3 **Valuation of Variations** – The enlargements, extensions, diminution, reduction, alterations or additions referred to in sub-clause (2) of this clause shall in no degree affect the validity of the contract but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressly included and provided for in the specifications and drawings and the amounts to be paid therefore shall be calculated in accordance with the accepted schedule of rates. Any extra items/quantities of work falling outside the purview of the provisions of sub-clause (2) above shall be paid for at the rates determined under clause 39 of these conditions.

43. CLAIMS

- 43.1 **Monthly Statement of Claims** - The contractor shall prepare and furnish to the Engineer once in every month an account giving full and detailed particulars of all claims for any additional expenses to which the Contractor may consider himself entitled to and of all extra or additional works ordered by the Engineer which he has executed during the preceding month and no claim for payment for and such work will be considered which has not been included in such particulars.

- 43.2 **Signing of “No Claim” Certificate** – The Contractor shall not be entitled to make any claim whatsoever against the RailTel under or by virtue of or arising out of this contract, nor shall the RailTel entertain or consider any such claim, if made by the Contractor, after he shall have signed a ‘No Claim’ certificate in favour of the RailTel, in such form as shall be required by the RailTel, after the works are finally measured up. The Contractor shall be debarred from disputing the correctness of the items covered by “No Claim Certificate” or demanding a preference to arbitration in respect thereof.

44. MEASUREMENTS, CERTIFICATES AND PAYMENTS

Qualities in schedule annexed to Contract- The quantities set out in the accepted schedule of rates with items of works quantified are the estimated quantities of the works and they shall not be taken as the actual and correct quantities of the works to be executed by the Contractor in fulfillments of his obligations under the contract.

45. **Measurements of Works:** The Contractor shall be paid for the works at the rates in the accepted schedule of rates and for extra works at rates determined under Clause 39 of these conditions on the measurements taken by the Engineer or the Engineer’s representative in accordance with the rules prescribed for the purpose by the RailTel.

The quantities for items the unit of which in the accepted schedule of rates is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one; for item the unit of which in the accepted schedule of rates is single, the quantities shall be calculated to places of decimals. Such measurements will be taken of the work in progress from time to time and at such intervals as in the opinion of the Engineer shall be proper having regard to the progress of works. The date and time on which “on account” or final measurements are to be made shall be communicated to the Contractor who shall represent at the site and shall sign the results of the measurements (which shall also be signed by the Engineer or the Engineer’s representative) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measurements. Failing the Contractor’s attendance the work may be measured up in his absence and such measurements shall, notwithstanding such absence, be binding upon the Contractor whether or not he shall have signed the measurement book provided always that any objection made by him to measurement shall be duly investigated and considered in the manner set out below:

- (a) It shall be open to the Contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the Engineer or the Engineer’s representative in the presence of the Contractor or in his absence after due notice has been given to him in consequences of objection made by the contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurement.
- (b) If an objection raised by the Contractor is found by the Engineer to be incorrect, the Contractor shall be liable to pay the actual expenses incurred in measurements.

46 “On-Account” Payments i.e. CC1 & final payment

- 46.1 The Contractor shall be entitled to be paid from time to time by way of “On Account” payment i.e. CC1 & final payment only for such works as in the opinion of the Engineer he has executed in terms of the contract. All payment due on the Engineer’s or the Engineer’s Representatives certificate of measurements shall be subject to any deduction which may be made under these presents and shall further be subject to, unless otherwise required by Clause 16 of these conditions a retentions of 10% by way of security deposits, until the amount of security deposit by way of retained earnest money and such retentions shall amount to 10% of the total value of the contract provided always that the Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate if the works or any part thereof are not being carried out to this satisfactions.
- 46.2 **Rounding off amounts:** The total amount due on is certificate shall be rounded off to the nearest rupee i.e. sums less than 50 paise shall be omitted and sums of 50 paise and more upto Rs. 1/- will be reckoned as Rs. 1/-.
- 46.3 **On-Account Payments not prejudicial to final settlements:** “On Account” payments made to the Contractor shall be without prejudice to the final making up of the accounts (except where measurement are specifically noted in the Measurement Book as “Final Measurements” and as such have been signed by the Contractor) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such account not of any particular quantity of work having been executed not of the

manner of its execution being satisfactory.

46.4 **Manner of payment:** Unless otherwise specified payments to the Contractor will be made through RTGS/NEFT

47. **Maintenance of works:** The contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the tender form after the date of passing of the certificate of completion by the Engineer or any earlier date subsequent to the completion of the works that may be fixed by the Engineer be responsible for and effectively maintain and uphold in good substantial sound and perfect conditions all and every part of the work and shall make good from time to time and at all times as often as the Engineer shall require. Any damage or defect that may during the above period arise in or be discovered or be in any way connected with the works, provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot, and the Contractor shall be liable for and make good to the RailTel or other persons legally entitled thereto whenever required by the Engineer so to do, all losses, damage, costs and expenses they or any of them may incur or be put or be liable, by reason or in consequence of the operations of the contractor or of his failure in any respect.

For this purpose the tenderer will submit their strategy for providing maintenance support including the staff that will be available along with the set of spares for attending to various faults/problems during maintenance period.

48 **Certificate of Completion of works**

48.1 As soon as in the opinion of the Engineer the works shall have been substantially completed and shall satisfactorily passed any final test or tests that may be prescribed, the Engineer shall issue a Certificate of the completion (Provisional Acceptance Certificate) in respect of the works and period of maintenance of the works shall commence from the date of such certificate provided that the Engineer may issue such a certificate with respect to any part of the works before the completion of the whole of the works or with respect to any substantial part of the works which has been both completed to the satisfaction of the Engineer and occupied or used by the RailTel and when any such certificate is given in respect of part of the works such part shall be considered as completed and the period of the maintenance of such part shall commence from the date of such certificate.

48.2 **Contractor not absolved by Provisional completion Certificate (PAC):** The Certificate of completion in respect of the works referred to in sub-clause 48.1 of this clause shall not absolve the Contractor from his liability to make good any defect, imperfection, shrinkages or faults which may appear during the period of maintenance specified in the tender arising in the opinion of the Engineer from materials or workmanship not in accordance with the drawing or specifications or instructions of the Engineer, which defect, imperfections, shrinkages or faults shall upon the direction in writing of the Engineer, be amended and made good by the Contractor at his own cost; and in case of default on the part of Contractor the Engineer may employ, labour and material or appoint another Contractor to amend and make good such defect, imperfections, shrinkages and faults and all expenses consequent thereon and incidental thereto shall be borne by the Contractor and shall be recoverable from any moneys due to him under the contract.

49. Approval only by Maintenance Certificate/Final Acceptance Certificate (FAC): No certificate other than maintenance certificate referred to in Clause 50 of the conditions shall be deemed to constitute approval of any any work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the contract or any part thereof or of the accuracy of any demand made by the Contractor or of additional varied work having been ordered by the Engineer nor shall any other certificate conclude or prejudice any of the powers of the Engineers.

50. Maintenance certificate (FAC)

50.1 The contract shall not be considered as completed until a maintenance certificate (Final Acceptance Certificate) shall have been signed by the Engineer stating that the works have been completed and maintained to this satisfaction. The maintenance certificate shall be given by the Engineer upon the expiration of the period of maintenance/warranty period or as soon thereafter as any work ordered during such period pursuant to clause 48.2 of these conditions shall have been completed to the satisfaction of the Engineer and full effect shall be given to this Clause notwithstanding the taking possession of or using the works or any part thereof by the RailTel.

50.2 **Cessation of RailTel's Liability:** The RailTel shall not be liable to the Contractor for any matter arising of or in connection with the contract of the execution of the works unless the Contractor shall have made a claim in writing in respect thereof before the issue of the Maintenance Certificate (FAC) under this clause.

50.3 **Unfulfilled obligations:** Notwithstanding the issue of the Maintenance Certificate the Contractor and (subject to clause 50.2) the RailTel shall remain liable for the fulfillment of any obligation incurred under the provision of the contract prior to the issue of the maintenance Certificate which remains unperformed at the time such certificate is issued and for the purposes of determining the nature and extent of any such obligations the contract shall be deemed to remain in force between the parties thereto.

51. Final payment

51.1 On the Engineer's certificate of completion in respect of the works an adjustment shall be made and the balance of account based on the Engineer or the Engineer's representative's on the accepted schedule or rates and for extra works on rates determined under Clause 39 of these conditions shall be paid to the Contractor any deduction which may be made under these presents and further subject to the Contractor having delivered to the Engineer either a full account in detail of all claims he may have on the RailTel in respect of the works or having delivered "No Claim" Certificate and the Engineer having after the receipt of such account given a certificate in writing that such claim are correct, that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things removed, disturbed or injured in consequence of the works have been property replaced and made good and all expenses and demands incurred by or made upon the RailTel for or in the respect of damage or good and all expenses and demands incurred by or made upon the RailTel for or in the respect of damage or good and all expenses and demands incurred by or made upon the RailTel for or in the respect of damage or loss by from kin consequence of the works, have been satisfied agreeably and in conformity with the contract.

- 51.2 **Post payment Audit** – It is an agreed term of contract that the RailTel reserves to itself the right to carry out a post-payment audit and or technical examination of the works and the final bill including all supporting vouchers, abstracts, etc., and to make a claim on the contractor for the refund any excess amount paid to him if as a result of such examination any over-payment to him is discovered to have been made in respect of any work done or alleged to have been done by him under the contract.
- 51.3 **Refund of Performance Bank Guarantee** – The Performance Bank Guarantee shall become due and shall be paid to the Contractor after the expiration of the warranty period and issue of the certificate of final acceptance of entire system, specified in the tender, provided that all the stipulations of the clause have been fulfilled by the Contractor and all claim and demands made against the RailTel for and in respect of damage or loss by, from or in consequence of the works have been finally satisfied, provided further that in the event of different maintenance periods having become applicable to different parts of the works pursuant to sub clause (i) of clause 48 of these condition, the expression “expiration of the period of warranty” shall for the purpose of this clause, be deemed to mean the expiry of the latest of such periods.
- 51.4 **Production of vouchers etc. by the Contractor**
- (i) For a contract of more than one crore of rupees, the contractor shall, whenever required, produce for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this contract or relevant for verifying or ascertaining cost of execution of this contract (the decision of the Engineer on the question of relevancy of any documents, information or return being final and binding on the parties.) The contractor shall similarly produce vouchers, etc., if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.
 - (ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by the a sub -contractor or any subsidiary or allied firm or company (as per Clause 7 of the General Conditions of Contract), the Engineer shall have power to secure the book of such sub-contract or any subsidiary or allied firm or company, through the contractor, and such book shall be open to his inspection.
 - (iii) The obligations imposed by sub clause (i) and (ii) above is without prejudice to the obligations of the contractor under any statute rules or orders binding on the contractor.
52. **Withholding and lien in respect of sums claimed** – Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, the RailTel shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid, the RailTel shall be entitled to withhold the said security deposit or the security if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the RailTel shall be entitled to withhold and have a lien to the extent of the such claimed amount or amounts referred to supra from any sum or sums found payable or which at any time thereafter may become payable to the contractor under the same

contract or any other contract with this or any other RailTel or any Department of the Central Government pending finalization or adjudication of any such claim.

It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above, by the RailTels will be kept withheld or retained as such by the RailTel till the claim arising out of or under the contract is determined by the arbitrator (if the Contract is covered by the arbitration clause) or by the competent court as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to supra and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the RailTel shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may be whether in his individual capacity or otherwise.

- 52.1 **Lien in respect of claims in Other Contracts** – Any sum of money due and payable to the contractor (Including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the RailTel, against any claim of this or any other RailTel or any other Department of the Central Government in respect of payment of a sum of money arising out of or under any other contract made by the contractor with this or any other Department of Central Government.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the RailTel will be kept withheld or retained as such by the RailTel till the Claim arising out of or under any other contract is either mutually settled or determined by arbitration, if the other contract is governed by arbitration clause or by the competent court as the case may be and contractor shall have no claim for interest of money withheld or retained under this clause and duly notified as such to the contractor.

53. **Signature on Receipts for Amounts** – Every receipt which may become payable or for any security which may become transferable to the Contractors under these presents, shall, if signed in the partnership name by any one of the partners of a Contractors firm be a good and sufficient discharge to the RailTel in respect of the moneys or security purported to be acknowledged thereby and in the event of death of any of the Contractor partners during the pendency of the contract it is hereby expressly agreed that every receipt by any one of the surviving Contractor partners shall if so signed as aforesaid be good and sufficient discharge as aforesaid provided that nothing in this clause contained shall be deemed to prejudice or effect any claim which the RailTel may hereafter have against the legal representative of any contractor partner so dying, for or in respect of any breach of any of the conditions of the contract, provided also, that nothing in this clause contained shall be deemed to prejudice or effect the respective rights or obligations of the Contractor partners and of the legal representative of any deceased Contractor partners interse.

54. **LABOUR**

Wages to Labour – The Contractor shall be responsible to ensure compliance with the provisions of the Minimum Wages Act, 1948 (hereinafter referred to as the “said Act”) and the Rules made there-under in respect of any employees directly or through petty contractors or sub-contractors employed by him on road construction or in building operations or in stone breaking or stone crushing for the purpose of carrying out this contract. If in compliance with the terms of the contract, the contractor supplied any

labour to be used wholly or partly under the direct orders and control of the RailTel whether in connection with any work being executed by the contractor or otherwise for the purpose of the RailTel such labour shall, for the purpose of this clause, still be deemed to be persons employed by the Contractor.

If any moneys shall as a result of any claim or any claim or application made under the said Act be directed to be paid by the RailTels, such moneys shall be deemed to be moneys payable to the RailTel by the Contractor and on failure by the Contractor to repay any moneys paid by it as aforesaid within seven days after the same shall have been demanded, the RailTels shall be entitled to recover the same from any moneys due or accruing to the contractor under this or any other Contractor with the RailTels.

- 54.1 **Apprentices Act** – The Contractor shall be responsible to ensure compliance with the provisions of the Apprentices Act 1961 and the Rules and Orders issued thereunder from time to time in respect of apprentices directly through petty contractors or sub-contractors employed by him for purpose of carrying out the contract.

If the Contractor directly or through petty contractor or sub-contractors fails to do so, his failure will be a breach of the contract and the RailTel may, in its discretion, rescind the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation of the provisions of the Act.

55. **Provisions of Payments of Wages Act** – The Contractor shall comply with the provisions of the Payment of Wages Act, 1936 and the rules made thereunder in respect of all employees directly or through petty contractors or sub-contractors employed by him in the works. If in compliance with the terms of the contract, the contractor directly or through petty contractors or sub-contractors shall supply any labour to be used wholly or partly under the direct orders and control of the Engineer whether in connection with the works to be executed hereunder or otherwise for the purpose of the Engineer such labour shall nevertheless be deemed to comprise persons employed by the contractor, and any moneys which may be ordered to be paid by the Engineer shall be deemed to be moneys payable by the Engineer on moneys due to the contractor in terms of the contract. The RailTel shall be entitled to deduct from any moneys due to the contractor (Whether under this contract or any other contract all moneys paid or payable by the RailTel by way of compensation of aforesaid or for costs of expenses in connection with any claim thereto and the decision of the Engineer upon any question arising out of the effect or force of this clause shall be final and binding upon the contractor.

55.1 **Provision of Contract Labour (Regulation and Abolition) Act 1970**

- (1) The Contractor shall comply with the provision of the Contract Labour (Regulation and Abolition) Act 1970 and the Contract Labour (Regulation and Abolition) Act, Central Rules 1971 as modified from time to time, whenever applicable and shall also indemnify the RailTel from and against any claims under the aforesaid Act and the Rules
- (2) The Contractor shall obtain a valid license under the aforesaid Act as modified from time to time before the commencement of the work and continue to have a valid license until the completion of the work. Any failure to fulfill this requirement shall attract the penal provision of the Contract arising out of the resultant non-execution of the work.

- (3) The Contractor shall pay to the labour employed by him directly or through sub-contractors the wages as per provisions of the aforesaid Act and the Rules wherever applicable. The Contractor shall notwithstanding the provisions of the contract to the contrary, cause to be paid the wages to labour indirectly engaged on the work including any engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.
- (4) In respect of all labour directly or indirectly employed in the work for performance of the contractor's part of the contract the contractor shall comply with or cause to be complied with the provisions of the aforesaid Act and the Rules wherever applicable.
- (5) In every case in which, by virtue of the provisions of the aforesaid Act or the Rules, the RailTel is obliged to pay any amount of wages to a workmen employed by the contractor or his sub-contractor in execution of the work or to incur any expenditure in providing welfare and health amenities required to be provided under the aforesaid Act and the Rules or to incur any expenditure in providing welfare and health amenities required to be provided under the aforesaid Act the Rules or to incur any expenditure on account of the contingent liability of the RailTel due to contractor's failure to fulfill his statutory obligations under the aforesaid Act or the Rules the RailTel will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred, and without prejudice to the rights of the RailTel under section 20, sub-section (2) and section 2 sub -section (4) of the aforesaid Act, the RailTel shall be at liberty to recover such amount or part thereof by deducting it from the security deposit and/or from any sum due by the RailTel to the contractor whether under the contract or otherwise. The RailTel shall not be bound to contest any claim made against it under sub-section (1) of section 20 and sub-section (4) of section 21 of the aforesaid Act except on the written request of the contractor and upon his giving to the RailTel full security for all costs for which the RailTel might become liable in contesting such claim. The decision of the RailTel regarding the amount actually recoverable from the contractor as stated above shall be final and binding on the contractor.

56. Reporting of Accidents to Labour – The Contractor shall be responsible for the safety of all employees directly or through petty contractors or sub-contractors employed by him on the works and shall report serious accidents to any of them however and wherever occurring on the works to the Engineer or the Engineer's Representative and shall make every arrangement to render all possible assistance.

57. Provisions of Workmen's Compensation Act– In every case in which by virtue of the provision of Section 12 sub-section (1) of the Workmen's Compensation Act, 1923, RailTel is obliged to pay compensation to a workman directly or through the petty Contractor employed by the Contractor or sub-contractor in executing the work, RailTel will recover from the contractor the amount of the compensation so paid, and, without prejudice to the right of RailTel under Section 12 sub-section (2) of the said Act. RailTel shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by RailTel to the Contractor whether under these conditions or otherwise, RailTel shall not be bound to contest any claim made against it under Section 12, sub-section (1) of the said Act except on the written request of the Contractor and upon his giving to RailTel full security for all costs for which RailTel might become liable in consequence of contesting such claim.

57.1 Provision of Mines Act – Deleted

58. RailTel not to provide quarters for Contractor: – No quarters shall be provided by the RailTel for the accommodation of the contractor or any of his staff employed on the work.

59. Labour camps

- (1) The Contractor shall at his own expense make adequate arrangements for the housing, supply of drinking water and provision of latrines and urinals for his staff and workman directly or through the petty contractors or sub-contractors and for temporary crèche (Bal-Mandir) where 50 or more women are employed at a time. Suitable sites on Railway/RailTel land, if available, may be allotted to the Contractor for the erection of labour camps either free of charge or on such terms and conditions that may be prescribed by the RailTel. All camp sites shall be maintained in clean and sanitary conditions by the Contractor at his own cost.
- (2) **Compliance to Rules for Employment of Labour** – The Contractor(s) shall conform to all laws, bye-laws, rules and regulations for the time being in force pertaining to the employment of local or imported labour and shall take all necessary precautions to ensure and preserve the health and safety of all staff employed directly or through petty Contractors or sub -contractors on the works.
- (3) **Preservation of Peace** – The Contractor shall take requisite precautions and use his best endeavors to prevent any riotous or unlawful behavior by or amongst his workmen and others employed directly or through petty contractor or sub-contractors on the works and preserve the health and safety of all staff employed directly or through petty Contractors or sub -contractors on the works.
- (4) **Sanitary Arrangement** – The contractor shall obey all sanitary rules and carry out all sanitary measures that may time to time be prescribed by the RailTel Medical Authority and permit inspection of all sanitary arrangements at all times by the Engineer, the Engineer's Representative or the Medical Staff of the RailTel. Should the Contractor fail to make adequate sanitary arrangements, these will be provided by the RailTel and the cost therefore recovered from the Contractor.
- (5) **Outbreak of Infectious Disease** – The Contractor shall remove from his camp such labour and their families as refuse protective inoculation and vaccination when called upon to do so by the Engineer or the Engineer's Representative on the advice of the Railway/RailTel Medical Authority. Should Cholera, Plague or other infectious disease break out, the Contractor shall burn the huts, beddings, clothes and other belongings of or used by the infected parties and promptly erect new huts on healthy sites as required by the engineer, failing which within the time specified in the Engineer's requisition, the work may be done by the RailTel and the cost therefore recovered from the Contractor.
- (6) **Treatment of Contractor's staff in Railway Hospitals** – Deleted
- (7) **Medical facilities at site** – The contractor shall provide medical facilities at the site as may be prescribed by the engineer on the advice of the medical authority in relation to the strength of the contractor's resident staff, and workmen.
- (8) **Use of Intoxicants** – The sale of ardent spirits or other intoxicating beverages upon the work or in any of the buildings, encampments or tenements owned, occupied by or

within the control of the Contractor or any of his employees shall be forbidden and the Contractor shall exercise his influence and authority to the utmost extent to secure strict compliance with this condition.

- (9) **Non-employment of Female Labour** – The contractor shall see that the employment of female labour in cantonment areas, particularly in the neighborhood of soldier's barracks, should be avoided as far as possible.
- (10) **Restrictions on the employment of retired Engineers of Railway services within two years of their Retirement**– The contractor shall not, if he is a retired government engineer of Gazetted rank, who has not completed two years from the date of retirement, in connection with his contract in any manner whatsoever without obtaining prior permission of the President and if the contractor is found to have contravened this provision, it will constitute a breach of contract. Administration will be entitled to terminate the contract at the risk and cost of the contractor and forfeit his security deposit.

60. Non-Employment of Labourers below the age of 15

- (1) The Contractor shall not employ children below the age of 15 as labourers directly or through petty contractors or sub-contractors for the execution of work.
- (2) **Medical Certificate of Fitness for Labour** – It is agreed that the contractor shall not employ a person above 15 and below 19 years of age for the purpose of execution of work under this contract unless a medical certificate of fitness in the prescribed form is granted to him by a certifying surgeon certifying that he is fit to work as an adult is obtained and kept in the custody of the contractor or a person nominated by him in this behalf and the person carries with him, while at work, a token giving a reference to such certificate. It is further agreed that the responsibility for having the adolescent examined medically at the time of appointment or periodically till he attains the age of 19 years shall devolve entirely on the contractor and all the expense to be incurred on this account shall be borne by him and no fee shall be charged from the adolescent or his parent for such medical examination.
- (3) **Period of Validity of Medical Fitness Certificate** - A certificate of fitness granted or renewed for the above said purposes shall be valid only for a period of one year at a time. The certifying surgeon shall revoke a certificate granted or renewed if in his opinion the holder of it is, no longer fit for work in the capacity stated therein. Where a certifying surgeon refuses to grant or renew a certificate or revoke a certificate, he shall, if so required by the person concerned, state his reasons in writing for doing so.
- (4) **Medical Re-examination of Labourer** - Where any official appointed in this behalf by the Ministry of Labour is of the opinion that any person employed in connection with the execution of any work under this contract in the age group 15-19 years is without a certificate of fitness or is having a certificate of fitness but no longer fit to work in the capacity stated in the certificate, he may serve on the Contractor, or on the person nominated by him in this regard, a notice requiring that such person shall be examined by a certifying surgeon and such person shall not, if the concerned official so directs, be employed or permitted to do any work under this contract unless he has been medically examined and certified that he has been granted a certificate of fitness or a fresh certificate or a fresh certificate of fitness, as the case may be.

61. DETERMINATION OF CONTRACT

- 61.1 **Right of RailTel to determine the contract:** The RailTel shall be entitled to determine and terminate the contract at any time, should in the RailTel's opinion, the cessation of work becomes necessary owing to paucity of funds or from any other cause whatever, in which case the value of approved materials at site and of work done to date by the Contractor will be paid for in full at the rate specified in the contract. Notice in writing from the RailTel of such determination and the reasons therefore shall be conclusive evidence thereof.
- 61.2 **Payment on determination of contract:** Should the contract be determined under sub-clause (1) of this clause and the Contractor claims payment for expenditure incurred by him in the expectation of completing the whole of the work, the RailTel shall admit and consider such claims as are deemed reasonable and are supported by vouchers to the satisfactions of the Engineer. The RailTel's decision on the necessity and propriety of such expenditure shall be final and conclusive.
- 61.3 The contractor shall have no claim to any payment of compensation or otherwise, howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of determination of contract.

62. TERMINATION OF CONTRACT OWING TO DEFAULT OF CONTRACTOR:

62.1 If the Contractor should :

- (i) Become bankrupt or insolvent, or lunatic.
- (ii) Make an arrangement with or assignment in favour of his creditors, or
- (iii) Being a Company or Corporation, go into liquidation (other than voluntary), liquidation for the purpose of amalgamation or reconstruction, or
- (iv) Have an execution levied on his goods or property on the works, or assign the contract or any part thereof otherwise than as provided in clause-21 of SCC, or
- (v) Abandoned the contract, or
- (vi) Persistently disregard the instructions of the RailTel's Engineer with regard to work, or
- (vii) Contravene any provision of the contract, or
- (viii) Fail to adhere to the agreed programme of work by a margin of 10% of the Stipulated period, or
- (ix) fail to remove materials from the site or to pull down and replace the work after receiving from the Engineer's notice to the effect that the said materials or works have been condemned or rejected, or

- (ix) Fail to take steps to employ competent or additional staff and labour as required under clause 7 of SCC (Chapter 4 Section-I), or
- (x) Fail to afford the Engineer or Engineer's representative proper facilities for inspecting the works or any part thereof as required under clause 28, or
- (xi) Promise offer or give any bribe, commission, gift or advantage either himself or through his partner, agent or servant to any officer or employee of RailTel or any person on his or on their behalf in relation to the execution of this or any other contract with the RailTel,
- (xii) (A) At any time after the tender relating to the contract has been signed and submitted by the contractor, being a partnership firm admit as one of its partners or employ under it or being an incorporated company elect or nominate or allow to act as one of its directors or employ under it in any capacity whatsoever any retired engineer of the gazetted rank or any other retired gazetted officer working before his retirement, whether in the executive or administrative capacity, or whether holding any pensionable post or not, in the Engineering Department of the Railways for the time being owned and administered by the President of India before the expiry of two years from the date of retirement from the said service of such Engineer or Officer unless such Engineer or Officer has obtained permission from the President of India or any officer duly authorized by him in this behalf to become a partner or a director or to take employment under the contract as the case may be, or
- (B) Fail to give at time of submitting the said tender:
 - (a) The correct information as to the date of retirement of such retired engineer or retired officer from the said service, or as to whether any such retired engineer or retired officer was under the employment of the contractor at the time of submitting the said tender, or
 - (b) The correct information as to such engineers or officers obtaining permission to take employment under the contractor, or
 - (c) Being a partnership firm the correct information as to, whether any of its partners was such a retired engineer or retired officer, or
 - (d) Being an incorporated company, the correct information as to, whether any of its directors was such a retired engineer or retired officer, or
 - (e) Being such a retired engineer or retired officer suppress and not disclose at the time of submitting the said tender the fact of his being such a retired engineer or a retired officer or make at the time of submitting the said tender a wrong statement in relation to his obtaining permission to take the contract or if the contractor be a partnership firm or an incorporated company to be a partner or director of such firm or company as the case may be or to seek employment under the contractor. Then and in any of these said clauses, the Engineer on behalf of the RailTel may serve the Contractor with a notice in writing to that effect and if the Contractor does not, within 7 days after the delivery to him of such notice, proceed to make good his default in so far as the same is capable of being made good and carry on the work or comply with such directions as

aforesaid to the entire satisfaction of the Engineer, the RailTel shall be entitled after giving 48 hours notice in writing under the hand of the Engineer to rescind the contract as a whole or in part or parts (as may be specified in such notice) and adopt either or both the following courses: A final termination notice will be issued by RailTel after expiry of 48 hrs notice.

62.2 RIGHT OF RAILTEL AFTER TERMINATION OF CONTRACT OWING TO DEFAULT OF CONTRACTOR:

In the event of any or several of the courses, referred in clause 62 above, being adopted:

- (a) The Contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any commitments or made any advances on account of or with a view to the execution of the works or the performance of the contract and Contractor shall not be entitled to recover or be paid any sum for any works thereto not actually performed under the contract, unless or until the Engineer shall have certified the performance of such work and the value payable in respect thereof and the Contractor shall only be entitled to be paid the value so certified.
- (b) The Engineer or Engineer's Representative shall be entitled to take possession of any materials, tools, implements, machinery or buildings on the works or on the property on which these are being or ought to have been executed, and to retain the employ the same in the further execution of the works or any part thereof until the completion of the works without the Contractor being entitled to any compensation for the use and employment thereof or for wear and tear or destruction thereof.
- (c) The Engineer shall, as soon as may be practicable after removal of the Contractor fix and determine expert or by or after reference to the parties or after such investigation or enquiries as he may consider fit to make or institute and shall certify what amount (if any) has at the time of termination of the contract been reasonably earned by or would reasonably accrue to the Contractor in respect of the work then actually done by him under the contract what was the value of any unused or partially used materials, any constructional plants and any temporary works upon the site. The legitimate amount due to the contractor after making necessary deductions and certified by the Engineer should be released expeditiously.

63 Matters finally determined by the RailTel:

All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract shall be referred by the contractor to the RailTel and the RailTel shall within 120 days receipt of the Contractor's representation make and notify decisions on all matters referred to by the contractor in writing provided that matters for which provision has been made in clause 8, 18, 22.5, 29, 43.2, 45(a), 55, 55.1(5), 57, 61.1, 61.2 and 62.1 of General Condition of Contract or in any clause of the Special Conditions of the Contract shall be deemed as 'excepted matters' and decisions of the RailTel's authority, thereon shall be final and binding on the contractor provided

further that 'excepted matters' shall stand specifically excluded from the purview of the arbitration clause and not be referred to arbitration.

64 SETTLEMENT OF DISPUTE AND ARBITRATION

- 64.1 Any dispute or difference whatsoever arising between the parties out of or relating to the construction, meaning, scope, operation or effect of this contract or the validity or the breach thereof shall be settled by a sole arbitrator in accordance with provisions contained in Arbitration and Conciliation Act, 1996 as amended and the award made in pursuance thereof shall be binding on the parties. The venue of such arbitration or proceedings thereof shall be New Delhi.
- 64.2 All arbitration proceedings shall be conducted in English. Resources against any Arbitral award so rendered may be entered into court having jurisdiction or application may be made to such court for the order of enforcement as the case may be.
- 64.3 The Arbitral Tribunal shall consist of the sole Arbitrator if the value of claim is upto Rs. 10 Lakhs. The arbitrator will be appointed by the Managing Director of RailTel Corporation of India Ltd. If the value of claim or amount under dispute is more than Rs. 10 Lakhs, the matter shall be referred to the adjudication of arbitral council. Managing Director/RailTel shall furnish a panel of three names to the contractor, out of which the contractor will recommend one name to be his nominee and then Managing Director/RailTel shall appoint out of the panel, one name as RailTel's nominee and these two arbitrators with mutual consent appoint a third arbitrator who shall act as deciding. The award of the sole arbitrator or the Arbitral council, as the case may be, shall be final and binding on both the parties, i.e. Contractor and RailTel Corporation of India Ltd.
- 64.4 Each of the parties agree that notwithstanding that the matter may be referred to Arbitrator as provided therein, the parties shall nevertheless pending the resolution of the controversy or disagreement continue to fulfill their obligation under this Agreement so far as they are reasonably able to do so.

SECTION- I

CHAPTER - 4

Special Conditions of Contract

(SCC)

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SECTION – I

Chapter - 4

SPECIAL CONDITIONS OF CONTRACT

1. TENDER DOCUMENTS

- 1.1 The goods and services required, bidding procedure and contract terms are prescribed in the tender documents. The set of tender documents issued for the purpose of bidding includes following together with any addendum and corrigendum thereto.
- 1.2 If the Tender submitted by a Tenderer is accepted and the contract awarded to the Tenderer the various works coming under the purview of the contract shall be governed by tender documents mentioned above.
- 1.3 Any special conditions stated by the Tenderer in the covering letter submitted alongwith the tender shall be deemed to be a part of the Contract to such extent only as have been explicitly accepted by the RailTel.

2. AGREEMENT

The successful Tenderer shall within 15 days after having been called upon by notice to do so be bound to execute an agreement based on accepted rates and conditions, in such form as the RailTel may prescribe, and lodge the same with the RailTel together with the conditions of contract, specifications and Schedule of prices referred to therein duly completed. The form for agreement is included in Section I, Chapter 6 (Form No.3).

3. CONTRACT PERFORMANCE GUARANTEE

- 3.1 On receipt of the Letter of Acceptance of Tender from the RailTel the successful Tenderer should give a Performance Guarantee (PBG) in the form of irrevocable bank guarantee from State Bank of India/any Nationalized Bank or from any Scheduled Bank in the Form no. 4, amounting to 5% of the contract value.
- 3.2 The Performance Guarantee should be furnished by the successful contractor after letter of acceptance has been issued, but before signing of the agreement. The agreement should be signed within 15 days after issue of LOA and Performance Guarantee should also be submitted within this time limit. The instruments for Performance Guarantee should be valid for four months beyond the warranty period (Clause 29) of SCC.
- 3.3 Performance Guarantee shall be released after satisfactory completion of the work, maintenance period and on expiry of the warranty period and issue of the certificate of final acceptance of the entire system. The procedure for releasing should be same as for Security Deposit.
- 3.4 Wherever the contracts are rescinded, the security deposit should be forfeited and the Performance Guarantee shall be encashed and the balance work should be got done separately.

- 3.5 The balance work shall be got done independently without risk and cost of the original Contractor.

- 3.6 The original contractor shall be debarred from participating in the tender for executing the balance work. If the failed contractor is a Joint Venture (JV) of or a partnership firm, then every member/partner of such a firm would be debarred from participating in the tender for the balance work either in his/ her individual capacity or as a partner of any other JV/partnership firm.

4. CONTRACTOR'S OFFICE & STORES DEPOT

The Contractor shall within ten days of issue of letter of acceptance of tender establish an office and store depot at a convenient place for receiving and storing equipments and materials and progressing field work expeditiously in consultation and with the approval of the purchaser's Engineer. He shall intimate the purchaser's Engineer address thereof to which all correspondence should be sent. Any communication sent to the contractor by post at his said address shall be deemed to have reached the contractor duly and in time. Important documents shall be sent by Registered post.

5. USE OF RAILWAY LAND:

Deleted

6. PROGRAMME OF WORK

- 6.1 The Contractor shall have necessary resources to execute the work so that the entire work is completed within a period as mentioned in the preamble from the date of issue of Letter of Acceptance of the tender. He shall also have necessary resources to take up the work simultaneously at more than one independent place in order to expedite the completion of work.
- 6.2 The Contractor who has been awarded the work shall as soon as possible but not later than 7 days from the date of receipt of the acceptance letter in respect of contracts with initial completion period of one year or less or not later than 15 days for other contracts have to submit the detailed programme of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CPM. He shall also submit the details of organization (in terms of labour and supervisors) plant and machinery that he intends to utilize (from time to time) for execution of the work within stipulated date of completion. The programme of work amended as necessary by discussions with the Engineer, shall be treated as the agreed programme of the work for the purpose of this contract and the contractor shall and endeavor to fulfill this programme of work. The progress of work will be watched accordingly in the liquidated damages will be with reference to the overall completion date. Nothing stated herein shall preclude the contractor in achieving earlier completion of item or whole of the works than indicated in the programme.
- 6.3 The Contractor shall be held responsible for the execution of the work according to the Program given above in full compliance of the various clauses of the Technical specifications, instructions/ drawings etc. Failure to comply with any of these will be dealt with as per provision laid down in Conditions of Tendering.

- 6.4 Approach roads, wherever available can be used for carting materials. While RailTel may facilitate the contractor for getting approval from the Railways, if required, for carting the material to the site, the responsibility for ensuring that the material reaches the site in time, lies entirely with the contractor. The contractor has to bear the necessary expenses for carting the material to the site and he shall also arrange for the necessary Road permits in case of carriage of material by Road.

- 6.5 The contractor will program his work in such a manner so as not to interfere in the working and movement of trains.

7. COMPETENT SUPERVISORS

- 7.1 The Contractor shall place and keep competent representatives/ Supervisors/ Engineers as his representative on the works who will be authorized to receive and acknowledge materials issued by the RailTel and take all orders issued by the RailTel. The said representatives shall be present at site during working hours and any written orders or instructions which the purchaser's Engineer may give to the said representatives of the contractor shall be deemed to have been duly given or communicated to the contractor.

8. Not used

9. Not used

10. TEST & MEASURING INSTRUMENTS AND SPECIAL TOOLS ETC.

- 10.1 Special tools & instruments as required for installation and commissioning of the work as detailed in preamble and to achieve and to objective shall be arranged by contractor at his own cost.

- 10.2 All tests and measuring instruments and other arrangements required for carrying out all the acceptance tests etc shall be provided by the contractor at his own cost.

11. STORES TO BE SUPPLIED BY CONTRACTOR

- 11.1 All materials required for the execution of the contract shall be arranged and supplied by the Contractor as detailed in the scope (Preamble) Annexure – 2 so as to realize the end objective. The supply of equipments and materials shall also include required installation and other materials and documents etc which may not be specifically mentioned herein but which are necessary for completing the work in all respects.

12. SUPPLY OF TECHNICAL LITERATURES, DOCUMENTATION, DRAWINGS, INSTRUCTION BOOK & COMPLETION PLANS ETC.

- 12.1 The supply of equipment and material shall include supply of one set of printed documents form original equipment manufacturers with each equipment as given in technical supplement.

- 12.2 Except where printed documents are supplied, all other documentation and information as mentioned in the technical specifications shall be prepared using CAD or any other software package duly approved by Engineer. In addition to what is specified in the

technical specifications, two complete hard sets of documents shall also be supplied for ready use duly bounded in good plastic folders.

13 SPARES

Not used

14 LONG TERM AVAILABILITY OF SPARES AND SYSTEM SUPPORT

Not used.

15 QUALITY ASSURANCE

- 15.1 In the event of RailTel waving off the inspection, the quality assurance department of the manufacturer shall carry out all the tests as per the specification and issue a certificate indicating clearly the test results and the adherence to the technical specifications. This is without prejudice to the purchaser's right to accept or reject the supplies if not found in conformity to its requirement.

16. Not used

17 INSPECTION OF MATERIALS

- 17.1 Material of all types as per SOR shall be subjected to Acceptance test by RailTel or their authorized representative.
- 17.2 The materials may also be inspected by the purchaser or his representative again at the contractor's depot.
- 17.3 All materials shall be procured from the manufacturers of repute/their authorized dealers. Such materials are to be accepted by the Engineer. The Contractor may be required to produce test certificate from the manufacturer wherever called for by the Engineer. In case of material to be supplied as per RDSO/TEC specification, should be procured from RDSO/TEC approved source only.
- 17.4 The cost of equipment and materials, all tests and/or analysis performed for inspection shall be borne by the Contractor.
- 17.5 The inspection charges, if any, payable to the purchaser's representative for carrying out the inspection shall be borne by the purchaser.

All equipments, materials, fittings and components will be subject to inspection by the purchaser or his representative at the manufacturer's factory/tenderer works before dispatch and no materials shall be dispatched until these are inspected and/or approved.

18. INSPECTION OF WORKS

- 18.1 The Engineer or his representative may inspect and test the various portions of the work at all stages and shall have full power to reject all or any portion of the work that he may consider to be defective or inferior in quality of materials, workmanship or design in comparison to what is called for in the specification. In the event of rejection of any work already executed and not in accordance with specification as in

this tender and/or as determined by the Engineer or which the Contractor has been apprised, the Contractor shall carry out alterations/ replacements to such works to the satisfaction of the Engineer at his own cost and which no additional expenses will be borne by the RailTel.

19. QUANTUM OF WORK AND VARIATION IN QUANTITIES

- 19.1 The quantities quoted in the Schedule are not firm and may be varied at the time of awarding and during the currency of the contract.
- 19.2 The quantity indicated in the Schedule of Requirements is the estimated quantities in respect of the work and may change depending on the actual site condition/ design. On this and other developments, the purchaser may exercise the option of increase / decrease of the quantity of items of Schedule of Requirements by plus 25% (Twenty five percent) or minus 25% (twenty five percent) of the value of the contract respectively either within the scope of the work.
- 19.3 The Contract value may vary within +25% / -25% of the grand total of Schedule of Requirements as included in the Letter of Acceptance to tenderer, In case of variation in quantities the contractor shall be bound to carry out the work at the rates agreed in the schedule up to the limit of +25% / -25% variation in the value of contract and shall not be entitled to any claim or any compensation whatsoever. For variation quantity 25% to 40% rate will be 2% bellow the accepted rate for variation beyond 40% and less then 50% farther 2% rate to be reduced and beyond 50% negotiated rate to be applicable
- 19.4 Deleted
- 19.5 In case of increase in quantity of an individual item by more than 50% of agreemental quantity, the rate shall be negotiated for additional quantity in excess of 150% of agreemental quantity.
- 19.6 Deleted
- 20. Not used

21. SUBLETTING AND ASSIGNMENT

The contractor may enter into contract with suppliers for supply of materials under this contract.

- 21.2 The contractor may subcontract the execution of part(s) of the project with the prior approval of RailTel under following conditions:-
 - (i) The permitted subletting of work by the contractor shall not establish any contractual relationship between the sub-contractor and the RailTel and shall not relieve the contractor of any responsibility under the contract.
 - (ii) The contractor shall arrange for effective supervision of sub contractor's work and remain solely responsible for materials supplied and for works carried out on his behalf by the sub contractor.

- 21.3 The contractor shall arrange for effective supervision of sub contractor's work and remain solely responsible for materials supplied and for works carried out on his behalf by the sub contractor.

22. EXECUTION OF WORK

All the works shall be executed in strict conformity to the provisions of the contract document and with such explanatory detailed drawings, specifications and instructions as may be approved from time to time based on detailed design and engineering carried out by contractor in line with requirements as per contract document. The contractor shall be responsible for ensuring that the work throughout are executed in the most substantial, best workman ship using best quality of material and in strict accordance with the specifications and as per sound industrial practices, to the entire satisfaction of the RailTel.

23. Not used

24. MAINTENANCE OF WORKS

The contractor shall at all times during the progress and continuance of the works and also for the period of maintenance specified in the tender form and after the date of passing of the certificate of completion by the RailTel's representative or any other earlier date subsequent to the completion of the works that may be fixed by RailTel's representative be responsible for and effectively maintain and uphold in good, substantial, sound and perfect condition all and every part of the works and shall make good from time to time and at all times, as often as the RailTel's representative shall require, any damage or defect that may, during the above period, arise in or be discovered or be in any way connected with the works provided that such damage or defect is not directly caused by errors in the contract documents, act of providence or insurrection or civil riot and the contractor shall be liable for and shall pay and make good to the RailTel or other persons legally entitled thereto whenever required by the RailTel's representative so to do, all losses, damages, costs and expenses they or any of them may incur or be put or be liable to, by reason or inconsequence of the operations of the contractor or his failure in any respect.

For this purpose the tenderer will submit their strategy for providing maintenance support including the staff who will be available along with the set of spares for attending to various faults/problems during maintenance period.

25. CLEARANCE OF SITE

At the end of the work at each location the Contractor shall as a part of his contractual obligation leave the area completely neat and clean.

26. PROVISIONAL ACCEPTANCE(PAC)

- 26.1 Immediately after the completion of the work of the entire section in all respects, the contractor shall certify and advise the purchaser in writing that the installation is (i) complete (ii) ready for satisfactory commercial service and (iii) ready to be handed over.

- 26.2 The test or tests specified in Technical supplement will be conducted jointly by purchaser and contractor as soon as possible after receipt of advice of completion of one sub-section by purchaser from the contractor. The test schedule shall be finalized by mutual discussion between the contractor and M/s. RailTel Corporation of India Limited, Kolkata 700071. Any breakages in the laid fibers, improper protective arrangement in bridges and culverts or any discrepancy or deviation from the tendered specifications, failure of component, modules, sub assemblies or equipment during the commissioning test shall be replaced/repared free of cost by tenderer.
- 26.3 Purchaser's Engineer shall issue a Provisional Acceptance certificate for successful commissioning of the section covering all materials and services included in the Schedule of works after the final acceptance test as per the approved test procedures have been completed and the performance has been found to meet the specifications. RailTel's decision in this respect shall be final. The Provisional Acceptance Certificate shall be signed by both the parties. The period of maintenance/warranty of works shall commence from the date of issue of the Provisional Acceptance Certificate of the respective section/block section and accepted by RailTel.

27. PLACING IN SERVICE & MAINTENANCE SUPERVISION

- 27.1 After the work has been completed & placed in service and Provisional Acceptance certificate issued by Purchaser's Engineer, the contractor shall be responsible for proper maintenance/warranty of the work for a period of twelve months from the date of commissioning.
- 27.2 During this period of maintenance supervision if any lacuna is noticed in the work done by the contractor under the contract, the contractor will rectify the same free of cost. During such rectification if any faulty material/equipment/modules need replacement or repair, they shall be provided by the contractor from the set of equipment or modules that the contractor should bring to the site of installation in addition to all the materials to be supplied against this contract. Use of spare modules, if any, covered under the Schedule of material of this tender shall not be permitted to be used during installation, commissioning and period of maintenance / warranty.
- 27.3 During the period of maintenance/warranty, the contractor shall be responsible for making good, at his own cost, any work found defective. For this purpose, he shall have to depute his personnel to the site and replace/repair the defective work to the satisfaction of the purchaser's engineer.

28. FINAL ACCEPTANCE

- 28.1 The final acceptance of the works completed shall take effect from the date of expiry of the period of maintenance supervision as defined in clause 27 or the expiry of the last of the respective period of maintenance supervision of various sub-sections for which Provisional Acceptance Certificates are issued or brought into commercial operation, provided in any case that the contractor has complied fully with his obligations in respect of each item under the contract.
- 28.2 Notwithstanding the issue of Final Acceptance Certificate the contractor and the purchaser (subject to Sub Clause as above) shall remain liable for fulfillment of any obligation incurred under the provision of the contract prior to the issue of Final Acceptance

Certificate which remains unperformed at the time such certificate is issued and for determining the nature and extent of such obligation the contract shall be deemed to remain in force between the parties hereto.

29. WARRANTY

- 29.1 All materials supplied/work done by the Contractor shall be guaranteed against the defects for a period as prescribed in BDS from the date of issue of Provisional Acceptance Certificate. The contractor shall provide comprehensive warranty maintenance for all the items executed by him against this tender.
- 29.2 During the period of warranty, the contractor shall remain responsible to arrange replacement and for setting right at his own cost any equipment installed by him which is of defective manufacture or design or becomes unworkable due to any cause whatsoever. The decision of the RailTel's representative in this regard to direct the contractor to attend to any damage or defect in work shall be final and binding on the Contractor.
- 29.3 During the period of warranty, the contractor shall be responsible to the extent expressed in this clause for any defects that may develop under the conditions provided for by the contract and under proper use, arising from faulty materials, design or workmanship in the plant, or from faulty execution of the plant by the contractor but not otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the portion is faulty.
- 29.4 If it becomes necessary for the contractor to replace or renew any defective portions of the work under this clause the provisions of this clause shall apply to the portions of the work to be replaced or renewed until the expiration of three months from the date of such replacement or renewal or until the end of the warranty period whichever may be later. If any defect is not remedied within reasonable time, the purchaser may proceed to do the work at contractor's risk and expense, but without prejudice to any other rights which the purchaser may have against the contractor in respect of such defects.
- 29.5 Deleted
- 29.6 Until the Final Acceptance Certificate shall have been issued, the contractor shall have the right of entry, at his own risk and expense, by himself or his duly authorized representatives, whose names shall have previously been communicated in writing to the purchaser at all reasonable working hours upon all necessary parts of the works for the purpose of inspecting the working and the records of the system and taking notes therefrom and, if he desires at his own risk and expense, making any tests subject to the approval of the purchaser which shall not be unreasonably withheld.
- 29.7 In subject of this warranty, the contractor shall make his Performance Guarantee as required under Clause 3 of Special Conditions of Contract, valid to cover the period of warranty as per Clause 29.4.

30. Training Not used

31. INFRINGEMENT OF PATENTS:

- (a) The Contractor is forbidden to use any patents or registered drawings, processes or patterns in fulfilling his contract without prior consent in writing of the owner of such patents, drawings, patterns or trade marks except where these are specified by the Purchaser himself. Royalties where payable for the use of such patented processes, registered drawings or patterns shall be borne exclusively by the Contractor. The Contractor shall advise the Purchaser of any proprietary rights that may exist on such processes, drawings or patterns which he may use of his own accord.
- (b) In the case of patents taken out by the Contractor of the drawings or patterns registered by him or of those patents, drawings or patterns for which he holds a license, the signing of the contract automatically gives the Purchaser the right to repair by himself the purchased articles covered by the patent or by any person or body chosen by him and to obtain from any sources he desires the component parts required by him for carrying out the repair work. In the event of infringement of any patent rights due to above action of the Purchaser he shall be entitled to claim damages from the Contractor on the grounds of any loss of any nature which he may suffer e.g. in the case of attachment because of counterfeiting.

32. LICENSE AS PER GOVT. OF INDIA CONTRACT LABOUR ACT

The Contractors are required to produce license as enjoined in the Government of India Contract Labour (Regulation and Abolition) Act (1978) with latest amendments, if any. They shall not be allowed to undertake or execute any work through contract Labour except under and in accordance with a license issued under the said Act in that behalf by the authorized licensing Officer.

33. DEFAULTS AND DELAYS

The Contractor shall execute the work with due diligence and expedition, keeping to the approved time schedule. Should he refuse or neglect to comply with any reasonable orders given to him in writing by the Purchaser's Engineers in connection with the work or contravene the provision of the Contract or the progress of work lags persistently behind the time schedule due to his neglect, the Purchaser shall be at liberty to give seven days notice in writing to the Contractor requiring him to make good the neglect or contravention complained of and should the Contractor fail to comply with the requisitions made in the notice within seven days from the receipt thereof, it shall be lawful for the purchaser to take the work wholly or in part out of the Contractor's hands without any further reference and get the work or any part thereof, as the case may be, completed by other agencies at the expense of the Contractor without prejudice to any other right or remedy of the Purchaser. The contract shall be treated as terminated on the date a notice is issued by the purchaser to take the work wholly or in part out of the Contractor's hands. The purchaser shall be at liberty to encash the performance guarantee and forfeit the security deposit after the contract is terminated to reimburse the loss to purchaser.

34. LOSS SUSTAINED DUE TO DEFAULTS AND DELAYS

In the event of any loss to the purchaser on account of execution and/or completion of the work or any part thereof by agencies other than the contractor, in terms of

clause 33 the contractor shall be liable to reimburse the loss to purchaser without prejudice to the other rights and remedies of the purchaser and the reimbursement in full or in part, as the case may be, shall be met at the option of the purchaser from out of all or any of the following sources viz :

- (a) (i) Any amount due and payable to the contractor by the purchaser on any account whatsoever;
- (ii) The Contractor's security deposit in the hands of the purchaser as far as available, and;
- (iii) Any other assets whatsoever of the contractor;
- (b) In the event of re-imbursement from out of sources (i) and/or (ii) above mentioned, the purchaser shall have the right of appropriation suo moto.

35. PENALTY FOR DELAY IN COMPLETION

- 35.1 If the contractor fails to execute and complete the work within the time specified in the Agreement or within the period of extension granted under para 36, the contractor shall accept reduction in the total amount payable to him by the purchaser at the rate of 0.5% per week or part thereof (rounded off to the nearest whole number) of the total value of the contract for the actual delay occasioned beyond the appointed time by which the work shall have been completed under the contract.
- 35.2 The total value of reduction on account of above shall be limited to maximum of 10% (Ten percent) of the total contract value. If such deduction exceeds 10% then the payment of contractor will be revised by the CA.
- 35.3 Such reduction shall be accepted by the purchaser in full satisfaction of the contractor's liability arising from delay only. This reduction of value for delay in completion will be applicable separately for each stage of completion of work. When two or more stage of completion are specified in the contract, the purchaser's engineer shall at his sole discretion specify a time limit within which the unfinished portion of the work shall be completed after serving on the contractor a notice of Purchaser's intention to recover the said penalty in Form 11. In the event of failure of the contractor, the purchaser shall be at liberty to take action in accordance with provisions in Para 33 and 34.

NOTE:

For purpose of this Para the value of work shall be calculated on the basis of unit prices included in schedule of requirements/work with the increase/decrease of the overall %age accepted for the contract.

36. EXTENSION OF TIME

- 36.1 Timely completion of the work is the essence of the contract. While delay in execution will attract penalty.

- 36.2 If any delay as aforesaid in clause 35 shall have arisen from any cause which the Purchaser may agree as being a reasonable ground for extension of time the purchaser's engineer or his representative may allow such additional time as he may in his absolute discretion consider to be reasonably justified by the circumstances of the case. Such extensions shall be granted, on request from contractor, without liquidated damages in the Form No.11.

37. CONTRACTOR'S LIABILITIES FOR COSTS AND DAMAGES

Please refer clause 52 of General Conditions of Contract (Part –II, Chapter – 3)

38. UNIT PRICES

This tender consists of a percentage bidding system. The estimated prices of each and every item of the schedule are indicated in the Schedule of Requirements. The tenderer is expected to quote the %age above(+) or below(-) the total estimated price indicated in the schedule. For the purpose of calculating the unit price for releasing payment item-wise, the total %age above/below finalized for the entire schedule will form the basis for calculation of the unit prices where the estimated prices of the individual items of the schedule will be marked up/below the final overall %age accepted.

The percentage above/below finalized for the entire schedule shall be firm and on all-inclusive basis inclusive of all types of taxes and GST -freight, handling, incidentals etc. and hence the contractor is advised to quote after taking all the relevant factors into consideration. Subsequent requests for variation of prices will not be entertained. The prices indicated in the schedule are in Indian Rupees for the units under metric system. The Service Tax will be payable as applicable from time to time. Thus:

- 38.1 The prices quoted by the Tenderer shall include the prices of materials including all incidental charges for transport, loading/unloading and handling of materials, commission for arranging dispatch by rail direct from manufacturer's factory and completing all necessary formalities in this respect, such as submission of forwarding notes, arranging placement of Wagon, collection of banker's charges for Bank guarantee, Indemnity Bonds inclusive of cost of Stamp etc. as also siding or shunting charges, if any, levied by the Railway.
- 38.2 The prices shall include all taxes, i.e. GST and applicable on this Works Contract under the law of land and no extra payment shall be payable on any account. GSTIN registration document to be submitted.
- 38.3 The prices quoted by the tenderer shall include all costs of Administration of Contract, Insurance Premium, Banker's charges for guarantees, cost of storage, loading-unloading and handling of materials and for any road transport which the contractor may use for carriage of materials to his depot and the site of work. The prices shall include the cost of works and adjustments necessary to be done by the contractor during or after tests carried out by the purchaser.
- 38.4 The price to be quoted by the tenderers should take into account the credit availed on inputs under the ITC scheme under GST law introduced w.e.f. 1st July 2017. The tenderers should give a declaration that any set off in respect of credit on inputs as

- admissible under law is being totally and unconditionally passed on to the purchaser in the price quoted by him (see clause 43).
- 38.5 While the price quoted in the contract are inclusive of all taxes i.e. GST levied by any statutory authority, the purchaser shall make any deduction on works contract if statutorily required to do so. uted sales tax on works contract shall be remitted to the concerned sales tax authority and the purchaser shall in no way be responsible for any disputes between the GST authorities and the contractor in this regard.
- 38.6 All taxes, arising out of the transaction between the contractor and his sub contractor/supplier for this work will be included in the rates quoted by the contractor in the relevant Schedule of requirement.
- 38.7 No import license shall be arranged by the RailTel for this work.

39. MEASUREMENT OF WORKS

- 39.1 Measurements for the works shall be made in accordance with approved designs & drawings and measured in relevant units except where provided otherwise. The measurements will be made generally in accordance with standard engineering practices.
- 39.2 All measurement, method of measurement, meaning intent of specifications and interpretation of Special Conditions of Contract, given and made by the Purchaser or by the Purchaser's Engineer shall be final and binding.
- 39.3 All payment due to the contractor will be made through RTGS/NEFT only. Where submission of RTGS/NEFT details is mandatory.
- 39.4 Payments for the works shall be made in accordance with approved design & drawings and measured in relevant units except where provided or otherwise. The measurements will be made generally in accordance with standard engineering practices. The abstract of quantities arrived shall be entered in the official measurement book and signed by the contractor and the authorised representative of RAILTEL.

40. TERMS OF PAYMENT

- 40.1 All bills shall be submitted to the Executive Director, Eastern Region under whose jurisdiction the work has been executed. While submitting the bills, the break-up of taxes may be furnished as per GST law so that any ITC may be availed by RailTel.
- 40.2 Deleted
- 40.3 Subject to any deductions or recovery which the RailTel may be entitled to make under contract, the contractor will be entitled to be paid from time to time by way of "on account payment" for supply of goods and 'progress payment' for works as given in payment conditions below.
- 40.4 **On Account Payment:** Running accounts payment will be allowed based on the certification and measurements of consultant/RailTel engineer-in-charge .

Final Bill: balance payment shall be paid after successful completion of work and based on the certification and measurements of consultant and RailTel engineer-in-charge.

Documents to be submitted along with bills:

- a) Delivery challan for supply items.
- b) Warranty certificate for the supplied items as per clause 10 of SCC.

41 FINAL PAYMENT

Balance 5% of the contract value shall be paid after satisfactory completion of all works, on certification of representative RailTel engineer-in-charge and issue of PAC.

On the basis of Provisional Acceptance Certificate from the Purchaser's Engineer for all the works at all the locations covered in this contract and reconciliation of materials issued, the final bill for the balance payment for each item of work shall be submitted by the Contractor along with a clear 'No Claim Certificate'. The Provisional Acceptance Certificate shall be issued by the Purchaser's Engineer only when he has accepted the work wholly for the entire sub-section..

41.1 FINAL ACCEPTANCE CERTIFICATE

Final Acceptance Certificate shall be issued by the Purchaser's Engineer after completion of one year's period of maintenance as covered in the contract. The Final Acceptance Certificate shall be issued by the Purchaser's Engineer only when he has accepted the work wholly after conducting the acceptance tests as per the details given in the technical specification and supplement.

42 FINAL SETTLEMENT

On expiry of the warranty period and issue of the certificate of final acceptance of the entire work Performance Guarantee (Para 3) will be refunded or Bank Guarantee released to the Contractor after adjustment of any dues payable by the contractor.

43. CERTIFICATE FOR MODVAT BENEFITS ON BILLS

Deleted

44. DEDUCTION FROM ON ACCOUNT PAYMENT BILLS – PROGRESS PAYMENT

- (i) All costs, damages or expenses, which RailTel may have been paid or incurred which under the provisions of contract are Contractor's obligations will be deducted by RailTel from progress payment Bills/Invoice of Contractor, as and when it is understood that such an expense has been incurred or paid for.
- (ii) All such claims of RailTel shall, however, be duly supported by appropriate and certified vouchers, receipts or explanations as are available to enable the Contractor to identify such claims.

45. TAXES

- 45.1 The Contractor and all personnel employed by him shall pay such taxes like Income Tax as are payable under statutory laws of India and the Purchaser **WILL NOT ACCEPT** any liability for the same.
- 45.2 Deduction of Income Tax at source as per provisions of Finance Act and Income Tax in force shall be made from the Contractor/Sub-Contractor and the amount so deducted may be credited to the Central Government.
- 45.3 Wherever the law makes it statutory for the Purchaser to deduct (such as revenue charges under GST law) any amount towards GST. The same will be deducted and to be paid to the concerned authority.

46. MOBILISATION ADVANCE

Deleted

47. INSURANCE

- 47.1 The Contractor shall take out and keep in force a policy or policies of insurance against all liabilities of the Contractor or the Purchaser at common law or under any statute in respect of accidents to persons who shall be employed by the contractor in or about the site for the purpose of carrying out the works on the site. The Contractor shall also take out and keep in force a policy or policies of Insurance against all recognized risks to their offices and depots. Such insurance shall in all respects be to the approval of the Purchaser and if he so requires in his name.

47.2 INSURANCE OF MATERIALS & INSTALLATIONS

The Contractor shall take out and keep in force a Policy or policies of Insurance for all materials including RailTel supply materials/equipments irrespective of whether used up in the portion of work already done or kept for the use in the balance portion of the work until such works are provisionally handed over to the RailTel. For this purpose, the works are deemed to have been provisionally handed over when Provisional Acceptance Certificate is issued as per para 26.

- 47.3 Deleted

- 47.4 The Contractor should, however, insure the stores brought to site, against risks in consequence of war and invasion, as required under the Emergency Risk (Goods) Insurance Act in force from time to time.

- 47.5 It may be noted that the beneficiary of the insurance policy should be RailTel or the policies should be pledged in favour of RailTel. The contractor shall keep the policy/policies current till the installations are provisionally handed over to the purchaser. It may also be noted that in the event of contractor's failure to keep the policy current and alive, renewal of policy will be done by purchaser for which the cost of the premium plus 20% of premium shall be recovered from the contractor.

- 47.6 For the purpose of enabling the contractor to take the insurance cover in connection with the contract, the purchaser's Engineer will advise the approximate price of all the materials supplied by RailTel to the Contractor.
- 48. Rights of RailTel:**
RailTel reserves to itself the following rights in respect of this contract without entitling the Contractor to any compensation.
- 48.1 To get the work done through another agency at the risk and cost of the Contractor, in the event of poor progress or the Contractor's inability to progress the work for Completion as stipulated in the contract, poor quality of work, persistent disregard of instructions of Architect / RailTel, assignment, transfer, subletting of the contracted work without written permission of RailTel, non-fulfillment of any contractual obligations etc. and to claim / recover compensation for such losses from the Contractor including RailTel's supervision charges and overheads from Security Deposit / other dues.
- 48.2 To withdraw any portion of work and / or to restrict / alter quantum of work as indicated in the contract during the progress of work and get it done through the contractor of the adjacent section and / or by the departmental labour to suit RailTel's requirements or in case RailTel decides to advance the compensation due to other emergent reasons.
- 48.3 To terminate the contract after due notice and forfeit the Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the event of:
- Contractor's continued poor progress.
 - Withdrawal from or abandonment of the work before completion of the work.
 - Corrupt act of the Contractor
 - Insolvency of the Contractor.
 - Persistent disregard of the instructions of RailTel.
Assignment, transfer, subletting of the contract work without written permission.
 - Non-fulfillment of any contractual obligations.
- 48.4 To recover any moneys due from the Contractor from out of any moneys due to the Contractor under this or any other Contract or from the Security Deposit.
- 48.5 To determine the Contract or to restrict the quantum of work and pay for the portion of work done as per the satisfaction of RailTel.
- 48.6 To affect recoveries from any amounts due to the Contractor under this or any other contract or in any other form the moneys which RailTel is forced to pay to anybody due to Contractor's failure to fulfill any of his obligations.
- 48.7 To restrict or increase the quantity and nature of work to suit site requirements, since the tender specifications are based on preliminary documents and quantities furnished therein are indicative and approximate and the rates quoted shall not be subject to revision in any manner whatsoever.
- 48.8 To deploy RailTel's or adjacent-section-contractor's skilled and semiskilled workmen in case of emergency / poor progress / deficiency in skill on the part of the employees of the Contractor and to recover the expenditure on account of the same from the moneys due to the Contractor.

- 48.9 While every endeavour will be made by RailTel to this end, RailTel cannot guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be entitled to any compensation / extra payment on this account.

In the event of any dispute of technical nature, the decision of RailTel shall be final and binding to the Contractor.

49. Responsibilities of Contractor in respect of local taxing rules, local laws, employment for workers etc.:

The following are the responsibilities of the Contractor in respect of observance of local laws, employment of personnel, payment of taxes etc.

- 49.1 The tenderer must be registered in relevant states for the payment of Works Contract Tax OR tenderer must register for the same and produce the same along with the bills for payment.
- 49.2 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.
- 49.3 The Contractor at all times during the continuance of this contract, shall in all his dealings with the local labour for the time being employed on or in connection with the work, has due regard to all local festivals, religious and other customs.
- 49.4 The Contractor shall comply with all State and Central Laws, Statutory Rules, Regulations etc., such as The Payment of Wages Act, The Minimum Wages Act, The Workmen's Compensation Act, The Employer's Liability Act, The Industrial Disputes Act, The Employee's Provident Fund Act, Employee's State Insurance Scheme, The Contract Labour (Regulations and Abolitions Act, 1970) and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The Contractor shall give to the local Governing Body, Police and other concerned authorities all such notice as may be required under law.
- 49.5 The Contractor will obtain independent licence under the Contract Labour (Regulations and Abolition Act, 1970) from the concerned authorities based on the certificate (Form - V) issued by the principal employer / customer, if such license is required under the law.
- 49.6 The Contractor shall pay all taxes, fees, licence charges, deposits, duties, tolls, royalty, commissions or other charges which may be leviable on account of any of his operations connected with this contract. In case, RailTel is forced to make any such payment, RailTel shall recover the same from the Contractor either from moneys due to him or otherwise as deemed fit.
- 49.7 The Contractor shall be responsible for the provision of health and sanitary arrangements more particularly described in the Contract Labour (Regulations and Abolition Act, 1970) and safety precautions as may be required for safe and satisfactory execution of the contract.

- 49.8 The Contractor shall be responsible for proper accommodation including adequate medical facilities for the personnel employed by him.
- 49.9 The Contractor shall be responsible for the proper behaviour and observance of all regulations by the staff employed by him.
- 49.10 The Contractor shall ensure that no damage is caused to any person / property of other parties working at site. If any such damage is caused, it shall be the responsibility of the Contractor to make good the losses and compensate them.
- 49.11 All the properties/equipment/components of RailTel loaned with or without deposit, to the Contractor shall remain the properties of RailTel. The Contractor shall use such properties for the purpose of execution of this contract. All such properties/ equipment / component shall be taken to be in good condition unless notified to the contrary by the Contractor within 48 hours. The Contractor shall return them in good condition as and when required by RailTel. In case of non-return, loss, damage, repairs etc., the cost thereof, as may be fixed by the Engineer, will be recovered from the Contractor.
- 49.12 It shall not be obligatory on the part of RailTel to supply any tools and tackles or materials other than those specifically agreed to be given by RailTel.
- 49.13 The Contractor shall fully indemnify and keep indemnified RailTel against all claims of whatever nature arising during the course of execution of this contract.
- 49.14 In case the Contractor is required to undertake any work outside the scope of this contract, the amount payable shall be as may be mutually agreed upon.
- 49.15 Any delay in completion of works or non-achievement of periodical targets, due to reasons attributable to the Contractor, will have to be compensated by the Contractor either by increased manpower and resources or by working extra hours or more than one shift at no extra cost to RailTel.
- 49.16 The Contractor will be directly responsible for payment of wages to his workmen. A payroll sheet giving details of all payments made to the workmen duly signed by the Contractor's representative should be furnished to RailTel, if called for.
- 49.17 In case of any class of work for which there is no specification laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 49.18 No levy, payment or charges made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied, demanded or charged.
- 49.19 No idle labour charges will be admissible in the event of any stoppage of work resulting in the Contractor's workmen being rendered idle due to any reason at any time.
- 49.20 The Contractor shall take all reasonable care to protect the materials and the work till such time it has been taken over by RailTel.
- 49.21 Contractor shall not stop work or abandon the site for whatsoever reason or dispute, excepting for force majeure conditions. All problems / disputes shall be separately

discussed and settled without effecting the progress of work. Stoppage or abandonment of work other than under force majeure conditions shall be treated as breach of work of contract and dealt with accordingly.

- 49.22 The Contractor shall keep the area of work clean and shall remove the debris etc. outside of RailTel's premises, while executing day-to-day work. Upon completion of work, the Contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The Contractor will also demolish all the hutments, sheds, offices, etc., constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the RailTel and the expenses recovered from the Contractor.
- 49.23 The Contractor shall execute the work in the most substantial and workmen like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The Contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/or as per the instructions of the Engineer.
- 49.24 The Contractor shall furnish fortnightly labour deployment report indicating the classification and number of workmen engaged, date wise and category wise. Besides, the Contractor shall also furnish progress reports on work at regular intervals as required by the Engineer.

50. Responsibility of contractor in respect of safety of men, equipment, material and environment:

All safety rules and codes applied by RAILTEL at site shall be observed by the Contractor and his workmen without exception. The Contractor shall be responsible for the safety of the equipment / material and work to be performed by him.

- 50.1 Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer, with a view to prevent pilferage, accidents, fire hazards etc. Suitable number of Clerical Staff, watch and ward, Storekeepers to take care of equipment, material, construction tools and tackles shall be posted at site by the Contractor till the completion of work under this contract. The Contractor shall arrange for such safety devices as are necessary for this type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per usual standards and practices.
- 50.2 The Contractor shall provide to its work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized RailTel officials:
- Safety Helmets conforming to IS - 2925.
 - Safety Belts conforming to IS - 3521.
 - Safety Shoes conforming to IS - 1989.
 - Eye & Face Protection devices conforming to IS-8520 & IS-8940.
 - Hand & Body Protection devices conforming to IS-2573, IS-6994, IS-8807 & IS-8519.

- 50.3 All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc. used by the Contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained before putting them to use and from time to time as instructed by authorized RailTel official who shall have the right to ban the use of any item.
- 50.4 All electrical equipment, connections and wiring for construction power, its distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the Contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by Contractor shall have safe plugging system to source of Power and be appropriately earthed.
- Where it becomes necessary to provide and / or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the Contractor shall be responsible for carrying out such provision and / or storage in accordance with the rules and regulations laid down in the relevant Government Acts, such as Petroleum Act, Explosive Act, Petroleum and Carbide of Calcium Manual of the Chief Controller of Explosives, Government of India etc. Prior approval of the authorized RailTel official at the site shall also be taken by the Contractor in all such matters.
- 50.5 The Contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 50.6 In case of a fatal or disabling injury/accident to any person at construction sites due to lapses by the Contractor, the victim and/or his/her dependants shall be compensated by the Contractor as per statutory requirements. However, if considered necessary, RailTel shall have the right to impose appropriate financial penalty on the Contractor and recover the same from payments due to the Contractor for suitably compensating the victim and/or his/her dependents. Before imposing any such penalty, appropriate enquiry shall be held by RailTel giving opportunity to the Contractor to present his case.
- 50.7 In case of any damage to property due to lapses by the Contractor, RailTel shall have the right to recover the cost of such damages from the payments due to the Contractor after holding an appropriate enquiry.
- 50.8 In case of any delay in the completion of jobs due to mishaps attributable to lapses by the Contractor, RailTel shall have the right to recover cost of such delay from the payments due to the Contractor, after notifying the Contractor suitably and giving him opportunity to present his case.
- 50.9 If the Contractor fails to improve the standards of safety in its operation to the satisfaction of RailTel, after being given reasonable opportunity to do so and / or if the Contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorised RailTel official, RailTel shall have the right to take the corrective steps at the risk and cost of the Contractor after giving a notice of not less than seven days indicating the steps that would be taken by RailTel.

50.10 The Contractor shall submit report of all accidents, fires, Property damage and dangerous occurrences to the authorised RailTel official immediately after such occurrence, but in any case not later than 12 hours of the occurrence. Such reports shall be furnished in the manner prescribed by RailTel. In addition, periodic reports on safety shall also be submitted by Contractor to the authorised RailTel official from time to time as prescribed.

50.11 During the course of construction, alteration or repair scrap lumbers with protruding nails, sharp edges etc., and all other debris including combustible scrap shall be kept cleared from working areas, passage ways and stair in and around site.

Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck or permitted to strike each other violently. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.

50.12 The Contractor shall be responsible for the safe storage of his radioactive sources.

All the Contractor's supervisory personnel and sufficient number of workers shall be trained for fire fighting and shall be assigned specific fire protection duties. Enough number of such trained personnel must be available during the tenure of the contract.

50.13 Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, erection site, other temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all times. Compliance of the above requirement under fire protection shall in no way relieve the Contractor of any of his responsibility and liabilities to fire accident occurring. In the event fire safety measures are not to RailTel's satisfaction, RailTel shall have option to provide the same and recover the cost plus incidentals from Contractor's bills and / or impose penalty as deemed fit by the authorised representative of RailTel.

51. Consequences of cancellation:

Not used

52. Strikes and Lockouts:

The Contractor will be solely responsible for all disputes and other issues connected with his workmen. In the event of Contractor's workmen resorting to strike or the Contractor resorting to lockout and if the strike or lockout so declared is not settled within a period of one month, RailTel shall have the right to get the work executed by employing its own men or through other agencies or both. The cost incurred by RailTel in this regard shall be recovered from the Contractor.

For any purpose whatsoever, the employees of the Contractor shall not be deemed to be in the employment of RailTel.

53. Guarantee:

Even though the work will be carried out under the supervision of the authorized representative of RailTel, the Contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of **one year from the date of completion of work** as certified by the authorized representative of RailTel and shall rectify free of cost to RailTel all defects arising out of faulty erection during the guarantee period starting from the date of completion of rectification. In the event of the Contractor failing to repair the defective works within the time specified by the authorized representative of RailTel, RailTel may proceed to undertake the repairs of such defective works at the Contractor's risk and cost, without prejudice to any other rights and recover the same from out of any moneys payable to the Contractor or by other legal means.

- 53.1 The Tenderers has to enter in the register all the material / tools and plants brought to the site for working in the premises available with the Security Staff / Site Incharge / Site Register.
- 53.2 The Tenderers should get all the materials inspected and approved from the authorized representative of RailTel before use. In case of non-approval, if authorized representative of RailTel wish to check the material, cost of breakages and re-doing the same Work will be the sole responsibility of the Contractor own.
- 53.3 The rates should be quoted in the same units as mentioned in the tender schedule.

The Bill of Quantities enclosed are very indicative and can vary as per the Site conditions, requirements of RailTel or Design of authorized representative of RailTel and the rates quoted shall not be subject to revision.

- 53.4 The rates quoted in the tender shall include all charges of material, labour, lifts, scaffoldings, any tools & plants, freight, labour conditions, fluctuations in the rates, Sales tax, excise duty, shift working, Octroi & other taxes and shall be firm for the duration of the contract and any extended period of the contract. No escalation in the rates shall be allowed under any circumstances even in case of extension of time period.
- 53.5 The successful Tenderer is bound to carry out all the items of work necessary for the completion of the job even though the same may not have been qincluded in the schedule of quantities. Rates for such items shall be settled in consultation with authorized representative of RailTel.

The successful Tenderer will have to make samples (proto-type) of all the furniture items for the final approval of authorized representative of RAILTEL before taking up the entire execution of the work. In case of any modifications / additions, the same shall be incorporated in the entire furniture items without any additional financial implications. Water and Electricity shall be provided free of cost at one point on each floor, further extensions if required shall be borne / arrange by the Tenderer on its own.

54. Rates of extra items/quantity:

The rates of the extra items will be derived from the tender wherever possible.

- 54.1 In case the rates do not exist in the tender, the rate will be derived as per the market rates. The Tenderer shall submit analysis of rates as per Annexure, with assumption of any one item.
- 54.2 If the quantity of any item under execution is varying up to $\pm 25\%$ of the total quantity (as per the Schedule of Requirement), the contractor shall have to execute the same item at **similar rates** as applicable in the contract agreement.
- 54.3 RailTel reserves the rights to vary the quantity by 25% above or below the BOQ without assigning any reason to the contractor.
- 54.4 All the work executed should be got approved by the authorized representative of RAILTEL and in case of any bad workmanship pointed out shall be either rectified or be taken away from the site if it is not rectifiable and shall be replaced without any extra cost by the Tenderer.
- 54.5 The Tenderer should indicate the breakup of the items of %age of the unit cost for material, wastage, labour, taxes, profits & overheads, etc. separately. This %age shall be the basis for evaluation of the rates of the extra items.
- Measurements of the items shall be as per the IS1200 / CPWD manual / BOQ units.
- 54.6 All statutory taxes like Sales Tax, TDS shall be deducted from all the running bills of the Contractors.
- 54.7 All the works executed or under execution finished or semi-finished including all materials lying at site shall become the property of RAILTEL immediately on receipt of bills of the Contractors for the same.
- 54.8 The procurement of Cement, Steel, as required for completion of work shall be the responsibility of the Contractor.
- 54.9 All Fittings / Fixtures, Materials shall confirm to the relevant ISI specifications and shall be approved by the authorised representative of RAILTEL.
55. Price variation clause: - No price variation clause not applicable in this tender.

BID DATA SHEET (BDS)

SECTION – I

Chapter – 5

The section consists of provisions that are specific to various clauses of preamble, Instruction to Tenderers and conditions of tendering (ITT), General Condition of Contract (GCC) and Special Condition of Contract (SCC) of Section-I of the tender document.

SECTION – I**Chapter - 5****BID DATA SHEET (BDS)**

The section consists of provisions that are specific to various clauses of Preamble, Instruction to tenderers and conditions of Tendering (ITT), General Condition of Contract (GCC) and Special Condition of Contract (SCC) of the tender document.

| Reference Clause | Description |
|--|---|
| Preamble Clause – 1 Section – I Chapter – 1 | Name of work : “Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region under Executive Director/ER.” |
| List of Sections where work for RailTel is to be done (Preamble clause 2.4) | As per Annexure – 1 of the Tender Document |
| Prebid conference(Preamble clause - 3) | Not Applicable |
| Last Date, Time and Venue of Submission of Tender: (Preamble Clause 6) | Last Date of Submission : Venue: RailTel Corporation of India Ltd, 3rd Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700 071. Date: 11.10.2017 Time: 17:00 hours |
| Date, Time and Venue of Opening of Tenders – (Preamble Clause 7) | Venue : Same as above Date: 12.10.2017 Time: 15:30 hrs. |
| Completion period ofwork: (Preamble, Clause 8) | For Section – 1: Tender No.: RailTel/Tender/OT/ER/HQ/2017-18/1039, Dt.16.09.2017 : 12 calander Months |

| | |
|---|---|
| Authority and Address: (Preamble Clause 9) | Executive Director, Eastern Region, RailTel Corporation of India Ltd, 16th Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700 071. |
| Form of Earnest Money: (Preamble Clause 10, ITT Clause 7) | For Section – 1: Tender No. RailTel/Tender/OT/ER/HQ/2017-18/1039, Dt: 16.09.2017 : Rs. 1,46,535/- (One lakh fortysix thousand five hundred thirty five only) |
| Form of earnest Money (ITT Clause 7.4) | Pay Orders / Demand Drafts shall be drawn in favour of RailTel Corporation of India Limited, payable at Kolkata having validity covering minimum 90 days from the date of opening of tender. |
| Work to be done by RailTel (if any): (Preamble Clause 15) | Nil |
| Materials to be supplied by RailTel (if any): (Preamble Clause 16) | Nil |
| ITT Clause 12 Chapter – 3 (Part – I) Section – I | Unit Prices : This is a percentage bidding system tender wherein the estimated unit prices of each item of the schedule is given including the quantity of each item of the schedule and the total value of the schedule. The bidder is required to quote the percentage above (+)/below (-) the total estimated value spelt out in the schedule. The unit prices given in the schedule of requirement are on “all inclusive” basis including all goods and furniture duties, freight / handling / incidentals etc. The accepted unit prices of each item of the schedule will be calculated, for payment and other relevant purposes, as the estimated cost indicated in the Schedule of Requirement with the increase(+) / decrease(-) of the overall accepted percentage (%) of the schedule of requirement. |
| ITT Clause 13 Chapter – 3 (Part – I) Section – I | Validity of offer 120 days (one hundred and twenty days only) from the date of opening of tender |
| Minimum Qualifying Criteria : (ITT clause 19.1.4(i)) | I.Technical : The tenderer should have completed till date of opening of tender, in the last three financial years (i.e. current year and three previous financial years), At least one similar single work, for a minimum value of 35% of |

| | |
|--|--|
| | <p>the advertised tender value.</p> <p>For this tender “similar work” means at least one complete work comprising of Construction of civil works which includes R.C.C, Brick Wall, Plastering and Painting etc. with other Interior furnishing/Excluding Interior furnishing and Electrical works.</p> <p>Works similar to the scope of work as contained in this tender shall mean the work as indicated in Tender Notice & executed Govt./PSUs/reputed private sector Telecom Service Providers viz., Airtel, Vodafone, Reliance & idea only.</p> |
| Annual Turnover (ITT Clause 19.1.4 (ii)) | <p>II. Financial:</p> <p>a) The turnover of the firm from the contractual payments received against supply contracts during the last three financial years plus the current financial year till the date of tender opening should be minimum of 150% of the tender value.</p> <p>b) Tenderer shall submit audited balance sheets duly attested by any Chartered Accountant for work executed and for the period as specified under minimum qualifying criteria.</p> |
| Meaning of similar Works: (ITT Clause 20) | <p>For this tender “similar work” means at least one complete work comprising of Construction of civil works which includes R.C.C, Brick Wall, Plastering and Painting etc. with other Interior furnishing and Electrical works as per the scope of the work/specifications given in the Tender document executed for Govt./PSUs/reputed private sector Telecom Service Providers viz., Airtel, Vodafone, Reliance & idea only with satisfactory performance report from the client.</p> |
| SCC Clause 24, Chapter – 4 Section – I | <p>Period of Maintenance/Warranty : 12 (twelve) months from the date of issue of the Provisional Acceptance Certificate (PAC)</p> |
| Maintenance Supervision: (SCC Clause 26) | <p>The contractor shall undertake the maintenance supervision of the completed works from the date of issue of PAC till the issue of Final Acceptance Certificate (FAC).</p> |
| Warranty : (SCC Clause 29) | <p>All materials supplied by the contractor shall be warranted against the defects for a period of 12 months from the date of delivery.</p> |
| Security Deposit: (GCC Clause 16, Chapter –3 (Part – II), Section-I) | <p>Security deposit should be 5% of contract value.</p> |
| Contract Performance Guarantee: (SCC-Clause 4, Chapter –4, Section-I) | <p>Contract Performance Guarantee should be 5% of Contract value.</p> |

SECTION – I

Chapter - 6

FORMS OF TENDER

| | | |
|-------------|---|--|
| Form No. 1 | : | Offer Letter |
| Form No. 2 | : | Qualifying Criteria / User's Certificate |
| Form No. 3 | : | Agreement |
| Form No. 4 | : | Guarantee Bond for Security Deposit |
| Form No. 5 | : | Statement of Deviations |
| Form No. 6 | : | Standing Indemnity Bond for "on Account" Payments and Stores Supplied by RailTel |
| Form No. 7 | : | System Performance Guarantee |
| Form No. 8 | : | Not used |
| Form No. 9 | : | Works in hand |
| Form No. 10 | : | Acknowledgment for receiving materials from RailTel |
| Form No. 11 | : | Extension of period of completion of work |
| Form No. 12 | : | Not used |
| Form No. 13 | : | Qualification Experience |
| Form No. 14 | : | Guarantee Bond against 'On Account Payments' |

Form No. 1

OFFER LETTER

To
Executive Director, Eastern Region,
RailTel Corporation of India Limited,
Chatterjee International Centre,
33A, Jawaharlal Nehru Road,
Kolkata – 700 071.

I/We _____ have read the various conditions detailed in tender documents attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I/We also agree to keep this tender open for acceptance for a period of 120 days from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our Earnest Money. I/We offer to do the work of “Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region under Executive Director/ER.” at the rates quoted in the attached schedules and hereby bind myself/ourselves to complete the work within _____ from the date of issue of Letter of Acceptance of the tender. I/We also hereby agree to abide by the various Conditions of Contract and to carry out the work according to the Specifications for materials and works laid down by the RailTel for the present contract.

2. A sum of Rs. _____ (Rupees _____ only) as a Account Payee Demand Draft No. _____ dated _____ issued by _____ is herewith forwarded as “Earnest Money”. The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if,

I/We do not execute the contract agreement within 15 days after receipt of notice issued by the RailTel that such documents are ready or,

I/We do not commence the work within 15 days after receipt of orders to that effect.

Until a formal agreement is prepared and executed the acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the “Letter of Acceptance” of my/our offer for this work.

SIGNATURE OF CONTRACTOR (S)
(with office seal)

Date

SIGNATURE OF WITNESS

CONTRACTOR (S) ADDRESS

1.

2.

ACCEPTENCE OF TENDERS

I accept the tender as above and agree to pay the rate as entered in Schedule of Requirements.

WITNESS

For and on behalf of

RailTel Corporation of India Limited,
Eastern Regional Office, Kolkata – 700 071.

Date

Form No. 2**QUALIFYING CRITERIA****USER's CERTIFICATE**

| | | | | | |
|--|--|--|--|--|--|
| Name of the Firm | | | | | |
| Contract No. & date | | | | | |
| Scope of Work | | | | | |
| Contract Amount (in Indian Rupees) | | | | | |
| Completion Period as per original contract | | | | | |
| Completion Period with extension | | | | | |
| Data of Commencement | | | | | |
| Actual date of Successful Completion | | | | | |

Name :
Dated :
Designation :

Signature of the Contractor with

Company Seal

Note: The relevant User's certificate to be attached.

Form No. 3

AGREEMENT

(CA No. _____ for Execution of Zonal works, addition and alterations of Existing structure, special works, construction of new POP, cable hut, supply of materials of civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region, under Executive director/ER

This AGREEMENT is made at New De on this _____ day of _____ two thousand and Seventeen, by and between RailTel Corporation of India Limited (A Govt. of India Undertaking) having its Corporate office at 6th Floor, III Block, Delhi Technology Park, Shastri Park, Delhi 110053 and Regional Office at 16th Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata - 700071 acting in the premises through Executive Director /Eastern Region (hereinafter referred to as 'RailTel', which expression should unless repugnant to the context or meaning thereof include its successors and permitted assigns) of the one part;

And _____ having its registered office at _____ acting in the premises through _____ (hereafter referred to as "Contractor", which expression should unless repugnant to the context or meaning thereof include its successor and permitted assigns) of the other part.

Whereas in response to a call for Tender by RailTel for the work of "Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 31.08.2018 under the jurisdiction of Eastern Region under Executive Director/ER." as per tender papers at Annexure 'A' read with Corrigendum..... Issued by RailTel hereto, the Contractor has submitted a Tender as per Annexure 'B' hereto

AND WHEREAS the said Tender of the Contractor has been accepted for the work of "Supply of all materials and complete construction involving Civil, Structural, Interior & Exterior finishing, Electrical and allied works of three different type of 28 Masonry Telecom Rooms and renovation at 02 locations over Eastern Region, RailTel Corporation of India Ltd." as per copy of Letter of Acceptance of PO No. _____ dated _____ complete with enclosures at the accepted rates and agreed deviations from tender papers as per Annexure-C hereto at contract value of Rs. _____ (Rupees _____ Only) duly accepted by the contractor.

Now this agreement witnesses that in consideration of the premises and the payment to be made by the Purchaser (RailTel) to the Contractor provided for herein, the Contractor shall supply all equipment and materials and execute and perform all works for which the said Tender of the Contractor has been accepted strictly according to the various provisions in Annexure 'B' and 'C' hereto and upon such supply, execute and performance to the satisfaction of the purchaser (RailTel) and the purchaser (RailTel) shall pay to the Contractor at the rates accepted as per the said Annexure 'C' and in terms of the provisions therein.

IN WITNESS whereof both the parties have hereunto set and subscribed their respective hands and/or seals on the day and year respectively mentioned against their respective signatures.

1. Signature :
 Date :
 Name in Block Capitals :
 Address :
2. Signature :
 Date :
 Name in Block Capitals :
 Address :

1. Signature :
 Date :
 Name in Block Capitals :
 Address :
2. Signature :
 Date :
 Name in Block Capitals :
 Address :

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Form No. 4**CONTRACT PERFORMANCE GUARANTEE BOND**

(On Stamp Paper of Rs one hundred)
(To be used by approved Scheduled Banks)

In consideration of the RailTel Corporation of India Limited, 6th Floor, III Block, Delhi Technology Park, Shastri Park, Delhi 110053 with Eastern Regional office at 16th Floor, Chatterjee International Centre, 33A Jawaharlal Nehru Road, Kolkata – 700 071 (Herein after called the RailTel) having agreed to exempt (Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement/PO No. datedmade between RailTel Corporation of India Limited and for (hereinafter called “the said Agreement”) of security deposit for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs. (Rs. only). We, (indicate the name of the Bank) hereinafter referred to as “the Bank”) at the request of Contractor(s) do hereby undertake to pay the RailTel an amount not exceeding Rs. against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.

We,(name of Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the RailTel stating that the amount as claimed is due by way of loss or damage caused to or would be caused to or suffered by the RailTel by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.only.

We,(name of bank) undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Supplier(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal.

The payment so made by us under this Bond shall be a valid discharge of our liability for payment thereunder and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.

We,(name of bank) further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the We shall be discharged from all liability under this Guarantee thereafter. We,.....(name of bank) further agree with the RailTel that the RailTel shall have the fullest liberty without our consent

and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time or to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s)/ Supplier(s).

We (the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

NOT WITH STANDING ANYTHING CONTAINED HEREIN ABOVE

- (i) The liability of the surety under his Bank Guarantee shall not exceed Rs.....
(Rupees only).
- (ii) This Bank guarantee shall be valid upto
- (iii) We are liable to pay the guaranteed amount or nay part thereof under this Bank Guarantee only and only if you serves upon the bank, written claim or demand on or before

Dated theday of 2014.

for
(Indicate the name of the Bank)

Witness:

Signature :
Name :

Signature :
Name :

NOTE: The Guarantee shall be valid for a period of four months after the expiry of the warranty period of the equipment as per Clause 29 Special Condition of the Contract (SCC).

Form No. 5**STATEMENT OF DEVIATIONS****PROFORMA FOR STATEMENT OF DEVIATIONS**

1. The following are the particulars of deviations from Preamble, requirement of the Instructions to Tenderers and Conditions of Tendering and Special conditions of Contract (Section -I).

Preamble (Chapter 2)

| <u>Clause</u> | <u>Deviation</u> | <u>Remarks (including justification)</u> |
|---------------|------------------|--|
|---------------|------------------|--|

Instructions to Tenderers and Conditions of Tendering (Chapter 3)

| <u>Clause</u> | <u>Deviation</u> | <u>Remarks (including justification)</u> |
|---------------|------------------|--|
|---------------|------------------|--|

Special Conditions of Contract (Chapter 4)

| <u>Clause</u> | <u>Deviation</u> | <u>Remarks (including justification)</u> |
|---------------|------------------|--|
|---------------|------------------|--|

2. The following are the particulars of deviations from requirement of the **Technical specifications (Section -II)**

| <u>Clause</u> | <u>Deviation</u> | <u>Remarks (including justification)</u> |
|---------------|------------------|--|
|---------------|------------------|--|

Note: Where there is no deviation, the statement should be returned duly signed with an endorsement indicating “no deviations”.

SIGNATURE AND SEAL OF THE
ANUFACTURER / TENDERER

Form No. 6

STANDING INDEMNITY BOND

(For 'on Account' Payments and Stores supplied by RailTel)

(On Stamp paper of Requisite Value)

We, _____ hereby undertake that we hold at our Stores Depot/s at _____ for and on behalf of RailTel Corporation of India Limited in the premises through Executive Director/Eastern Region or his successor hereinafter referred to as "the Purchaser" all materials for which 'On Account' payments have been made to us against the Contract for _____ vide letter of Acceptance of Tender No. _____ and the materials handed over to us by the Purchaser for all purpose of execution of the said Contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of said materials against all risk till they are duly delivered as erected equipment to the purchaser or as he may direct otherwise and shall indemnify the Purchaser against any loss, damage or deterioration whatsoever in respect of the said materials while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any engineer authorized by the Executive Director /Eastern Region, whose address will be intimated in due course.

Should any loss, damage or deterioration of materials occur or surplus materials disposed off and refund becomes due, the purchaser shall be entitled to recover from us the full cost as per prices included in the Contract (as applicable) and also compensation for such loss or damage, if any, alongwith the amount to be refunded without prejudice to any other remedies available to his by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

Dated this ____ day of _____ 2014

for and on behalf of

(Contractor)

Signature of witness :

Name and witness in Block letters :

Address :

Form No. 7

SYSTEM PERFORMANCE GUARANTEE

PROFORMA FOR THE SYSTEM PERFORMANCE GUARANTEE

To
The Executive Director/Eastern Region,
RailTel Corporation of India Limited,
Chatterjee International Centre,
33A Jawaharlal Nehru Road,
Kolkata- 700 071.

I / We Hereby guarantee that the design on the basis of which we have submitted our tender no. has been carefully made to conform to the end objectives in the tender documents and to technical specification therein. We further guarantee that in the event of the performance of the system, when installed, not complying with the end objectives or with the specifications contained in the tender documents, we shall provide further inputs to enable the RailTel to realize the end objectives contained in these documents without any additional payment for any additional equipment which may be required in this regard. We further guarantee that all the expenses for providing the additional inputs under the System Guarantee will be borne by us. We further guarantee that these additional inputs will be provided by us to make the system workable within 1 month from the date on which this guarantee is invoked by the Purchaser. The guarantee is valid for four months beyond the warranty period.

(Signature of Firm's Authorized Officer)
with Seal

Signature of witness :

Name and witness in Block letters :

Address :

Form No. 9**WORKS IN HAND**

| Sl No | System & Name of the Project | Party's name & address for whom the work is being done | Total Contract Value | Schedule period of execution (in months) | %age progress in terms of work already done | Likely date of completion | No. of extensions granted | Payments received till date | Remarks |
|-------|------------------------------|--|----------------------|--|---|---------------------------|---------------------------|-----------------------------|---------|
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Form No. 10

ACKNOWLEDGMENT FOR RECEIVING MATERIALS FROM RAILTEL

Station:
Date of Issue:

Sub: Receipt of Material from RailTel

It is hereby acknowledged that the following materials have been received in full and good condition by me on _____ at _____ for the work under the Agreement no. _____ dated _____.

| Sl No | Description of the Material | Unit | Quantity Issued | Remarks |
|-------|-----------------------------|------|-----------------|---------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

(Signature & Seal of the Contractor)

 (Material Delivery witnessed by :
 (RailTel representative)

Form No. 11**EXTENSION OF PERIOD OF COMPLETION OF WORK**

Ref No. : RCIL/RMK/.....

Date :

To,

Sub: (i) **Name of Work**

(ii) **Acceptance Letter No.**

(iii) **Agreement No.**

Ref: Quote specific application of the Contractor for extension to date, if received).

Dear Sir,

The stipulated date for completion of the work mentioned above is _____. From the progress made so far and the present rate of progress, it is unlikely that the work will be completed by the above date (or However, the work was not completed on this date)

Expecting that you may be able to complete the work if some time is given the Director / POM RailTel Corporation of India Limited, New Delhi although not bound to do so, hereby extends the time for completion from _____ to _____ .

* In consideration of the circumstances explained in your letter of request RailTel has extended the completion period by Days without any liquidated damages. Please ensure the completion and commissioning of the project well within the extended period.

* Please note that an amount equal to 0.5 % of the total value of the contract per week or part thereof (rounded off to the nearest whole number) subject to a maximum of 10% of the total contract value of the works as a recovery for delay in the completion of the work after the expiry of (1) will be recovered from as mentioned in clause 35 chapter IV of the special conditions of contract for the extended period notwithstanding the grant of this extension. You may proceed with the work accordingly.

The above extension of the completion date will also be subject to the further condition that no increase in rates on any account will be payable to you.

Please intimate within a week of the receipt of this letter your acceptance of the extension on the conditions stated above.

Please note that in the event of declining to accept the extension on the above said conditions or, in the event of your failure after accepting or acting up to this extension to complete the work by (2) _____ (here mention the extended date), further action will be taken in terms of relevant clause of special conditions of contract.

Yours faithfully,

for & on behalf of RailTel Corporation of India Limited

Note:

Give here the stipulated date for completion without any penalty fixed earlier.

Here mention the extended date.

Strike out one of the * clauses as applicable.

Form No. 13

QUALIFICATION & EXPERIENCE

Details of works executed and under execution by Tenderer during the last 5 years should be furnished in the following format

| Sl No | Name of Project & Description of work | Party's name & address for whom the work was done | Total Value of the Contract (in Rs) | Date of award of work and schedule period of execution (in months) | Date of completion and actual period of execution (in months) | Remarks |
|-------|---------------------------------------|---|-------------------------------------|--|---|---------|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

Note : A certificate from the organization for whom the work was executed should be submitted to indicate that the contract was satisfactorily executed.

(Signature and Seal of the Manufacturer / Contractor)

Form No. 14

GUARANTEE BOND AGAINST 'ON ACCOUNT' PAYMENTS

(On Stamp paper of requisite value)
(To be used by approved Scheduled Banks)

2. In consideration of the RailTel Corporation of India Limited (hereinafter called "the RailTel") having requested offer and local address to be given agreed to exempt(hereinafter called " the said Contractors") from the demand, under the terms and conditions of an Agreement No./ PO Nodated.....made between..... and..... for (hereinafter called " the said Agreement") of "on Account" Payment for the due fulfillment by the said contractors) of the terms and conditions contained in the said Agreement, or production of a Bank Guarantee for Rs. (Rs. only). We,..... (indicate the name of the Bank) hereinafter referred to as " the Bank") at the request ofContractor(s) do hereby undertake to pay the government an amount not exceeding Rs. Against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
3. We, Bank do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on demand from the RailTel stating that the amount is claimed is due by way of loss or damage caused to or would be caused to or suffered by the RailTel by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.
4. We, Bank undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractors) / Supplier(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge our liability for payment thereunder and the Contractor(s) / Supplier(s) shall have no claim against us for making such payment.
4. We, Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractors) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is

made on us in writing on or before the..... (1) We shall be discharged from all liability under this Guarantee thereafter.

5. We, (indicate the name of Bank)..... further agree with the RailTel that the government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractors) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.
6. This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractors) Suppliers).
7. We, (indicate the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

Dated the day of 2014.

For (indicate the name of the Bank)

Witness :

5. Signature :

Name :

6. Signature :

Name :

NOTE: The Guarantee shall be valid for a period of two months after the expiry of the currency of the contract.

SECTION – I

CHAPTER – 7

SCHEDULE OF REQUIREMENT

SCHEDULE OF REQUIREMENT**SCHEDULE OF ITEMS AND QUANTITIES**

Name of the work:- Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of materials for civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region under Executive Director/ER

A. Civil Work:

| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
|----------------|--|-------------|-------------|-------------|-----------------|--------------|
| 1 | Earthwork in excavation as per approved drg. In and dumping at embankment site or spoil heap, within railway land, including 50m lead and 1.5m lift, the lead to measured from the centre of gravity of excavation to centre of gravity of spoil heap; the lift to be measured from natural ground level and paid for in layers of 1.5m each including incidental work, as per specifications–All kinds of soil. | Cu m | 132.5 | 100 | 995414 | 18% |
| 2 | Providing and laying cement concrete 1:3:6 (1 cement, 3 sand and 6 aggregate) with 20 mm nominal size graded stone aggregate foundations and plinth/under-floors etc. | cu m | 3210 | 20 | 995454 | 18% |
| 3 | Providing and laying cement concrete 1:1:5:3 (1 cement, 1.5 sand and 3 aggregate) with 20 mm nominal size graded stone aggregate, for reinforced work (excluding cost of fabrication and placing of reinforcement) In foundations, footings base of columns and similar works and mass concrete. | Cu m | 4098.75 | 10 | 995454 | 18% |
| 4 | Providing and laying cement concrete 1:1:5:3 (1 cement, 1.5 sand and 3 aggregate) with 20 mm nominal size graded stone aggregate, for reinforced work (excluding cost of fabrication and placing of reinforcement) In columns, pillars, posts and struts. | Cu m | 4506.25 | 10 | 995454 | 18% |

| | | | | | | |
|----------------|---|-------------|-------------|-------------|-----------------|--------------|
| 5 | Providing and laying cement concrete 1:1:5:3 (1 cement, 1.5 sand and 3 aggregate) with 20 mm nominal size graded stone aggregate, for reinforced work (excluding cost of fabrication and placing of reinforcement) In suspended floors, roofs, landings, shelves, and their supports, balconies, chajjas, lintels, beams, girders, bressemeres and cantilevers etc., | cu m | 3662.5 | 30 | 995454 | 18% |
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 6 | Providing form works, including centring shuttering, strutting, propping etc., height of propping and centring from supporting floor to ceiling not exceeding 4 m. and removal of the same, for in-situ concrete work (including reinforced concrete) with all contractor's material for Foundations, footings, bases of columns, etc., and mass concrete. | Sq.ft. | 218.75 | 100 | 998729 | 18% |
| 7 | Supplying and providing reinforcement using contractors MS/Tor/TMT Steel HYSD bars for foundations, footings, beams, Lintels, Chajjas, Roof slab, Flooring, Foundations and all other RCC works etc., including straightening, cutting, bending, cranking and fixing in position and binding reinforcement with contractor's GI binding wire, material, labour, tools, plant, machinery consumables all lead and lift etc., complete as per approved drawing, specifications and as directed by the Engineer-in-charge. | Kg | 103.75 | 2500 | 995454 | 18% |
| 8 | Providing form works, including centring shuttering, strutting, propping etc., height of propping and centring from supporting floor to ceiling not exceeding 4 m. and removal of the same, for in-situ concrete work (including reinforced concrete) with all contractor's material for Flat surfaces, such as soffits of suspended floors, roofs, landings and the like, for slabs etc., | Sq. ft. | 351.25 | 200 | 998729 | 18% |

| 9 | Providing and laying Brick Masonry for foundation of 230 mm thick walls with CM (1:6) prop. (Cement: Sand) using second class brick from approved source having crushing strength of not less than 40 kg/sqcm and water absorption not exceeding 20% by weight, including cost and conveyance of all materials like cement, sand, bricks, water etc., to site, cost and seingnorage charges on materials including of all labour charges, like mixing cement mortar, wall construction, curing, scaffolding charges, for work at any floor at any level, etc., complete for finished item of works. | Cu m. | 3988.75 | 50 | 995428 | 18% |
|---------|---|-------|---------|------|----------|-------|
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 10 | Providing and fixing to IS:2202 Part-I marked flush door shutter decorative type, core of block board construction with frame of 1 st class hard wood and well matched teak 3-ply veneering with vertical grains or cross bands and face veneers on both faces of shutters 35 mm thick including ISI marked stainless steel butt hinges with necessary screws including two coats of enamel paint of approved quality & brand over a coat of primer and with all accessories like aluminium sliding bolts of 300 mm – 2 nos., aluminium tower bolts of 150 mm – 1 no, aluminium handles – 150 mm – 2 nos., door stopper – 1 no, with all contractor's material tools, labour, machinery lead, lift, transportation etc., complete as directed by the Engineer-in-charge at site. | Sq m | 3130 | 20 | 996332 | 18% |
| 11 | Manufacturing, providing and fixing anodized aluminium/powder coated sliding Windows with track 61X31X1.5 mm. Fixed to box size 63X31X2 mm. and other sections of approved make conforming to IS: 733, 1285&1868 (Minimum anodic coating of grade AC 15), fixed with rawl plugs, screws and 4 mm. glass including all contractor's materials, tools, tackles, labour, cement, lead, lift etc. complete and as directed by Engineer-in-charge at site. | Sq m. | 1361.25 | 50 | 998532 | 18% |
| 12 | Providing and Plastering 12 mm thick on brick masonry walls with CM 1:6 (1 cement: 6 Sand) with all labour & materials complete including curing, scaffolding charges, leading & lifting charges, cutting grooves wherever necessary etc., for any floor at any level, etc., complete for finished item of works. | Sq m | 93.75 | 575 | 995472 | 18% |

| 13 | Providing and Plastering 18 mm thick for uneven surface on brick masonry walls in two coats under layer 12mm thick cement plaster 1:5 (1 cement :5 coarse sand) finished with a top layer 6mm thick cement plaster 1:3 (1 cement : 3 coarse sand)with dubara sponge finishing including coast ad conveyance of all materials cement, sand, water etc., to site including all operational incidental charges, cost and seingniorage charges on materials and all labour charges for mixing mortar, finishing, curing, scaffolding charges, leading& lifting charges including cutting grooves wherever necessary etc., for any floor at any level, etc., complete for finished item of works. | Sq m | 147.5 | 800 | 995472 | 18% |
|---------|--|------|---------|------|----------|-------|
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 14 | Providing and fixing Ceramic tiles of standard company such as Johnson, Regency & Spartak etc., in flooring fixed over 25 mm thick cement plaster 1:3 with contractors materials, labour, tools, plant, machinery, consumables, all lead and lift etc., complete as per approved drawing specifications and as directed by the Engineer-in-charge. | Sq m | 1653.75 | 50 | 995474 | 18% |
| 15 | Providing and fixing Ceramic tiles of size 200x200mm to 400mmx400mm conforming to IS : 15622 of manufacturers approved by railway in all colours, shades, design and abrasion resistance class in floors and landings over 20 mm thick bed of cement mortar 1 : 3 (1 cement : 3 coarse sand) including pointing in white cement mixed with pigment of matching shade of standard company such as Johnson, Regency & Spartak etc., in skirting and dado fixed with all contractors materials, labour, tools, plant, machinery, consumables, all lead and lift etc., complete as per approved drawing specifications an as directed by the Engineer-in-charge. | Sq m | 1116.25 | 100 | 995474 | 18% |
| 16 | Supply and fixing of MS Grills made of 12 mm MS square bars / flats (Brite or equivalent) as per the drawing with MS hold fasts in frames for fixing in window / side walls, including cost and conveyance of all materials to site, labour charges, for welding, grinding of joints, fixing into masonry and painting with one primary coat of red oxide, etc., complete for finished item of work for all floors. | Kg | 95 | 500 | 998931 | 18?% |

| | | | | | | |
|----------------|--|-------------|-------------|-------------|-----------------|--------------|
| 17 | Providing and laying water proofing treatment (Impervious coat) in exposed RCC Roof slab and sunken portion to required slopes by applying cement slurry mixed with water proofing cement compound as per IS :2645 in layers a) 1 st layer of slurry of cement @0.488 kg/sqm mixed with waterproofing cement compound @0.253 lit/ sqm, allowed to air cure for 4 hrs, b)2 nd layer of slurry of cement @0.242kg/sqm mixed with water proofing cement compound @0.126 lit/sqm, allowed to air cure for 4 hrs followed with water curing for 48 hrs. or as per manufacturers specifications laid over roof slab when it is green including cost and conveyance of all materials like cement, sand, water proofing compound etc., to site, seignior age charges and labour charges, rendering smooth and thread lining at regular intervals round off junction of wall and slab curing, lift charges etc., for any floor at any level, complete for finished item of work. | Sq m. | 275 | 400 | 995453 | 18% |
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 18 | Manufacturing, Fabricating, Supplying and fixing MRF powder coated Anodised aluminium Ventilators sliding/Louvered/partly louvered type made with box of size 63X31X2 mm and 4 mm glass fixed with required beading and stainless steel mesh with other frame(and other intermediate sections, as necessary)of 61085X31.75X1 mm thick size section of approved colour and in fill glazing panel of 4 mm thick pin headed/plain sheet glass with all necessary clips of medium thickness, 'U' rubber beading, labour, tools, plants, machinery, equipment etc., complete as per specifications and directed by the Engineer-in-charge at site. | Sq m. | 4380 | 30 | 995432 | 18% |
| 19 | Painting with synthetic enamel paint of two or more coats applied @ 0.90lts/10sqm. Over an under coat of primer, applied @0.80lts /10sqm of approved brand or manufacture including cleaning surfaces of all dirt, dust and other foreign materials with brush /cotton etc. with all labour, materials, lead, lift, scaffolding, taxes etc. complete. | Sq m | 108.75 | 500 | 995473 | 18% |

| | | | | | | |
|----|---|-------|------|------|--------|-----|
| 20 | Providing and fixing Armstrong Acoustical suspended ceiling system with OPTRA micro look title, the title should have thickness of 15/20mm and humidity resistance of 95 % RH, average NRC 0.90 sound attenuation of 20 dB, light reflectance > 84%, thermal conductivity K = 0.036 w/mok, colour white, fire performance class 0/class 1 (BS-476) in module size of 600 mm X 600 mm X 15/20 mm laid on Armstrong silhouette B/R grid systems with T section flanges colour white having rotary stitching on the main runner 1200 mm X 600 mm cross T's, the grid should be of Armstrong make with 38 web height wide T-section flanges colour white having rotary stitching on all T-sections that is the main runner 1200 mm and 600 mm cross Tee. The T section to have galvanizing of 120 gm for per m2 and passed through 500 hrs of salt test. The title and grid system used together should carry a 15 yrs warrantee with all contractors, labours, tools, materials, lead, lift, vat, transportation etc complete and as directed by engineer-in charge at site. | Sq m | 2500 | 200 | 995453 | 18% |
| 21 | Providing and Painting Acrylic smooth interior paint of required shade on new work (two or more coats) applied @1.67 lit./ 10sqm over and including base coat of water proofing cement paint applied @2.20kg/10sqm on walls and ceiling including cost and conveyance of materials like distemper, primer etc., to site including labour, lead ,lift, scaffolding, taxes etc., complete for finished item of works for all floors at any level. | Sq. m | 130 | 2015 | 995473 | 18% |

| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
|---------|---|-------|---------|------|----------|-------|
| 22 | Providing and Painting with water proofing cement paint of approved manufacturer and shade to exterior faces of walls in two or more coats applied @3.84kg/10sqm including all taxes cost and conveyance of materials like water, brushes, scaffolding including curing for 3 days etc., complete for finished item of works in all floors. | Sq. m | 62.5 | 2002 | 995473 | 18% |
| 23 | Brick work with machine moulded perforated bricks of class designation 12.5 conforming to IS:2222-1991 in superstructure from beyond plinth level upto 6m above plinth in cement mortar 1:6 (1cement : 6 coarse sand) with non-modular (FPS) bricks. | Cum | 3295.41 | 50 | 995428 | 18% |
| 24 | Supply of PPC Cement | MT | 6842.5 | 50 | 995424 | 18% |
| 25 | Providing wood work in frames of door, windows, clerestory windows and 111ther frames and trusses, wrought, framed and fixed in position Hollock wood or locally available comparable species of country wood (to be listed by respective railway) – kiln seasoned & chemically treated. | Cudm. | 53.02 | 5000 | 998831 | 18% |

| | | | | | | |
|----|--|----|--------|---|--------|-----|
| 26 | Unforeseen/Miscellaneous Works: Any Other item of works which are not covered with the above schedule. But, required to operate through E. Rly. Schedule Unified Standard Schedule of Rates (Works & Materials)'2011 of Ch.1 to 25(Approx.Basic Value = Rs.20, 000/- + Escl. 32%). | LS | 150000 | 1 | 995428 | 18% |
|----|--|----|--------|---|--------|-----|

B. Electrical Work:

| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
|---------|--|------|--------|------|----------|-------|
| 1 | Supply and installation of Industrial Plug and socket with board for wall fixing with 20 Amp. DP MCB (for Air-conditioner) | Nos. | 857.5 | 100 | 998736 | 18% |
| 2 | Supply and installation of 40 Amp. DPST Isolator MCB with box for wall fixing. | Set | 612.5 | 100 | 998715 | 18% |
| 3 | Supply and installation of bulb holder with 18W CFL lamp including point wiring. | Nos. | 312.5 | 100 | 998715 | 18% |
| 4 | Supply and fixing of single florescent tube light 4' 36W with fixture, electronic ballast. | Nos. | 625 | 200 | 998715 | 18% |
| 5 | Provision for supply, fixing of ceiling fans of 1400 mm sweep | No. | 1500 | 200 | 995414 | 18% |
| 6 | Provision of Pedestal Fan, 500 mm sweep, continuous rating | No. | 3250 | 10 | 995414 | 18% |
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 7 | Excavation of cable trench to a depth of 1.2 Mtr. Depth, width of 300 mm. in any kind of soil (Soft/ Rocky/ Concrete) back filling including laying of 2 Nos. of 24 F armored Optic Fibre Cable, testing of OFC cable. | Mtr. | 157.5 | 100 | 995414 | 18% |
| 8 | Laying /drawing of Electrical power cable/ armored OFC along wall with clamping/ support/under road crossing/ additional protection where 1mtr. Depth of trench is not reached. In GI pipe/ DWC pipe of suitable dia. | Mtr | 302.5 | 100 | 995423 | 18% |
| 9 | Supply and transportation underground LT Aluminum cable PVC/XPLE insulated, sheathed armored 11 KV grade conductor 35 Sq. mm 3 ½ Core PVC/XPLE conforming to specification IS-1554 Pt.I& II | Mtr. | 281.25 | 200 | 995423 | 18% |

| | | | | | | |
|----------------|--|-------------|-------------|-------------|-----------------|--------------|
| 10 | Supply of materials execution of earthing arrangement as per specification and drawing including supply of all materials required for earthing such as copper wire/strips GI pipes, GI plate, salt and charcoal. The earth resistance shall be less than 1 ohm. This includes interconnection between earth electrode and earth bus bar at the equipment room. | Job | 16000 | 10 | 998736 | 18% |
| 11 | Execution of Electrical Earthing with 50 mm dia GI pipe, 10 ft. long earth electrode. Interconnection between earth electrode and at equipment room electrical earth bus bar shall be done by using 6 Sq.mm GI wire. The earth resistance shall be less than 10 ohms. The rate includes cost of material required for the work. | Job | 5000 | 30 | 998736 | 18% |
| 12 | Supply of electromagnetic Energy meter 3, phase, 4wire, 30 Amps/ 60 Amps., 415 Volts make Alstoms or similar. | No. | 5000 | 5 | 998736 | 18% |
| 13 | Supply of 100 Amp. 415 volts ICTPN (Iron Clad Triple Pole with Neutral) Main switch of Make : Havells/ Siemens/ Anchor or other conforming to ISI standard. | No. | 6000 | 5 | 998736 | 18% |
| 14 | Supply of Iron clad changeover switch, 100 Amp 3Phase with neutral make : Havells/ Siemens/ Alstom or similar conforming to ISI standard. | No. | 8112 | 5 | 998736 | 18% |
| 15 | Supply of DC Distribution Box with 2 Nos. of 32 Amps. MCB, 2 Nos. of 20 Amp. MCB, 2 Nos. of 10 Amp MCB | Job | 1626 | 5 | 998736 | 18% |
| 16 | Supply of TPN 4-way Distribution box /Box type Electrical busbar 100 Amps with 3 phase and Neutral Make: Havells/ Siemens/ Anchor or other conforming to ISI standard. | Set | 4000 | 5 | 998736 | 18% |
| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
| 17 | Supply of DC Distribution Box with 2 Nos. of 32 Amps. MCB, 2 Nos. of 20 Amp. MCB, 2 Nos. of 10 Amp MCB | Job | 1626 | 5 | 998736 | 18% |
| 18 | Supply of TR capacity Split type High Wall Air Conditioners with indoor & outdoor units of reputed brands like LG/Carrier/Voltas/Hitachi/Daikin etc or equivalent make with remote control, 1 Ton Capacity with 5 Star rating. | Each | 30378.6 | 5 | 998736 | 18% |
| 19 | Supply of TR capacity Split type High Wall Air Conditioners with indoor & outdoor units of reputed brands like LG/Carrier/Voltas/Hitachi/Daikin etc or equivalent make with remote control, 1.5 Ton Capacity with 5 Star rating. | Each | 37862.5 | 3 | 998736 | 18% |
| 20 | AC Copper Pipe | Each | 566.03 | 5 | 998736 | 18% |
| 21 | AC Copper Pipe | Each | 652.16 | 3 | 998736 | 18% |
| 22 | AC Installation & commissioning of AC | Each | 3691.5 | 5 | 998736 | 18% |

| | | | | | | |
|----|---|------|---------|-----|--------|-----|
| 23 | AC Installation & commissioning of AC | Each | 5537.25 | 3 | 998736 | 18% |
| 24 | Febrication, Supply, erection & painting of Galvanized/aluminium ladder 12" for laying of cable line , AC equipment room. | Mtr | 570 | 100 | 998736 | 18% |

C. FURNITURE and MISC WORKS

| Sl. No. | Description of Item | Unit | Rate | Qty. | SAC Code | GST % |
|---------|---|------|---------|------|----------|-------|
| 1 | Partition with both side Laminated | Sft. | 378.51 | 500 | 995475 | 18% |
| 2 | Partition with one side laminated & another side Veneer | Sft. | 439.56 | 500 | 995475 | 18% |
| 3 | Table for Territory Manager (5'-0"X 2'-3") | No. | 23351.6 | 5 | 998594 | 18% |
| 4 | Table for Sr. Manager (4'-0"X 2'-3") | No. | 20329.7 | 5 | 998594 | 18% |
| 5 | Chair for Sr. Manager/Medium back with revlving and tilting arrangement | No. | 4029.3 | 30 | 998594 | 18% |
| 6 | Work Station: (L shape) size 4'0"x2'6"x2'6" with a lickable drawer of width 1'6" at one side and 3'6"x1'6"x2'6" with a key board drawer and a cupboard unit of width 1'6" width at one. | Rft. | 1970.94 | 30 | 998594 | 18% |

SECTION – I
Chapter – 8
PRICE BID

SECTION – I
Chapter – 8
PRICE BID

Tender No. RailTel/Tender/OT/ER/HQ/2017-18/1039, Dt. 16.09.2017
Section -1

Name of work: “Execution of Zonal works, additions and alterations of existing structures special repair works, construction of new POP, Cable hut, supply of material of civil, electrical and supply of furniture for existing office for the period upto 12 months under the jurisdiction of Eastern Region under Executive Director/ER.”

Completion period: 12 Months

| Schedule of | Description of | Estimated Cost as | Rate quoted in percentage |
|-------------|----------------|-------------------|---------------------------|
|-------------|----------------|-------------------|---------------------------|

| Work | work | per Schedule of Requirement | (Above+/- Below - /At par of the Estimated cost) | |
|----------------------|--|---|---|----------|
| | | | In figures | In words |
| (1) | (2) | (5) | (6) | (7) |
| Schedule 'A': | Civil work of 26 items& 1item of unforeseen civil works amounting 150000 of SOR/E Rly. | 38,59,537.00 +694716.66(GST @18%) =4554253.66 | | |
| Schedule 'B': | Electrical work of 24 items | 15,42,156.22 + 277588.12 (GST 18%) = 1819744.34 | | |
| Schedule 'C': | FURNITURE and MISC WORKS of 6 Items. | 8,07,448.6 +145340.75(GST 18%) =952789.35 | | |

Total 7326787.35 say Rs 7326787.00
(Say Rs. Seventy-three lakhs twenty-six thousands seven hundred eighty-seven only)

All works under Sch A, B & C to be executed in the state of West Bengal, Bihar, Orissa, Assam and Jharkhand respectively as and when ask for.

Signature of the tenderer

Notes:

- (i) The price bid of the tender shall be on a percentage bidding system in the form(s) enclosed above. The total schedule of requirement is given at Section – I, Chapter – 2 and in price bid where all elements of work, their quantity, unit price and total value for each item of work is clearly stipulated. The unit prices indicated is on “all inclusive” basis inclusive of all types of taxes, GST, freight, incidentals etc.

- (ii) The tenderer is expected to quote the percentage above (+) / below (-) the total price indicated in the schedule of requirement for the section in which they are participating. For the purpose of submission of price bid, the format is enclosed above.
- (iii) In the event of any discrepancy between the rates in figures and in words, the quote shall be considered taking into account the one written in words for evaluation purpose.

Signature of the tenderer

QUALIFYING CRITERIA AND ELIGIBILITY REQUIREMENTS

Table to be submitted duly filed: (Annexure-I)

| Eligibility Clause No | Actual Available | Whether Requirement Fulfilled(Yes/No) | Documentary evidence enclosed at |
|--|-------------------------|--|---|
| I. Technical : The tenderer should have completed till date of opening of tender, in the last three financial years (i.e. current year and three previous financial years), At least one similar single work, for a minimum value of 35% of the advertised tender value. | | | |

| | | | |
|---|--|--|--|
| II. Financial: a) The turnover of the firm from the contractual payments received against supply contracts during the last three financial years plus the current financial year till the date of tender opening should be minimum of 150% of the tender value. b) Tenderer shall submit audited balance sheets for work executed and for the period as specified under minimum qualifying criteria. | | | |
| 1.Office address, 2.Telephone No., 3. Fax No. 4.E-mail ID | | | |
| Man Power 1.Engineer, 2.Supervisor, 3. Skilled & Unskilled Manpower | | | |
| Equipments/Machinery | | | |

Signature of the Contractor

Section - I

Annexure – 1

Materials to be supplied by RaiTel to the contractor:

---NIL---

Section – I

Annexure – 2

Materials to be supplied by the Contractor as per SOR - Supply:

All meteraials required for the work shall be supplied by the contractor.

SECTION – II

Chapter -1

TECHNICAL SPECIFICATIONS FOR CIVIL, STRUCTURAL, INTERIOR AND EXTERIOR FINISHING, ELECTRICAL AND ALLIED WORKS

SITE PREPARATION

1. Extent of Work

The work comprises all building work necessary for construction of the proposed building together with temporary building works and other ancillary works ordered by the Engineer for the construction, completion and maintenance of the Project.

2. The Site

The exact location of the site may be obtained from in-charge of the work. Site shall be investigated by tendering contractor who must judge themselves the conditions under which the work is to be carried out, access to the site, availability of material, water and labour, the nature of ground, the ground water table and other details

3. Temporary Access Roads

The contractor shall provide any necessary temporary or light gauge tracks for access to work and maintain, alter and adopt as required and remove, on completion.

4. Facilities for Architect's site staff

No used.

5. Drawings and Specifications to be returned

Safeguard as necessary during the progress of the work, preserve and return drawings and specifications to the Consultant within one month from the date of the certified completion of work.

6. Excavation and Earth Work

6.1 Setting Out – The setting out of the entire building shall be properly set out by Contractor as shown on the drawings and inspected and approved by the Consultant and his representative prior to commencing excavation.

6.2 Size and depth of excavations – Excavation shall be cut to the size and taken down to the formation level as per the Consultant's instructions.

6.3 Shoring and excavation – The sides of excavation shall be supported as necessary to maintain a vertical face and/or prevent caving in of any nature, especially during subsequent operations. The Contractor shall be responsible for design, supply, fixing, safety, and removal of all planking, strutting and shoring required to the sides of excavation.

6.4 Preparation and inspection of excavation – All excavations shall be kept free of water arising from whatsoever source and shall be properly cleaned out from all loose and foreign matters, leveled and rammed. The contractor is to report to Consultant when excavations are ready for inspection.

7. Filling

All filling materials shall be approved by the Consultant before being placed in position. Approved earth and sand shall be used to make up levels as shown on the drawings. The material shall be placed in successive layers each having a finished thickness not exceeding 20 cm watered, well rammed with mechanical rammers prior to the placement of the successive layer.

8. Disposal of surplus material

All surplus excavated material not used in back filling or leveling shall be carted away from site.

9. Measurements

9.1 The measurement of work shall be the exact length and width of the lowest steps of the footings according to the drawing of the Architect and the depth shall be measured vertically. It shall be priced per unit of cubic meter.

9.2 Rate for excavation shall include labour for returning, watering and ramming spoil of excavation between sides of trenches and foundation masonry and plinth, spreading on site, if required, and carting away surplus earth.

9.3 No extra shall be allowed for planning and strutting or shorting of sides of excavations for walls and piers and for keeping the excavation free from water unless otherwise specified.

10. Excavation in rock

10.1 Cutting in rock shall be done either by blasting or chiseling as drafted to the required width and depths. As far as possible, the beds shall be in level.

10.2 Rock excavation shall be measured by working out sections by reference to levels before and after excavation, measured from a permanent bench mark.

10.3 In case of small work of rock excavation the measurements of excavated rock shall be by stacks which shall be made with the spoils with leaving minimum voids and the rate shall be per unit of cubic meter.

10.4 A deduction of 20% shall be made in measurements for voids in well stacked depots.

10.5 The spoils of rock excavation will be the property of the employers.

GENERAL SPECIFICATIONS FOR RCC WORK

SPECIFICATION FOR REINFORCED CONCRETE WORK

1.0 General

- 1.1 All R.C.C. work shall be executed in strict accordance with the instructions, drawings and details of the Architect.
- 1.2 The rates for R.C.C. items shall include for all labour material (including form work), planks, tools and all the operations involved but shall exclude M.S. Reinforcement, which shall be measured and paid for separately.
- 1.3 The rate shall allow for chamfers, grooves, lines in R.C.C. members as well as necessary slope and drops, drip moulds, etc.
- 1.4 All M.S. reinforcement shall be measured on the quantity actually going into the job according to the drawing and detail. The rate allow for the wastage and binding wire which shall not be paid for separately. Overlaps will not be paid separately.
- 1.5 The work shall be in the conformity with the requirements of Indian Standard Code of Practice for Plain and Reinforced Concrete for General Building Construction IS:456 or latest relevant revision.

2.0 Portland Cement

- 2.1 Cement shall be ordinary setting cement of approved Indian Manufacturer and shall comply with Indian Standard Specification No. 269 for the time being in force for such cement. Compression tests on cements sand cubes shall be made as well as tensile tests.
- 2.2 All cement shall be fresh when delivered. Cement shall be delivered in sound and properly secured bags, barrels or other packages ready for immediate use and shall be used direct from bag or barrel.
- 2.3 Cement shall be stored in a perfectly water tight, well ventilated and otherwise suitable shed or godown, which will have a wooden floor. The wooden floor shall be raised not less than 150mm from the ground. If supplies of cement are arranged by owner it will be the responsibility of contractor to ensure adequate and proper storage. Damaged or partly set cement will not be permitted to be used, and shall be removed from the site. Consignment of cement shall be consumed in the order of their delivery. The contractor shall maintain sufficient stock of cement to ensure continuity the work and each consignment shall be stacked separately so as to permit easy access for inspection and identification.

3.0 Aggregates

3.1 **General:** Materials used as aggregate shall be obtained from a source known to produce aggregates satisfactory for concrete and shall be chemically inert, strong, hard, durable, of limited porosity and free from adhering, coatings, clay lumps, coal residues and organic or other impurities that may cause corrosion of reinforcement or may impair the strength or durability of the concrete. Aggregates shall be tested in accordance with the requirements of IS: 383 or IS: 515 and the results of such tests shall be as hereinafter specified, the percentage being by weight unless the context indicates otherwise.

3.2 Fine Aggregates:

3.2.1 Fine aggregates shall be natural sand or sand derived by crushing material like gravel or stone and shall be free from coagulated lumps. Sand derived from stone unsuitable for coarse aggregates shall not be used as fine aggregates. The caustic soda test for organic impurities shall show a colour not deeper than that of the standard solution. The amount of fine particles as ascertained by the Laboratory Sedimentation test shall not exceed 10% for crushed stone shall be made and after being allowed to set in for three hours the thickness of the layer of silt deposited on the coarser material shall not exceed 10%. The grading of a natural sand or crushed stone i.e. fine aggregate shall be such that not more than 5 (five) percent shall exceed 5mm in size, not more than 10% shall pass I.S. Sieve No.150 not less than 45% or more than 85% shall pass I.S. Sieve No.1. 18mm and not less than 25% or more than 60% shall pass I.S. Sieve No.600 micron.

3.2.2 Only washed sand of quality and grading specified herein above shall be used. Admixture of sand obtained by crushing, natural stone may be permitted by the Consultant, provided the mixture satisfies the requirements for fine aggregates hereinafter specified. But not more than once part of the sand obtained by crushing natural stone may be added to two parts of washed sand.

3.3 Coarse Aggregate:

3.3.1 Coarse aggregates shall be crushed stone. The pieces shall be angular, rounded in shape and shall have granular or crystalline or smooth (but not glossy) non-powdery surfaces. Triable, flaky and laminated pieces and mice shall not be present.

3.3.2 The “aggregate crushing value” shall not exceed 45%. The amount of fine particles occurring in a free state or as a loose apparent shall not exceed 1%. When determined by the laboratory sedimentation test, after 24 hours immersion in water. A previously dried sample of the coarse aggregates shall not have gained in weight more than 5%.

3.3.3 The grading of coarse aggregate shall be such that no more than 5% shall be larger than 20mm and not more than 10% shall be smaller than 5mm and not less than 25% or more than 55% shall be smaller than 10mm.

3.3.4 Maximum size of coarse aggregate shall be 20mm unless otherwise noted.

3.3.5 The grading of coarse aggregates of nominal size of 40mm shall be such that not more than 5% shall be larger than 40mm and not more than 5% shall be smaller than 5mm and not less than 10% or more than 10mm. 3.3.6 Aggregate (fine and coarse) shall be thoroughly washed with clean water if so directed by the Consultant.

4.0 Water

4.1 Water shall be cleaned and fresh and free from organic or inorganic matter in solution or suspension. Filtered water shall be obtained from approved supply. Water from excavations shall not be used. Water used for washing aggregates, shuttering, curing concrete and for similar purpose shall be of the same quality as water used for mixing concrete.

5.0 Steel Reinforcement

5.1 Mild steel bars shall be plain, round, hot rolled steel bars complying with the Indian Standard specifications No.432. Specifications for Mild Steel and High Tensile Steel bars and hard drawn steel wire for concrete reinforcement.

5.2 Reinforcement shall be free pitting, loose rust, mill scale, paint, oil, grease, adhering earth, snow or ice or any other material that may impair the bond between the concrete and the reinforcement or disintegration of the concrete. Adhering cement wash shall be permitted.

5.3 Bars with kinks or sharp ends shall not be used.

5.4 Neither the size nor the length of a bar or wire shall be less than the size or length described in the bar schedule or elsewhere.

6.0 High Tensile Strength

6.1 High tensile steel may be deformed or ribbed bars conforming to IS: 1139 cold twisted steel conforming to IS: 1786 bars and hard drawn steel wire and fabrics conforming to Indian Standard Specification No. 1566.

7.0 Proportions of Concrete

7.1 For ordinary concrete the aggregates shall be measured by volume in any accurate gauge box or by other approved means. The gauge box or other approved container shall be filled without compacting with the aggregate to a pre-determined uniform depth, accurate allowance being made for bulking due to the moisture in the fine aggregate. The cement shall be measured by weight. One or more complete bags containing 50 kgs. of cement shall be mixed in the following proportion:

- (a) 1:2:4 concrete shall be mixed in the proportion of 50 kgs. of cement to 75 litres of sand (measured when dry) and 150 litres of coarse aggregate.
- (b) 1:½:3 concrete shall be mixed in proportion of 50 kgs. of cement to 50 litres of sand (measured when dry) and 100 litres of coarse aggregate. These quantities shall be altered if instructed and any alteration between the proportion of 1 part of fine aggregate to 1½ parts of coarse aggregate and 1 part of fine aggregate to 2

parts of the coarse aggregate shall be made without any alteration in the price of the reinforced concrete work. Any other special mixes shall be as directed by the Consultant.

7.2 For controlled concrete, the mix will be specified by grade of concrete and the minimum compressive strength for works test of hereinafter specified. However, the maximum total quantity of aggregate by weight per 50 kg. of cement shall not exceed 450 kgs.

7.3 The contractor must submit, free of charge, a test report of sand and aggregate and grading of the same when required. If the grading is not proper, as per specifications, the mix is liable to change. The contractor must submit, while tendering his basic analysis for basis rates of concrete. This analysis will be taken as the basis for rates of any revised mixes.

7.4 Water:

7.4.1 Only water shall be added to the cement and aggregate during mixing to produce concrete having sufficient workability to enable it to be well consolidated, to be worked into the corners of the shuttering and around the reinforcement to give the specified surface finish, and to have the specified strength. Water cement ratio shall be maintained as per IS:456 when a suitable amount of water has been determined, the resulting consistency shall be maintained throughout the corresponding parts of the work and tests shall be conducted to ensure the maintenance of this consistency according to the standard method of test for consistency of concrete (slump test) as below:

| <u>7.4.2 Description of Work</u> | <u>Maximum Slump in mms</u> |
|----------------------------------|-----------------------------|
| Beams and slabs | 100 to 150 |
| Columns | 125 |
| Walls and stairs | 100 to 125 |
| Footings | 80 |

7.5 Consistency

If the difficulty be experienced in placing concrete of the specified proportions and approved consistency between and below the reinforcement bars, in the bottom of beams and similar members, the bars shall be embedded in concrete of approved workability by increasing the amount of cement as approved by using aggregates of approved smaller maximum size than specified.

7.6 Mixing Concrete

7.6.1 The cement and aggregates shall be thoroughly mixed together in the proportions described in batch type mechanical mixer, unless otherwise approved. The water shall not be admitted to the drum of the mixer until all the cement and aggregate constituting the batch are in the drum. Mixing shall continue until the concrete is uniform in colour and for not less than two minutes after all the materials and water are in the drum. The entire contents of the drum shall be discharged before the materials for succeeding batch are fed into the drum. No partly set or retempered concrete shall be used.

7.6.2 Partly set or excessively wet concrete shall not be used on the work and shall be immediately removed therefrom.

7.6.3 Hand mixing shall be allowed for small quantities with prior permission and approval of the consultant. It shall be carried out on a water tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. For hand mixing 10% extra cement shall be used than normally required. Hand mixing shall be confined to one bag batch system.

7.7 Strength of Concrete

7.7.1 The minimum quantity of cement for various proportions and their strength at 28 days for normal concrete shall be as follows:-

| By vol. mix | Cement in Kg/cub.mtr. of concrete | Preliminary test results for minimum crushing strength at 28days | Min. crushing strength at 28 days |
|----------------|---|---|---|
| 1:4:8 | 180 kgs. | 75 kgs/sq.cms. | 78 kgs\sq.cms. |
| 1:3:6 | 233 kgs. | 100 kgs/sq.cms. | 115 kgs/sq.cms |
| 1:2:4. | 323 kgs. | 150 kgs/sq.cms. | 225 kgs/sq.cms |
| 1.1½:3 | 412 kgs. | 200 kgs/sq.cms. | 265 kgs/sq.cms. |
| 1:1:2 | 640 kgs. | 250 kgs/sq.cms | 336 kgs/sq.cms |

7.7.2 For controlled concrete by strength, the minimum stresses shall not be less than as specified below:

| Grade in | Min. crushing at 7days Strength | kg/sq.cms @ 28 days |
|----------|------------------------------------|------------------------|
| M-100 | 70 | 100 |
| M-150 | 100 | 150 |
| M-200 | 135 | 200 |
| M-250 | 170 | 250 |
| M-300 | 200 | 300 |
| M-350 | 235 | 350 |
| M-400 | 270 | 400 |

7.8 Distribution of Concrete

Concrete shall be distributed from the mixer to the position of placing in the works by approved means which do not cause separation or segregation of aggregates or otherwise impair the quality of the concrete. Mixing and distribution equipment shall be cleaned before commencing mixing and distribution of the concrete and such equipment shall be kept free from set concrete.

7.9 Placing of Concrete

7.9.1 Placing of concrete shall not commence before the shuttering and the reinforcement fixed position in the shuttering, has been inspected and approved by the consultant. The contractor shall maintain a record of such inspection and approvals and shall obtain all approvals to proceed with the placing of concrete in writing.

7.9.2 Before proceeding to place the concrete, the shuttering shall be realigned, if necessary, and water and rubbish therein shall be removed by approved means immediately prior to placing the concrete. The shuttering shall be wetted, except in frosty weather, and inspection opening shall be closed.

7.9.3 The interval between adding the water to the dry materials and completion of the placing of the concrete shall not exceed 20 minutes.

7.9.4 Except where otherwise approved, concrete shall be placed in the shuttering by shovels or approved implements and shall not be dropped from a height or handled in a manner which will cause separation. Accumulations of set concrete on the reinforcement shall be avoided. Concrete shall be placed directly in its permanent position and shall not be worked along the shuttering to that position.

7.9.5 Each layer of concrete while being placed shall be consolidated either by ramming, tamping or by mechanical vibration as required to form a dense material with all surface free from honey combing and free from water accumulating on the surface of newly placed concrete shall be removed by approved means. No further concrete shall be placed thereon until such water is removed.

7.9.6 No unset concrete shall be brought into contact with unset concrete containing cement of different type.

7.9.7 Unless otherwise approved, concrete shall be placed in a single operation to the full thickness of slabs, beams and similar members and shall be placed in horizontal layers not exceeding 1m deep in walls, columns and similar members. Concrete shall be placed continuously until completion of the work. Construction joints, as specified hereinafter, of a part up to approved extent. At the completion of a specified or approved part construction joint shall be made when the work is stopped.

7.9.8 All the concrete for the machinery or special foundations shall be cast in one operation and shall be machine vibrated.

7.10 Placing concrete in cold weather

No concrete shall be mixed or placed while the temperature is below 40 degree C on a raising thermometer or below 4 degree C on a falling thermometer. The contractor shall

supply an accurate maximum and minimum thermometer and hang it in an approved position on the works.

Aggregates that have been exposed to frost shall not be used until completely thawed. Concrete shall be maintained by approved means at a temperature of not less than 4 degree C during placing, and for a period of three days thereafter. All concrete placed during cold weather or when a frost is predicated or is likely to occur or occurs contrary to expectation, shall be protected from freezing by approved means.

7.11 Placing of concrete in wet weather

Concrete shall not be mixed and/or placed in rainy weather or when there is likelihood of impending heavy showers. If it becomes necessary to place concrete during rainy weather the contractor shall provide adequate protection by means of tarpaulin or similar other waterproof material or immediately cover fresh concrete to prevent rain falling over it. This protection shall be left on the concrete for a period of 24 hours after placing of concrete.

- 7.12 Consolidated by mechanical vibration all concrete specified to be vibrated shall be consolidated by internal vibrators. The frequency of vibration shall not be less than 3000 complete cycles (or vibrations) per minute. The amount of water for mixing concrete shall be reduced for all concrete that is required to be compacted by vibration (about 20% less than the water used for concrete to be compacted by ramming and temping). Water required for mixing concrete that is to be consolidated by mechanical vibration shall be determined by slump test. As a general rule vibration should be stopped when air rubbles cease or practically cease coming up the surface and the surface itself is continuous.

Vibrations shall be inserted and withdrawn at many points from 0.5m to 1m apart from short intervals (usually from 5 to 15 seconds is sufficient) in preference to insertion for longer periods at wider intervals. Systematic spacing of insertions of the concrete remains unvibrated.

7.13 Construction joints

- 7.13.1 Construction joints shall be provided in the position described on the drawings or elsewhere and where not so described on the drawings or else shall be in accordance with the following:
- 7.13.2 A joint shall be formed horizontally at the top of a foundation and 75mm below the lowest soffit of the beams meeting at the head of a column.
- 7.13.3 A joint shall be formed in the rib of a large tee beam and all beams 25mm below the soffit of the slab.
- 7.13.4 Concrete in a haunch or a splay on beam or a brace, and in the head of a column where one or more beams meet, shall be placed without a joint at the same time as that in the beam or beams or brace.

7.13.5 Concrete in the splay at the junction of a wall and slab shall be placed throughout without a joint, but if the provisions of a joint are unavoidable, the joint shall be vertical and the middle of a span.

7.13.6 A joint in the slab shall be vertical and parallel to the principal reinforcement, where it is unavoidable, at the right angles to the principal reinforcement, the joint shall be vertical and at the middle of the span.

7.13.7 Before placing new concrete against that has already hardened the face of old concrete shall be cleaned and roughened and scum and loose aggregate removed from the form. Immediately before placing the new concrete the face shall be thoroughly wetted and coating of neat cement grout applied thereto. The new concrete shall be well rammed against the prepared face before the grout sets.

7.14 Structure joints

7.14.1 Expansion joints, hinges or other permanent structural joints shall be provided in the positions and of the form described in the drawings or elsewhere.

7.15 Protection and curing concrete

7.15.1 Newly placed concrete shall be protected by approved means from frost, rain, sun and drying winds. Exposed faces of concrete shall be kept moist by approved means for 21 days after placing, except of there is a likelihood of curing water of damp covering, freezing, when the period shall be instructed by the consultants.

7.15.2 Concrete placed below the ground shall be protected from failing earth during and after placing. Concrete placed in ground containing deleterious substances shall be kept free therefrom during placing and for a period of seven days or as otherwise instructed hereafter. The ground water around a structure below the ground shall be kept to an approved level of pumping, or the works shall be taken to prevent floatation. Approved means shall be taken to protect immature concrete from damage by debris, excessive loading, vibration, and abrasion, deleterious ground water, mixing with earth or other materials, floatation and other influences that may impair the strength and durability of the concrete.

7.16 Removal of Shuttering

7.16.1 Shuttering shall be removed by a gradual easing without jarring. Before removal of the shuttering, the concrete shall be examined and removal shall proceed only in the presence of a competent supervisor and after the concrete has attained sufficient strength to support, its own weight and any imposition of a load exceeding the design load is anticipated, propos shall be provided in an approved manner, after removal of the shuttering and before the imposition of lead exceeding the design load. The contractor shall record on the drawings or elsewhere the date upon which the concrete is placed in each part of the work and the dates upon which the shuttering is removed therefrom. The assessment concrete and removing the shuttering and consequence arising therefrom shall be the contractor's entire responsibility. Permissible tolerance in the dimension of form work shall be as per IS:456.

7.16.2 The shuttering for a part of a structure suspended from concrete placed subsequently to that or in the shuttering concerned shall not be removed until the supporting concrete has matured and such shuttering shall be prominently remarked as a warning against premature removal

7.17 Finish

7.17.1 Honey comb surface shall be made good immediately upon removal of the shuttering and superficial water and air holes shall be filled in. Unless instructed placed against shuttering shall be rubbed down immediately upon removal of the shuttering to remove fins or other irregularities. The face of concrete for which shuttering is not provided other than slabs shall be smoothed with a wooden float to give a finish equal that of the rubbed down face where shuttering is provided. The top face of slabs which is not intended to be covered with other materials shall be levelled and floated while unset to a smooth finish at the levels of falls shown on the drawings or elsewhere. The floating shall be done so as to bring an excess of mortar to be the surface of the concrete. Concrete shall be so finished that no plaster work should be necessary.

7.17.2 Surface which are to be finished with plaster shall have indentations formed on them by approved implements to the depths and patterns required so as to provide key for the plaster or finishes.

7.17.3 All exposed concrete work shall be rubbed down smooth and not plastered but finished smooth and given one coat of cement wash without any extra charge when directed.

7.17.4 All concrete slabs, where directed shall be finished smooth and levelled with neat cement grout immediately after concreting without any extra charge.

7.18 Fittings and accessories

7.18.1 Holes for bolts or for any other purpose shall be moulded during the work of concrete in the positions shown on the drawings. Openings already to receive pipes, wires and other fittings shall be formed where shown or otherwise detailed.

7.18.2 Bolts, pipe holes, hangers and other connections and fittings shown on the drawings or as directed by the consultant shall as far as practicable, be built in as the work proceeds.

7.18.3 Pipes for the conveyance of steam, water and gas etc. shall be carried along with exterior of the concrete work, except where special ducts for laying these pipes have been provided or otherwise as shown in the drawings. Conduit pipes for carrying electric cables, if so required, shall be embedded in concrete work or as directed by the consultant.

7.19 Testing of concrete

7.19.1 The contractor must make his own arrangement for testing of the concrete blocks from time to time as required by the consultant and all the cost of testing and conveyance shall be borne by the contractor. At least three blocks of 150 x 150 x 1150 per 30 cm of R.C. work must be taken as directed and tested. The employer reserves right to test the blocks at the cost of contractor if the contractor fails to follow this clause.

7.19.2 The compressive strength shall be ascertained by crushing 150mm cubes of concrete. The cubes to be made on the works and tested in accordance with IS:516. 7.19.3 Three test specimens shall be made for each stage at which tests are required. It is usual to cast six specimens and test three specimens at 7 days age remaining three specimens at 28 days age, at every stage of construction or for every 30 cm concrete or as directed, tests shall be made. Testing of cubes shall be carried out at any approved laboratory and the results obtained shall be forwarded to the consultant. 7.20 Structure Tests

7.20.1 The consultant shall instruct the contractor to make a loading test on the works or any part thereof, if in the consultant's opinion, such a test is necessary. 7.20.2 The consultant shall instruct the contractor to make the test for the reason that the works cube tests show strength below the specified strength and/or because of one more circumstances attributed to alleged negligence on the part of the contractor and/or for the purpose of the testing the finished completed structure. The contractor shall include and allow the cost of test or tests in his prices and shall carryout them without additional payment.

7.20.3 For the purpose of testing floors, roofs and similar structure and their supports, in addition to all dead load supported by the structures, the test load shall be equivalent to one and a quarter times the live load (or super load) for which the works or part thereof to be tested has been designed, and all the test load shall not be applied within 28 days of the completion of placing of the concrete in the part of works to be tested, and the later shall be unsupported during the test by the shuttering or other non-permanent supports. The test shall be made as instructed.

7.20.4 For a test on a floor, roof or similar construction the result shall be deemed to be satisfactory if upon removal of the load the residual deflection does not exceed one quarter of the maximum deflection after maintaining the load in position. If the residual shall be repeated, and the result shall be deemed to be satisfactory if the residual deflection after removal of the load for the second time does not exceed one quarter of the maximum deflection occurring during the second test.

7.20.5 If the result of the tests is not satisfactory, the consultant shall instruct that the part of the works concerned shall be taken down or cut and the reconstructed to comply with this specification, or test other measures shall be taken to make the work secure. The contractor is liable to conduct the test at his own cost if directed and he shall also at his own cost take down or cut and reconstruct the defective work or shall execute remedial measures as instructed.

8.0 Reinforcement

8.1 Cutting and bending of reinforcement:

8.1.1 All reinforcement bars shall be made perfectly straight before bending. Bars shall be bent by suitable machine or manually round a pin having a diameter of not less than 4 times the diameter of the bar, producing a gradual and even motion. Bars shall be bent cold unless the consultant shall approve bard of over 25mm in the size being hot. Bars bent hot shall not be heated beyond cherry red colour and after bending shall be allowed to cool slowly without quenching. Bars dependent on cold working for their strength shall always be bent cold.

8.1.2 Bars incorrectly bent shall be used only if the means used for strengthening and re-bending shall be such as shall not injure the material. No reinforcement shall be bent when imposition on the works, without approval whether or not it is partially embedded in hardened concrete.

8.1.3 Bending shall comply with the dimensions given in the bending schedule given by the consultant. Dimensions of bent bars and internal dimensions of binders and the like shall not be more than 1/2% shorter than the specified dimensions.

8.1.4 The internal radial of bends shall not be less than twice the size of the bars unless described to the contrary. The internal radial of the bends at corners of binders or the like shall be half the purpose of this requirement the size of a bar shall mean the diameter of a plain round bar or wire.

8.2 Fixing of Reinforcement

8.2.1 Reinforcement shall be accurately fixed and by approved means maintained in the position described on the drawings or elsewhere in accordance with IS: 2502. Bars intended to be in contact at passing points shall be securely wired together at all such positions with No.16 gauge annealed soft iron binding wire, binders and the like shall tightly embrace the bars with which they are intended to be in contact and shall be securely wired, or if approved, welded thereto.

8.2.2 Bars shall be accurately set and held in place by system of bar chairs, bolsters, wire items, etc. of not less than 16 B.W.G. Spacing and location shall be shown on drawings.

8.2.3 Immediately before placing the concrete, the reinforcements shall be examined for accuracy of placing and cleanliness and corrected, if necessary. 8.2.4 Reinforcement projecting from work being concrete of already concreted shall not be bent out of its correct position for any reason unless approved and shall be protected from deformation or other damage. No reinforcement shall be placed in the same forms within 10m of concrete being poured.

8.3 Cover

8.3.1 The cover of concrete to the reinforcement shall be as described on the drawings and shall be provided and maintained within a tolerance of 3mm under and over, by means of distance pieces of cement mortar or other approved material. Blocks of concrete on ground to hold the reinforcement, in proper level shall be of 225 kg. sqmm strength. The clear spacing between bars shall be not less than 1½ times the maximum size of the coarse aggregate not less than 25mm.

8.3.2 The vertical distance required between successive layers of bars or similar members shall be maintained by the provisions of mild steel space bars inserted at such intervals that the main bars do not perceptibly sag between space bars.

8.4 Lapping and Splicing

8.4.1 Bars shall be lapped as per I.S. Standards unless otherwise shown on the drawings. Splicing of bars shall be at selected positions to be at selected positions to be determined by the consultant.

8.5 Welding Reinforcement

8.5.1 Welding may be permitted and shall be carried out as directed by the consultant, by competent and experienced welders, using electrodes and according to first class technique.

8.5.2 If butt jointing of reinforcement bars by electric arc welding be approved, the consultant's requirement of the regulations of the work as per IS: 456/1964 and IS 2751/1966 shall be complied with and all operations connected therewith shall be done only by man skilled thereat. These requirements shall not apply to the spot welding of binders or the like, to main bars, where approved of, to electrically welded fabric.

8.6 Exposed Reinforcement

8.6.1 Exposed reinforcement intended for bending with future extensions shall be protected from corrosion.

9.0 Shuttering and form work

9.1 General

9.1.1 The contractor shall be responsible for the sufficiency of the form work. If so instructed, calculations and designs for the shuttering shall be submitted for approval before construction. Form work may be on plywood, metal rough board or concrete.

9.2 Fixing of Shuttering

9.2.1 Shuttering for concrete shall be rigidly constructed of material and shall be true to the shape and dimensions described on the working drawings. Timber shall be well seasoned, free from loose knots and wrought on all faces. Faces in contact shall be free from adhering, grout, projecting, nails, splits or other defects. Joint shall be sufficiently tight to prevent of cement grout and to avoid the formation of fins or other blemishes. Faulty joints shall be caulked. Where described on the working drawings or elsewhere, the position and direction of the joints shall be as so described. Opening for inspection of the inside of the shuttering and for the escape of water used for washing out shall be formed so that they can be conveniently closed before placing the concrete.

9.3 Connections

9.3.1 Connections shall be constructed to permit easy removal of the shuttering and shall be either nailed, screwed, bolted, clamped, wired or otherwise secured so as to be strong enough to restrain the correct shape during consolidation of the concrete. Bolt holes in concrete shall be made good after removal of the bolts. Wire ties passing through concrete shall be used only where approved and the ends of the wires shall be concealed and measured taken to prevent rust stains on the concrete.

9.4 Sloping Work

Shuttering shall be provided for the top faces of slopping work, and anchored to prevent floatation where the slope exceeds 1 in 1½.

9.5 Deflections

Shuttering shall be true to line and braced and structured to prevent deformation under the weight and pressure of the wet concrete, constructional loads, wind and other forces. The deflection shall not exceed 3mm. Bottom of beams boxes shall be erected with an upward camber of 6mm for each 3m of span.

9.6 Beams and Slabs

The shuttering of beams and slabs shall be erected so that the shuttering on the sides of the beam and of the soffits of slabs can be removed without disturbing the beam bottoms. Reproping of beam shall not be done except with the approval of the consultant. Props may be reinstated in anticipation of loads in excess of the design load. Vertical props shall be supported on wedges, or other measures shall be taken when commencing to remove the shuttering. Props for an upper storey shall be placed directly over those in the lower storey and sufficiently.

9.7 Columns In the shuttering for a column, one side shall be left open and shall be built upon in sections as placing of the concrete proceeds.

9.8 Fixtures

Before placing the concrete, bolts and fixings shall be in position and cords and other devices used for forming openings holes, pockets, chases, recessed and other cavities shall be fixed to the shuttering. No holes shall be cut in any concrete unless approved.

9.9 Mould Oil

Any approved mould oil or other material shall be in position, and cords and other devices used for forming openings holes, pockets, chases, recesses and other cavities shall be fixed on the shuttering. No holes shall be cut in any concrete unless approved.

9.10 Props

The props used for shuttering shall be of full length. Joined props shall not be allowed. They should be of sufficient size and suitably placed as per the instructions of the consultant. Where shuttering at high altitude is to be done, the contractor shall provide special props and beams to the approval of the consultant.

9.11 Removal of Shuttering

The shuttering will be struck for different parts of the structure, after expiry of the following periods, unless stated otherwise:

| | | |
|--|---|----------|
| Vertical sides of slabs, beams and columns | : | 48 hours |
| Bottom of slabs upto 4M span | : | 7 days |

Bottom of slabs above 4M span, bottom of
beams up to 5M span and arch rib bottom
Upto 5M : 14 days

Bottom of beams over 5M span and arch rib
bottom above 5M span : 21 days

10.0 Restricted Concrete Work

10.1 General

10.1.1 All specifications hereinbefore given will be applicable to prestress concrete except in addition to as stated hereinafter.

10.2 Concrete

10.2.1 All concrete used for pre-stressed work shall be controlled concrete with a cube crushing strength of 350 kg/cm at 28 days of 150mm cubes. 10.2.2 The maximum size of coarse aggregate shall not exceed 20mm. 10.3.2 Moulds shall be sufficiently strong and rigid to withstand, without distortion, the effects of placing and compacting concrete. 10.3.3 Moulds shall be made sufficiently water tight to prevent loss of mortar or grout from the concrete.

10.4 Prestressing Steel

The prestressed steel shall be stored, handled, and used in accordance with the specification laid out in "INDIAN STANDARD CODE OF PRACTICE FOR PRESTRESSED CONCRETE" I.S. 1343.

10.5 Stressing

The beam shall be pre-tensioned by line method of construction.

The specified force shall be maintained by the use of approved fixing devices at the ends of the tensioned steel during concreting and curing, until the concrete has attained the strength specified. The tensioned steel than be released gradually and uniformly.

10.6 Lifting, Stacking and launching The precast members shall be lifted by suitable tackle only at specified points.

11.0 Measurements

11.1 General

11.1.1 The item rates shall be cost of all materials (unless otherwise specified) including labour tools, plants and other accessories required to complete the job in workman like manner.

11.1.2 Mode of measurement of items of reinforced concrete work shall be as stated below and shall be the net cubic meter as specified in the schedule of quantities or the net

area of specified thickness of cast concrete. The thickness of plaster finishing shall not be taken into account in measuring the work even though the price may be of structural members in concrete, the measurement of encased concrete shall be net cubic meter as specified without any deduction of structural members.

- 11.1.3 No extras shall be paid for provision of pockets and holes up to 150mm x 150mm areas but concrete will be paid without deduction for such holes in pockets and holes larger than 150mm x 150mm actual areas of shuttering will be paid at rates in the schedule, but the volume of pockets will be deducted from the concrete, quantities.
- 11.1.4 If due to some fault or mistake of the contractor, the sizes cast are more than those shown on the drawing; the contractor shall be paid only as per the sizes shown on the drawings. In case the sizes are cast smaller than those shown on the drawings, the contractor shall rectify the same or if similar size is approved by the consultant, it may be allowed, but the actual size cast will be paid to the contractor.
- 11.1.5 No extra will be paid for placing cable and other pipes, anchor bars or bolts, anchor rails etc., which will be supplied by the employer.

11.2 Concrete

- 11.2.1 Footing and rafts shall be measured in cubic meter.
- 11.2.2 Columns shall be measured in cubic meter being the products of the area of cross section multiplied by the height, as measured in between the top of footings or slab to the underside of slab immediately above as per drawings. In case slabs of different thickness the underside of the thicker slab shall be guiding factor.
- 11.2.3 Rectangular beams and lintels shall be measured in cubic meter being the product of the cross sectional area and length between supporting columns or beams. Where such beams or lintels rest on masonry work, the length is equal to the clear distance between the faces of masonry plus the length of bearings as shown on the drawings.
- 11.2.4 T & L Beams (i.e. beams cast with floor or roof slabs) shall be measured in cubic meter. The length shall be the distance between the faces of supporting columns or the faces of the supporting beams or girders, the breadth shall be the breadth of the stem projecting below the slab and the depth shall be the portion projecting below the underside of the slab (thicker one in case of slabs of different thickness). It shall be the net cubic contents of the portion projecting below the underside of the thickest slab and between the faces of supporting beams or columns.
- 11.2.5 Slabs, cornices, projections, stairs, waist slab and the triangular concrete portion of steps shall be measured in cubic meter, or in sq. meter with specified width, in case of slabs of different thicknesses, thicker slab will be measured upto the face of the beam on the side of the thinner slab.
- 11.2.6 Chajjas shall be measured in square meter or cubic meter being the products of the projection beyond the face of supporting beams and the length and of average thickness as per drawing.

- 11.2.7 Pardi walls, partition walls, drop walls, railing walls, fins of specified thickness, coping, etc. shall be measured in square meter or cubic meter.
- 11.3 Shuttering and Form Work 11.3.1 Shuttering is to be measured as the area in square meter of the finished structure which is required to be supported during the deposition of concrete.
- 11.3.2 The shuttering required to form the construction joints, skew backs, stunt ends, stepping, the bonding, chases and the like, which may be necessary to uphold the concrete during the operations of deposition and setting shall not be measured and hence the cost of this is to be covered by the rate of concrete.
- 11.3.3 Where shuttering is included in the item rates of concrete, shuttering will not be measured separately.
- 11.4 Steel Reinforcement
- 11.4.1 The unit of weight shall be 1 M. Tonne or 1000 kg.
- 11.4.2 The reinforcing bars or rods are to be measured according to the weight as calculated from the drawings. The basis of calculated weights shall be as per I.S. Specifications. No allowance being made for waste or rolling margin.
- 11.4.3 The length of the bars shall be the total length to be cut as shown in the drawing or as specified by the consultants including hooks, bends, loops etc.
- 11.4.4 Binding wire required for tying reinforcement shall not be measured. The items rate shall include the same.
- 11.4.5 Pins and other types of special supports required for supporting reinforcement shall be measured.
- 11.4.6 The laps provided as per drawing and/or instructions shall be paid for where they are unavoidable. Alternatively, the bars may be welded if permitted by the consultant for which the cost of laps will be paid. The consultant's decision with regard to the necessary and/or regarding the position of laps or welds shall be final.
- 11.4.7 No allowance shall be made for wastage. The item rate shall include the same.
- 11.4.8 The concrete briquettes required for providing proper cover over to reinforcement shall not be measured. The item rates shall include the same.

BRICK MASONRY

1. General

- 1.1 All brick work shall be carried out as shown on the drawings with set backs, projections, cuttings, tooling, etc.
- 1.2 Whenever the proportion of cement mortar has not been specifically mentioned, cement mortar in the proportion of 1:6 (cement: sand) shall be used.
- 1.3 All external brick walls shall be built with cement mortar having proportion of 1:5 (cement: sand).
- 1.4 Flat brick arches shall be provided wherever required without any extra cost.
- 1.5 Brick work shall be kept wet while in progress till mortar has properly set. On holidays or work is stopped, top of all unfinished masonry shall be kept wet. 1.6 If the mortar becomes dry, whit or powdery, for want of curing, work shall be pulled down and rebuilt at the contractor's expenses.

2. Material

2.1 Bricks

The bricks shall generally comply with IS: 1077. The bricks shall be the best quality locally available, table moulded, well burnt, have plane rectangular faces with paralleled sides and sharp right angled edges, have a fine compact and uniform texture. The bricks shall be free from cracks, chips, flaws, stones or lumps of any kind and shall not show efflorescence either dry or subsequent to soaking in water.

The brick shall smite a clear ringing sound on being struck and shall not absorb water more than 20% by weight.

Common building bricks shall have a minimum compressive strength of 35 kg./sq.cm. unless otherwise stated in the schedule of quantities.

2.2 Cement

Unless otherwise specified the cement to be used shall be ordinary Portland cement complying with the latest publication of IS: 269.

2.3 Lime

Lime shall comply in every respect with the requirements of IS: 712.

Lime shall be made from approved lime stone or kankar and properly burnt. It shall be free from excess or unburnt kankar or lime stone ashes or any other extraneous materials.

Lime shall be stored in weather proof sheds. Lime which has been damaged by rain, moisture or air slaking shall not be used and shall be removed from the site of work immediately.

Lime shall be slaked with fresh water and screened through appropriate screen and stored and used within 14 days provided it is protected from drying out.

Field tests according to ISL 1624 shall be carried out from time to time to determine the quality of lime.

2.4 Sand

Sand shall conform to ISL 383 and IS: 515.

Sand shall pass through 1.5 sieve 4.75mm (3/16 B.S.) test sieve, leaving a residue not more than 5%. Sand shall be from natural source or crushed stone screenings, chemically inert, clean, sharp, hard, well graded and free from dust, clay, shala, large pebbles, salt, organic mater, mica or other deleterious matter. The sum of all deleterious material in sand shall not be more than 5% by weight.

Sand shall be washed, if directed, to reduce the percentage of deleterious substances to acceptable limits.

2.5 Water

Water for mixing cement/lime mortar shall be clean and free from acids, vegetable matter, etc. Only water fit for drinking shall be approved for use. In case of doubt, water shall be tested in approved lab at contractor's expense.

2.6 Mortar

The mortar to be used for brick masonry shall be from cement/ lime as instructed by the Architects. The ingredients in the proportions specified shall be measured in gauge boxes and thoroughly mixed dry on a clean approved platform with water added afterwards until all parts are completely incorporated and brought to a proper consistency and used within an hour.

No partially or wholly set mortar will be allowed to be used or re-mixed.

When large quantities are required, the mortar shall be mixed by mechanical means.

3. Workmanship

3.1 Bricks shall be thoroughly cleaned, well wetted and soaked in fresh water for at least 12 hours before using it.

3.2 English bond shall be used throughout in walling except brick on edge and half brick walls shall be built in structure bond. A good bond shall be maintained throughout the work, both laterally and transversely.

- 3.3 All brick work shall be set out and built to the dimensions shown horizontal and in plumb with the frogs facing upwards. Vertical joints shall not exceed 10mm thickness and shall be full of mortar.
- 3.4 No broken bricks shall be used except as closers.
- 3.5 After days work all joints shall be raked to 12mm before commencing further brick work.
- 3.6 The top of walling shall be wetted where let off, before commencing further brick work.
- 3.7 Whole of the masonry work shall be brought up at one uniform level, throughout the structure. Where breaks are unavoidable, joints shall be made in good long steps. All junctions of walls and cross walls shall be carefully bonded into the main walls.
- 3.8 During rains, the work shall be carefully covered to prevent mortar being washed away. Should any mortar or cement washed away, the work shall be removed and rebuilt at the contractor's expenses.
- 3.9 Mortar to be used shall be as specified in respective items.
- 3.10 The wall shall be kept wet for three days after construction.
- 3.11 Wooden plates, door frames or window frames shall be bedded in brick work with fixing clamps or holdfasts embedded in courses of brick work.

4. Mode of Measurement:

- 4.1 Finishes to brick work such as plaster and cement pointing will be paid for separately under plaster.
- 4.2 75mm thick 1:2:4 PCC band shall be provided in half brick thick partition walls and in brick on edge walls at every 1.5M height or as directed PCC band shall not be measured and paid separately.
- 4.3 One brick or more thick walls shall be measured in cubic meter that is length and height multiplied by the thickness. Thickness shall be measured in multiples of half brick which shall be deemed to be inclusive of mortar joints. Half brick thick or brick-on-edge walls shall be measured in square meter.

GENERAL SPECIFICATIONS FOR WOOD WORK

WOOD WORK

1. General

- 1.1 The timber used for wood work shall be sound, well conditions, properly seasoned to suit the particular use and free from defects or combination of defects rendering it unsuitable for the purpose intended.
- 1.2 All timber used structurally shall comply with the relevant requirements of Indian Standards.
- 1.3 All timber is to be ordered and delivered immediately to the site for open stacking for as long as possible before use. All timber will be inspected by the supervising officer and if not approved by him shall be removed from the site immediately. Not with-standing the supervising officer's approval, any timber incorporated in the works found to be in any way defective before the expiry of the Defects Liability Period, shall be removed and replaced at the sole expense of the contractor.
- 1.4 Timber shall be free from hole borer, beetles or other insects attack when brought to the site. The contractor shall be responsible till the end of maintenance period for executing any work necessary to eradicate insect attack at his own expenses including the replacement of timber attacked or suspected of being attacked, notwithstanding that the timber may have been inspected already and passed as fit for use.
- 1.5 The moisture content of the timber used for internal joinery is to be 10% and that used for external doors and frames is to be 16% when the joinery is delivered to the site, and these moisture contents are to be maintained until the building is finished. The consultant will require evidence of correct moisture content to be submitted to him before the joinery is fixed. The moisture content of timber shall be determined according to method described in paragraph 4 of I.S. 287 for "Maximum Permissible Moisture Content of Timber used for Different Purposes in Different Climatic Zones".

2. Material and Workmanship:

2.1 Teak Wood

This shall be Dandeli, Balarshah or Malabar Teak, or any other approved quality teak wood. It shall be of good quality and well seasoned. It shall have uniform colour, reasonably straight grains and shall be free from large, loose, dead knots, cracks, shakes, warps, twists, bends, borer holes, sap wood or defects of any kind.

No individual hard and sound knot shall be more than 1cm in diameter and aggregate area of all knots shall not exceed 0.5% of the area of the piece. It shall be close grained and there shall not be less than 6 growth rings per 2.5cm width.

2.2 Flush Doors Flush doors shall be solid core unless otherwise specified, consisting of wood core or framing covered with 6mm plywood both sides and complying where applicable with the IS: 2202.

The solid core shall be wood laminates prepared from battens of well seasoned and treated good quality wood having straight grains. The battens shall be of uniform size of about 25mm width. These shall be properly glued and machine pressed together with grains of each piece reversed from that of adjoining one. The longitudinal joints of the battens shall be staggered and no piece shall be less than 50cms length.

Alternatively, the core shall be of solid teak particle board. Edges of the board shall be lipped internally with teak wood battens of 4cm (minimum) depth, glued and machine pressed along with the core. If specified the flush doors shall be veneered and polished as per the standard methods specified or to be provided with laminations as specified.

Thermosetting synthetic resin conforming to IS: 303 or moisture-proof plywood grade MP F.I. shall be used in manufacture.

All flush doors shall be edged all round with 25mm thick wood lapping, tongued and glued in.

Doors described as “external” shall be covered both sides with 6mm exterior quality plywood.

All flush doors shall be plain on both faces and be free from all waves, ripples or distortions of any kind.

Any door, which after the application of paint or polish, shows any defect of this nature shall be removed and replaced at the contractor’s expense.

2.3 Plywood

Plywood shall be obtained from an approved source to the correct thickness specified. The contractor will not be permitted to make up the required thickness by gluing together sheets of thinner plywood.

Plywood shall be manufactured from topical hardwoods of the first grade for “interior” quality.

Where veneered plywood is specified, samples must be submitted to the supervising officer for his prior approval.

2.4 Block

Block board shall be of approved manufacture and comply with relevant I.S. and shall be “exterior quality”.

2.5 Frames

Frames to doors, windows and other joinery shall be provided and built in to the size shown on the drawings.

Frames of doors, windows, ventilators, etc. and shutter styles, rails, etc. shall be of best quality teak.

The scantlings shall be accurately planned smooth. Rebates, roundings and mouldings shall be made as shown on the drawings. Patching or plugging of any kind shall not be allowed.

Joints shall be single, neat and strong. Frame joints shall be glued together with synthetic resin. All mortice and tenon joints shall fit in fully and accurately without wedging or filling. The joints shall be pinned with hard wood or bamboo pins of 10mm to 12mm dia after the frames are put together and pressed in position by means of a press.

All portions of timber abutting against or embedded in masonry or concrete shall be treated against termites by giving a coat of approved wood preservative.

Frames shall be securely fixed on walls, columns, and beams by means of hold-fasts.

Holdfasts shall be secured to frame and laid in the course of brick masonry.

When door or windows to be fixed to RCC column, wall or beam, holdfasts shall be substituted by suitable arrangements such as coach screws, rawl bolts, etc.

If the width of the door or window exceeds 1mtr holdfasts or coach screws or rawl bolts shall be provided at the top and bottom (if applicable). These shall be at minimum distance of 60 cms.

The frames shall be protected during progress of work by suitable means. Frames and shutters shall not be erected before the approval of the Architect. Frames shall be polished or painted as specified.

2.7 Architraves

Architraves shall be as shown on the drawings and all properly mired at inter-sections. Architraves shall not be installed until after the wall coverings have been formed or constructed, unless otherwise specified.

Where Architraves are required to be installed before the wall coverings have been formed or constructed because of their design and detail, they shall be protected against damage by suitable casings.

2.8 Framed and Panelled Doors

These shall be from the timber approved by the supervising officer. The styles and rails of the frames shall be mortised and tenoned together, or joined by dowels where specified. The thickness of each tenon shall be approx. one third the thickness of the door, and the width of each tenon shall not exceed five times its own thickness. Haunching shall be sunk to a depth not less than 10mm. Dowels shall be straight grained and keyed for glueing. The stiles and rails shall be grooved to a depth of 10mm to receive the panels.

Panels shall be of pattern and size as shown on the drawings.

Solid teak wood panels shall be in one piece wherever possible. Where two or more pieces are permitted they shall be of equal width, tongue and grooved.

Panels shall be framed into grooves made in styles and rails to the full depth of groove and faces shall be closely fitted to sides of groove.

Where panels specified are block board, or chip board, it shall also be fixed in similar manner as shown above. Partly paneled and partly glazed shutter shall be similar to paneled shuttered except glazed parts shall receive plain or ground glass as specified. Styles and rails shall be rebated 12mm to receive glass. Sash bars shall be moulded and rebated and mired on sides to receive glass. The glass shall be fixed with wooden beads.

2.9 Skirting

Skirting shall be from teak wood as specified and shall be as shown on the drawings.

Skirting shall not be installed until after the flooring is laid, unless otherwise specified.

Where skirting are required to be installed before the flooring is laid because of their design and detail, skirting beads shall be scribed on their lower edges to follow the contour of the flooring and shall be secured back to the wall by screws.

2.10 Scribing

All skirtings, architraves, plates and other joinery works shall be accurately scribed to fit the contour of any irregular surface against which they may be required to form a close butt connection.

2.11 Iron Mongery The contractor shall provide and fix the iron monger required by the particular specification or shown on the drawings or as per Architect's instruction. The use of nails for fixing iron monger will not be permitted. The contractor shall hand over all the work in a finished state and to the satisfaction of the Architect. All iron mongers shall be of first quality and shall be obtained from an approved manufacturer. The contractor will be required to submit for approval samples of all items of iron monger he proposed to use.

3.1 Measurements

3.01 Measurements for doors and windows will be out of main frame. Architraves, cover moulds, plaster beads, shall be measured separately in running meter. Door height for payment will be measured from finished floor to top of main frame. Teakwood hand rails will be measured in running meter measure and false ceiling in square meter of actual work done.

3.02 The rates quoted should include for all materials and labour and tools for execution of work at any level. Lifts of materials will not form criteria for any extra amount.

GENERAL SPECIFICATIONS FOR METAL WORK

METAL WORK

1. Material

1.1 Mild Steel

Mild steel shall comply with IS: 226 of 1955 and IS: 1977 of 1962.

This steel shall not have more than 0.06% of sulphur and 0.065% of phosphorous. The carbon content shall not exceed 0.30% and the steel shall be of weldable quality.

1.2 Aluminium

Aluminium shall be of the approved alloy and shall comply with IS: 733.

The aluminium shall be anodized to minimum thickness of 25 microns.

2. Workmanship

2.1 Smithing, Shearing and Cutting

All smithing, welding, cutting and bending shall be soundly and neatly executed, care being taken not to overheat. All frame cut edges and welds shall be neatly grounded off on completion.

2.2 Aluminium Doors and Windows

2.2.1 General Minimum thickness of aluminium section shall be 2mm. All the frames shall be made to the exact size of the opening, without leaving any gap. Any small discrepancies shall be filled with gun applied mastic. The frames coming in contact with zinc chromate conforming to IS: 104 – 1950.

All anodized surfaces of aluminium shall be covered with a thick layer of clear transparent lacquer based on methacrylates or cellulose butyrate for protection against accidental damage or from wet cement during the progress of work. This coating shall be removed on completion.

All aluminium work shall be washed with mild solution of non-alkali soap and water before handing over.

2.2.2 Aluminium Openable Door

The outer frame shall be out of minimum 100 x 45mm. The fixed glazed fanlight if any shall also be made out of 100 x 45mm or as specified in the drawing. The glazing shall be RailTel/OT/NR/ Masonry Rooms/NCR & NER/ 2014-15/08 Page | 173 fixed by means of PVC glazing gaskets with concealed screwless beveled glazing clips. Minimum glass thickness for doors shall be 5mm and optically true. The openable

shutters shall be provided with dead lock, aluminium handles, floor springs, concealed tower bolt if two shutters.

Approved weather stripping shall be provided to stop completely air and water infiltration. The openable shutter shall have bottom and top styles out of minimum 100mm x 45mm and vertical styles out of minimum 50mm x 45mm or as specified.

2.2.3 Aluminium Windows

The outer frame shall be cut of minimum 65mm x 40mm sections or as specified.

The openable shutters shall be from Z sections out of minimum 40mm x 40mm or as specified.

The glazing shall be fixed by means of concealed screwless snap on clips with PVC gaskets.

Approved weather stripping shall be provided to stop completely air and water infiltration.

The openable shutter shall be provided with standard hardware like hinges or pivots, with pins, handles, locking arrangement, etc.

The louvered window (if provided) shall have approved hardware for adjustable louver blades. The glazing shall be minimum 5mm thick and optically true.

2.7 Shop Inspection

The supervising officer shall be granted full facilities and any necessary assistance for inspection of materials and assembled parts in the contractor's (or his sub-contractor's) workshop. At least two weeks notice shall be given to the Engineer in writing prior to the despatch of finished components to the site to enable the Engineer to inspect and approve the materials and workmanship at the workshop.

Approval of work at the workshop does not relieve the contractor of his obligation to carry out the work complete at the site to the Consultants' satisfaction and in accordance with the contract.

3. Measurement

3.1 Clear openings as given by the Architect's in the plan shall be considered (length and height) for payment of doors, windows.

3.2 Floor springs in aluminium doors, if required, shall be paid extra.

GLASS WORK

1. General

- 1.1 Glass generally shall comply with the requirement of relevant I.S. and be free from bubbles, specks, waves, flaws or any other defects.

2. Material

- 2.1 Clear Plate Glass The clear plate glass shall be minimum 5mm thick flat drawn sheet of selected glazing.

- 2.2 Glass for Louvers The glass for louvers blades shall be rough cast obscured rolled glass, 5mm thick with all exposed edges ground and polished.

2.3 Putty

The putty for glazing to timber frames and to metal frames to be of approved manufacture.

3. Workmanship

- 3.1 All glass shall be accurately cut to fit easily into rebates with a tolerance of 2mm all round. It shall be back puttied, sprigged for timber rebates (pagged for metal rebates) and neatly front puttied. Care to be taken to ensure that the putty does not appear above the sight lines.
- 3.2 The contractor must allow in his rates for the protection of all work in this section and for replacing any cracked, scratched, broken or defective glass prior to handing over. He must also allow for cleaning all the windows inside and out and other glass on completion with an approved window cleaner and wash leather and for removal of all paint splashes.

4. Measurements

- 4.1 The rates for glazing is included in the respective items of doors, windows, ventilators etc.
- 4.2 No separate payment shall be made for glazing unless otherwise specified.

**GENERAL SPECIFICATIONS FOR FLOORS,
WALL & CEILING FINISHES**

FLOOR, WALL & CEILING FINISHES

1. General

- 1.1 Portland cement and sand shall be as described in 'Contractor' Technical Specifications.
- 1.2 Contractor shall submit samples of all kinds of tiles, stones, marble, etc. for approval before ordering the same or as an alternative all kinds of tiles, stones, marbles shall be used as per the samples shown to the contractor.
- 1.3 Where required the flooring shall be machine polished.
- 1.4 Surface to receive flooring tiles, etc. shall be cleaned thoroughly from all dust, dirt, mortar deposits, laitance water, etc. and washed clean with water.
- 1.5 Minimum 25mm thick line mortar (1:2) bedding floated with cement slurry or as specified in Schedule of Quantity shall be laid in such levels and thickness as required in the area of work. The thickness mentioned is only indicative and may vary in some particular areas. No extra will be paid on account of any variations in thickness or bedding mortar. The bedding mortar shall be compacted with wooden floats. For dado work the bedding material will be 15mm to 20mm thick (1:4) cement mortar.
- 1.6 The joints in tiles shall be neatly pointed with coloured cement to match with the tiles.
- 1.7 Kota stone or marble stone slabs to be obtained from approved quarries and to be free from all defects.
- 1.8 Coloured ceramic pattern glazed tiles, white glazed tiles shall be H&R Johnson first quality make in sizes specified in the Schedule of Quantities. The pattern and colour will be selected by the Architect before ordering these tiles. Chipped, cracked or worked tiles shall not be used in the work. The tiles shall be minimum 6mm thick and the best quality.
- 1.9 Marble mosaic tiles and specials (skirting) shall be of the best quality and of approved make. Tiles shall be minimum 20mm thick having a base of 12mm thick in cement and sand mortar in proportion (1:3) with top layer of 8mm thick in neat coloured cement and marble chips facing. They will be compacted under minimum pressure of 300 lbs per sq.ft. All the edges shall be exactly to size free from chipping and the top surface and edges shall be smooth, but the base shall be rough. The marble chips shall be smaller and of approved colour in neutral shade. The tiles and specials shall be cured in water for at least one month before delivery.

2.0 Indian Patent Stone Flooring

- 2.1 Indian patent stone flooring shall be 40mm thick to be laid in 2 layers, bottom later 30mm thick in one part of Portland cement, two parts of sand and four parts of crushed stone aggregates ½" down well graded machine mixed with not more than 25 litres of water for

each bag of cement, 2½ parts of selected crushed stone chips, 1/8” down with just enough sand maximum 1 part to make workable mix, machine mixed with not more than 25 litres of water. Top layer to be laid before the bottom layer has hardened. Flooring shall be laid in square or bays as directed and each layer shall be well compacted by ramming with heavy teakwood floats. The top shall be brought to a smooth and even surface free and blemishes and finished smooth by steel trowelling. After the concrete surface has hardened sufficiently to prevent dislodgement of aggregates, the patent stone shall be polished with No.1 and 3 polishing stones. The flooring shall be kept wet for seven days for curing.

3.0 Plain & Coloured Cement Tiles, Marble Mosaic & Terrazzo Tiles Flooring, Dado and Skirting

3.1 The tiles shall conform to IS: 1237.

3.2 The rates shall include provision of border tiles and tiles of different colours in pattern, if directed.

3.3 The sub-grade shall be thoroughly wetted after cleaning of all dirt, laitance and loose material.

A bed of lime/cement mortar shall be laid evenly to an average thickness of 25mm and the surface kept slightly rough to form a key for tiles.

Neat cement plaster of honey like consistency shall be spread over mortar bed (over such area that may accommodate about 20 tiles).

Tiles shall be soaked in water for 15 minutes and allowed to dry for the same duration.

Tiles shall then be fixed with a thin coat of cement paste on the back of each tiles and then each tile being gently tapped with a wooden mallet till it is properly bedded and in level with adjoining tiles.

Joints shall be fine and as imperceptible as possible.

After tiles have been laid in a room or a day's fixing work is complete, surplus cement grout that may have come out of the joints may be wiped off gently and joints cleaned.

A thin slurry of coloured cement matching to the colour of tiles shall be spread over it and rubbed so as to seal even a thinnest joint between the tiles and make it impervious.

The flooring shall be cured for seven days. The tiles shall be polished and finished according to the instruction of Architect and in conformity of IS: 1443.

3.4 For dado and skirting – The tiles shall match with the flooring times and/or as per the Architect's instructions.

3.4.1 The tiles shall be fixed with neat cement grout on a backing coat consisting of 1:4 cement sand plaster of 15mm to 20mm thickness.

3.4.2 The top and bottom junctions of tiles shall be rounded off neatly as directed.

3.4.3 The joints shall be filled with matching shade coloured cement slurry.

3.4.4 The surface shall be kept wet for seven days and then polished with carborundum stone to obtain smooth surface and fine polish.

4. Marble Mosaic – In Situ Terrazo Flooring

4.1 The surface of the base slabs shall be struck off reasonably true at a level not less than 45mm below the required finished level. The work shall be of the larger size shall be spread over the topping during rolling until 85% of the finished surface shall be composed of marble chips. Immediately after rolling the surface shall be floated and trowelled once. No attempts shall be made to remove trowel marks.

4.10 After the terrazzo concrete has hardened enough to prevent dislodgement of aggregate particles, it shall be ground down with an approved type of grinding machine shed with free, rapid cutting carborundum stones to expose the coarse aggregates. All materials ground off shall be removed by squeezing and flushing with water.

4.11 Air holes, pits and other blemishes shall then be filled with a thin grout composed of neat cement. This grout shall be spread over the surface and worked into the pits. After all patch fillers have hardened for seven days, the floors surface shall receive a second and final grinding to remove the film of cement paste and to give the floor a polish. It shall then be thoroughly washed and all surface material removed.

4.12 All freshly placed concrete shall be protected from the elements and from the defacements due to building operations. The contractor shall provide and use, when necessary tarpaulins to cover completely or enclose all freshly finished concrete.

4.13 As soon as the concrete has hardened to prevent damage, it shall be covered by at least one inch of wet sand or other covering approved by the Architect and shall be kept continually wet by sprinkling with soap water for at least ten days.

4.14 After removing all loose material the finish shall be scrubbed with warm water and soap and mopped dry.

5. Stone Flooring, Dado & Skirting

5.1 General

5.1.1 The stone shall be hand cut, machine polished or rough, free from cracks and flakes and uniform in colour. The edges shall be straight and square.

5.1.2 The stone slab be laid and finished as described under “cement tiles” or a bedding of lime/cement mortar 25mm (average) thickness. The finished stone surface thus laid shall then be polished as approved by the Architect.

5.1.3 For dados and skirtings the stone slabs shall be laid on a backing plaster of cement mortar 1:4 of 15mm to 20mm thickness and finished as described under “cement tiles”.

5.2 Marble Flooring and Lining

- 5.2.1 The marble shall be as approved by the Architect. The exposed surface of marble shall be polished or otherwise as specified and shall be free from scratches and other defects. The marble shall be machine cut, machine polished (if specified) free from cracks or flakes and uniform in colour. The edges shall be straight and square.
- 5.2.2 The marble shall be bedded in lime/cement sand mortar with cement floated. The joints shall be laid with fine invisible joint or otherwise as instructed.
- 5.2.3 The contractor shall take care to match the grains of the marble, if instructed.
- 5.2.4 Marble for treads and risers shall be in one piece upto 1.5 meter length. The thickness shall be as per the Architect's instructions.
- 5.2.5 Marble lining to walls, columns and the like shall be fixed with copper clamps and hooks. The clamp shall be 25 x 50 x 100mm girth, one end built into wall. Mortices shall be carefully cut and thoroughly grouted.
- 5.2.6 Whenever the marble is exposed to weather, the vertical faces must be well bonded to the base by applying glue and aggregate as per the Architect's instructions.
- 5.2.7 The exposed edges and mouldings shall be protected by means of timber nosing.
- 5.2.8 After laying, the work shall be polished as required and unevenness removed to the satisfaction of the Architect.

6. Glazed Tiles Flooring & Dado

- 6.1 All glazed tiles to be used shall be from an approved manufacturer conforming to IS: 777. The colour, size etc. shall be as per the Architect's approval.
- 6.2 All the tiles shall be immersed in clear water for 6 hours before laying. The tiles shall be laid on cement grout, with a true vertical or horizontal face and continuous horizontal and vertical joints.

The surplus grout shall be removed after laying of tiles and joints shall be cleaned off the grey cement grout with a wire brush or trowel to a depth of 5mm.

Joints then shall be flush pointed with white cement with approved pigment.

The floor shall be cured for seven days. After curing the surface shall be washed with mild hydrochloric acid and clean water.

The finished flooring/dado shall not sound hollow when tapped with a wooden mallet.

7. Measurements

The rates quoted should include for all materials and labour and for execution of work at any level. Lift of material will not form a criterion for any extra amount. It also includes providing and fixing scaffolding and removing the same after completion, machine polishing, hand polishing, curing and cleaning the entire work on completion.

8. Smooth Finish Cement Plaster

- 8.01 Cement mortar shall consist of one part of cement to 4 parts of screened and washed sand.

The plaster on wall shall be in two coats, the first under coat of approx. 10mm to 12mm thick, dashed against wall and roughly levelled. To ensure proper line and level gauged patches shall be made at 1.5m to 2m apart in both directions.

The second or finishing coat shall be a thin coat of cream of lime putty evenly applied and trowelled smooth, to produce a perfectly smooth and even surface.

Plaster to concrete ceilings shall be as thin as possible but not less than 12mm. The under coat and finishing coat shall be as well.

- 8.02 Sand faced Cement Plaster The surface to be prepared as instructed before. The under coat shall be in the proportion of 1:3 (cement: sand) with approved waterproofing compound added at the rate of 1.50 kg. per bag as specified by the manufacturer. This shall be applied uniformly all over the surface with dashing to a thickness of 12mm and finished true to level and line. Keys shall be formed to receive finishing coat. The surface shall be kept moist till the finishing coat is applied. The finishing coat shall be applied after four days. The proportion of mortar shall be 1:3 cement, well graded and washed sand. This coat shall be applied in a uniform thickness of 6mm. The surface shall be dabbed to have uniform grained texture by using sponge pads. The curing shall start after 24 hours and the surface shall be kept wet for seven days.

- 8.03 Rough Cast Plaster

The under coat shall be prepared as per sand faced cement plaster. Mortar for finishing coat shall be in the proportion of 1:1:1 cement specially graded sand: gravel of 3mm to 6mm size. This mortar shall be dashed to the first coat with large trowel to form a even and decorative coat. The thickness of this coat shall be about 12mm. The plaster shall be cured for seven days.

- 8.04 Measurements

The rates quoted should include for all materials and labour and for execution of work at any level. Lift of materials will not form a criterion for any extra amount. It also include providing and fixing scaffolding and removing the same after completion of work, raking out joints, hacking and hatching the concrete surface and providing the key for holding down the plaster, watering, curing etc. complete. Nothing extra will be paid for work if arises, round angles, fair edges, narrow return works, V-joints, splays, drip mouldings, grooves 1" wide x ½" deep in plaster, making good around pipes, conduits, timbers, cill, brackets, railing etc. and making good after all specialists have done their work. Measurement will be of actual area of work done.

GENERAL SPECIFICATIONS FOR PAINTING & POLISHING

PAINTING & POLISHING

1. General

- 1.1 All paintings shall be carried out by a skilled painter with paints and shades as approved by the Architect. 1.2 Paints generally shall be ready mixed and supplied and delivered to site in sealed containers clearly labelled. 1.3 Paints are to be used strictly in accordance with the manufacturer's instructions and no contamination by mixing with other brands or materials will be permitted. Thinning is also permitted if it is in accordance with the manufacturer's printed instructions.
- 1.4 Wherever required scaffolding shall be double scaffolding so it is independent of structure or walls.
- 1.5 The surface to receive the paint shall be thoroughly cleaned from mortar droppings and foreign matter. All broken edges, cracks, loose plaster and wavy surfaces shall be brought up by patch plaster work or by plaster of Paris.
- 1.6 All metal fittings and fastenings are to be removed before preparatory processes, cleaned and refixed in position on completion. Wherever it is not possible the fittings shall be protected by covering it with polythene sheet or clothes, etc. at no extra cost.
- 1.7 All cracks, crevices and holes to be scrapped out, primed and made good with hard stoppings, faced up, rubbed down to an even surface. The hard stopping must be of approved make, or made up on the job site according to the approved practice. All knots in wood work to be treated to prevent bleeding. Large or loose knots to be cut out and replaced with ground wood or cut back and the surface made good with stopper. Smaller knots to be treated with two thin coats of knotting. The knotting used shall be of approved make, free from resin.
- 1.8 This preparation and priming should be followed immediately by painting, with approved paint.
- 1.9 Painting shall be done to the entire satisfaction of the Architect. If Architect feels that surfacing is not achieved properly, additional coat/coats of paint shall be applied until the required surface is achieved at no extra cost.
- 1.10 All rubbish to be cleaned from time to time as it accumulates, and the premises left clean and fit. All locks to be eased and oiled. Hot and cold water tanks and flushing tanks of WC's cleaned out and all taps washed. All floors to be scrubbed on completion of the work.

2. Materials and Application

2.1 White Wash

White wash shall be prepared from lime slaked on site, mixed and stirred with sufficient water to make a thin cream. Approximately five litres of water to be added

per one kg. of lime to make the required cream. This shall be allowed to stand for 24 hours and shall be screened through clean cloth. Four kgs. of gum dissolved in hot water shall be added to each cubic meter of the cream. Blue shall be added if required to give whiteness.

White wash shall be applied in specified coats by using brush or spray pump. Each coat shall be allowed to dry before the next coat is applied.

The finished dry surfaces shall not show any signs of cracking or peeling and shall not come off readily while rubbing with hand.

2.2 Colour Wash

Same as white wash but mineral colours to be added, which are not affected by lime to white wash.

2.3 Dry Distemper

A primer coat of white wash or otherwise shall be first applied to the surface prepared and then sand prepared to receive second coat. The second coat shall be of approved primer or sizing evenly on the surface.

Distemper prepared as per the manufacturer's specification shall be applied now in minimum of two coats. Distemper shall be applied with brush or roller. The finished surface shall be even, uniform, free from chalking when rubbed and shall not show any brush marks.

2.4 Oil Bound Distemper

The surface shall be prepared as specified before. A primer coat of either cement primer or approved distemper primer shall be applied. After the primer coat has dried, the surface shall be lightly sand papered and dusted to make it smooth to receive distemper.

Distemper shall be prepared as per the manufacturer's instructions and applied as specified in "Dry Distemper".

2.5 Cement Paint

The surface shall be prepared as specified before and shall be thoroughly wetted with clean water before the paint is applied.

The paint shall be prepared as manufacturer's instructions and in such quantity which can be used in an hour.

The paint then shall be applied on clean wetted surface with a brush or spraying machine.

The paint shall be stirred during the process of application.

The direct heat of the sun should be avoided as far as possible.

The completed work shall be cured sufficiently. Sufficient time gap shall be allowed in between subsequent coats.

2.6 Oil, Enamel or Plastic Emulsion Paint

The surface shall be prepared as specified. A coat of approved primer shall be applied on the prepared surface.

After 24 hours a coat of paint shall be applied evenly and sand papered after drying. Then a filler putty coating shall be done for smooth and levelled finish of the surface.

Over this number of paint shall be applied as directed (minimum two coats shall be applied). Each coat shall be allowed to dry thoroughly and then lightly rubbed down with sand paper and cleaned of dust, before the next coat is applied.

The final coat if directed shall be rolled with an approved roller or stippled with a brush. On completion of the job the surface shall be uniform in finish without any hair marks from the brush or clogging of paint puddles in the corners of panels, angles of mouldings etc.

2.7 Polishing and Varnishing

General

Refer Item No.1.7 in conjunction with this. Holes and indentations on surface shall be filled with putty made of whiting and linseed oil.

Surface shall be given a coat of filler made of 2.25 kg. of whiting in 1.5 litres of methylated spirit. When it dries, surfaces shall be rubbed down perfectly smooth with sand paper again and wiped out.

2.7.1 French Polishing

French spirit polish shall be of an approved make conforming to IS: 346. If it is to be prepared on site, the polish shall be made by dissolving 0.7 kg. of best Shellac in 4.5 litres of methylated spirit without heating. Pigment may be mixed to obtain required shade.

The pad, made out of clean fine cotton cloth and cotton wool, shall be used to apply polish. The pad shall be moistened with polish and rubbed hard on the surface applying the polish sparingly but uniformly and completely over the entire surface. Another coat shall be applied in the same way after the first coat has dried sufficiently.

The finishing coat shall be applied with new clean pad slightly dampened with methylated spirit and rubbed lightly and quickly with a circular motion, till the surface attains uniform texture and high gloss as per the satisfaction of the Architect.

2.7.2 Wax Polishing

Wax polish shall be bought readymade from the market as approved by the Architect or otherwise it shall be prepared on the site as below.

This shall not prepared from a mixture of pure bees was, linseed oil, turpentine oil and varnish in the ratio of 2:1½:1:½ by weight. The bees wax and the boiled linseed oil shall be heated over a slow fir. When the wax is completely dissolved the mixture shall be cooled till it is just warm and turpentine oil and varnish added in the required proportion and well stirred.

The first coat shall be applied with the prepared mixture, evenly with a clean cloth pad in such a way that no blank patches are left. This coat shall be rubbed continuously for half an hour.

When the surface is dry a second coat shall be applied in the same manner but shall be rubbed continuously for an hour or until the surface is dry.

Final cost then shall be applied and rubbed for two hours or more until the surface has assumed a uniform gloss showing no sign of stickness when touched. The rubbing shall be continuous with uniform pressure and frequent change in direction.

2.7.3 Varnishing

After preparation of surfaces as described before, two coats of clean linseed oil with sufficient interval of time shall be applied evenly.

After this has dried two coats of varnish shall be applied keeping sufficient interval of time.

3. Measurements

- 3.1 The work will have to be executed at any height above ground level. Lift of material will not form a criterion for extra amount.
- 3.2 Rates quoted shall include for all materials and labour, providing and fixing scaffolding and removing the scaffolding after completion of work. Nothing extra will be paid for work if arises, round angles, fair edges, narrow returns, splays, mouldings, grooves etc.
- 3.3 Where painting, polishing etc. is included in the items such as doors, windows, ventilators, gates and false ceiling etc., painting will not be measured separately.
- 3.4 While painting work is being carried out, flowing, dado, skirting and other finished works shall be fully protected from being smeared with paint. Any paint marks shall be cleaned instantly. The contractor shall cover for this in his rates and clean the areas after the painting is over.

PRODUCT MAKE AND DESCRIPTION

3.3 Product makes &description

| S. NO. | DESCRIPTION | MAKE/ BRAND | REMARKS |
|--------|---|------------------------|--|
| 1 | Teakwood (Tectonia Grandis) | | Teakwood shall mean first class C.P. teakwood (sagwan type). Individual hard and sound knot shall not be more than 12mm. In diameter and the aggregate area of all the knots shall not exceed onehalf percent of the area of the bpiece. It shall be close grained. |
| 2 | Kailwood (Pinus Walli Chiana) | | No individual hard and sound knot shall be more than 25mm. Diameter and the aggregate area of all the live knots shall not exceed 1% of the area of the piece. |
| 3 | Hollack – Hardwood (Terminalia Myriocarpa) | Duro / Century / Green | Plywood shall be formed by three or more layers of veneer glued and hot pressed together with the grain of adjacent veneers running at right angles to each other. The veneers for all grades shall be either rotary cut or sliced. The thickness of all veneers shall be uniform within a tolerance of +5%. Corresponding veneers on either side of the center shall be of the same thickness and species. In a 3 ply-board upto 6mm. Thick, the combined thickness of the face veneers shall not exceed twice the thickness of center ply. Ina multi-ply board, the thickness of any veneer shall not be more than thrice the thickness of any other veneer. |
| 4 | MDF Board | Nuwud / Duratuff | |

| S. NO. | DESCRIPTION | MAKE/ BRAND | REMARKS |
|--------|---------------------------------|--|---------|
| 5 | Plastic Laminate | Formica | |
| 6 | Natural Veneer | Century / Duro (Sharda Plywood Industries) | |
| 7 | Block board | Duro/century/green | |
| 8 | Fibre Board | Cellotex | |
| 9 | Gypsum Board / GI Ceiling frame | India Gypsum | |
| 10 | Perforated Gypsum Board | India Gypsum | |
| 11 | Glasswood | Punj Lloyd | |
| 12 | Fabric | Floor & Furnishing / Fabindia | |
| 13 | Latex Rubber Form | MM Foam | |
| 14 | Synthetic Carpet | Mohawk / Salisbury | |
| 15 | Ceramic Tiles | Kajaria | |
| 16 | Vinyl Flooring | Royal Cushion House | |
| 17 | Plastic Emulsion Paint | Dulux / Berger | |
| 18 | Wood Polish | Dark / Light natural spirit polish | |
| 19 | Powder Coating Paint | Berger | |
| 20 | Waterproofing compound | CICO | |
| 21 | Anti Termite Chemical | Aldrin / Lethal | |
| 22 | Vertical Blinds | Vista Levelor / Mac Blinds | |
| 23 | Venetian Blinds | Vista Levelor / Mac Blinds | |
| 24 | Glass | Modi Float Glass / TATA Ashai / St. Goabin | |
| 25 | Drawer Channels | Elbco / Flyrail | |
| 26 | Cup Off Hinges | Elbco | |
| 27 | Brass hinges and fittings | Flora | |
| 28 | Locks | Godrej / Icara | |
| 29 | Door closer / floor spring | Doorking / Everite | |
| 30 | Aluminum Section | Hindalco | |

Note: Incase of unavailability of any material of specific make an equivalent make can be used only after a written approval of the Architect.

3.5 List of important relevant applicable codes

| | | |
|--------|----------|--|
| i. | IS:204 | Specifications for Tower Bolts |
| ii. | IS:287 | Recommendations for max. permissible moisture content of timber |
| iii. | IS:303 | Specification for plywood for general purposes |
| iv. | IS:451 | Technical supply condition for wood screws |
| v. | IS:513 | Specifications for Sheet steel components |
| vi. | IS:729 | Specifications for drawer locks, cupboard locks & box locks |
| vii. | IS:848 | Specifications for Synthetic resin, adhesive for plywood (phenolic and amino plastics) |
| viii. | IS: 1200 | (P14) method of measurement of building and civil engineering works |
| ix. | IS: 1200 | (P21) Wood work and Joinery |
| x. | IS: 1328 | Specifications for veneered decorative plywood |
| xi. | IS: 1659 | Specifications for block board |
| xii. | IS:1734 | Determination of density and moisture contents |
| xiii. | IS:2338 | Code of Practice for finishing of wood and wood based materials (Part – 1) |
| xiv. | IS:2932 | Specifications for enamel, synthetic, type-1 (a) undercoating, (b) finishing, colour as required |
| xv. | IS:3087 | Specifications for wood particle boards |
| xvi. | IS:3097 | Specifications for veneered particle boards |
| xvii. | IS:3618 | Phosphate treatment for anti rust treatment |
| xviii. | IS:5807 | Method of tests for clear finishes for wooden furniture |
| xix. | IS:6005 | Degreasing, Pickling and Passivation for anti rust treatment |
| xx. | IS:8756 | Specifications for mortise ball catches |

Note: Only latest editions of above referred codes shall be followed.

ELECTRICAL SPECIFICATIONS

ELECTRICAL WORK

E.1 The materials, equipment and workmanship shall conform to the following Indian standards, unless otherwise called for:

Switchgear

IS:375 Markings and arrangements for switchgear bus-bars, main connections and Auxiliary wirings.

Cables:

IS: 1554 Specification for PVC insulated (Heavy duty) electric cables part -1 for voltage upto 1100 volts.

IS: 694 II Specification for PVC insulated cables (for voltage upto 1100 V) (Part - 11) with aluminum conductors

IS: 1653 Specification Rigid Steel conduits for electrical wiring.

IS: 3837 Specification for accessories for rigid steel conduits for electrical wiring.

IS:5133 Boxes for the enclosure of electrical accessories (Part -1, Steel & C.I.Boxes).

IS: 1293 3 pin plugs & socket outlets

IS: 371 Ceiling roses

IS: 2448 Adhesive insulating tapes for Electrical purposes (Part I & 11)

IS: 191 General & safety requirements for electric lighting fitting.

IS: 374 Electric ceiling fans and regulators

IS: 2312 Propeller type AC ventilating fans

IS: 3043 Code of practice for earthing.

IS: 1885 Glossary of terms for Electrical cables and conductors.

IS: 1646 Code of practice for safety of buildings (General) electrical installation.

IS: 2309 Protection of buildings & allied structures against lightning.

List of approved makes of materials for Electrical Work

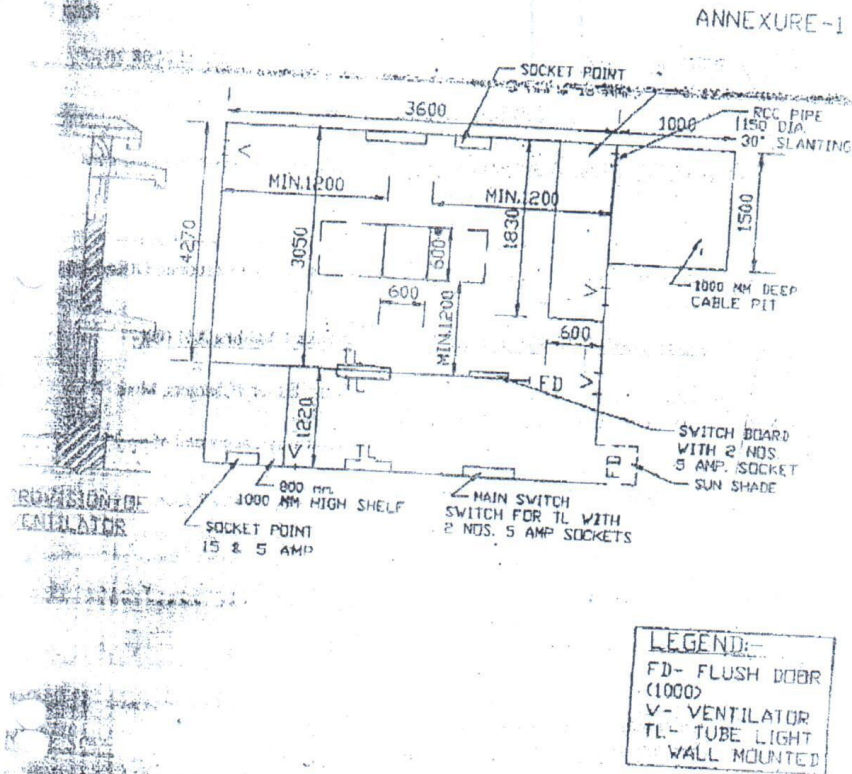
| S.No. | Item Description | Make / Brand |
|-------|---|---|
| 1. | PVC insulated / copper wire 650 V grade conforming to IS:694/1977 | Finolex, Skyline, Grandlay, National Rkabel |
| 2. | PVC conduit pipe (ISI Marked) | BEC, Steel Krafts, AKG |
| 3. | Switches and Sockets | North West, MK, LK |
| 4. | MCB & DB | Standard, MDS, Schneider |
| 5. | ELCB & MCCB | MDS, Schindler, Siemens, L&T |
| 6. | Metal Clad Sockets | MDS, Schindler, MK |
| 7. | Telephone outlet sockets / computers | CPL, Precision, North West, Anchor, Roma |
| 8. | Telephone Wires | Finolex |
| 9. | UTP Cable | Avaya (AT&T USA) |
| 10. | GI pipe for earthing | TATA, Gujarat Steel Tube, Jindal |
| 11. | Armoured Cable | Finolex, CCI, FortGiloster |
| 12. | Ceiling / wall / exhaust fan | GEC, Crompton, Khaitan |
| 13. | FI fittings / CFL | Philips, Wipro, Crompton |
| 14. | Incandescent Lights | Philips, Wipro, Decon |

Note: In case of unavailability of any material of specific make an equivalent make can be used only after a written approval of the Architect. Also the preference of make/brand of the material listed above will be decided by the Architect. The make/ brand of any other item will be as mentioned in the drawings issued by the Architect.

CHAPTER 2

DRAWINGS

| | | |
|----|---|--|
| 1. | OFC Cable Hut | |
| 2. | Building layout | |
| 3. | Details of Reinforcement of Masonry Hut | |



1. DOOR TO BE PROVIDED ON OUTER DOOR.
 2. DOOR TO BE PROVIDED IN CABLE HUT.
 3. THE HEIGHT OF THE BLDG. SHALL BE 3050 MM. FROM THE FLOOR LEVEL.
 4. ALL ELECTRIC WIRING TO BE OF P.V.C. CABLE ON TEAK WOOD BATTENS.
 5. MINIMUM HEIGHT OF ELECTRIC SWITCH BOARD TO BE 1.5 METRE FROM FLOOR LEVEL.
 ALL DIMENSIONS IN MILLIMETRES.

| | | | | |
|------------|------|------|-------------------------|---------------------|
| BY CSTE | CSTE | DRG | D.F.C. CABLE HUT | NO. CORE / S&T / |
| | CSTE | CDM. | | ALD / SK / 431 / 95 |
| | SSTE | CTI | | PG. |
| | | | RAILWAY ELECTRIFICATION | DT. |
| | | | | NOT TO SCALE |

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