



छत्तीसगढ़ राज्य ग्रामीण बैंक

(भारत सरकार, राज्य शासन एवं भारतीय स्टेट बैंक का संयुक्त उपक्रम)

CHHATTISGARH RAJYA GRAMIN BANK

(Joint Venture of Govt. of India, State Govt. & State Bank of India)

Ref. No. – CRGB/CO/Infra/Notice-1/2023-24

Dated 19.02.2024

Notice Inviting Tender

Chhattisgarh Rajya Gramin Bank invites Tenders from **EMPANELLED CIVIL CONTRACTORS UNDER STATE BANK OF INDIA CIRCLES OFFICES ON PAN INDIA FOR 200LAKHS AND ABOVE CATEGORY** for “**External Development Work**” at Corporate Office building, Atal Nagar, Naya Raipur (CG). For details please visit Bank website www.cgbank.in or www.etender.sbi. Tenders must be downloaded from websites. The last date for submission of Tenders is 11.03.2024.

Sd -

General Manager (IT, FI & Infra)



कॉर्पोरेट ऑफिस - प्लॉट नं. - 47, सेक्टर 24 अटल नगर, नवा रायपुर (छत्तीसगढ़) - 492018

Corporate Office - Plot No. - 47, Sector 24 Atal Nagar, Naya Raipur (C.G.) 492018

Phone No. - +91 0771 2288101 | Toll Free - 18002332300 | Email - cms.ho@cgbank.in | website - www.cgbank.in



**TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND
AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN
ATAL NAGAR, NAYA RAIPUR, CHHATTISGARH STATE**

**CHHATTISGARH RAJYA GRAMIN BANK
CORPORATE OFFICE, CHHATTISGARH**

EMPANELLED CIVIL CONTRACTORS UNDER STATE BANK OF INDIA CIRCLES OFFICES ON PAN INDIA FOR
200LAKHS AND ABOVE CATEGORY ARE ONLY ELIGIBLE

TECHNICAL BID.

Ref No. CRGB/CO/Infra/N-1/2023-24

Dated 19/02/2024

CONSULTANTS:



3-6-134 FLAT NO 302 SVC-ROYAL DM APARTMENTS
STREET NO 18, HIMAYATNAGAR
HYDERABAD – 500 0029.
Tel. / Fax. : 040 -35561296.
E-mail: abhikramarchitects@gmail.com

Last date for submission of Sealed Tender: 14.00 Hrs. (IST) on 11/03/2024
Opening of Technical bids: 15:00 Hrs. (IST) on 11/03/2024

TO BE SUBMITTED TO:

THE GENERAL MANAGER
CHHATTISGARH RAJYA GRAMIN BANK,
CORPORATE OFFICE, PLOT NO 47
SECTOR 24 ATAL NAGAR NAVA RAIPUR
CHHATTISGARH.

Signature of contractor

CRGB CO RAIPUR

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ANNEXURE

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Signature of contractor

CRGB CO RAIPUR

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INSTRUCTIONS TO THE TENDERER

The CRGB reserves the right to accept or reject any or all the tenders without assigning any reason whatsoever.

M/S _____

Dear Sirs,

TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE.

SEALED TENDERS ON ITEM RATE BASIS ARE INVITED IN TWO BID SYSTEM I.E., TECHNICAL BID PART 1 AND PRICE BID PART 2 FOR TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE from empanelled civil contractors UNDER SBI CIRCLES OFFICES ACROSS PAN INDIA

1. Contract documents consist of **PART 1 Technical bid** Notice Inviting Tender, Form of Submission of tender General Notes, General Conditions of Contract, Special Conditions of Contract, Form Of Agreement, General Specifications of Materials Technical Specification, Schedule of Approximate Quantities and Rates, Abstract of General conditions of contract and Declaration, **PART 2 Price bid** General Specifications of Materials, Schedule of quantities of work (BOQ) ,Drawings of the various items of work to be done.
2. Tenders which should always be placed in Three envelopes, with the name of the project written on the envelopes will be received till **11/03/2024 up to 2:00pm Hrs** in the office of **CRGB, Corporate office, Plot No 47, Sector 24 Atal Nagar Naya Raipur, Chhattisgarh. Envelope-1: Superscribed as TECHNICAL BID** should consist of Cost of tender document, **Earnest money**, Notice Inviting Tender, , Form of Submission of tender ,General Notes, General Conditions of Contract, Special Conditions of Contract, Form Of Agreement, Technical Specifications, Schedule of Approximate Quantities and Rates ,Abstract of General conditions of contract and Declaration. **Envelope-2: Superscribed as PRICE BID** should consist of General Specifications of Materials , Schedule of quantities of work , Drawings of the various items of work to be done. **Envelope 3 Superscribed with Name of the Project** Should contain **Envelope 1** and **Envelope 2**. The Envelop -1 **TECHNICAL BID** will be opened on **11/03/2024 at 3:00pm Hrs**. The Envelop -2 **PRICE BID** of the qualified contractors shall be opened on a given day, the date and time and will be intimated separately.
3. The Contractors must quote in figures as well as in words. If any rates written in figures is different from the rate written in words, the rate mentioned in words will be considered.
4. The tender document must be filled in English and all the entries must be made by the hand and Written in ink. If any of the documents are missing or un-signed, the tender shall be considered invalid.
5. Earnest money amounting to **Rs :1,67,000.00 /- (RUPEES ONE LAKH SIXTY SEVEN THOUSAND ONLY)** is to be deposited with the tender in the form of Demand Draft in favor of **CRGB payable at Raipur**. Otherwise the tender is liable for rejection.

Signature of contractor

CRGB CO RAIPUR

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PROVISIONS FOR MICRO & SMALL ENTERPRISES (MSES):- As per Government of India's Public Procurement Policy act 2012, certain benefits will be given for MSE Units. The details are as under:

- A) The Public Procurement Policy shall apply to MSEs registered with District Industries Centres or Khadi Village Industries Commission or Khadi & Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts & Handloom or any other body specified by Ministry of Micro, Small & Medium Enterprises.
- B) MSEs are exempted from paying Tender/RFP fee/cost, EMDs. For getting the benefits in case of MSE firms, shall submit relevant documents such as valid MSE registration Certificates and exemption certificate from relevant authorities. (Note for Relevant trade only)

NOTE: THE MSME CERTIFICATE OF RELAVANT TRADE ONLY WILL BE ACCEPTED OTHER WISE WILL BE SUMARILY REJECTED (Only for EMD.)

6. The successful tenderer will have to pay an amount of initial security deposit, which shall be 2.0% of the accepted value of the tender including the EMD, by means of D.D. in favour of the **CRGB payable at Raipur**. The initial security deposit is to be paid by the Contractor to CRGB within 7 days of intimation to him of the acceptance of the tender. The initial security deposit will be invested with the CRGB for the duration of the contract period and will be returned to the contractor without any interest, after issue of the virtual completion certificate. No interest is allowed on the retention money.

7. The acceptance of a tender will rest with the Competent Authority, who does not bind himself to accept the lowest tender, and reserves to himself the authority to reject any or all of the tenders received, without assigning any reasons. All tenders in which any of the prescribed conditions are not fulfilled, or are incomplete in any respect are liable to be rejected.

8. All compensation or other sums of money payable by the Contractor to Clients under the terms of this contract may be deducted from the security deposit, or from any sum that may be or may become due to the Contractor on any account whatsoever and in the event of the Security Deposit being reduced by reasons of any such deductions, the Contractor shall within 10 days of being asked to do make good in cash or by cheque any sum which have been deducted from his security deposit.

9. Tender containing any condition leading to unknown / indefinite liability, are liable to be summarily rejected.

10. If at all any rebate(s) is/are to be offered the tenderer shall first quote his rates strictly on the terms and conditions stipulated in tender document and then show separately rebate(s) offered specifying the conditions for such rebate(s). failure to follow this procedure will render the tender liable to summarily rejection.

11. Canvassing in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.

12. The tenderer should quote their (own) rates for undertaking the work.

13. Time is the essence of the contract. The work should be completed in **3 months** from the date of the work order issued to the contractor to commence the work. The successful Contractor will have to give CPM/PERT chart of various activities of works to be done so that the work gets completed within the stipulated time. The chart shall be submitted within 3 days from the date of acceptance of the tender.

14. Tenders for works shall remain open for acceptance for a period of **60 days** from the date of opening of tenders. If the tenderer withdraws his tender before the expiry of the said period or makes any modifications in terms and

Signature of contractor

CRGB CO RAIPUR

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condition of the tender which are not acceptable to the **CRGB**, then the **CRGB** without prejudice to any other right or remedy be at liberty to forfeit the earnest money.

15. It will be obligatory on the part of the tenderer to tender and sign the tender documents for all the component parts and that, after the work is awarded, he will have to enter into an agreement for each component with the competent authority in the **CRGB**

16. The tenderer should visit the site to ascertain the working conditions and local authority regulations / restrictions if any and other information required for the proper execution of the work.

17. The quantities of various items given in the schedule of quantities are approximate. The quantities of work may vary at time of allotment / execution of work. **CRGB** reserves the right to omit / delete any item(s) of work from the schedule at the time of allotment / before. Contractor will be paid for the actual work done at the site duly verified by the concerned official of the **CRGB**.

18. The unit price shall be deemed to be fixed price. In case of extra items, a record of labour charges paid shall be maintained and shall be presented regularly to **CRGB** for checking. The settlement will be made based on figures arrived at jointly and taking unit price given in the contract assigned to the successful Tenderer. In case of extra items where similar or comparable items are quoted in the tender, extra rates shall be based on tender rates.

19. If the rate quoted by the contractor for any item / items are not workable or abnormally lower than the market rate, the CRGB may demand Bank guarantee from the contractor for satisfactory completion of these work. The bank guarantee amount will be not less than 50% of the estimated amount of the items for which the rates are not workable or abnormally low. This bank guarantee will be released after completion of these works (unworkable and abnormally low rated items (below 25% of Estimated rate)) to the satisfaction of CRGB

20. No employee of the **CRGB** is allowed to work as a contractor for a period of 2 years of his/her retirement from CRGB Services without previous permission of the **CRGB**. This contract is liable to be cancelled, if either the contractor or any of his employee is any time to be such a person who had not obtained the permission of **CRGB** as aforesaid before submission of the tender or engagement in the contractor's service.

21. Sealed tenders in prescribed form in Three envelopes (**Envelope-1** superscribed as **TECHNICAL BID PART 1** should contain cost of tender document, Earnest Money in the form of DD, Notice Inviting Tender, Form of Submission of tender General Notes, General Conditions of Contract' Special Conditions of Contract, Form Of Agreement, Technical Specifications, Technical Schedule of Approximate Quantities and Rates, Abstract of General conditions of contract and Declaration. **Envelope 2** superscribed as **PRICE BID PART 2** should contain General Specifications of Materials, Schedule of quantities of work, Drawings of the various items of work to be done, and these two put in Another **Envelope 3** superscribed as Name of the project **TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE.** are to be addressed and sent to General manager –I admin, CRGB, Corporate office, plot no 47,sector 24 Atal Nagar Naya,Raipur,Chhattisgarh.

22. Pre bid meeting shall be conducted to clarify all the technical queries regarding the tender on 01/03/2024 on site CRGB Corporate office PLOT NO 47 IN SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE, at 3.00 PM

23. No technical Clarifications shall be entertained after the Pre bid Meeting.

Signature of contractor

CRGB CO RAIPUR

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24.No Conditional Tenders shall be allowed, if any shall be summarily rejected.

25. Estimated Cost: **Rs.1,66,48,023.00** Plus GST as applicable.

General Manager (Admin),
CRGB, Corporate Office ,
Plot No 47, Sector 24
Atal Nagar
Naya Raipur Chhattisgarh.

Signature of contractor

CRGB CO RAIPUR

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ELIGIBILITY CRITERIA

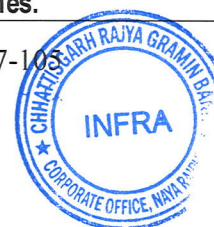
SECTION – 1

S.No	Criteria	Documents Required to be submitted.
1	EMPANELLED CIVIL CONTRACTOR UNDER STATE BANK OF INDIA CIRCLE OFFICES ON PAN INDIA FOR 200LAKHS AND ABOVE CATEGORY ARE ELIGIBLE.	Copy of the Registration of Empanelment letter of SBI Circle Office.
3	The Contractor should have minimum of 07 (Seven) years' experience in the field as on 31.12.2023.	Copy of Registration of the Firm or Copy of incorporation Atleast one copy of the work order from the clients prior to 01.01.2017.
4	Bidder should have a minimum of Rs.49.94 Lakhs annual average turnover per year during last three financial years i.e. 2020-21, 2021-22, 2022-2023 from the related business.	Audited balance sheet and P&L account for years mentioned and certificate from the Chartered Accountant.
5	The Tenderer should have executed any of the following work in a single contract during the last Seven (7) years ending with 31.12.2023 for at least, One (1) similar work costing Rs.133.18 LAKHS (80% of Tender value) OR Two (2) similar works each costing Rs.83.24 LAKHS (50% of Tender value) OR. Three (3) similar works each costing Rs.66.59 LAKHS (40% of Tender value) Similar work means "EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT (ROAD WORKS, LANDSCAPE WORKS, BRIDGE, WATER CHANNEL WORKS) etc for Government, Nationalized banks, PSU's, Reputed Corporate companies, MNC's, IT companies.	Only Satisfactory completion certificates clearly indicating the cost & nature of work executed, date of commencement & completion issued by the Clients. Final Bills, Work order copies will not be consider for Evaluation.
6	The contractor must have valid GST registration, PAN number.	Mandatory to submit a Copy of the GST registration certificate and copy of the PAN card.
7	The contractor should get Registered with CHHATTISGARH State GST in a week after award of the work.	An affidavit for Rs.500/- shall be given by the applicant in this regard.
8	The contractor should have Mandatorily the EPF Registration no	Copy of the EPF registration certificate shall be Submitted.
9	The contractor should have Mandatorily the ESI Registration no	Copy of the ESI registration certificate shall be Submitted.
10	The bidder should not have been black-listed/ barred by any Public Sector Bank, RBI or IBA or any other Government/PSU agencies during last Seven years.	An undertaking in this regard is to be submitted to Bank by Bidder on Rs.500/- Stamp Paper. Bank has right to verify the same from concerned authorities/agencies.

Signature of contractor

CRGB CO RAIPUR

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11	The contractor should submit the Labour License .	Copy of the certificate of Central Labour License shall be Submitted by the successful tenderer .
12	Site Visit for the subject tender is mandatory. The Bidder shall visit the site and acquaint themselves of the prevailing local conditions before submitting their bid. Tenderers have to enclose a certificate issued by the General Manager, Administration of CRGB at site for having visited the site or else the offer may be liable for rejection.	For visiting the site, the Bidder shall contact the following officer: Senior Manager, Infra, CRGB, Corporate Office , Plot No 47, Sector 24 Atal Nagar, Naya Raipur Chhattisgarh. Phone:- +91 771 2288130 +91 771 2288157 +91 771 2288127 +91 7974052311

NOTE : 1. The work will be supervised by the Project Architect and Consultant Engineer of the Bank.

2. The Contractor has to work in the Premises of an office which is functional and no in convenience to be created for effective functioning of office during office hours and the office staff. The Contractor should make necessary arrangements for this.

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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SECTION – 2

FINANCIAL DETAILS

ANNUAL TURNOVERS FOR THE LAST THREE YEARS

S.No.	Year	Turnover from Similar works (in lakhs)	Turnover from all other sources (in lakhs)	Remarks
1				
2				
3				

1. List your sources of finance

- Own resources _____
- Bank credit _____
- Other sources specifies if any? _____

2. Name and address of Bank from whom reference can be obtained.

Name : _____

Address : _____

Phone: _____

Note :

1. Please attach certified/attested copies of the latest IT and/or Profit and Loss account statement to support the information furnished, failing which your firms will be summarily rejected.
2. Please attach certified Certificate of financial Soundness by Bank.

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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SECTION – 3
EXPERIENCE PROFILE

DETAILS OF SIMILAR WORKS COMPLETED IN LAST SEVEN YEARS									
S.No.	Description of the work	Name and address of the Employer	Contract No. and date.	Date of award of work	Stipulated date of completion	Actual date of completion	Value of completed work (in lakhs)	Reasons for delay	Penalty if any
SIMILAR WORKS									
1									
2									
3									
4									

Note:

1. Tenderer must attach copies of the certificates issued by the Client.
2. Only those works shall be considered for evaluation for which copies of the certificates issued by the client are attached

Relevant certificates of having completed similar works issued by competent authority must be enclosed failing which your tender will be summarily rejected.

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR





DETAILS OF OTHER WORKS COMPLETED IN LAST SEVEN YEARS									
S.No.	Description of the work	Name and address of the Employer	Contract No. and date.	Date of award of work	Stipulated date of completion	Actual date of completion	Value of completed work (in lakhs)	Reasons for delay	Penalty if any
OTHER WORKS									
1									
2									
3									

Note:

1. Tenderer must attach copies of the certificates issued by the Client.
2. Only those works shall be considered for evaluation for which copies of the certificates issued by the client are attached

Relevant certificates of having completed similar works issued by competent authority must be enclosed failing which your tender will be summarily rejected.

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR





SECTION – 4

RESOURCES PERSONNEL

DETAILS OF SKILLED AND TRAINED MANPOWER INCLUDING ENGINEERS AND TECHNICAL STAFF PRESENTLY EMPLOYED

S.No.	Name	Qualification	Designation	Total Experience (in years)	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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**DETAILS OF ENGINEERS AND TECHNICAL STAFF PROPOSED TO BE DEPLOYED ON THE PROJECT
ALONGWITH BIO-DATA OF KEY PERSONNEL**

S.No.	Name	Qualification	Designation	Total Experience (in years)	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

Note :

Tenderers are also required to attach the complete organization chart of the Engineering and Technical Staff proposed to be deployed on the project.

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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SECTION – 5

RESOURCES PLANT & EQUIPMENT

<u>DETAILS OF TOOLS, PLANT AND MACHINERY (IN WORKING CONDITIONS)</u> <u>OWNED BY THE TENDERER</u>								
S.No	Description	Make	Model & Year of Manufacture	Capacity	Condition	Nos. Available	Any other relevant information	Remarks
1								
2								
3								
4								
Note :								

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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DETAILS OF TESTING, MEASURING AND INSPECTION EQUIPMENT AND FACILITIES FOR CALIBRATION OWNED

S.No	Description	Make	Model & Year of Manufacture	Capacity	Condition	Nos. Available	Any other relevant information	Remarks
1								
2								
3								
4								

Note :

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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DETAILS OF SAFETY APPLIANCES AND EQUIPMENT OWNED

S.No	Description	Make	Model & Year of Manufacture	Capacity	Condition	Nos. Proposed to be deployed	Any other relevant information	Rem arks
1								
2								
3								
4								

Note :

Signature of Contractor

Signature of contractor

CRGB CO RAIPUR

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SECTION – 6

DETAILS OF ON GOING WORKS

S.No.	Description of the work	Name and address of the Employer	Contract No. and date.	Date of award of work	Stipulated date of completion	Value of work as per order (in lakhs)	Value of work completed so far (in lakhs)	Remarks
1								
2								
3								
4								
5								

Note :

1. Please attach copies of the certificates issued by the Client.

2. Only those works shall be considered for evaluation for which copies of the certificates issued by the client are attached

Signature of contractor

CRGB CO RAIPUR

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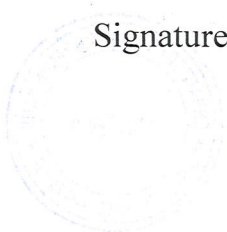


SECTION – 7

DOCUMENTS TO BE ATTACHED WITH THE TENDER BY THE TENDERER

1. Details of all works and similar works completed in last Seven years.
2. Annual Turnover for the last three years with supporting documents.
3. Registration of Company.
4. Partnership deed/Memorandum and Articles of Association of the firm.
5. Registration under Labour Laws.
6. GST Registration Certificate.
7. Details of Skilled and Trained Manpower including Engineers and Technical staff presently employed.
8. Details of Tools, Plants and Machinery (in working conditions) owned.
9. Details of Testing, Measuring and Inspection Equipment and facilities for calibration owned.
10. Details of Safety Appliances and Equipment owned
11. ISO 9000 certificate (if any).
13. **General Service tax registration certificate to be enclosed COMPULSORY**
14. Original Power of Attorney of the person signing the tender documents or photocopy duly attested by Notary Public.
15. Details of on-going works & supporting Documents.
16. Details of Plants and Machinery proposed to be deployed on the project.
17. Details of Engineers and Technical staff proposed to be deployed on the project along with organization chart and bio-data of key personnel.
18. Programme for execution of works.
19. Month wise Cash flow requirements.

Signature of Contractor



Signature of contractor

CRGB CO RAIPUR

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LETTER OF TRANSMITAL

TO
THE GENERAL MANAGER (admin)
CHHATTISGARH RAJYA GRAMIN BANK,
CORPORATE OFFICE,
Plot No 47, Sector 24
Naya Raipur, Chhattisgarh,
Pin .492013.

Sir,

**SUB: TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT
AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE.**

Having examined the details given in invitation and technical note for the work **TENDER FOR
EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT
AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR
,CHHATTISGARH STATE**
hereby submit the Technical information and relevant documents

1. We hereby certify that all the statements made as information supplied in the enclosed forms and Annexure are true and correct.

2. We have furnished all information and details necessary as per check list for pre-qualification and have no further pertinent information to supply.

3. We submit the following certificates in support of our suitability, technical Knowledge, Capability for having successfully completed the following works.

Name of the work

Client / Owner

1.

2.

3.

Enclosures:

Signature of the tenderer

Seal of Tenderer

Date of Submission

Signature of Contract

Signature of contractor

CRGB CO RAIPUR

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FORM OF SUBMISSION OF TENDER

TO
THE GENERAL MANAGER (admin)
CHHATTISGARH RAJYA GRAMIN BANK,
CORPORATE OFFICE,
Plot No 47, Sector 24
Naya Raipur, Chhattisgarh,
Pin .492013.

Dear Sir/s,

Ref: TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE.

I / We the undersigned have carefully gone through and clearly understood, after visiting the site, Contract documents consist of **PART 1** Notice Inviting Tender, Form of Submission of tender General Notes, General Conditions of Contract' Special Conditions of Contract, Form Of Agreement, Technical Specifications, Schedule of Approximate Quantities and Rates, Abstract of General conditions of contract and Declaration **PART 2** General Specifications of Materials , price Schedule of Probable Quantities Tender Drawings prepared by your Architects **M/s.abhikram-S, 3-6-134, Flat no.302, SVC-ROYAL DM Apartments, street no.18, Himayatnagar Hyderabad 500029**

I / we do here by undertaken to execute and complete the whole or part of the work (as desired by you) at the respective rates quoted.

I / We are depositing as earnest of money sum of **Rs.1,67,000.00 /- (RUPEES ONE LAKH SIXTY SEVEN THOUSAND ONLY)** by demand draft in favour of **CRGB ,payable at Raipur, Chhattisgarh** along with this tender for due execution of the work at my / our tendered rates together with any variations which shall be adjusted at prices based by the Architects / Employer on our tendered rates.

In the event of this Tender being accepted I / we agree to enter into an agreement as and when required and executed the contract according to your form of Agreement, in default whereof, I / we do hereby bind my-self / ourselves to forfeit the aforesaid deposit.

I / we further agree to complete the work included in the said schedule of quantities within ____ days from the date of the work order issued to commence the same.

Date of commencement shall be either one-week, from the date, the acceptance letter is issued to the contractor or day on which the contractor is instructed to take possession of site whichever is latter.

I / we agree not to employ sub-contractors other than those that may be approved by Architects / Employer.

I / We agree to pay Government, General and Sales Tax (State and Central), Excise and Octroi duties, service tax , insurance and all other taxes including works contract extra, turnover tax, VAT etc as prevailing foretime to time, on such items for whom same is to be levies, and the rates quoted by me / us are inclusive of the same.

Signature of contractor

CRGB CO RAIPUR

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Yours Faithfully,

Contractor's Signature_____

Designation _____

Address_____

1.

2.

3.

Signature of contractor

CRGB CO RAIPUR





GENERAL NOTES

1. PROCEDURE OF FILLING AND SUBMISSION OF TENDER

i) The tenderers should quote their rates in figures and words where the quantities have been indicated in the relevant items of the schedule of quantities, failures to do so may invalidate the tender. Erasing or over writing shall not be allowed. Corrections in the tender should be avoided if this becomes unavoidable, the entire rate (and not a portion only) shall be scored out and signed (not simply initiated) by the tenderer as token of such cancellation. A fresh rate in specified manner shall then be correctly written.

ii) In the event of the tender being submitted by a firm, it must be signed by a member or members of the firm having legal authority to do so, and if called for, the legal documents in support thereof must be produced for inspection and the same in the case of the firm carried out by one member of a joint family. It must disclose, that the firm is duly registered under the India Partnership Act. Any tender signed by a member not holding a power of attorney shall be treated as informal.

iii) All corrections are to be initial.

iv) The tenderer is to quote this rate in ink both in words and figures in English. In case of any variation, the rates quoted in the words in the "Original" copy of the tender shall only be valid. The tender shall be clearly and legibly written and whole writing must be by the hand of the person signing the tender and with the same pen and ink. Failure to do so may invalidate the tender.

The employer reserves to itself the right to accept the lowest or any tender or split up and distribute any items of work to any specialist firm or firms without assigning any reason. The employer reserves the right to split up and distribute the work to more than one tenderer, if necessary. Person tendering shall submit and return together with his tender, this condition of contract, specifications and the priced schedule of quantities and all set of papers signed on all the pages in a sealed cover. Signature will be deemed to be the acceptance of the contents of these tender papers by the tenderer. All enclosures to the tender shall be in duplicate.

Tenderer shall note that their tenders shall remain open for acceptance for a minimum period of 2 months from the date of opening the tenders. The tender must be unconditional. Conditional tenders may be summarily rejected.

Submission of tenders:

The tenders are to be submitted along with the copy of "General Clause of Contract and Technical Specifications" duly signed by the tenderer in a sealed cover at the office as mentioned in the tender notice. The authorized representatives of tenderer are present during opening of the tender.

2. RATES TO INCLUDE:

While quoting their rates the tenderer should include the following if otherwise not stated herein before.

- a) Necessary cost of taking samples of materials supplied by them for construction including cement and steel, wood/tiles etc., testing of the same at Govt.'s / approved laboratory including transportation, cost of the samples, as and when required.
- b) Submission of test reports of other materials as may be specified by Architects / PMC

3. STORAGE OF MATERIALS:

The contractor shall not store their materials and debris within the premises other than the work site handed over to him.

Signature of contractor

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4. LABOUR HUTMENT:

As The work has to be executed in the Premises of an office which is functional and no in convenience to be created for effective functioning of office during office hours. The Contractor should make his own necessary arrangements for Shelter or stay for the labourers like Labour hutment, material, machinery Etc., out side of the premises at his own expense and responsibility.

5.IDLE LABOUR:

In case the construction work is held up for any site conditions not attributable to the contractors or for any decisions instructions / want of details from Employer / Architects or for any of the conditions as per Article 30, the contractor shall be allowed reasonable extension of time by the employer but any claim for idle labour shall lie under the above conditions. Contractor's quoted rates should include for all such contingencies.

6. The contractor shall engage one competent person at site who shall take the instructions from the Architects. The work should not suffer due to lack of supervision, manpower and materials.

9. The contractor is required to fabricate a sample where required, or any item so installed for approved. Any changes made by the Architect's / Employers, in the sample to the specifications as mentioned in the tender, shall not be deducted or paid extra. The bulk production of the furniture can only be taken up after the final approval of the sample of the item.

10. The partitions shall be so fixed that all joinery work is in plumb and true in line. The partition frame shall be firmly fixed to the floor and ceiling by using suitable wall plugs and screws.

11. The contractor shall check all dimensions before fabricating and fixing the partitions or ceiling in position at site.

12. All measurements given in the schedule hereunder are for the purpose of tender only. Payment will be made on actual measurement of the work done.

13. All measurements shall be as per relevant I.S.I.1200 standards.

Signature of contractor

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GENERAL CONDITIONS OF CONTRACT

Except where provided for in the description of the individual items in the schedule of quantities and in the specifications and conditions laid down hereinafter and in the drawings, the work shall be carried out as per standard specifications and under the direction of Employer / Architect.

1. INTERPRETATION

In constructing these conditions, the specifications, the schedule of quantities, tender and agreement, the following words shall have the meaning herein assigned to them except where the subject or context otherwise requires.

I. Employer: The term employer shall denote **CRGB** with their Corporate Office Plot No 47, sector 24 ,Atal Nagar, Naya Raipur, Chhattisgarh and any of its employees representative authorized on their behalf.

II. Architects / PMC Consultants: The term Architects shall mean **M/s. abhikram-s**,

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

IV. Site: The site shall mean the site where the works are to be executed as shown within boundary in red border on the site plan including any building and erection thereon, allotted by the employer for the contractors use.

V. Site Supervision: Supervision by the Architect .

VI. Drawings: The work is to be carried out in accordance with drawings, specifications, the schedule of quantities and any further drawings, which may be supplied, or any other instruction, which may be given by the Employer during the execution of the work.

All drawings relating to work given to the contractor together with a copy of schedule of quantities are to be kept at site and the Employer / Architects shall be given access to such drawings or schedule of quantities wherever necessary.

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

The contractor shall ask in writing for all clarifications on matters occurring anywhere in drawings, specifications and schedule of quantities or to additional instructions at least 10 days ahead from the time when it is required for implementation so that the Employer may be able to give decision thereon.

VII. "The Works" shall mean the work or works to be executed or done under this contract.

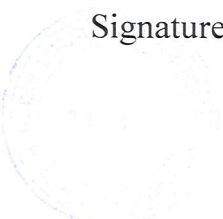
VIII. "Act Of Insolvency" shall mean any act as such as defined by the Presidency Towns Insolvency Act or in Provincial Insolvency act or any amending status.

IX. "The Schedule Of Quantities" shall mean the schedule of quantities as specified and forming part of this contract.

Signature of contractor

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X. **"Priced Schedule Of Quantities"** shall mean the schedule of quantities duly priced with the accepted quoted rates of the contractor.

XI. **"Contract"** shall mean Contract documents consist of Notice Inviting Tender, Eligibility criteria Form of Submission of tender General Notes, General Conditions of Contract' Special Conditions of Contract, Form Of Agreement, Technical Specifications, Schedule of Approximate Quantities and Rates General Specifications of Materials , Abstract of General conditions of contract and Declaration the schedule of quantities, specifications and drawings attached here to and duly signed.

XII. **'Contract Price'** shall mean the sum named in the Tender subject to such additions thereto or deductions their from as may be made under the provisions hereafter contained.

XIII. **'Notice in Writing'** or written notice shall mean a notice in writing, type or printed characters sent (unless delivered personally or otherwise provided to have been received) by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.

XIV. **'Net Prices'** any arriving at the Contract amount the Contractor shall have added to or deducted from the total of the items if the Tender any sum, either as a percentage or otherwise, then the net price of any item in the tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the tender as the price of that item a similar percentage or proportionate sum. Providing always that in determining the percentage or proportion of the sum so added or deducted by the contractor, the total amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the Tender. The expression 'net rates' or 'net prices' when used with reference to the contract or account shall be hold to mean rates or prices so arrived at.

XV. **'Virtual Completion'** shall mean the building is in the opinion of the Architect and Employer fit for occupation.

XVI. Words importing persons include firms and corporations. Words importing the singular only, also include the plural and vice verse where the Context requires.

2. SCOPE OF CONTRACT

The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Architect and Employer. The Architect with approval of Employer issue further drawings and / or written instructions, details directions and explanations which hereafter collectively referred to as 'Architect's Instructions'. In regard to:

- a) The variation or modification of the design quality or quantity of works or the addition or omission or substitution of any work.
- b) Any discrepancy in the drawings or between the schedule of quantities and / or drawings and / or specification.
- c) The removal from the site of any defective material brought thereon by the contractor and the substitution of any other material thereof.
- d) The demolition removal and / or re-execution of any work executed by the contractor/s.
- e) The dismissal from the work of any persons employed there upon.
- f) The opening up for inspection of any work covered up.

Signature of contractor

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- g) The rectification and making good of any defects under clauses hereinafter mentioned and those arising during the maintenance period (Defect Liability Period).

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

Regarding all factory made products for which ISI marked products are available, only products bearing ISI marking shall be used in the work.

3. TENDERS SHALL VISIT THE SITE

Intending tenderer shall visit the site and make himself thoroughly acquainted with the local site condition, nature and requirements of the works, facilities of transport conditions, effective labour and materials, access and storage for materials and removal of rubbish. The tenderer shall provide in their tender for cost of carriage, freight and other charges as also for any special difficulties and including police restriction for transport etc., for proper execution of work as indicated in the drawings. The successful tenderer will not be entitled to any claim of compensation for difficulties faced or losses incurred on account of any site condition which existed before the commencement of the work or which in the opinion of the employer or his agent / Architect might be deemed to have reasonably been inferred to be so existing before commencement of work.

4. TENDERS

The entire set of tender paper issued to the tenderer should be submitted fully priced and also signed on the last page together with initials on every page. Initial / signature will indicate the acceptance of the tender papers by the tenderer.

(Also see general rules and instructions for the guidance of Tenderers)

The schedule of quantities shall be filled in as follows:

Amount column to be filled in for each item and the amount for each sub head as detailed in the "Schedule Of Quantities".

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

The tenderers should note that the tender is strictly on the item rate basis and their attention is drawn to the fact that the rates for each and every item should be correct, workable and self-supporting. If called upon by the

Employer / Architects detailed analysis of any or all the rates shall be submitted. The Employer / Architects shall not be bound to recognize the contractor's analysis. All corrections are to be initialed.

Signature of contractor

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The works will be paid for as "measured work" on the basis of actual work done and not as "lumpsum" contract, unless otherwise specified.

All items of work described in the schedule of quantities are to be deemed and paid as complete works in all respects and details including preparatory and finishing works involved, directly related to and reasonably detectable from the drawings, specifications and schedule of quantities and no further extra charges will be allowed in this connection. In the case of lump-sum charges in the tender in respect of any items of work will be made for the actual work done on the basis of lumpsum charges as will be assessed to be payable by the Employer / Architects.

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

The tenderer shall note that his tender shall remain open for consideration for a period of three months from the date of opening of the tender.

5. AGREEMENT

The successful contractor will be required to sign agreement in accordance with the draft agreement from enclosed and the schedule conditions. The contractor shall pay for all stamps and legal expenses, incidental thereto. However the written acceptance by the employer of a tender will constitute a binding contract between the employer and the person so tendering whether such formal agreement is or is not subsequently executed.

6. AUTHORITIES, NOTICES, PATENT RIGHTS AND ROYALTIES:

The Contractor shall confirm to the provisions of the statutes relating to the works, and so to the regulation and bylaws of an local authority, and of any water, lighting and other companies on authorities with whose systems the structures are proposed to be connected and shall before making any variation from the drawings or specifications, that may be necessitated by so conforming given to the Architect's written notice, specifying the variations proposed to be made and the reason for making it apply for instruction thereon. In case, the Contractor shall not within the 10 days receive such instruction, he shall proceed with the work conforming to the provisions, regulations or bylaws in questions.

The Contractor shall bring to the attention of the Architect all notices required by the said acts, regulations or bylaws to be given to any Authority, and pay to such authority or to any Public Officer all fees that may be properly chargeable in respect of the works, and lodge the receipts with the Architect /Employer.

The Contractor shall identify the Employer against all claims in respect of patent rights, designs, trade marks or name or the protected rights in respect of any constructional plant, machine, work or material used for or in

connection with the works or temporary works and from and against all claims, demands, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto. The Contractor shall defend all actions arising from such claims, unless he has informed the Architects, before any such infringement and received their permission to proceed and shall himself pay all royalties, license fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof.

7. NOTICES AND STATUTORY REGULATIONS:

The contractor shall give all notices and pay all fees and shall comply all Acts and Regulations for the successful completion of the contract works. The whole of the work is to be complied with as per the requirements and bylaws of the relevant statutory authorities including contract labour (Regulation and Abolition) Act 1970.

Signature of contractor

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8. QUANTITY OF WORK TO BE EXECUTED

The Schedule of Quantities unless otherwise stated shall be deemed to have been prepared in accordance with the Standard Procedure of the Architects shall be considered to be approximate and no liability shall attach to the Architect for any error may be discovered therein. The Employer reserves the right to execute only a part or the whole or any excess thereof without assigning any reason therefore.

The Contractor shall be deemed to have satisfied himself before tendering to the correctness and sufficiency of his tender for the works and of the prices stated in the Schedule of Quantities and / or the Schedule of Rates and Prices, which rates and prices shall cover all things necessary for the completion of the works.

9. OTHER PERSONS ENGAGED BY THE EMPLOYER

The Employer reserves the right to execute any part of the work included in this contract or any work, which is not included in this contract by the other Agency, or persons and contractor shall allow all reasonable facilities and use of his scaffoldings for the execution of such work. The main contractor shall extend all cooperation in his regard.

10. EARNEST MONEY AND SECURITY DEPOSITS

The tenderer will have to deposit an amount of **RS. 1,67,000.00 (RUPEES ONE LAKH SIXTY SEVEN THOUSAND ONLY) in the form of Demand draft drawn in favour of CRGB PAYABALE AT RAIPUR**, at the time of submission of tender as an Earnest money. The employer is not liable to pay any interest on the earnest money. The Earnest money of the unsuccessful tenderers will be refunded without any interest soon after the decision to award the work is taken after the expiry of the validity period of the tender. The successful tender to whom the contract is awarded will have to deposit as initial security deposit a further sum to make up 2.0 % of the value of the accepted tender including the Earnest Money. The initial security deposit will have to be made within 14 days from the date of acceptance of tender, failing which the employer at his discretion may revoke the letter of acceptance and forfeit the earnest money deposit furnished along with the tender. Apart from the initial security deposit made as above, retention money shall be deducted from progressive running bills @ 8% of the gross value of each running bill until the total security deposit, i.e., the initial security deposit plus the retention money equals to (Total Security Deposit EMD (2.0 %) + FSD 5.0 %)

50% of the above security deposit will be refunded on completion of the work and after issue of virtual completion . The balance 50% will be refunded after defects liability period of 1year from the date of virtual completion subject to no defects/ defects are rectified.

11. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY

The Contractor shall provide everything necessary for the proper execution of the work according to the intent and meaning of the drawings, schedule of quantities and specifications taken together whether the same may

or may not be particularly shown or described therein provide that the same can reasonably be inferred there from and if the contractor finds any discrepancies therein he shall immediately and in writing , refer the same to the Employer / Architects whose decision shall be final and binding.

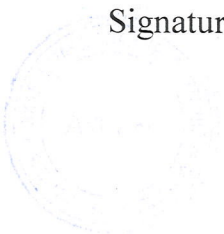
12. TIME OF COMPLETION, EXTENSION OF TIME & PROGRESS CHART

The Contractor shall be allowed admittance to the site on the 'Date of Commencement' stated in the Appendix, and he shall thereupon and forthwith begin the works and shall regularly proceed with to complete the same (except such painting or other decorative work as the Architect may desire to delay). On or before the 'Day of Completion ' stated in the Appendix subject nevertheless the provision for the extension of time hereinafter contained.

Signature of contractor

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If in the opinion of the Architect the works be delayed:

- a) By force major or
- b) By reason of any exceptionally inclement weather or
- c) By reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners of public authorities arising, than through the Contractor's won default or
- d) By the works or delays of the contractors tradesmen engaged or nominated by the Employer / Architect and not referred in the Schedule of Quantities and / or specifications or
- e) By reason of civil, commotion, local combination of workmen or strike or lock-out effecting any of the buildings traders or
- f) By reason of the Architect's instructions as per clause 2, or
- g) In consequence of the Contractor not having in due time, necessary instructions from the Architect for which he shall have specifically applied in writing ahead of time, giving the Architect reasonable time to prepare such instructions, the Architects shall make a fair and reasonable extension of time for completion of the Contract works In case of such strike or lock-out, the Contractor shall as soon as possible, give written notice thereof the Architect, but the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all they may reasonably be required, to the satisfaction of the Architect to proceed with the work. The Contractor on starting the works shall furnish to the Employer / Architect a PERT / CPM Programme for carrying out the work stage in the stipulated time fore the approval of Architect / Employer and follow strictly the approved time schedule incorporating charges if any, to ensure the completion of the work in stipulated time. A graph or chart on individual work shall be maintained showing the proportionate progress of work week by week by Architect a weekly progress report stating the number of skilled and un skilled laborers employed on the work, working hours done, place, type, and quantity of work done during the period.

The Contractor must inform the Architect within 10 days in advance of all drawings and detailed required by him from time to time. The Contractor shall Adhere to the approved program and arrange for the materials and labour etc accordingly. Despite repeated instructions, if the Contractor fails to show proportionate progress of the work, the Architect / Employer may take suitable action and deemed fit without prejudice to any terms and conditions of the contract.

13. LIQUIDATED DAMAGES

Should the work be not completed to the satisfaction of the Employer / Architects within the stipulated period, the contractor shall be bound to pay to the Employer a sum calculated as given below by way of liquidated damages and not as penalty during which the work remains uncommented or unfinished after the expiry of the completion date. If the contractor fails to complete the work by the Scheduled date of completion or within any sanctioned extended time, he will have to pay liquidated damages at 0.5% of contract amount for each week beyond the date that the work remains incomplete subject to maximum of 5%of the contract value (without extra items).

Signature of contractor

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14. NOTICE AND PATENTS OF APPROPRIATE AUTHORITY AND OWNERS

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

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

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

15. MATERIALS, WORKMANSHIP, SAMPLES, TESTING OF MATERIALS.

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

All mandatory tests shall be carried out as per CPWD specifications. If required by the Employer / Architects, the contractor shall have to carry out tests on materials and workmanship in approved materials testing laboratories or as prescribed by the Employer / Architects at his own cost to prove that the materials etc., under test conform to the relevant I.S Standards or as specified in the

Specifications. The necessary charges for preparation of mould (in case of concrete cube), transporting, testing etc., shall have to be borne by the contractor. No extra payment on this account should in any case be entertained.

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

Any damage (during constructions) to any part of the work for any reasons due to rain, storm or neglect of contractor shall be rectified by the contractor in an approved manner at no extra cost.

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

Signature of contractor

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

16. REMOVAL OF IMPROPER WORK

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

17. SITE SUPERVISION

The Architect may appoint a Site supervisor or clerk of works who shall be representative of the Architect. The duties of the supervisor representative are to watch and supervise the works and to test any materials to be used of workmanship employed in connection with the works. He shall have no authority either to relieve the Contractor of any of his duties or obligations under the Contract, or except those expressly provided hereunder, to order any work involving delay or any extra payment by the Employer or any variation of or in the works.

The contractor shall afford the Employer's representative every facility and assistance for examining the works and materials and checking the measuring time and materials. Neither the Employer's representative nor any assistant to the Architect shall have power to revoke, alter enlarge or relax the requirements of this Contract, or to Sanction any day-work, additions, alterations, deviations or omissions unless such an authority may be specially conferred by a written order of the Architect / Employer.

The Employer's Representative shall have to give notice to the Contractor or his foremen about the non-approval of any work or materials and such works shall be suspended or the use of such material should be discontinued until the decision of the Architect is obtained, the work will from time to time be examined by the Architect or the Employer's representative but such examinations shall not in any way exonerate the Contractor from the obligation to remedy defects which may be found to exist at any stage of the work or after the same is completed. Subject to the limitations of this cause, the Contractor shall take instruction from the Architect / Employer.

18. CONTRACTOR'S EMPLOYEES

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

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

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

Signature of contractor

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

- a) The payment of Wages Act.
- b) Employer's Liability Act.
- c) Workmen's Compensation Act.
- d) Contract Labour (Regulation & Abolition) Act. 1970 and Central Rules 1971
- e) Apprentices Act 1961
- f) Minimum Wages Act
- g) Any other Act or enactment relating thereto and rules framed there under from time to time.

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

The contractor shall comply at his own cost with the order for requirement of any Health Officer of the State or any local authority or of the Employer regarding the maintenance of proper environmental sanitation of the area where the contractor's labourers are housed or accommodated, for the prevention of small pox, cholera, plague, typhoid, malaria and other contagious diseases. The contractor shall provide, maintain and keep in good sanitary condition adequate sanitary accommodation and provide facilities for pure drinking water at all times for the use of men engaged on the works and shall remove and clear away the same on completion of the works. Adequate precautions shall be taken by the contractor to prevent nuisance of any kind on the works or the lands adjoining the same.

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

19. DISMISSAL OF WORKMEN

The contractor shall on the request of the Employer immediately dismiss from works any person employed thereon by him, who in the opinion of the Employer be unsuitable or incompetent or who may misconduct him.

Such discharges shall not be the basis of any claim for compensation or damages against the Employer or any of their officer or employee.

20. ASSIGNMENT

The whole of the works included in the contract shall be executed by the contractor and the contractor shall not directly or indirectly transfer, assign or underlet the contract or any part, share or interest therein nor, shall take

a new partner, without written consent of the Employer and no subletting shall relieve the contractor from the full and entire responsibility of the contract or from active superintendence of the work during their progress.

21. DAMAGE TO PERSONS AND PROPERTY INSURANCE ETC (third party)

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

Signature of contractor

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

The contractor shall affect the insurance necessary and indemnify the Employer entirely from all responsibility in this respect. The insurance must be placed with a company approved by the Employer and must be effected jointly in the name of the Employer and contractor and the policy lodged with the Employer. The scope of insurance is to include damage or loss to the contract itself till this is made over in a complete state. Insurance is compulsory and must be affected from the very initial stage. The contractor shall also be responsible for any thing, which may be excluded from damage to any property arising out of incidents, negligence or defective carrying out of this contract.

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

The insurance should cover a minimum of Rupees 10 Lakhs per person.

22. MEASUREMENTS

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

23. PAYMENTS

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

The work done will be physically recorded by the contractor and shall be check measured by the architect/representative in the presence of the contractor and also check measured by the Engineer in charge CRGB.

The bill prepared by the Architect will be Scrutinized by the department and will be recommended to the competent Authority for Payment duly deducting at source retention Money ,IT and other taxes as applicable , as mentioned in the clauses.

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

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude the requiring of bad, unsound, and imperfect or unskilled work to be removal and taken away and reconstructed, or re-erected or be considered as and admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall, it conclude, determine or affect in any way the power of the Employer under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise or in any other way vary or affect the contract. The final bill shall be submitted by the contractor within one week of the date fixed for completion of the work or of the date of certificate of completion furnished by the Architect and payment shall be made within one week from the date of receipt of Architect's certificate.

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Final Payment

The final bill shall be accompanied by a certificate of completion from the Architects. Payments of final bill shall be made after scrutiny by the department which will be recommended to the competent authority for payment after deduction of Retention Money as specified in clause 11 of these conditions, which shall be refunded after the completion of the Defects Liability Period after receiving the Architect's certificate that the contractor has rectified all defects to the satisfaction of the Architects. The acceptance of the payment of the final bill by the contractor would indicate that he has no further claim in respect of the work executed.

24. VARIATION / DEVIATION

The tender rates shall be fixed and applicable for any increase or decrease in the tendered quantities. The Architect can increase or decrease any quantities to any extent or even delete particular item as per the site requirements and the contractor shall not be paid any thing extra on this account. Nothing extra will be paid by the CRGB on account of omission / deletion of items or decrease in the quantity of items. The CRGB shall not entertain any claim whatsoever from the contractor on this account.

The price of all additional items / non-tendered items will be worked out on the basis of rates quoted for similar items in the contract wherever existing. If similar items are not available, the rates for such items will be derived as per standard method of rate analysis based on prevalent fair price of labour, material and other components as required with 15% towards contractor's profit and overheads.

25. SUBSTITUTION

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

26. CLEARING SITE ON COMPLETION

On completion of the works the contractor shall clear away and remove from the site all constructional plant, surplus materials, rubbish and temporary works of every kind and leave the whole of the site and the works clean and in a workmanlike condition to the satisfaction of the Employer/Architects.

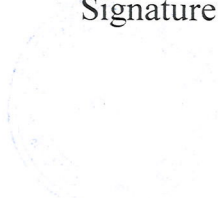
27. DEFECTS AFTER COMPLETION

The contractor shall make good at his own cost and to the satisfaction of the Employer all defects, shrinkage, settlements or other faults, which may appear within 12 months after completion of the work. In the default, the Employer may employ and pay other persons to amend and make good such damages, losses and expenses consequent thereon or incidental thereto shall be made good and borne by the contractor and such damages, loss and expenses shall be recoverable from him by the Employer or may be deducted by the employer, in lieu of such amending and making good by the contractor, deduct from any money due to the contractor a sum equivalent to the cost of amending such work and in the event of the amount retained being insufficient recover that balance from the contractor from the amount retained under clause no.11 together with any expenses the Employer may have incurred in connection therewith.

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28. CONCEALED WORK

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

29. IDLE LABOUR

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

30. SUSPENSION OF WORKS

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

After such notice shall have been given, the contractor shall not be at liberty to remove from the site of the works or from any ground contiguous thereto any plant or materials to subsist from the date of such notice being given until the notice shall have been complied with. If the contractor fails to start the work within seven days after such notice has been given to proceed with the works as therein prescribed, the employer may proceed as provided in clause 43. (Termination of Contract by Employer)

31. TERMINATION OF CONTRACT BY EMPLOYER

If the contractor being a company go into liquidation whether voluntary or compulsory or being a firm shall be dissolved or being an individual shall be adjudicated insolvent or shall make an assignment or a composition for the benefit of the greater part, in number of amount of his creditors or shall enter into a Deed or arrangement with his creditors, or if the Official Assignee in insolvency, or the Receiver of the contractor in insolvency, shall repudiate the contract, or if a receiver of the contractor's firm appointed by the court shall be unable within fourteen days after notice to him requiring him to do so, to show to the reasonable satisfaction of the employer that he is able to carry out and fulfill the contract, and if so required by the employer to give reasonable security

therefore, or if the contractor shall suffer execution to be issued, or shall suffer any payment under this contract to be attached by or on behalf of and of the creditors of the contractor, or shall assign, charge or encumber this contract or any payments due or which may become due to contractor, there under, or shall neglect or fail to observe and perform all or any of the acts matters of things by this contract, to be observed and performed by the contractor within three clear days after the notice shall have been given to the contractor in manner hereinafter mentioned requiring the contractor to observe or perform the same or shall use improper materials of workmanship in carrying on the works, or shall in the opinion of the employer not exercise such due diligence and make such progress as would enable the work to be completed within due time agreed upon, and shall fail to proceed to the satisfaction of the employer after three clear das notice requiring the contractor so to do shall have been given to the contractor as hereinafter mentioned or shall abandon the contract, then and in any of the said cases, the Bank may notwithstanding previous waiver determine the contract by a notice in writing to the effect as hereinafter mentioned, but without thereby effecting the powers of the employer of the obligations and liabilities of the contractor the whole of which shall

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continue in force as fully as if the contract, had not been so determine and as if the works subsequently executed by or on behalf of the contractor (without thereby creating any trust in favour of the contractor) further the employer or his agent, or servants, may enter upon and take possession of the work and all plants tools scaffolding sheds machinery, steam, and other power, utensils and materials lying upon premises or the adjoining lands or roads and sell the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other contractors or other persons or person to complete the works, and the contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other contractors or other persons or person employed from completing and finishing or using the materials and plants for the works when the works shall be completed, or as soon thereafter as conveniently may be the employer shall give notice in writing to the contractor to remove his surplus materials and plants and should the contractor to remove his surplus materials after receipt by him the employer may sell the same by Public Auction and shall give credit to the contractor for the amount so realized. Any expenses or losses incurred by the contractor for the amount so realized. Any expenses or losses incurred by the employer in getting the amount payable to the contractor by way of selling his tools and plants or due on account of work carried out by the contractor prior to engaging other contractors or against the Security Deposit.

32. ARBITRATION

All disputed or differences of any kind whatsoever which shall at any time arise between the parties hereto touching or concerning the works or the execution or maintenance thereof this contract or effect thereof or to the rights or liabilities of the parties or arising out of or in relation thereto whether during or after determination foreclosure or breach of the contract (other than those in respect of which the decision of any person is by the contract expressed to be final and binding) shall after written notice by either party to the contract to the other of them and to the Employer hereinafter mentioned be referred for adjudication to a sole Arbitrator to be appointed as hereinafter provided.

For the purpose of appointing the sole Arbitrator referred to above, the Employer will send within thirty days of receipt of the notice, to the contractor a panel of three names of persons who shall be presently unconnected with the organization for which the work is executed from the following categories of Arbitrators”:-

- a. Retired High Court/Supreme Court judge who have experienced in handling Arbitration Cases.
- b. Member of Council of Arbitrators
- c. Fellow of the Institution of Engineers
- d. Eminent Retired Chief Engineer from State/Central PWD/Public sector undertaking of good reputation and integrity
- e. Fellow of Indian Institute of Architects

The contractor shall on receipt of the names as aforesaid, select any one of the persons name to be appointed as a sole Arbitrator and communicate his name to the Employer within thirty days of receipt of the names. The Employer shall thereupon without any delay appoint the said person as the Sole Arbitrator. If the contractor fails to communicate such selection as provided above within the period specified, the Competent Authority should make the selection and appoint the selected person as the Sole Arbitrator.

If the Employer fails to send to the contractor the panel of three names as aforesaid within the period specified, the contractor shall send to the Employer a panel of three names of persons who shall all be unconnected with either party. The Employer shall on receipt appoint him as the Sole Arbitrator. If the Employer fails to select the person and appoint him as the Sole Arbitrator within 30days of receipt of the panel and inform the contractor accordingly, the contractor shall be entitled to appoint one of the persons from panel as the Sole Arbitrator and communicate his name to the Employer.

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If the Arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another Sole Arbitrator shall be appointed as aforesaid.

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

The Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties fixing date of the first hearing.

The Arbitrator may from time to time, with the consent of the parties, enlarge the time for making and publishing the award.

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

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

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

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

The Employer's decisions, opinions, directions, certificates with respect to all or any of the matters under clause No.5.2, 5.9, 5.12, 5.13, 5.14, 5.22, 5.23, 5.27, 5.32 & 5.43 of GENERAL CONDITIONS OF CONTRACT shall be final, conclusive and binding on the parts hereto and shall be without any appeal.

SETTLEMENT OF DISPUTES AND ARBITRATION

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions orders, or these conditions or otherwise concerning the work or the execution or failure to execute the

same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter.

1 If the Contractor considers that he is entitled to any extra payment or compensation in respect of the works over and above the amounts admitted as payable by the Architect or in case the Contractor wants to dispute the validity of any deductions or recoveries made or proposed to be made from the contract or raise any dispute, the Contractor shall forthwith give notice in writing of his claim, or dispute to the General Manager I CRGB head office Raipur Chhatisgarh. and endorse a copy of the same to the Architect within 30 days from the date of disallowance thereof or the date of deduction or recovery. The said notice shall give full particulars of the claim, grounds on which it is based and detailed calculations of the amount claimed and the Contractor shall not be entitled to raise any claim nor shall the Bank be in any way liable in respect of any claim by the Contractor unless such claim shall have been given by the Contractor to the General Manager CRGB in the manner and within the time as aforesaid. The Contractor shall be deemed to have waived and extinguished all his rights in respect of any claim not notified to the General Manager ADMIN CRGB in writing in the manner and within the time aforesaid.

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2 The General Manager ADMIN CRGB shall give his decision in writing on the claims notified By the Contractor. The Contractor may within 30 days of the receipt of the decision of the General Manager ADMIN CRGB submit his claims to the conciliating authority namely the Chairman CRGB HEAD OFFICE Raipur Chhatisgarh Local for conciliation along with all details and copies of correspondence exchanged between him and the General Manager admin CRGB

3 If the conciliation proceedings are terminated without settlement of the disputes, the Contractor shall, within a period of 30 days of termination thereof shall give a notice to th concerned CHAIRMAN of the bank for appointment of an arbitrator to adjudicate the notified claims falling which the claims of the Contractor shall be deemed to have been considered absolutely barred and waived.

4 Except where the decision has become final, binding and conclusive in terms of the contract, all disputes or differences arising out of the notified claims of the Contractor as aforesaid and all claims of the Bank shall be referred for adjudication through arbitration by the Sole Arbitrator appointed by the Chairman CRGB. It will also be no objection to any such appointment that the Arbitrator so appointed is a Bank Officer and that he had to deal with the matters to which the Contract relates in the course of his duties as Bank Officer. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever another sole arbitrator shall be appointed in the manner aforesaid by the said Chief General Manager/Managing Director. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

5 It is a term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each dispute alongwith the notice for appointment of arbitrator.

6 It is also a term of this contract that no person other than a person appointed by such General Manager/Managing Director as aforesaid should act as arbitrator.

7 The conciliation and arbitration shall be conducted in accordance with the provisions of the Arbitration & Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made there under.

8 It is also a term of this contract that if any fees are payable to the arbitrator these shall be paid equally by both the parties. However, no fees will be payable to the arbitrator if he is a Bank Officer.

9 It is also a term of the contract that the arbitrator shall be deemed to have entered on the reference on the date he issues notice to both the parties calling them to submit their statement of claims and counter statement

of claims. The venue of the arbitration shall be such place as may be fixed by the arbitrator in his sole discretion. The fees, if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half and half by each of the parties. The cost of the reference and of the award (including the fees, if any of the arbitrator) shall be in the discretion of the arbitrator who may direct to any whom and in what manner, such costs or any part thereof, shall be paid and fix or settle the amount of costs to be so paid.

33. WATER SUPPLY, TOILETS ETC.

The selected tenderer shall make his own arrangements at his own costs for the supply of approved quality water required for construction and for drinking purposes and shall provide at his costs all tubes, fittings and temporary plumbing works required and on completion of the works, shall remove all temporary appliances and make good any work disturbed for making such arrangements to the satisfaction of the Employer.

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34. ELECTRIC POWER

The Contractor shall make a **sub meter arrangement from Existing power meter** for electric consumption done by them for driving plant and machinery for the work and for lighting purpose at his own cost. The cost of running and maintenance of the plants are to be included in his tender prices. He shall pay all fees and charges legally demandable and include the same in his tendered rates and hold the Employer free from all such costs. As bank already secured electric power connection the contractor shall pay the power charges as per the usage.

35. MATERIAL HEAD LOAD

The Contractor shall make his own arrangements for Materials to be carried out by head load. The price quoted shall be inclusive of all the lead and lift of materials to various floors. No extra payment will be made by the Bank.

36. INSURANCE (CONTRACTOR'S ALL RISK POLICY)

Unless otherwise instructed the Contractor shall insure the works and keep them insured until the virtual completion of the contract against loss or damage (incl. third party) by fire and earthquake, flood, wars, storms etc. The insurance must be placed with a company approved by the Employer, in the joint names of the

Employer and the Contractor (the name of former being placed first in the policy) for full amount of contract and for any further sum if called to do so by the Employer, the premium of such being allowed to the Contractor as an authorized extra.

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

37. ADVANCE PAYMENT.

No advance or mobilization advance shall be paid in any circumstances.

38. As The work has to be executed in the Premises of an office which is functional and no in convenience to be created for effective functioning of office during office hours. The Contractor should make his own necessary arrangements like Labour, material, machinery Etc., out side of the premises.

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SPECIAL CONDITIONS OF CONTRACT

1. DRAWINGS AND SPECIFICATIONS

The works shall be carried out to the entire satisfaction of the EMPLOYER and the Architect, in accordance with the signed drawings and specifications and such further drawings and details as may be provided by the Architect, and in accordance with such written instructions, directions and explanations as may from time to time be given by the Architect, whose decision as to the sufficiency and quality of the work and materials shall be final and binding upon all parties. If the work shown on any such further drawings or work that may be necessary to comply with any such instructions, directions or explanations, be in the opinion of the contractor that it is not reasonably to be inferred from the contract he shall before proceeding with such work, give notice in writing to this effect to Architect, and in the event of the Architects agree to the same in writing the contractor shall be entitled to an allowance in respect of such extra work as on authorized extra. If the Architect and the contractor fail to agree as to whether or not there is an extra, then, if the Architect decided that the contractor is to carry out the said work, the contractor shall do so, and the question whether or not there is any extra, and if so the amount thereof, shall failing agreement, be settled by Arbitration as hereinafter provided, but such references shall in no way delay the fulfillment of this contract.

No drawings shall be taken as in itself an order for variation unless, in addition to the Architect's signature, it bears express words stating that it is intended to be such an order or bears a remark '**VALID FOR EXECUTION**'. No claim for payment for extra work shall be allowed unless the said work shall have been executed under the provisions of clause 6 (Authorities notices, patent right and royalties) or by the Authorities of directions in drawing of the Architect as herein mentioned.

One complete set of the signed drawings and specification and scheduled of quantities shall be furnished by the Architect to the Contractor. The Architect shall furnish within such time, as he may consider reasonable, one copy of any additional drawing, which in his opinion, may be necessary for the execution of any part of work. Such copies shall be kept at the works, and the architect or his representatives shall, at all reasonable time have access to the same and shall be return to the Architect by the contractor before the issue of the Final certificate. The contract shall remain in the custody of the Architect, and shall be produced by him at his office as and when required by the Employer or by the contractor.

2. INSPECTION OF DRAWINGS

Before filling in the tender, the contractor will have to check up all drawings and schedule of quantities, and will have to get an immediate clarification from the Architect on any point that he feels is vague or uncertain. No claim of damages or compensation will be entertained on this account.

3. EXECUTION OF WORK (PRICES TO INCLUDE)

The whole of the work is described in the contract a (including the schedule of Quantities, the specifications and all drawing pertaining there to) and as advised by Architect from time to time is to be carried out and completed in all its parts to the entire satisfaction of the Architect. Any minor details of the work which may not have been definitely referred to in this contract, but which are usual in practice and essential to the work, are deemed to be include in this contract. Rates quoted in the Schedule shall be inclusive of all freights, taxes, such as octroi, sales tax, Royalties, duties, excise, turnover tax, sales tax on works contract, etc., as well as transportation, so as to execute the contractor as per the rules and regulations of Local Bodies, State Government and Government of India.

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The rates quoted in the tender should include all charges for:

- a. Labor, maintenance fixing, carrying, cleaning, making good, hauling, watering etc
- b. Plant, machinery, scaffolding, framework, English ladders, ropes, nails, spikes, tools, materials and workmanship protection from weather, shuttering, temporary supports, platform and maintenance of the same.
- c. Covering for the walling and other works during inclement weather or striking or whenever directed as necessary.

4. SITE SUPERVISION

The contractor shall appoint at his own cost competent and adequate number of qualified Engineers at site, for (1) joint measurements and preparations of bills, (2) for testing materials at site and outside laboratory, (3) for other general supervision. Their appointment shall be approved by the Employer / Architect. The site Engineers shall not be removed from the site without the written consent of the Employer / Architect.

5. DIMENSIONS

Figures, dimensions, are in all case to be accepted preferences to scaled sizes. Large-scale details take precedence over small-scale drawings. In case of discrepancy, the contractor is to ask for a clarification before proceeding with the work. Accordingly if any work is executed without prior clarification it is liable to be rejected and shall not be paid for.

6. PROGRAMME OF WORKS

Contractor shall have to prepare and submit the CPM/PERT charges for Architect's approval immediately after issue of the work order and display the approved charts in the site office. He shall also make bar charts indicating individual items and during the progress of work he shall update the bar charts showing the proportionate progress of work every week.

He shall strictly adhere to the programme of works as per CPM/PERT charts showing the proportionate progress of work.

7. PROCUREMENT OF MATERIALS

Contractor shall procure all the materials for the work from the open market. Time is the essence of the contract. Acceptance of the completion date by the contractor shall mean that he has taken into consideration the availability of all material of approved make and quality in sufficient quantities at site to enable him to complete the entire work in the stipulated period.

Contractor will get sample of all materials approved by the Employer / Architect before placing order / purchase / procurement. They shall conform to I.S. codes and or tender specification as applicable.

For all materials the contractor shall quote for the best quality of the materials of best make / source or supply and it will be got approved by Employer / Architect before procurement.

In case sufficient quantities of approved quality materials from approved source are not available in time, contractor may have to procure the same for neighboring area with longer leads as required and directed at no extra cost. The material will be, however as per relevant I.S code as and wherever applicable.

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8. UNFIXED MATERIALS

When any materials intended for the works shall have been placed at site by the Contract, such material shall not be removed there from (except for the purposes of being used on the works) without the written authority of the Employer / Architect. **No payment will be made for unfixed material.**

9. CUSTODY AND SECURITY OF MATERIALS

The contractors shall be responsible for the custody and security of all materials and equipment at site and he will provide full time watchman / watchmen to look after his materials, stores equipments etc.

10. RATES

Contractor shall quote all the rates both in figures and in words and any alterations shall have to be initiated by the contractor. Rates quoted by the contractor for the same item in different schedules will be same and in case different rates are quoted, the lowest will be taken as correct and the schedule corrected accordingly. In case of discrepancy between figures and the words the rate quoted in words shall be taken as correct one. All quoted rates should be inclusive of sales tax on works contract. Rates quoted by the contractor shall hold good for all the work carried out to any height and depth as shown in detailed drawings and as required and directed by the Architect.

Rates quoted by the contractor shall also hold good for any small work at any place at site.

11. PRICES FOR EXTRAS ETC., ASCERTAINMENT OF

Should it be found after the completion of the works from measurements taken (in accordance with the previous paragraph) that any of the quantities or amounts of the work thus ascertained are less or greater than the amounts specified for the works in the priced schedule of quantities and / or tender or that any variations, is made, the valuation of such quantities, amounts or variations, unless previously or otherwise agreed upon, shall be made accordance with the following rules

- a. The net rates or prices in the original tender shall determine the valuation of the extra work, where extra work is of a similar character and executed under similar conditions the work priced therein.
- b. The net prices the original tender shall determine the value of the item omitted, provided if omissions vary the conditions under which any remaining items of work are carried out, the prices for the same shall be valued under thereof
- c. Where extra works are not of similar character and / or executed under similar conditions as aforesaid or where the omissions vary, the conditions under which any remaining items of work are carried out of it the amount of any omission or additions relative to the amount of the whole of the contract works or to be any part thereof shall be such that in the opinion of the Architects the net rate or price contained in the priced schedule of quantities or tender or for any item of work involves loss or expenses beyond that reasonably contemplated by the contractor or is by reason of such omission or addition rendered unreasonable or inapplicable, the Architect shall fix in consultation with the Employer such other rate or prices as in the circumstances he shall think reasonable and proper, which shall be final and binding on the contractor.
- d. Where extra work cannot be properly measured or valued, the contractor shall be allowed any work prices at the net rates stated in the tender or the priced schedule of quantities, or if not so stated, then in accordance with the local day work rates and wages for the district, provided that in either case

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vouchers specifying the daily time (and if required by the Architect, the workmen's name) and materials employed at or before the end of the week following that in which the work has been executed.

The measurements and valuations in respect of the extra items of contract shall be completed within the 'period of final measurement' or within three months of the completion of the contract works as defined under clause no 16 (Certificate of Virtual Completion)

12. EXTRA ITEMS RATES

The work or extra items shall be started only after the approval of extra items rates by client / Architect. Rates for additional or extra items of construction work, which can be derived from the contract item rates and are not covered in the contract, shall be calculated on the basis of actual cost plus 10 % for profit.

13. ARCHITECT'S DRAWINGS AND INSTRUCTIONS

A set of major drawings along with the contract documents shall be provided to the contractor. For any clarifications or further drawings are required by the contract, during or before the start of construction work, the Contractor shall inform the Architects in writing to provide the same. Working details will be given to the contractor from time to time during the progress of work as and when required. In case of other drawing is required by the contractor he will give a minimum ten days notice to the Employer / Architect.

14. FAILURE BY CONTRACTOR COMPLY WITH ARCHITECT INSTRUCTIONS

If the contractor after receipt of written notice from the architect requiring compliance with such further drawings and / or Architects instruction, fails within seven days to comply with the same, the Employer / Architect may employ and pay other persons to execute any such work whatsoever as may be necessary to give effect thereto and all cost incurred in connection there with shall be recoverable from the contractors by the Employer on a Certificate by the Architect as a debit or may be deducted by him from any money due or which become due to the Contractors.

15. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR

- a. The contractor shall furnish the Employer / Architect the following:
- b. Detailed industrial statistics regarding the labor employed by him etc
- c. The Power of Attorney, name and signature of his authorized representative who will be in charges for the execution of work
- d. The list of technically qualified persons employed by him for the execution of this work.
- e. The total quantity and quality of materials used for the works.
- f. The list of plant and machinery employed for this work.

16. ARCHITECT'S DELAY IN PROGRESS

The Architect may delay the progress of the works in case of rains or otherwise, without vitiating the contract and grant such extension of time with the approval of the employer for the completion of the contract as he may think proper and sufficient in consequences of such delay, and the contractor, shall not make any claim for compensation or damage in relation thereto.

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17. CERTIFICATE AND PAYMENTS

The contractor shall be paid by the Employer from time to time, by installments under interim Certificates to be issued by the Architect to the contractor on account of the works executed by the contractor when in the opinion of the Architect, work to the approximate value, named in the Appendix as 'Value of work for interim Certificates' (or less at the reasonable discretion of the Employer / Architect) has been executed in accordance with this contract, subject however, to a retention of the percentage of such value need in the Appendix hereto

mentioned as 'retention percentage for interim Certificates' until the total amount retained shall reach the sum named in the appendix as Total Retention money after which time the installments shall be up to the full value of the work subsequently so executed in the interim Certificate, such amount as he may consider proper on account materials delivered upon the site by the Contractor for use in the work. And when the works have been virtually completed and the Architect shall have certified in writing that they have been completed, the contractor shall be paid in accordance with the Certificate issued by the Architect the sum of money named in the Appendix after satisfying themselves as 'Installment after Virtual Completion' being a part of the said 'Total Retention Money'.

The Contractor shall be entitled to the payment of the final balance in accordance with the final Certificate to be issued in writing by the Architect at the expiration of the period refer to as 'The Defect Liability Period' in the Appendix hereto, from the date of Virtual Completion or as soon as after the expiration of such period as the work shall have been finally completed and all defect made good according to the true intent and meaning hereof, whichever shall happen, provided always that the issue by the Architect of any certificate during the progress of the works or after the completion shall not relieve the Contract from his liabilities in cases of fraud, dishonesty or fraudulent concealment relating to the works of materials or any matter dealt within the certificate, and in case of all defects and insufficiency in the works or materials which reasonable examination would have disclosed. No certificate of the Architect shall of itself be conclusive evidence that any works and materials to which it relates are in accordance with the contract.

The Architect shall have power to withhold any certificate if the works or any part thereof are not being carried out to his / employer satisfaction.

The Architect may by any Certificate make any correction in any previous Certificate, which shall have been issued by him.

Payment upon the Architect's Certificates shall be made within a period named in the Appendix as 'Period of honoring of Certificates' after such Certificates have been delivered to Employer.

18. DELAYED PAYMENTS

Any amounts payable by the Employer to the contractor in pursuance of any Certificate given by the Architect hereunder shall, if not paid within the 'Period of honoring of Certificate' no interest paid by the Employer.

19. FORCE MAJEURE

Neither party shall be held responsible by the other for breach of any condition of this agreement attributable to any 'Act of God' Act of state, lockout of control or any other reason, beyond the control of the parties and any breach of clauses arising from much force majeure conditions as aforesaid shall not be regarded as a breach of the provision of this Agreement.

20. INCOME-TAX AND GST

Income Tax and GST shall be deducted at source by the client from the contractor' interim and final bill payments as per Statutory Regulations.

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21. SITE MEETINGS

A senior representative of the contractor shall attend weekly meetings at works site and in addition meetings as and when arranged by Architect to discuss the progress of the work and sort out problems, if any and ensure that the work is completed in the stipulated time.

22. ACTION WHERE THERE IS NO SPECIFICATION

In case of any class of work for which there is no specification mentioned, the same will be carried out in accordance with the Indian Standards Specifications subject to the approval of the Architect.

23. REPORTING OF ACCIDENT TO

The contractor shall be responsible for the safety of persons employed by him on the works and shall reports serious accidents to any of them whenever and wherever occurring on the works to employer who shall make every arrangement to render all possible assistance. This shall be without prejudice to the responsibility of the contractor under the Insurance Clause of the general conditions. Contractor shall take all precaution detailed in the safety code attached separately.

24. TYPOGRAPHICAL CLERICAL ERRORS

The Employer / Architect clarification regarding partially omitted particulars of typographical or Clericals errors shall be final and binding on the contractors.

25. WORK PERFORMED AT CONTRACTOR'S RISK

The contractor shall take all precautions necessary and shall be responsible for the safety of the work and shall maintain all lights, goods, signs, temporary passages or other protection necessary for the purpose. All works shall be done by the contractor's risk and if any loss or damage shall result from fire or from others cause, the contractor shall promptly repaid or replace such loss or damage free from all expenses to the employer.

The contractor shall be responsible for any loss or damage to materials, tools or other articles used held for use in connection with the work. The work shall be carried on to completion without interferences with the operations of existing machinery or equipment, if any.

26. SPECIAL CONDITIONS OF CONTRACT

In the event of any discrepancy with clauses mentioned anywhere else in the tender with the clauses mentioned within special conditions of contract, the clauses mentioned within the special conditions of contract shall supersede those mentioned elsewhere.

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FORM OF AGREEMENT.

ARTICLES of AGREEMENT made this _____ day of _____ year 2023 between the CRGB Corporate office, Plot no 47, sector 24, Naya Raipur, Chhattisgarh (Hereinafter referred to as the "Employer / Owner" which expression shall, unless excluded by or repugnant to the context, includes its successors and assigns) of the ONE PART and _____ of _____ (Hereinafter referred to as "Contractor" unless excluded by or repugnant to the context, includes its successors and assigns) of the OTHER PART. WHEREAS the Employer intends to carry out **TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR, CHHATTISGARH STATE.**

(Herein referred to as "Project"). AND WHEREAS the Employer in order to effectively carry out the said works has engaged M/s. ABHIKRAM-S (Hereinafter referred to as "Architects") to prepare plans, drawings and specifications describing the works to be executed by the contractors for the project, to open tenders received at the office of the Employer, to scrutinize and recommend to the Employer the name(s) of the Contractor(s) from whom tenders were received and recommended to the Employer for the issue of work order to the contractor.

AND WHEREAS for the purpose of the said project, the Employer invited sealed tenders from experienced, resourceful and bonafide contractors vide his Notice Inviting Tender (NO. _____ dated. _____).

WHEREAS the contractor submitted his Tender Documents containing General Notes, General Conditions of the Contract, Technical Specifications and Schedule of Quantities etc. for the works, prepared with the assistance of Consultants (Hereinafter collectively referred to as the "said conditions"), duly signed on each page as a token of his acceptance of the same, along with requisite Earnest Money Deposit of Rs. _____ (Copy enclosed Vide Annexure-1).

AND WHEREAS out of the Tenders received, the Tender of the contractor was found to be most suitable for the project.

AND WHEREAS the Architect has accordingly recommended to the employer for issue of work order to the contractor subject to his furnishing the requisite Security Deposit (Copy enclosed Vide Annexure-II).

AND WHERE AS the employer has issued the Work Order (No. _____ dated. _____) to the contractor.

AND WHEREAS the Contractor has accepted the aforesaid Work Order vide his letter of acceptance NO. _____ dt. _____ (Copy enclosed Vide Annexure III) and has also deposited with the Employer a sum of Rs. _____ which with the Earnest Money of RS. _____ forms the requisite Security Deposit @ 1 % of the accepted Tender Value of Rs. _____.

AND WHEREAS the Employer has caused the plans, drawings, specifications, schedule of quantities etc. relating to the project at the work site at to be issued to the Contractor.

NOW, therefore, it is hereby agreed to and between the parties as follows:

1) Contract documents

The following documents shall constitute the Contract Documents.

- I. This Article of Agreement.
- II. Tender submitted by the Contractor included the N.I.T and Tender Documents (Vide Annexure-I).
- III. All correspondence between the Bank/Architects and the Contractor from the date of issue of N.I.T and the date of issue of work order.

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IV. Work order No. _____ dt. _____ (Vide Annexure-II).

2) In consideration of the payments to be made to the Contractor as hereinafter provided the Contractor shall upon and subject to the said conditions, execute and complete the contracted works shown upon the said drawings etc. and such further detailed drawings as may be furnished to the contractor by the said Owner/Employer through the Architects and described in the said Specifications and the said Schedule of Quantities.

3) Notwithstanding what are stated in the N.I.T conditions of Tendering, Conditions of Contract of herein before stated by the Employer through the Architects, reserves itself the right of altering the drawings and the nature of the work and addition to or omitting any items of work or of having portions of same carried out departmentally or otherwise and such alterations or variations shall be carried out without prejudice to this contract.

4) As mentioned in Article 1 above, the said conditions shall be read and be treated as forming part of this agreement and parties hereto will respectively be bound thereby and to abide by and submit themselves to the conditions and stipulations and perform the same on their parts to be respectively observed and preferred.

5) Any dispute arising under this agreement shall be referred to the Arbitration in a manner specified in the General Conditions of the Contract and all legal disputes shall be limited within the territorial jurisdiction of the Hyderabad thereto. The decision of the arbitration shall be final and binding on both the parties.

IN WITNESS WHEREOF THE PARTIES to there present have hereunder set and subscribed their hands, the _____ day, _____ month and year first above written.

Signed and delivered for and on behalf of

CRGB

Shri. _____

Its duly authorized official

In the presence of –

1. (Name and Address)

2. (Name and Address)

Signed and delivered for and on behalf of The Contractor _____ by

Shri _____ his Duly authorized official In the presence of –

1. (Name and Address)

2. (Name and Address)

Signature of contractor

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TECHNICAL SPECIFICATIONS CIVIL WORKS

This specification establishes and defines the requirements of various materials to be used in Civil and Structural works.

Whenever any reference to IS Codes is made, the same shall be taken as the latest revision (with all amendments issued thereto) as on the date of submission of the bid.

Apart from the IS Codes mentioned in particular in the various clauses of this specification, all other relevant codes related to specific job under consideration regarding quality, tests, testing and/or inspection procedures shall be applicable. Reference to some of the Codes in the various clauses of this specification does not limit or restrict the scope of applicability of other referred or relevant codes.

In case of any variation / contradiction between the provision of I.S. Codes and this specification, the provision given in this specification shall be followed.

All materials shall be of standard quality and shall be procured from renowned sources / manufactures approved by the Engineer-in-Charge. It shall be the responsibility of the Contractor, to get all materials / manufactures approved by the Engineer-in-Charge for his approval. If so desired by the Engineer-in-Charge, tests shall be conducted in the presence of the Engineer-in-Charge or his authorized nominee.

Quality and acceptability of materials not covered under this specification shall be governed by the relevant I.S. Codes. In case IS code is not available for the particular material, other codes e.g. - B.S. or DIN or API/ASTM shall be considered. The decision of Engineer-in-Charge, in this regard, shall be final and binding on the Contractor.

Whenever asked for, the Contractor shall submit representative samples of materials to the Engineer-in-Charge for his inspection and approval. Approval of any sample does not necessarily exempt the Contractor from submitting necessary test reports for the approved material as per the specification / relevant IS Codes.

The Contractor shall submit manufacturer's test reports on quality and suitability of any material procured from them and their recommendation on storage, application, workmanship etc. for the intended use. Submission of manufacturer's test reports does not restrict the Engineer-in-Charge from asking fresh test results from an approved laboratory of the actual material supplied from an approved manufacturer/source at any stage of execution of work.

All costs relating to or arising out of carrying out the tests and submission of test reports and or samples to the Engineer-in-Charge for his approval during the entire tenure of the work shall be borne by the contractor and included in the quoted rates.

Materials for approval shall be separately stored and marked, as directed by the Engineer-in-Charge and shall not be used in the works till these are approved.

All rejected materials shall be immediately removed from the site by the contractor at his own cost.

CEMENT CONCRETE (PLAIN)

14.15.1 General

This subhead covers the requirements for furnishing of cement concrete including materials proportioning, batching, mixing, testing, placing, compacting, finishing, jointing, curing and all other work as required for cast-in-place/plain cement concrete.

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14.15.2 Submittals

a) Materials Reports

Prior to start of delivery of materials required for cement concrete the following shall be submitted by the Contractor to the Engineer in charge/ Architect for approval.

(i) Recommended suppliers and / or sources of all ingredients for making concrete including cement fine and coarse aggregates, Water and additives.

(ii) Quality Inspection Plan to ensure continuing quality control of ingredients by periodic sampling, testing and reporting to the Engineer in charge / Architect on the quality of materials being supplied.

b) Plant & Equipment

The Contractor shall submit the following to Engineer – in - charge / Architect well in any change in source of water, water samples shall be tested again to meet the specified requirements .

Water shall be stored in tin barrels, steel tanks or water-tight reservoirs made with bricks / stone or reinforced concrete, brick / stone masonry reservoirs shall have C.C base slab and shall be plastered inside, with one part of cement and four part of sand and finished with neat cement punning. These reservoirs shall be of sufficient capacity to meet the water requirement, at any stage of construction. Water for curing shall be of the same quality as used for concreting and masonry works. Sea water shall not be used for preparation of cement mortar, concrete as well as for curing of the plain / reinforced concrete and masonry works. Sea water shall not be used for hydro testing and - checking the leakage of liquid retaining structures also.

g) Admixture & Additives

Chemically admixtures are not to be used until permitted by the Engineer in charge/ Architect in case their use is permitted, the type amount and method of use of any admixture proposed by the Contractor shall be submitted to the Engineer in charge/ Architect for approval.

14.15.4 Mixing : All cement concrete (plain or reinforced) shall be mixed in mechanical mixers.

14.15.5 Consolidation: Concrete for all reinforced concrete works in column footings, columns, beams, slabs and the like shall be deposited and well consolidated by vibrating, using portable mechanical vibrators. The rest of the concrete such as shelving etc. shall be deposited and well consolidated by pouring and tamping. Care shall be taken to ensure that concrete is not over vibrated so as to cause segregation.

14.15.6 Grade of Concrete :- The compressive strength of various grades of concrete shall be given as below:-

SL.NO.	GRADE DESIGNATION	COMPRESSIVE STRENGTH ON 15cm CUBES min.7 Days (N/mm ²)	SPECIFIED CHARACTERISTICAL CS COMPRESSIVE STRENGTH AT 28 Days (N/mm ²)	MINIMUM CEMENT CONTENT (Kg.per Cub.mtr)	MAXIMUM WATER CEMENT RATIO
(i)	M-20	As Per Design	20	300	0.55
(ii)	M-25	As per Design	25	310	0.50
(iii)	M-30	As Per Design	30	320	0.45
(iv)	M-35	As Per Design	35	340	0.40

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NOTE :-

- i) In the designation of a Concrete mix letter M refers to the mix and the number of the specified characteristic compressive strength of 15 cm – cube at 28 days expressed in N/mm².
- ii) It is specifically highlighted that in addition to the above requirements, the maximum cement content for any grade shall be limited to 500 kg/cubic metre. The limitations shall apply to all types of cements of all strengths.
- iii) The minimum cement content for design mix concrete shall be maintained as per the quantity mentioned above. Even in the case where the quantity of cement required is higher than the minimum specified above to achieve desired strength based on an approved mix design, nothing extra for extra cement used shall become payable to the contractor.

14.15.6.1 The first concrete mix design / laboratory tests, with admixture will be carried out by the contractor through any one of the reputed laboratories / Test houses.

14.15.6.2 The contractor shall submit the report on design mix from any of above approved laboratories for approval to Engineer-in-Charge within 30 days from the date of issue of letter of acceptance of the tender No. concrete shall be done until the design mix is approved. In case of white Portland cement and the likely use of admixtures in concrete with ordinary Portland cement, the contractor shall design and test the concrete mix by using trial mixes with white cement and / or admixtures also, for which nothing extra shall be payable.

14.15.6.3 In case of change of source or characteristic properties of the ingredients used in the concrete mix during the work, a revised laboratory mix design report conducted at laboratory established at site shall be submitted by the contractor as per the direction of the Engineer-in-charge.

14.15.6.4 All cost of mix designing and testing connected therewith including charges payable to the laboratory shall be borne by the contractor.

14.15.6.5 Batching and Laying :

a) Ready Mix Concrete (RMC) obtained from the automatic batching plant shall be used . Transit mixtures shall transport the concrete to site . All the precautions shall be taken during the transportation and handling of concrete has to get the approval from Engineer-in-Charge regarding source of ready mix concrete. Nothing extra on account of R.M.C & its transportation at site of work shall be paid.

b) the concrete shall be placed in position using tower crane or concrete pumps of adequate capacity to lift upto machine room level. use of mechanical hoists shall not be permitted for lifting of concrete to various levels. For pumping of concrete the design of concrete mix shall be done separately. Nothing extra for laying concrete using concrete pumps or for extra concrete mix. design shall be paid. in other words, charges of carrying out concrete mix re-design due to change of source of raw material or re-design for pumpable concrete etc. shall not be paid.

14.15.6.6 All other operations in concreting work light mixing, slump, laying, placing of concrete, compaction, curing etc. shall be as per latest IS codes.

14.15.6.7 Test specimen, Frequency of sampling, test results of samples, lot size, standard of acceptance:-

14.15.6.8 The contractor has to arrange at site the centering and shuttering for 1700 Sqm. Before start of work. Only M.S centring / shuttering and scaffolding material unless and other wise specified shall be used for all R.C.C work to give an even finish of concrete surface. However, marine - ply shuttering in exceptional cases as per site requirement may be used on specific request from contractor as approved by the Engineer-in-Charge. Nothing extra shall be paid for the centring and shuttering circular in shape when ever the form work is having a mean radius exceeding 6m in plan.

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14.15.6.9 In order to keep the floor finish as per architectural drawings and to provide required thickness of the flooring as per specifications, the level of top surface of R.C.C shall be accordingly adjusted at the time of his centring, shuttering and casting for which nothing extra shall be paid to the contractor.

14.15.6.10 As per general Engineering practice, level of floors in toilet / bath , balconies, shall be kept 12 to 20 mm a requird lower than the general floors shuttering should be adjusted accordingly, Nothing extra is payable on this account.

14.15.6.11 in respect of all projected slabs at all levels including cantilever, canopy, the payment for the R.C.C work shall be made under the item R.C.C slabs. The payment for shuttering shall be made under item of centering and shuttering for R.C.C slabs. Nothing extra shall be paid for the site shuttering at the edge of these projected balconies and projected varandah slabs.

14.15.6.12 Nothing extra shall be paid for providing drip course or moulding in the R.C.C projected surfaces whenever required.

14.15.6.13 Nothing extra shall be paid for laying in slanting position of centring, shuttering, reinforcement and R.C.C work for the slabs and beams of sloping roofs.

14.16 Form Work

General : The steel / Plywood from work shall be designed and constructed to the shapes, line and , dimensions shown on the drawings. All forms shall be sufficiently water tight to prevent leakage of mortar. Fonus shall be constructed in such a way so that it can be removed easily with out disturbing the structure. Maximum height of column for which concrete can be placed at a time shall not be more than 1.5mtr. Floor height upto 3.66111 shal be considered as one floor.

14.17 Props may be hard wood / steel. Timber used in centring and props should be suitable and strong. Pre moulded cement cubes or plastic blocks will be planned between form work and reinforced cement to acheive uniform cover of concrete.

14.18 Cleaning and Treatment of Forms : All rubbish , particularly chippings , shavings and saw dust, shall be removed from the interior of the forms (steel / ply) before the concrete is placed the form work in contact with the concrete shall be cleaned and thoroughly wetted or treated with an approved composition to prevent adhesion.between form work and concrete. Care shall be taken that such approved composition is kept out of contact with the reinforcement.

14.19 Verticality of Frame Structure : All the columns of the frame will be checked for plumb by plumb-bob as well as by the theodolite as the work proceeds to upper floors. Internal columns will by taking measurements from outer row of columns for their exact position.

14.20 Stripping Time : Form shall not be struck until the concrete has attained a strength at least twice the stress to which the concrete may be subjected at the time of removal of form work. The strength reffered to shall be that of concrete using the same cemnt and aggregates with the same proportions and cured under conditions of temperature and moisture simila to those existing on the work. Where so required form work shall be left longer in normal circumstances and where ordinary portland cement is used, forms may generally be removed after the expiry of the following periods.

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- | | |
|--|---------|
| a) Walls, columns and vertical faces of all structural members | 2 days |
| b) Removal of props under slabs : | |
| (i) Spanning upto 4.5 mtr. | 7 days |
| (ii) Spanning over 4.5 mtr. | 14 days |
| c) Removal of props under beams : | |
| (i) Spanning upto 6.0 mtr. | 14 days |
| (ii) Spanning over 6.0 mtr. | 21 days |

d) In case of cold weather the periods may be increased at the discretion of the Engineer-in-Charge / Architect. For other cement (like pozzolona etc) stripping time recommended for ordinary portable cement may be suitably modified. The number of props left under, their size and disposition shall be such as to be able safely carry full dead load of the slab beam or arch, as the case may be together with any live load likely to occur during placing of concrete, curing or further construction.

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

14.22 where the shape of element is such that from work as re-entrant angles, the form work shall be removed as soon as possible after the concrete has to avoid shrinkage cracking occurring due to the restraint imposed.

14.23 Finish to Concrete Work

- All concrete while placing against form work shall be worked with vibrators rods and trowels as required so that good quality concrete is obtained.
- All exposed surface of R.C.C lintels, beams, columns etc. shall be plastered to match with adjoining plastered face of walls after suitable hacking the concrete surface.
- All surface of R.C.C slabs left for cup board slab, shelves and working platform in kitchen etc. and other exposed surface of R.C.C work continuous to brick work shall be plastered (12mm thick) with cement mortar 1:4 (1cement : 4 fine sand) to give an even and smooth surface.
- The top of loft slabs and shelves shall be smooth finished while the concrete is green with a flooring coat of neat cement to give a smooth and even surface. The exposed front face shall be finished in cement plaster 1:4 (1 cement : 4 is coarse sand) to bring it in line and level and finished in neat cement. such thin slabs shall be carefully cast so that they can be finished within their specified thickness. Additional thickness of plaster which makes these elements look unnecessarily heavy will be not allowed.
- chicken wire mesh 24 gauge and 200101 mesh will be provided all along R.C.C surface adjoining brick work giving 1500101 lapping on either side using nails etc. for fixing mesh while plastering.
- the rate shall be deemed to include for chicken wire mesh as given above and incidental labour such as chamfer splays, rounded or curved angles, grooves, rebate and with moulds / courses.

14.24 Sampling and Testing of Concretes :

Samples from fresh concrete shall be taken as per IS-456-2000 (sampling and testing of strength of concrete) and cubes shall be made, cured and tested at 7th and 28days. for testing cement concrete the contractor shall arrange for all the tools / moulds for making necessary cubes and shall bear all the charges for making the cubes, curing and testing through an approved laboratory. Further the contractor shall make available laboratory equipment at site. A temporary room of adequate size having these facilities shall be

constructed by the contractor it is expense. after completion of work the contractor shall remove the equipment, dismantle the room and clear the site.

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14.25 Compressive strength test at 7 days may be carried out in addition to 28 days compressive strength test for a quicker idea of the quality of concrete. In all cases the 28 days, compressive strength alone shall be the criteria for the acceptance or rejection of the concrete.

14.26 Test Specimen: Three test specimens shall be made from each sample for testing at 28 days. Additional cubes may be required for such purposes as to determine the strength of concrete at 7 days or to check the testing error.

14.27 Test strength of samples: The test strength of the sample shall be the average of the strength of three specimens. The individual variation shall not be more than ± 15 percent of the average.

LOT SIZE :-

The minimum frequency of sampling of concrete of each grade shall be in accordance with the following :-

QUANTITY OF CONCRETE IN THE WORK (CUBIC METRE PER DAY)	NUMBER OF SAMPLES
1 - 5	1
6 - 15	2
16 - 30	3
31 - 50	4
51 & above	4 Plus one additional sample for each additional 50 cubic metre of part thereof.

NOTE : At least one sample shall be taken from each shift.

14.28 Mix of cement concrete/reinforced cement concrete required to be used in various locations/ situations shall be shown on drawing. Wherever not mentioned shall be as under :-

(a) Cement concrete in floors (self finished) and concrete as under layer for terrazzo floor cast in situ shall be PCC 1:2:4 (1 cement: 2 coarse aggregate : 4 graded stone aggregate 12.5 nominal size).

(b) Cement concrete for RCC work in wall, columns footings, beams/Roof/floor slabs, landing, fins, lintels, chajjas, shelves, staircases, balconies, Loft slabs shall be of M20 Grade mix cement concrete and in Pedestals and Columns shall be of M25 Grade mix cement concrete

(c) Cement concrete in PCC filling for pressed steel frames, hold fast blocks and rain water pipes etc. shall be 1:3:6 (1 cement : 3 of coarse sand: 6 stone aggregate 20 mm nominal size).

(d) The mix (1:2:4) shall conform to M 15 (nominal) and mix (1:1.5:3) shall conform to M 20 (nominal) as per IS 456-2000 for the purpose of testing and acceptance based on 28 days strength.

(f) Lean cement concrete below columns/walls footings and in sub flooring of stilt floor shall be of mix 1:4:8 (1 cement : 4 coarse sand : 8 stone aggregate 40 mm nominal size).

14.29 Bearing Plaster

This shall consist of cement plaster 1:3 (1 cement : 3 fine sand) 20mm thick finished with a coat of neat cement laid on top of walls as bearing for RCC lintels, beams and slabs, when dry, a thick coat of lime wash shall be given before starting, shuttering. The shuttering shall be started after minimum one day of bearing plaster so that it is set.

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14.30 Concrete filling for sunken and lowered portions of slab: This shall be cement concrete 1:5:10 (1 cement : 5 coarse sand: 10 brick ballast 40mm nominal size) in the entire sunken portions or cinder filling as per specifications shall be provided.

BRICK WORK

14.33.1 MATERIAL

14.33.1.1 Sand for Masonry Mortars: Unless otherwise indicated, sand for masonry mortars shall consist of natural river sand (generally termed as coarse sand) conforming to IS 2116-1965 specifications for sand for masonry mortars. Sand shall be hard, durable, clean and free from adherent coatings and impurities such as iron particles, alkalis, salts, coal, mica, shale or similar laminated or other materials exceeding the specified limit. Grading of sand shall be as under :

	Percentage Passing by weight	
	Un reinforced masonry	Reinforced masonry
4.75mm	100	100
2.36mm	90-100	90-100
1.18mm	70-100	70-100
600 micron	40-100	40-100
300 micron	5-70	5-70
150 micron	0-75	0-10

14.33.1.2 The maximum quantities of clay, fine silt and fine dust in sand shall not be more than 8 percent by volume, Organic impurities shall be below that obtained by comparison the standard solution on specified in 6-2-2 of IS 2386 (Part II 1983). The coarse/fine sand shall be from river Krishna or from any other source conforming to the above standards.

14.33.1.3 Common Burnt clay building brick : Common burnt clay building bricks (herein-after termed as bricks shall conform to the requirements laid down in IS-1077-1976 for common burnt clay building bricks. Bricks shall be class designation 75, sub Class 'A' as per parameters given in the IS regarding edges, dimensions etc. The overall dimensions shall however be as per local practice of moulds. Water absorption after immersion in cold water for 24 hours shall not exceed 20% and grading for efflorescence shall be less than moderate. Bricks shall be free from cracks, flaws and nodules of free lime. Dimension shall be all within tolerance. Under/over burnt bricks and warped bricks shall be totally rejected.

14.33.1.4 Test check on random samples from each lot of bricks brought at site shall be carried out for compressive strength and water absorption test. Results of these tests duly signed and dated by Contractor; Architect and Engineer in charge shall be recorded in a separate register, which shall be kept with the Engineer in charge.

MASONRY MORTARS

14.33.2 Preparation of Cement Mortars: Mortar shall be of mix as indicated. The mixing specified is by volume. Mixing shall be done in a mechanical mixer. The mortar shall be mixed at least three times after adding of water. The cement mortar shall be freshly mixed for immediate use. Any mortar which has commenced to set shall be discarded and removed from the site.

14.33.3 Bond : All brick works shall be built in English bond, unless otherwise indicated. Half brick walls shall be built in stretcher bond. Header bond shall be used for walls curve on plan for better alignment, header bond shall also be used in foundation, stretchers may be used when the thickness of wall renders use of header impracticable.

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Where the thickness of footings is uniform or a number of courses, the top course of the footings shall be of headers. Brick courses at DPC level and at all slab levels below the bearings of slab shall be as bricks on edges.

14.33.4 Half or cut brick shall not be used except where it is necessary to complete the bond.

14.33.5 Overlap in stretcher bond is usually half brick and is obtained by commencing each alternate course with a half brick. The overlap in header bond which is equally half the width of the brick is obtained by introducing a three quarter brick in each alternate course at quoins. In general, the cross joints in any course of brick work shall not be nearer than a quarter of brick length from those in the course below or above it.

14.33.6 Curing: The bricks shall be adequately wet before use and brickwork shall be constantly kept wet for at least seven days.

14.33.7 Half Brick Walls : The bricks shall be laid in stretcher bond in cement and sand mortar 1:4 (1 cement : 4 coarse sand) or as indicated. The reinforcement shall be 2 Nos. MS round bars or as indicated and as described in SUBHEAD VII steel and Ironwork. The diameter of bars shall be 6mm. The first layer of reinforcement shall be used at second course and then at every fourth course of brick work. The bars shall be properly anchored (min. 150mm) at their ends where the portions and or where these walls join with other walls columns. The inland steel reinforcement shall be completely embedded in mortar. Overlap in reinforcement if any, shall not be less than 30 cm. The cover i.e. the mortar interposed between the reinforcement bars and brick shall not be less than 6mm. The mortar covering in the direction of joints shall be not less than 15mm.

14.33.8 Brick work in foundation up to plinth: Brickwork in foundation shall be with brick of class designation 75 upto plinth level in cement mortar 1:6 (1 cement: 6 coarse sand).

14.33.9 Brick work in Super structure : Brickwork in superstructure including parapets shall be bricks of class designation 75 in cement mortar 1:6 (1 cement: 6 coarse sand).

14.33.10 Brick work in Steps of staircase : Brickwork in steps of staircase shall be in bricks of class designation 75 in cement mortar 1:6 (1 cement: 6 coarse sand).

14.33.11 Parapets and Railings : Parapets and railing shall be provided to balconies, Terraces, roof tops and stair landing etc. of upper floors as per details shown on drawings.

14.33.11 70mm Thick Brick Work

70mm thick brick work shall be provided with bricks of class designation 75 in cement mortar 1:3 (1 cement : 3 coarse sand) wherever shown in the drawings.

PAINTING

1. Exterior Emulsion / Texture Paint: Before the application of cement based paints, the surface shall be cleaned and wetted with water. Two or more coats of cement base paint shall be applied to give even shade on all external cement plaster surfaces, internal cement plaster surfaces of parapets, soffits of chajjas, lintels, beams, and sills as shown on drawings. The shade of the paint shall be used as approved by Engineer in charge/ Architect. Each coat shall be cured well by wetting surfaces for at least three days. This shall apply to all buildings.

2. Painting to Steel Surfaces: All exposed steel surfaces shall be prepared, cleaned with sand paper to completely remove scales and rusts and shall be painted with two or more coats of synthetic enamel paint to give an even shade over one coat of steel primer. The shade of synthetic enamel paint shall be as approved by Engineer in charge/ Architect.

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3. Painting to CI and GI Pipes: All exposed CI and GI pipes shall be painted by applying two or more coats of synthetic paint. The shade and quality shall be as approved by Architect/ Engineer in charge.

1.1 LAYING OF PARKING TILES FOR FLOORING :

- f) The tiling work shall be done as per the pattern shown in the drawing or as directed by the Engineer-in-Charge. As a general practice laying of tiles shall be commenced from the centre of the area and advanced towards the walls. Cut tiles, if any, shall be laid along wall with necessary border pattern as shown / directed by the Engineer-in-Charge. Tiling work shall be completed by pressing tiles firmly into place along the wall / floor. A white cement slurry to the back of the tile to be applied to ensure proper and full bedding. The tiles shall be laid on the bedding mortar when it is still plastic but has become sufficiently stiff to offer a fairly firm cushion for the tiles. Tiles, which are fixed on the flooring adjoining the wall, shall be so arranged that the surface on the round edge tiles shall correspond to the skirting or dado. Press gently the tile with wooden mallet for even adherence at the back of the tile. Do not use an iron hammer or some heavy material to press the tile.
- g) The edges of the tiles shall be smeared with neat white cement slurry and fixed in this grout one after the other, each tile being well pressed and gently tapped with a wooden mallet till it is properly bedded and in level with the adjoining tiles. There shall be no hollows in bed or joints. The joints shall be kept as close as possible and in straight line. Unless otherwise specified, joint-less tiling shall be done butting the tiles with each other. If joint is specified, the same shall not exceed 1.00 mm. in width. The joint shall be grouted with white / matching colour cement slurry. After fixing the tiles, finally in an even plane or slope, the flooring shall be covered with wet sand and allowed undisturbed for 14 days.

1.2 GROUTING OF JOINTS IN FLOOR

- h) The joints, if specified, shall be cleaned off and all dust and loose particles removed. Joints shall then be filled with approved adhesive grouts. After finishing the grouting process, after 15 minute, wipe off excess grout with a damp sponge and polish the tiles with a soft & dry cloth for a clean surface. The Finished work shall not sound hollow when tapped with a wooden mallet.

1.3 MODE OF MEASUREMENT AND RATE:

- i) Dado / flooring / skirting shall be measured in sqm correct to two places of decimal. Length and breadth shall be measured correct to 1 cm. between the exposed surfaces of skirting or dado. No deductions shall be made nor extra paid for any opening of area upto 0.1 sqm. The rate shall include all the cost of labour and materials involved.

CURTAIN WALL GLAZING AND ACP PANELLING

Scope:

Designing the Curtain wall / Semi unitized structural glazing system as per design intent and as per approved drawings, preparation of shop drawings, supply, fabricate the panel with the specified glass on the child frame at factory, erect the system on erected extruded main frame & Transom fixed on supporting system at site as per approved shop drawings at all floor levels and for all heights. Designing, providing and fixing frame supporting system, the framing system (i.e. Main & Child frame) to support Vision panels (Insulated Glass) / Spandrel panels either with Monolithic Glass or Laminated sandwiched composite panel (ACP),/openable Top hung window panels/ punched strip windows/ decorative capping to any shape & profile, smoke seal, flashing including gaskets, sealants necessary accessories, as part of the system on a continuous framing supported between floors as detailed below and as per the specification for external facade system. Design the split framing semi unitized glazing system in case of Punched windows with vision

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panel proposed with either Insulated/Monolithic Glass as specified maintaining groove width shall not be more than 16 mm both in horizontal and vertical. Conducting the test for the materials involved in the system, field test on the erected system at site as per the test criteria set out in the specification of External Façade system. Submission of methodology for the Materials and assembly (Mock up & field test) supported by the copy of relevant codes & Standards and the same shall be got approved by the Employer / PMC / Architect prior to testing. Protection of the System and Materials till handing over to the Employer / PMC / Architect, removal of the unwanted materials, broken glass, Screws, bolts, Nuts, Packing Materials, debris etc, regularly and keeping the premises neat and clean at all times. Coordinate the details of the façade cleaning system during the preparation of shop drawing and incorporate such details in the shop drawing submitted for approval of Employer / PMC / Architect. Maintaining the system by means of periodical inspection at site (bi-monthly) and checking the system and Materials involved in the system during Defects liability period (this will not relieve the contractor from the condition laid down in the contract under defects liability period) to ensure that the system and all materials are free from any defects during this period. Providing the Guarantee for the entire External Façade system to the specified period in an approved format supported with Back to back guarantee from the specialized Material supplier like Glass, Aluminium composite panel, Gasket, Sealant, Hardware etc. complete as directed by Employer

I.DESIGN:

a. Design: Design pre-assembled aluminium Semi unitized Structurally glazed Panel with continuous framed panels / Strip window / Punched window system with split mullion to any shape and profiles shall be designed to with stand the design wind pressure as per IS code or relevant international code (Test pressure shall be 1.5 times of the design wind pressure) and fixed at horizontally / vertically / sloped / curved position etc as shown in the approved drawings by using Aluminium extrusions, Glass, Spacer tape, Gasket, Sealant etc. as specified.

Contractor shall be responsible to determine the maximum design wind pressure and lateral forces, moments, stresses etc. applicable for the system. Negative / suction pressures if determined as per IS 875 and Lateral forces as per code IS 1893 shall make allowances as described in the code for corner effects on the system. System shall be designed with Air Pressure equalization chamber and concealed continuous gutter vertically and horizontally at all levels as self drainage barrier to achieve water tightness besides providing EPDM Gaskets on the frame and EPDM Gasket / Sealant on the external groove as air and water barrier.

b. System: System shall be designed to satisfy the structural design criteria specified in the technical specification with self- bearing modular elements supported between floors (Supporting span of minimum 3.50 meter) in the case of structural glazing and split mullion supported between sill & lintel/beam in the case of punched windows, EPDM Gaskets on the frame and Gasket/sealant on the groove to prevent the system from Air & water penetration ,double adhesive spacer tape, backer rod, sealant, supporting brackets (Resistance to design wind pressure), Separator Gaskets for Bi-Metallic Corrosion, Pressure equalization chamber in the system, built-in continuous internal drainage gutter for collection and facility at lowest floor level to drain out penetrated water, in built adjustability to accommodate thermal expansion, thermal movement and movement due to any other forces etc.

System shall be designed with Gasket/Sealant on the external groove with colour anodized aluminium holder around the panel to the required width and thickness as per design as Dead load support to the Glass panel. Non Staining sealant between glass & aluminium holder around the panel shall be provided. Glazing the panel with child frame shall be done only at factory at the controlled atmosphere to erect the panel on erected extruded aluminium main member and transom with supporting system at site fixed on the RC surface. The Mullion and sill / head Transom flush on inside of the facade. Intermediate transoms shall be provided keeping 2 to 3mm recessed from the inner face of the mullion. Joints between mullion and transom shall be filled with weather sealant on the inside. All transoms shall have uniform in depth on the inner face of the system. Vertical in-situ glazing shall not be carried out during construction/erection stage. System shall be designed in such a way that the outer surface of insulated glass unit, monolithic glass unit and Aluminium Composite Panel shall be in the same plane or as per approved drawing.

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Aluminium shim shall be used for level adjustment of bracket but more than 20 mm is not acceptable. If more than 20 mm bracket shall be designed according to site condition.

c. Movement: System shall be designed to accommodate movement due to any force including lateral/dynamic pressure movement, horizontal & vertical building movement panels and on the framing system with support brackets, gaskets and fastening devices. System shall be designed to accommodate the size and shape of the glass panel as per the approved drawings including approved modifications as may be required during execution as well as all other incidental forces and stresses likely to be experienced under service conditions, i.e. Lateral force, Dead weight and Thermal expansion due to building movement both vertical and horizontal etc.

The supporting system shall consists of Brackets / Clamps, fastening straps, nuts, bolts, rivets, washers and other fastening materials etc. Extruded sections shall be designed to accommodate Insulated Glass Unit (IGU) / Monolithic (Single) Glass and Aluminium composite panel as per the approved shop drawings. Extruded aluminium sections shall be 63400 (H9) grade conforming to IS 8147, finished with AC25 grade Architectural quality electrolytic colour anodic coating of approved colour conforming to IS 1868.

d. Glass: Fixing the Insulated Glass (IGU) with laminated / Monolithic (single) Glass as per specification for both vision and spandrel panel conforming to the minimum spectral parameters as specified. Spacer for Insulated glazing unit shall be aluminium extruded profile and finished with AC 25 grade electrolytic colour anodic coating of black colour conforming to IS 1868 and filled with dry desiccant. Primary sealant shall be Poly-isobutylene (PIB) and Secondary seal shall be structural silicon sealant of DC 995 (one part) or DC 983 (two parts) of Dow corning or approved equivalent. Make and thickness of Inner pane glass shall be the same make as outer pane glass of IGU / DGU. Refer the separate item in Schedule of Quantities for the supply of Insulated / Monolithic glass.

e. Gaskets: Providing and fixing weather barrier to ensure the air & water tightness at minimum 3 stages and to ensure that the system is thermally broken systems. The first barrier exposed to weather condition shall be Elastomer silicon synthetic rubber manufacture by oven process at different stages conforming to BS or equivalent IS. The properties of Elastomer silicon synthetic rubber such as hardness, tensile strength elongation compression test & ozone resistance shall be in accordance with BS 903 & BS 903A minimum hardness (shore A) of Elastomer silicon synthetic rubber shall be 65 to 75 Deg and the weather strip with in the system for unexposed shall be Elastomer EPDM (Ethylene Propylene Dinine Monomer) synthetic rubber and its properties like hardness, expanded density (Specific gravity) compressive set, water absorption, skin surface, cell structure, ozone resistance, low temperature includes work shall be in accordance with ASTM D – 1056 and minimum hardness (Shore A) shall be 61/71 Grade.

In general, EPDM gaskets / silicon synthetic rubber shall be as per pre approved make. Contractor shall submit the Manufacturer test certificate conforming that the properties of the Gasket supplied is meeting the specification, codes & standards and copy of such codes shall be produced by the Contractor for verification of Employer/PMC/Architect. Contractor shall arrange to carry out the test to check the properties of EPDM / silicon rubber gasket on the random sample selected by Employer/PMC/Architect (Min. 3 Nos of each type to a required length) and the contractor shall make sure that the properties are meeting the codes and standards and specifications.

f. Sealing: Design bite and thickness of structural sealant to withstand 3 times of the stress caused by the design wind pressure specified above and to ensure the same, the design calculation of sealant manufacturer shall be submitted along with shop drawing. Necessary materials as proposed in the shop drawing such as Extruded member with finish, glass and any other material required by the Sealant manufacturer shall be supplied to them to carryout the test as per relevant codes & standards in order to validate the bite and thickness designed by them.

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Contractor shall obtain the test certificate from Sealant manufacturer and submit the same along with shop drawing and supported by the copy of relevant codes and standards. Contractor shall ensure that the bite and thickness of sealant as designed & determined by calculation, verified and tested by Manufacturer's is followed in the shop drawing and the same shall be adopted for the glazing at factory after the approval of shop drawing. Field test shall be conducted for adhesion of sealant with in the quoted rate.

Supplying and fixing the Sealant as per specification and Double Adhesive spacer tapes for glazing the panel at factory. Spacer tape shall be open cell polyethylene of code no. Norton V-2100 of Norton Grind well make or approved equivalent, Jointing / Sealing of the glazed panel at factory shall be done with Non structural (weather) sealant / Non staining sealant of DC 991 HP of Dow corning make or approved equivalent with Polyurethane baker rods of Supreme make or approved equivalent. Acetoxxy sealant shall not be used for Structural Glazing application. In general, providing and fixing the

Structural and non Structural (weather) sealant shall be as follows

Shop / Factory Sealants:

i) Structural sealant shall be DC 995 (one part) or DC 983 (Two part) of Dow corning make or SSG 4000 (one part) or SSG

4400 (Two part) of Momentive Silicone make or approved equivalent.

ii) Non-Structural (weather) sealant shall be DC 991 HP of Dow corning make or approved equivalent.

Field Sealants:

i) Structural Sealant shall be DC 995 (one part) of Dow corning make or SSG 4000 (one part) of Momentive Silicon make

or approved equivalent.

ii) Non-Structural (weather) sealant shall be DC 991 HP of Dow corning make or approved equivalent.

g. System Supports : Providing and fixing the supporting system with Brackets / Clamps including fastening straps, nuts, bolts, rivets, washers etc. as per design requirement and as per approved shop drawing. Brackets / Clamps shall be of hot dip galvanized steel and fastening materials shall be Non - magnetic Stainless steel 300 series - 316 grade of Hilti make or approved equivalent. Galvanizing thickness shall be in accordance with IS 2629 and 4759. Providing and fixing serrated plates or serrated washer wherever required as per the system requirement and as shown in the approved shop drawing. Shim thickness beyond 20mm is not permitted. Shims shall be similar material, preferably with aluminium, not more than 20mm thick and if the variation is beyond 20 mm, the bracket shall be designed accordingly with fastener.

h. Smoke seal: Providing and fixing Smoke seal / Fire stop using extruded aluminium channel with cap for continuous structurally glazed framing system with required thickness as per site and in general the thickness of channel and cap shall be 2 mm and to a width as required between transom and sill finish material and it shall be 63400 (H9) grade conforming to IS 8147, finished with AC25 grade Architectural quality electrolytic colour anodic coating conforming to IS 1868 of approved colour. Aluminium colour anodized extruded Channel shall be supported with the help of Aluminium bracket as designed and this bracket to be fixed on the wall / RCC surface with necessary SS anchor bolt and fastener of Hilti make or approved equivalent. This channel with cap shall be provided between Sill finish Material (Civil scope)) and Curtain wall / structural glazing member at sill level and between RCC member face and structural glazing member at soffit level / false ceiling and etc complete. All the Joints between the capping channel and any other finish material at both sill and soffit level shall be sealed with intumescent sealant of 3M or Hilti make.

The channel with cap shall be provided between Sill finish Material (Sill finish material shall be paid separately) and Curtain wall / structural glazing member at sill level and between RCC member face and structural glazing member at soffit level / false ceiling and etc complete. All the Joints between the capped channel and any other finish material at both sill and soffit level shall be sealed with Intumescent sealant of 3 M make or approved equivalent. Also, close the gap on the vertical surface between the face of column/wall/partition and structural glazed frame/glass by using extruded aluminium channel with cap with anodized finish aluminium bracket supported on the coloum/wall/partition and in general the thickness of channel and cap shall be 2 mm and to a width as per drawing and it shall be 63400

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(H9) grade conforming to IS 8147, finished with AC25 grade Architectural quality electrolytic colour anodic coating conforming to IS 1868 of approved matching colour to the Mullion & transom.

g. Flashing: In addition to the Channel specified above, providing and fixing flashing at all floor levels as part of the system (applicable only for continuous Curtain wall / structural glazing portion) made to profile as shown in the approved drawings and the profile shall be made out of hot dip galvanized sheet 1.2 mm thick and galvanizing coating thickness shall be in accordance with IS 2629 & 4759. In general, the flashing shall be provided to the entire length of Curtain wall / structural glazing portion horizontally at all floor levels and at terrace level with a overlap of 100 to 125 mm in plan and the joints shall be sealed with weather silicon sealant and with recessing anchoring system soaked and SS fastening devices in sealant of Hilti make or approved equivalent. Also, the flashing shall be provided at parapet top below the coping to drain the water during any seepage through the sealant joints with overlap of 100 to 125 mm in plan with sealant at joints to make sure that no water leakage through coping / flashing joints.

h. Insulation on spandrel panel: Providing and fixing Rock wool - 50 mm thick - 64 Kg / cum and having 'K' value of 0.023 w / M deg k of approved make conforming to IS - 8183 / BS 3958 / ASTM C 612 on the spandrel panel area i.e, behind the ACP / glass and for smoke seal at sill level. These wool should be covered with Black tissue factory pressed - 0.50 mm thick (Nominal Mass - 60 Kg/cum) to conform Non combustibility Class - fire rating to BS 476 - part 7 & IS 3808 and fixed by using GI Angle / channel of required size as base and the wool shall be tied with 22 gauge G.I. wire in criss-cross manner into Aluminium angle / Channel to the structure in addition to the G.I wore the aluminium flat shall be provided to hold the insulation in position and shall be covered with Anodized aluminium sheet tray of 1.2 mm thick. Rock wool should be fixed to the main aluminium frame work between mullion & transom on each side with the gap of 25 to 30 mm from the inner surface of the glass (i.e behind the spandrel panel glass area). The measurement shall be made only between mullion & transom on each side of the inner surface of system.

j. Top hung Openable window Hardware: Providing and fixing the hardware for the shutter with heavy duty self balancing stainless steel friction hinges, corner transmission, detachable restrictor stay assembly and Multi point locking with heavy duty mechanism (minimum 6 points including corner locking point), handle with key at centre of the transom having a ceremony. Handle / cremony shall be made out of aluminium die cast with powder coat finish - 65 microns, matching to the transom profile colour. Rate shall include the shutter frame as designed to accommodate the Hinge, stay arm and multi point lock, EPDM gaskets, fastening materials including all other necessary materials etc. Hinge shall have thermoplastic asymmetric end cap to ensure weather tight sealing at the ends.

Rate shall exclude cost of Glass and main frame, but include cost of sub frame for shutter and the frame to be designed to fix all the hardware specified like heavy duty self balancing stainless steel friction hinges of Model no SPT 26, Corner Transmission Model no 9312, corner locking point model no 9313 and restrictor stay arm assembly model no SRD 8 with release key of model no R 7437 of Securestyle (UK) make or pre approved equivalent make and Multi point lock (minimum 9 point) and handle / cremone size of 110 x 27mm with key of Model no 610 K of Alualpha make or pre approved equivalent make. Shutter will have a provision for hold open option and to restrict the opening not more than 200 mm and to keep the vent weather tight while closing the shutter. Gaskets shall be designed to ensure the air and water tight including noise control while the shutter is closed in position and the gasket shall be silicon synthetic rubber of required strength. Rate shall include for providing master key - 3 sets (floor wise) & Grand master key - 3 sets (building wise) for openable with necessary coding engraved on the keys etc, complete..

l. Visual mock up: Providing and fixing full scale visual mock-up with minimum 3 bays with openable window, ACP

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cladding, smoke seal and other special architectural features etc, to establish the actual system design prior to proceeding with full scale production of the materials involved in the system. Conduct a water test on the installed visual mock up system, (only water using hose real to the specified pressure in the technical specification) and submit the test result of the system for review. Rate shall include for any improvements required on the system based on the test result by the Glazing contractor.

n. Field Test: Conduct Field test at site on the installed glazing system as per the criteria set out in the specification of the external facade system and as per the Methodology described in ASTM 501-2. Test shall be carried out in the presence of Employer/PMC/Architect. Methodology for carrying out the test shall be submitted to Architect for approval prior to testing. The results shall be recorded and the reports shall be submitted to the Engineer in charge for approval. If Field test fails, contractor shall submit the rectification methodology to correct the defects as per the performance data set out in the Specification of external facade system and as per the methodology described in the relevant code for the approval of PMC/Architect. Defects, if any noticed shall be rectified to the satisfaction of Employer / PMC / Architect.

o. General : System design in total, including Aluminium extruded frames, type & thickness of Glass pane, Aluminium sleeves at connections, inserts, EPDM Gaskets / Silicon rubber, Adhesive tapes, Sealant, Supporting system / bracket including fastening and anchoring system & Materials specified in the schedule and the system details as shown in the tender drawing are only tentative and is meant to set out a general outline of the Proprietary system and minimum requirements/ properties of the system and component parts.

The general guidelines governing the system design and performance parameters as set out in the Specification relating to External Façade System and the contents therein. Since the External Façade system in terms of Design, materials, all fixing details, methodology of execution are proprietary in nature, the onus of the design and Performance requirements, shop drawing, execution etc satisfying the design intent and specification of external facade system including conducting the site survey prior to and after preparation of shop drawing and accommodating the site conditions in the system at appropriate levels etc lies solely with the Contractor.

p. Mode of Measurement: Length and breadth of the superficial area of the finished work shall be measured centre to centre of the grooves on the external surface viewed externally correct to a centimeter under the respective items. Areas shall be calculated in a square meter correct to two places of decimal.

q. Rate. Quoted rate shall include the cost of all materials and labour involved in all the operations as specified above, specified in the external facade system, to execute the work as per approved drawings / shop drawings including, scaffolding, infrastructure facility, tools and plants etc. necessary for execution of the respective item for all height and for all floor levels, Item measurable in sqm. Rate shall exclude cost of Insulation on spandrel, but includes the field test, visual mock up, supplying and fixing of glass & fixing of window hardware. Supply of hardware for top hung window. Supplying and fixing of Insulation with tray on spandrel shall be measured separately and paid under respective item given in the tender.

Designing, providing and fixing of Aluminium Grille / Louvers of Fameline make shall be fixed on the system by using aluminium box section 50mm X100mm with minimum 2.20mm thick as a main frame. Grille / Louver panel shall be fixed on the aluminium main framing system with suitable size and thick brackets shall be fixed on the RC / MS surface with vertically to the spacing not more than 1500mm and horizontally not more than 1500mm by using SS 316 grade anchors and bolts and the complete system shall be designed to with stand the design wind pressure as per IS code or relevant international code (Test pressure shall be 1.5 times of the design wind pressure)

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In addition to the aluminium main frame, aluminium clip on vertical support of 2.0mm thick & covering profile of 0.7mm thick to fix the aluminium Grille shall be fixed at every vertical aluminium main frame as per manufacturer specification with specified product code in the bills of quantities with not less than 0.80 mm thick shall be fixed as per drawing with pitch as specified in the BOQ using SS 316 grade bolt and nut arrangement. The aluminium grille and all aluminium frames shall be finished with PVDF coating with approved colour. All aluminium sections shall be 6063-T6 Conforming to BS 1474 / 63400 (H9) grade conforming to IS 8147. Rate shall include the supplying and fixing of aluminum main frame, sub frames to receive the grille, aluminium brackets / clamps with necessary SS 316 grade anchor fastener, nuts, bolts, rivets, aluminium end caps on the terminations and washers of approved make and all materials involved in the work.

Mode of Measurement: Length and breadth of the superficial area of the finished Louver area shall be measured on the external surface viewed externally correct to a centimeter under the respective items. Areas shall be calculated in a square meter correct to two places of decimal.

Laminated sandwiched composite panel cladding system and Associated works

Scope: Designing the cladding system with Laminated sandwiched composite panel (Aluminium composite panel) as per design intent, preparation of shop drawings for approval, supply, fabricate, erect as per approved shop drawings at all floor levels and at all floor heights and the cladding shall be provided matching the plane of glazing system as shown in the approved drawings, wherever required. Design the framing system with the gap as per drawing between wall/column/steel structures/any supporting system & cladding. Frame to support Laminated sandwiched composite panel and Decorative capping to any shape & profile and shall be supported between the aluminium angle brackets anodized finish.

Brackets shall be fixed on to the Masonry wall with Solid block (Compressive strength not less than 5.5 N/mm²) / RCC / steel structures/any other supporting structures like brackets, Angles and the brackets shall be fixed with Polyamide expansion SS anchors of suitable dia and length with the strength as per design criteria. In order to decide the actual strength of expansion bolts to be achieved as per design, a pull out test on bolts shall be conduct at site on the block wall/RCC member at minimum 3 locations on each. Pull out test results will decide the type of anchors (PMC/Architect. All fasteners and expansion bolts shall be Hilti make or approved equivalent. Groove width in the system both in horizontal and vertical shall not be more than 18 mm and the groove width shall be maintained uniform for both structural glazing and cladding system. Groove shall be sealed with non structural and non-staining sealant.

A.DESIGN

Design : Design the cladding system with Laminated sandwiched composite panel for the external surface like column, wall, jambs, sills, projected area, ceiling, decorative cladding on any surface to any profile and shape at horizontally / vertically / sloped / curved / circular etc with approved make of Laminated sandwiched composite panel (ACP) - 4 mm thick (0.5 mm thick aluminium sheet on top & bottom sandwiched with 3 mm thick core material confirming to BS 1467 in combination with approved Solid and Metallic colour panels Laminated sandwiched composite panel. The complete system shall be designed to with stand the design wind pressure as per IS code or relevant international code (Test pressure shall be 1.5 times of the design wind pressure). Necessary pull out test of anchor fastener shall be carried out on the masonry wall /RCC structure to check the load carrying capacity of the bolt designed under suction pressure for designing the supporting and anchoring system

Movement: System shall be designed to accommodate movement due to any force including the movement resulting from the exterior skin temperature ranging from 15 to 85 deg.celsius and also to accommodate the horizontal building movement of 10 mm per panel & vertical movement of 20 mm between floors on the aluminium framing system with support brackets, glass, gaskets and fastening devices. System shall be designed to accommodate the size and shape of the Laminated sandwiched composite panel as per the approved drawings

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including approved modifications as may be required during execution as well as all other incidental forces and stresses likely to be experienced under service conditions, i.e. Lateral force, Dead weight and Thermal expansion due to building movement both vertical and horizontal etc. Grooves shall be designed in such a way to accommodate weather sealant - Non staining sealant of approved make.

B. MATERIALS

a. Frames: Providing and fixing Aluminium extruded members (Box Tube) designed to with stand design wind pressure and movement as specified as continuous member for cladding the aluminium Composite panel. Aluminium member shall be fixed into masonry wall / RCC member /steel structures with Brackets / Clamps and it shall be of chromotised finish aluminium. All fastening straps, nuts & bolts, rivets, washers/other fastening materials shall be of non magnetic Stainless steel and aluminium brackets shall be considered for ACP cladding with standard dimension and after the site survey if any undulation is observed in tern that doesn't allow to fix the aluminium bracket only in these areas the additional support with locally fabricated Hot dip galvanized bracket can be considered. The bidder shall include the provision for these brackets also with in the quoted rate for ACP cladding works. Aluminium shim shall be used for level adjustment of bracket but more than 20 mm is not acceptable. If more than 20 mm bracket shall be designed according to site condition.

Aluminium brackets / clamps shall be fixed with chemical injection technique threaded anchor rods of Hilti make or approved equivalent to the base structure in the case of masonry wall / RCC members and SS anchor bolts in the case of steel structure. Extruded member shall be designed to accommodate Laminated sandwiched composite panel as per the approved shop drawings and extruded aluminium member shall be 6063 T6 or 63400 (H9) grade conforming to BS 1467 or IS 8147, finished with transparent electrolytic colour anodic coating AC15 grade conforming to IS 1868.

b. Composite Panel: Laminated sandwiched composite panel of approved make as specified in BOQ in combination with solid and Metallic colors and it shall consist of 3 mm thermoplastic 100% virgin core of polyethylene sandwiched between 2 skins of 0.5mm thick Aluminium sheet (alloy designation 3000 series – H14 to H16 conforming to BS 1475) making a consolidated panel thickness of 4 mm ranging 5.30 to 5.50 kg/sqm and to be fixed on the framing system described above. Laminated sandwiched composite panel finished with PVDF (Polyvinylidenfluorid) coating containing minimum 70% kynar 500 and 30% resin or Lumiflon based coating on the topside / top surface and the dry film thickness shall not be less than 23 microns for solid colour and 33 microns for Metallic colour with natural pearl pigment. The reverse side coated with polyester based wash coat and top surface shall be protected with a self-adhesive peel-off foil. Lamination process of Aluminium panel shall only be Glue Technology and the source of complete composite panel shall only be accepted

Providing and fixing Laminated sandwiched composite panel suitably stiffened internally on the back side for preventing deformation due to design wind pressure beyond permissible limits by using aluminium flat 25 mm wide – 4 mm thick glued with 3 M make Double adhesive tape in order to maintain panel flatness and to avoid permanent deformation over a period. Stiffener shall be provided at 600 mm c/c behind ACP panel irrespective of structural check of the panel against stability and deflection. Aluminium flat of size 25 mm wide and 3 mm thick shall be provided to a length 100 mm bent to shape, wherever the Inner skin is cut to bend the ACP at the corners and as per approved shop drawing. Methodology of fixing the stiffener/Flat in the corner panel shall be established in the drawing or to be glued to ACP on the backside of the panel in such a way the fixing mechanism of stiffener / Flat shall not be visible on the elevation of the panel / outside.

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d. Sealing: Providing and applying the sealant for Jointing / Sealing and it shall be done with Non structural (weather) sealant / Non staining sealant of DC 991 HP of Dow corning make or approved equivalent with Polyurethane baker rods of Supreme make or approved equivalent. Acetoxy sealant shall not be used for Structural Glazing application. Sealing shall be carried out with Non structural (weather) sealant / Non staining sealant with Polyurethane baker rods, wherever the system is interfacing with glazing, cladding groove and any other groove.

e. Flashing: providing and fixing flashing at terrace level as part of the system made to profile as shown in the approved shop drawings and the profile shall be made out of hot dip galvanized sheet 1.2 mm thick and galvanizing coating thickness shall be in accordance with IS 2629 & 4759. In general, the flashing shall be provided to the entire length of cladding horizontally at terrace level with necessary anchoring system with SS fastening devices of Hilti make or approved equivalent. Also, the flashing shall be provided at parapet top below the coping to drain the water during any seepage through the sealant joints with overlap of 100 to 125 mm in plan with sealant at joints to make sure that no water leakage through coping / flashing joints.

f. Field Test: Conduct Field test at site on the installed system as per the criteria set out in the particular specification in the presence of Engineer in charge. Methodology for carrying out the test shall be submitted to Employer/PMC/Architect for approval prior to testing. Record the results and submit the report to the Employer/ PMC/ Architect for approval. If Field test fails, correct the defects revealed to the satisfaction of the performance data as set out in the Technical Specification with the prior approval of Employer/PMC/Architect on defects rectification Methodology.

g. General Guideline: System design in total, including Aluminium extruded member, type & thickness of Aluminium composite panel, Aluminium sleeves at connections, inserts, Sealant, Supporting system/bracket including fastening and anchoring system & Materials specified in the schedule and the system details as shown in the tender drawing are only tentative and is meant to set out a general outline of the Proprietary system. Since the cladding system in terms of Design, materials, all fixing details, methodology of execution are proprietary in nature, the onus of the design and Performance requirements, shop drawing, execution etc satisfying the design intent, particular specification and site conditions lies solely with the Contractor.

h. Mode of Measurement: Length and width of the superficial area of the finished work shall be measured centre to centre of the grooves on the external surface viewed externally correct to a centimeter under the respective items. Areas shall be calculated in a square meter correct to two places of decimal.

i. Rate. Quoted rate shall include the cost of all materials and labour involved in the item for all operation described above and any other stipulations in the particular specification and agreement. Also, include the cost of scaffolding, infrastructure facility and all other consumables to execute the work as specified above.

STEEL WORK IN BUILT UP SECTION (WELDED):

The steel work in built up sections (welded) such as in trusses, form work etc.

Fabrication: Fabrication shall generally be done as specified in IS 800. In major works or where so specified, shop drawings giving complete information for the fabrication of the component parts of the structure including the location, type, size, length and details or rivets, bolts or welds, shall be prepared in advance of the actual fabrication and approved by the Engineer-in-charge. The drawings shall indicate the shop and field rivets, bolts and welds. The steel members shall be distinctly marked or stenciled with paint with the identification marks as given in the shop drawings.

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Welding: Welding shall generally be done by electric arc process as per IS: 816 and IS: 823. The electric arc method is usually adopted and is economical. Where electricity for public is not available generators shall be arranged by the contractor at his own cost unless otherwise specified. Gas welding shall only be resorted to using oxyacetylene flame with specific approval of the Engineer-in-charge. Gas welding shall not be permitted for structural steel work. Gas welding required heating of the members to be welded along with the welding rod and is likely to create temperature stresses in the welded members. Precautions shall therefore be taken to avoid distortion of the members due to these temperature stresses. The work shall be done as shown in the shop drawings which should clearly indicate various details of the joint to be welded, type of welds, shop and site welds as well as the types of electrodes to be used.

As far as possible every effort shall be made to limit the welding that must be done after the structure is erected so as to avoid the improper welding that is likely to be done due to heights and difficult positions on scaffolding etc. apart from the aspect of economy. The maximum diameter of electrodes for welding work shall be as per IS: 814. Joint surfaces which are to be welded together shall be free from loose mill scale, rust, paint, grease or other foreign matter, which adversely affect the quality of members, and holes for riveting and bolting marked on them. The ends of the steel members shall also be marked for cutting as per required dimensions. The base of steel columns and the positions of anchor bolts shall be carefully set out at the required location.

Assembly: Before welding is commenced, the members to be welded shall first be brought together and firmly clamped or tack welded to be held in position. This temporary connection has to be strong enough to hold the parts accurately in place without any disturbance. Tack welds located in places where final welds will be made later shall conform to the final weld in quality and shall be cleaned off slag before final weld is made.

Erection: The work of erection may be done in suitable units as may be directed by the Engineer-in-charge. Fabricated members shall be lifted at such points so as to avoid deformation or excessive stress in members. The structure or part of it placed in position shall be secured against over- turning or collapse by suitable means.

Painting: Before the member of the steel structures are placed in position or taken out of the workshop these shall be painted as specified.

Measurements: The work as fixed in place shall be measured in running meters correct to a millimeter and weights calculated on the basis of standard tables correct to the nearest kilogram. The standard weight of steel sections shall conform to IS 808 with tolerance in sizes as per IS: 1852.

Rate: The rate shall include the cost of all labour and materials involved in all the operations described above.

STAINLESS STEEL WORK IN BUILT UP SECTION (WELDED):

The steel work in built up sections (welded) such as in trusses, railing, guard rail etc.

Fabrication: Fabrication shall generally be done as per shop drawings giving complete information for the fabrication of the component parts of the structure including the location, type, size, length and details or rivets, bolts or welds, shall be prepared in advance of the actual fabrication and approved by the Engineer-in-charge.

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Welding: Welding shall generally be done by electric arc process. The electric arc method is usually adopted and is economical. Where electricity for public is not available generators shall be arranged by the contractor at his own cost unless otherwise specified. Gas welding shall only be resorted to using oxyacetylene flame with specific approval of the Engineer-in-charge. Precautions shall therefore be taken to avoid distortion of the members due to these temperature stresses. The work shall be done as shown in the shop drawings which should clearly indicate various details of the joint to be welded, type of welds, shop and site welds as well as the types of electrodes to be used.

Erection: The work of erection may be done in suitable units as may be directed by the Engineer- in charge. Fabricated members shall be lifted at such points so as to avoid deformation or excessive stress in members. The structure or part of it placed in position shall be secured against over- turning or collapse by suitable mean.

Measurements: The work as fixed in place shall be measured in running meters correct to a millimeter and weights calculated on the basis of standard tables correct to the nearest kilogram. The standard weight of steel sections shall conform to IS 808 with tolerance in sizes as per IS: 1852.

Rate: The rate shall include the cost of all labour and materials involved in all the operations described above.

Rolling shutters:

General: Rolling shutters shall be of best quality and obtained from approved make. These shall include necessary locking arrangement handles etc. These shall be suitable for fixing in position as specified i.e. outside or below lintel or between jams of the opening. The door shall be push and pull type and also operated with chain crank as required.

Shutters: The shutters shall consist of MS plates of 1.25mm thick and 80mm wide as specified. The laths shall be machine rolled and straightened with effective bridge depth of 16 mm and shall be interlocked together through out there entire length and joined together at the end with locks . These shall be mounted with on specifically mounted on specifically designed pipe shaft. Each lath section shall be continuous single strip piece without any joint.

Spring: The springs shall be preferably of coiled type. The spring shall be manufactured from high tensile spring steel wire or strip of adequate strength to balance the shutters in all positions. & the spring pipe shall be supported on strong miled steel brackets. The guide channels shall be of mild steel deep channel section and of rolled, Pressed or built up construction. The thickness of the sheet used shall not be less than 3.15mm. The minimum depth of the guide channels shall be 60mm for clear width of shutters up to 3.5 m and 75 mm for 3.5 m and above. The gap between the two channels shall be sufficient to allow the free movement of curtain and at the same time closes enough to prevent the rattling of curtain due to wind. Each guide rail shall be provided with a minimum three fixing cleats to the wall or columns by means of bolts or screws.

Fixing: Brackets shall be fixed on the little or under the lintel as shown in the drawing with rawl plugs, screws, bolts etc. The shaft along with the spring shall then be fixed to the brackets.

The shutter shall be laid on the ground and the side guide channel shall be bound with it with ropes etc. The shutters then be placed in position and top fixed with pipe shaft with bolts & nuts. The side guide channels and the cover frame shall then be fixed to the walls through the plate welded to the guides.

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Fixing shall be done accurately in workmanlike manner so that the operation of the shutter is easy & smooth.

Grilled Curtain: Wherever specified rolling shutter shall be provided with grilled curtain.

Finishing: The rolling shutter together with guide channel, cover and accessories shall be supplied with two coats of approved primer and shall be painted finally with two coats of approved paint at site after installation, as specified. Metal Inserts' in RCC & Block Work: Anchor bolts, rolled steel sections sleeves, pipes, inserts, etc shall be galvanized and shall be fixed or inserted as shown or directed the contractor shall supply and place in the shuttering all such inserts as may be required for sanitary, electric or work of any other trade. Work shall be done exactly as required for the purpose, to the satisfaction of engineer in charge.

Quality of steel: All mild steel used in this work shall be tough with even surface and shall be cleanly rolled, sound and free from flaws, cracks, crop ends and other defects. Workmanships:

All work shall be carried out as per drawing in a neat and good craftsman like manner by especially skilled men known for good quality work.

Measurements to be checked: The contractor shall check all measurements at site and with surroundings works as per approval of engineer in charge.

Assembly: Work carried out in sections shall be carefully assembled. All members shall be secured together or to the anchored by welding or as shown in the details. All welds shall be ground smooth and made to match surrounding surface and finished to the satisfaction of the engineer in charge.

CEMENT PLASTER:

The cement plaster shall be 12 mm, 15 mm or 20 mm thick as specified in the item.

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

For all other work in buildings, single scaffolding shall be permitted. In such cases the inner end of the horizontal scaffolding pole shall rest in a hole provided only in the header course for the purpose.

Only one header for each pole shall be left out. Such holes for scaffolding shall, however, not be allowed in pillars/columns less than one metre in width or immediately near the skew backs of arches. The holes left in masonry works for scaffolding purposes shall be filled and made good before plastering.

Note: In case of special type of brick work, scaffolding shall be got approved from Engineer-in-charge in advance.

Preparation of Surface: The joints shall be raked out properly. Dust and loose mortar shall be brushed out. Efflorescence if any shall be removed by brushing and scrapping. The surface shall then be thoroughly washed with water, cleaned and kept wet before plastering is commenced. In case of concrete surface if a chemical retarder has been applied to the form work, the surface shall be roughened by wire brushing and all the resulting dust and loose particles cleaned off and care shall be taken that none of the retarders is left on the surface.

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Mortar: The mortar of the specified mix using the type of sand described in the item shall be used. It shall be as specified in Subhead 3.0. For external work and under coat work, the fine aggregate shall conform to grading IV. For finishing coat work the fine aggregate conforming to grading zone V shall be used.

Application of Plaster: Ceiling plaster shall be completed before commencement of wall plaster. Plastering shall be started from the top and worked down towards the floor. All putlog holes shall be properly filled in advance of the plastering as the scaffolding is being taken down. To ensure even thickness and a true surface, plaster about 15 × 15 cm shall be first applied, horizontally and vertically, at not more than 2 metres intervals over the entire surface to serve as gauges. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The mortar shall then be laid on the wall, between the gauges with trowel. The mortar shall be applied in a uniform surface slightly more than the specified thickness. This shall be brought to a true surface, by working a wooden straight edge reaching across the gauges, with small upward and sideways movements at a time. Finally the surface shall be finished off true with trowel or wooden float according as a smooth or a sandy granular texture is required. Excessive troweling or over working, all corners, angles and junctions shall be truly vertical or horizontal as the case.

Curing: Curing shall be started as soon as the plaster has hardened sufficiently not to be damaged when watered. The plaster shall be kept wet for a period of at least 7 days. During this period, it shall be suitably protected from all damages at the contractor's expense by such means as the Engineer-in-Charge may approve. The dates on which the plastering is done shall be legibly marked on the various sections plastered so that curing for the specified period thereafter can be watched.

Finish: The plaster shall be finished to a true and plumb surface and to the proper degree of smoothness as required. The work shall be tested frequently as the work precedes with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal lines and surfaces shall be tested with a level and all jambs and corners with a plumb bob as the work proceeds.

Measurements: Length and breadth shall be measured correct to a cm and its area shall be calculated in square metres correct to two places of decimal.

Rate: The rate shall include the cost of all labour and materials involved in all the operations described above.

GRANITE

Granite: A. Granite Standard: Granite shall comply with ASTM C 615, "Standard Specification for Granite Dimension Stone" for material characteristics, physical requirements, and sampling for selection of granite.

General: All granite shall be of standard architectural grade, free of cracks, seams, or starts, which may impair its structural integrity or function. Color or other visual characteristics indigenous to the particular material and adequately demonstrated in the sampling or mock-up phases will be accepted provided they do not compromise the structural or durability capabilities of the material. Texture and finish shall be within the range of samples approved by the Design Professional.

Packing and Loading: Finished granite shall be carefully packed and loaded for shipment using all reasonable and customary precautions against damage in transit. No material which may cause staining or discoloration shall be used for blocking or packing.

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Site Storage: Upon receipt at the building site or storage yard, the granite shall be tacked on timber or platforms at least 3" above the ground, and extreme care shall be taken to prevent staining during storage. If storage is to be for a prolonged period, polyethylene or other suitable plastic film shall be placed between any wood and finished surfaces, and shall be used also as an overall protective covering.

Stone Installation: Proceed with the installation of the stonework in accordance with Drawings and using skilled mechanics capable of proper handling of the setting of the stone and able to field cut where necessary with sharp and true edges. Set stone with joints uniform in appearance and stone edges and faces aligned to tolerances indicated. Clean surfaces that are dirty or stained. Scrub with fiber brushes, and then rinse with clear water.

Provide expansion, control, and pressure-relieving joints of widths and at locations shown on Drawings

Protection of Finished Work: After the granite work is installed, the granite shall be properly and adequately protected from damage. Boxing or other suitable protection shall be provided wherever required, but no lumber which may stain or deface the granite shall be used. All nails used shall be non-corrosive.

All granite work in progress shall be protected at all times during construction by use of a suitable strong, impervious film or fabric securely held in place.

Measurements: Length shall be measured along the finished face of flooring, riser, skirting or dado correct to a cm. Height shall be measured from the finished level of tread of floor to the top (the underside of tread in the case of steps). This shall be measured correct to a mm in the case of risers of steps and skirting and correct to a cm in the case of dado. The area shall be calculated in square metre correct to two places of decimal. Lining of pillars etc. shall also be measured under this item.

Rate: The rate shall include the cost of all materials and labour involved in all the operations described above.

EXTERIOR PAINTING ON WALL:

Material: The paint shall be (Textured exterior paint/Acrylic smooth exterior paint/premium acrylic smooth exterior paint) of approved brand and manufacture. This paint shall be brought to the site of work by the contractor in its original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the contractor and the Engineer-in-Charge. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.

Preparation of Surface: For new work, the surface shall be thoroughly cleaned off all mortar dropping, dirt dust, algae, and fungus or moth, grease and other foreign matter of brushing and washing, pitting in plaster shall make good, surface imperfections such as cracks, holes etc. should be repaired using white cement. The prepared surface shall have received the approval of the Engineer in charge after inspection before painting is commenced.

Application: Base coat of water proofing cement paint, Before pouring into smaller containers for use, the paint shall be stirred thoroughly in its container, when applying also the paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform. Dilution ratio of paint with potable water can be altered taking into consideration the nature of surface climate and as per recommended dilution

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given by manufacturer. In all cases, the manufacturer's instructions & directions of the Engineer-in-charge shall be followed meticulously.

The lids of paint drums shall be kept tightly closed when not in use as by exposure to atmosphere the paint may thicken and also be kept safe from dust. Paint shall be applied with a brush on the cleaned and smooth surface. Horizontal strokes shall be given, First and vertical strokes shall be applied immediately afterwards. This entire operation will constitute one coat. The surface shall be finished as uniformly as possible leaving no brush marks.

Painting: Paints, oils, varnishes etc. of approved brand and manufacture shall be used. Only ready mixed Paint (Exterior grade) as received from the manufacturer without any admixture shall be used. If for any reason, thinning is necessary in case of ready mixed Paint, the brand of thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used. Approved Paints, oil or varnishes shall be brought to the site of work by the contractor in their original containers in sealed condition. The material shall be brought in at a time in adequate quantities to suffice for the whole work or at least a fortnight's work. The materials shall be kept in the joint custody of the contractor and the Engineer-in-Charge. The empties shall not be removed from the site of work, till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.

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

Preparation of Surface: The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is started. The prepared surface shall have received the approval of the Engineer-in-Charge after inspection, before painting is commenced.

Application: Before pouring into smaller containers for use, the Paint shall be stirred thoroughly in its containers, when applying also; the Paint shall be continuously stirred in the smaller containers so that its consistency is kept uniform. The painting shall be laid on evenly and smoothly by means of crossing and laying off, the latter in the direction of the grains of wood. The crossing and laying off consists of covering the area over with Paint, brushing the surface hard for the first time over and then brushing alternately in opposite direction, two or three times and then finally brushing lightly in a direction at right angles to the same. In this process, no brush marks shall be left after the laying off is finished. The full process of crossing and laying off will constitute one coat.

Where so stipulated, the painting shall be done by spraying. Spray machine used may be (a) high pressure (small air aperture) type, or (b) a low pressure (large air gap) type, depending on the nature and location of work to be carried out. Skilled and experienced workmen shall be employed for this class of work. Paints used shall be brought to the requisite consistency by adding a suitable thinner.

Spraying should be done only when dry condition prevails. Each coat shall be allowed to dry out thoroughly and rubbed smooth before the next coat is applied. This should be facilitated by thorough ventilation. Each coat except the last coat shall be lightly rubbed down with sand paper or fine pumice stone and cleaned off dust before the next coat is laid. No left over Paint shall be put back into the stock tins. When not in use, the containers shall be kept properly closed. No hair marks from the brush or clogging of Paint puddles in the corners of panels, angles of moldings etc. shall be left on the work. In painting doors and windows, the putty round the glass panes must also be painted but care must be

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taken to see that no Paint stains etc. are left on the glass. Tops of shutters and surfaces in similar hidden locations shall not be left out in painting. However, bottom edge of the shutters where the painting is not practically possible, need not be done nor any deduction on this account will be done but two coats of primer of approved make shall be done on the bottom edge before fixing the shutters. On painting steel work, special care shall be taken while painting over bolts, nuts, and rivets overlaps etc. The additional specifications for primer and other coats of Paints shall be as according to the detailed specifications under the respective headings.

Brushes and Containers: After work, the brushes shall be completely cleaned of Paint and linseed oil by rinsing with turpentine. A brush in which Paint has dried up is ruined and shall on no account be used for painting work. The containers when not in use shall be kept closed and free from air so that Paint does not thicken and also shall be kept safe from dust. When the Paint has been used, the containers shall be washed with turpentine and wiped dry with soft clean cloth, so that they are clean, and can be used again.

Measurements: The length and breadth shall be measured correct to a cm. The area shall be calculated in sqm (correct to two places of decimal), except otherwise stated. Small articles not exceeding 10 sq. decimeter (0.1 sqm) of painted surfaces where not in conjunction with similar painted work shall be enumerated. Painting up to 10 cm in width or in girth and not in conjunction with similar painted work shall be given in running meters and shall include cutting to line where so required.

PAINTING WITH SYNTHETIC ENAMEL PAINT:

Synthetic Enamel Paint (conforming to IS: 2933) of approved brand and manufacture and of the required colour shall be used for the top coat and an undercoat of ordinary Paint of shade to match the top coat as recommended by the same manufacturer as far the top coat shall be us Painting on New Surface.

Application: The number of coats including the undercoat shall be as stipulated in the item.

- (a) **Under Coat:** One coat of the specified ordinary Paint of shade suited to the shade of the top coat shall be applied and allowed to dry overnight. It shall be rubbed next day with the finest grade of Wet abrasive paper to ensure a smooth and even surface, free from brush marks and all loose particles dusted off.
- (b) **Top Coat:** Top coats of synthetic enamel Paint of desired shade shall be applied after the undercoat is thoroughly dry. Additional finishing coats shall be applied if found necessary to ensure properly uniform glossy surface.

Painting on Old Surface:

Preparation of Surface: Where the existing Paint is firm and sound it shall be cleaned of grease, smoke etc. and rubbed with sand paper to remove all loose particles dusted off. All patches and cracks shall then be treated with stopping and filler prepared with the specified Paint. The surface shall again be rubbed and made smooth and uniform.

If the old paint is blistered and flaked it will be necessary to completely remove it. Such removal shall be paid for separately and the painting shall be treated as on new surface.

Finishing: Painting: The number of coats as stipulated in the item shall be applied with synthetic enamel Paint. Each coat shall be allowed to dry and rubbed down smooth with very fine wet abrasive paper, to get an even glossy surface. If however, the surface is not satisfactory additional coats as required shall be applied to get correct finish.

HORTICULTURE & LANDSCAPES MAINTENANCE

3.2.1 Routine maintenance activities of lawn having different types of grass including without limitation: 3.2.1.1

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Watering;

3.2.1.2 Deweeding;

3.2.1.3 Cultivation and cutting of hedges etc;

3.2.1.4 Pruning and clipping of hedges etc.

3.2.1.5 Mowing;

3.2.1.6 Top dressing with good earth, manure etc;

3.2.1.7 Sweeping; 3.2.1.8 Applying manure and fertilizers;

3.2.1.9 spraying pesticides and insecticides Protection from pests and diseases;

3.2.1.11 Repair of patches by preparation of soil by digging, leveling and planting new grass of same variety;

3.2.1.12 Disposal of refuse / waste;

3.2.2 Stacking, preparation and planting of seasonal flowers, making basins of tree pits and hoeing.

3.2.3 Maintenance of existing flower beds including alteration wherever required by planting summer and winter seasonal flowers and perennial flowers.

3.2.4 Plant trees, shrubs etc as and when required.

3.2.5 Prepare and maintain indoor and outdoor plants in pots at designated locations.

3.2.6 Routine maintenance activities of landscapes in respect of existing garden features which includes, without limitation, lawn, beds, topiary, perennial beds, rockeries, erecters, climbers, shrubs, trees, self-grown trees and complete removal of rank vegetation and bushes etc. It shall include all minor repairs of the garden features damaged due to digging in the area, natural calamity or any other reason

3.2.7 Adequate watering of all garden features, trees, hedges, shrubs etc using sprinklers or hose pipes. Contractor shall make his own arrangement of water pumps, hose pipes etc wherever and whenever required. Contractor shall ensure that unnecessary wastage of water does not occur at any time and shall protect the irrigation fittings / hydrants and irrigation system etc installed at Plant. Any damage to existing irrigation system due to negligence by Contractor shall be made good by the Contractor at his own cost.

3.2.8 Manure and fertilizers as and when required in sufficient quantum shall be applied under the directions of Project Manager. Cost of manure and fertilizers is included in Contract Price.

3.2.9 Periodic check for pests and diseases. In the event of infestation, prompt spraying of appropriate insecticides, fungicides and pesticides shall be performed so as to completely eradicate the infestation. Cost of insecticides, fungicides and pesticides is included in Contract Price.

3.2.10 Lawn mowing, hedge cutting and hedge shaping as per the direction of Project Manager but in no case less than once in every 15 days i.e. two times in a month. Lawn mowing, hedge cutting and hedge shaping shall be done in such a manner to give lawn and hedge neat, clean, tidy and even look.

3.2.11 Clipping and trimming of hedges and edges, trimming of shrub plant, trees, creepers etc at regularly at intervals as directed by Project Manager.

3.2.12 Cultivate seasonal flower of at least six (6) variety in each season and make flower beds at the Plant.

3.2.13 Prepare an inventory of trees and plants at the start of work, number the trees and display identification placards for each tree.

3.2.14 Provide all tools, tackles, instruments, materials etc required for horticulture and landscaping

3.3 LANDSCAPING 3.3.1 Apply at least 225 mm garden soil for lawn area and farm yard manure as per the recommendation of Project Manager;

3.3.2 Level the ground;

3.3.3 Mix earth, sand and manure in proportion as specified;

3.3.4 Provide and spread good earth and manure in required thickness;

3.3.5 Treat the soil with chemicals including pesticides, fungicides etc and control soil pests;

3.3.6 Provide and plant Korean / Selection-1 grass;

3.3.7 Maintain the grass so as to form a thick lawn free from weeds and fit for movement;

3.3.8 Prepare bed for planting hedge and shrubs by excavating to specified depth and trenching the excavated base to a further depth of 30 cm, refilling it with good earth mixed with manure in the ratio specified, flooding with water, leveling, fine dressing, disposing surplus material, spreading & leveling surplus earth within a lead of 50 mtr and lift up to 1.5 mtr;

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3.3.9 Prepare land for planting trees by digging pits in ordinary soil and refilling the same with good earth mixed with manure in the ratio as specified, flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts. Trees shall be planted in a pit size of 60 cm x 60 cm and shall be stacked properly;
3.3.10 Provide and plant best quality container grown healthy trees and plants of specified height, shrubs, creepers, hedge plants etc as approved by Project Manager.

3.4 GENERAL SPECIFICATION

3.4.1 Plant

3.4.1.1 All plant materials shall be healthy, sound, vigorous, free from plant diseases, insects, pests or their eggs and shall have healthy and well-developed root system. All dead or decayed plants shall be replaced with new plants whenever necessary for which price is included in Contract Price. All plant shall be hardy under climate conditions similar to those in the locality of the Site. No plant material shall be accepted if branches are damaged or broken. Plants shall be of specified height. All materials shall be protected from the Sun and weather elements until planted. All plants shall confirm to the requirement specified by the Project Manager except that plants larger than specified may be used if approved by Project Manager provided Contract Price shall remain unchanged on this account.

3.4.2 Topsoil / Good Earth

3.4.2.1 Top soil or good earth shall be friable loam typical. It shall be free from subsoil stones, earth clods, stubbles, weeds or other extraneous matter or debris. It shall contain no toxic material. No topsoil shall be delivered in a muddy condition. The pH value of soil shall be ensured between 6.5 and 7.5 by periodic and random testing of soil in any reputed laboratory.

3.4.3 Manure

3.4.3.1 Well decomposed farm yard manure/organic shall be used. It shall be free from sticks, paddy strain, stones, earth, weed, seed, extraneous matter, harmful bacteria, insects, chemicals etc.

3.4.4 Root System

3.4.4.1 Root system shall be conducive for successful transplantation. Wherever necessary, root-ball shall be preserved by support with hessian cloth or other suitable material. On soils where retention of a good root-ball is not possible, the roots shall be protected in other ways. The roots system shall be free from nematodes and other pests.

3.4.5 Fertilizer

3.4.5.1 Fertilizing shall be carried out by application in rotation of the following fertilizers every day from the beginning of monsoon till the end of winter:

3.4.5.1.1 Organic well-rotted dry farmyard manure : 0.05 Cu Mtr per tree

3.4.5.1.2 Nitrogen : 15 lbs / 1000 sq feet

3.4.5.1.3 Phosphorous : 30 lbs / 1000 sq feet

3.4.5.1.4 Potash : 15 lbs / 1000 sq feet

3.4.6 Replacement of damaged grass

3.4.6.1 Contractor shall be responsible for damage, failure or dying of grass due to heat, pest, disease etc and shall make good them by planting new grass of same variety.

3.4.7 Lawn Grass

3.4.7.1 Planting / dibbling of lawn grass: After preparation of land, watering shall be done regularly to allow the weeds to grow. After 15 days grass shall be separated and planting shall be done at a spacing of 7-10 cm. After planting of grass, watering and weeding shall be done regularly.

3.4.7.2 Turfing of lawn grass: After preparation of land, leveling, watering and consolidation shall be done. After this thin layer of sand shall be spread followed by laying of grass at uniform level.

3.4.8 Planting of Shrubs / Trees

3.4.8.1 Planting shall be done at the specified spacing as directed by Project Manager. For planting, plants shall be taken out from containers while protecting root-ball. Plants with damaged root-ball shall be rejected.

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3.4.8.2 The plants shall be planted plumb and shall be centered in the planting pit or trench. Backfilling shall be done immediately after planting. Any excess soil which is not used for backfilling the planting pits shall be evenly distributed in the landscape area. Immediately after planting, all plants shall be thoroughly irrigated until the backfill soil around and below the roots or root-ball of each plant is saturated. Stacking shall be done immediately after planting.

3.4.9 Maintenance of lawns /Korean / Selection-1 grass

3.4.9.1 The lawn shall be regularly mowed with lawn mower without appearing dry patches. The side grass shall be trimmed with grass cutter.

3.4.9.2 Pruning of shrubberies shall be done with proper hedge trimmer or garden shear only.

3.4.9.3 The height of grass shall not be allowed to increase beyond 60 mm. The minimum height of grass shall be maintained as 25 mm. The height shall be measured from top of the soil surface. The grass shall be kept free from all kinds of weeds, pests and diseases.

3.4.9.4 The grass lawns shall be kept constantly rolled to give cushioning effect to the grass. Manuring of grass lawns shall be done regularly to keep the grass green

3.4.10 Trees

3.4.10.1 Stacking shall be done immediately after planting. Tree basis shall be formed around the tree. The area around the tree plant up to a minimum two feet from the trunk of the tree plants shall be kept free from grass and all kinds of weeds. Trimming and pruning of the trees and hoeing of the area around the trees shall be done regularly. The trees shall be watered regularly. Hoeing shall also be done after every watering. For proper upkeep of the trees unwanted branches of the trees / tree plants shall be cut and removed at regular intervals as required and as directed by Project Manager. The tree plants/trees shall be kept free of any disease, insects or pests by regularly spraying insecticides/pesticides as required and as directed by Project Manager. To keep the tree plants / trees healthy manure shall be applied based on the required and as directed by Project Manager. The appropriate manure, fertilizers, insecticides, pesticides etc. along with spraying machine and manpower required shall be provided by the contractor

4.0 MANPOWER:

4.1 The contractor should maintain the minimum daily labors/manpower as per the following:

4.1.1.1 Project In charge – 01 nos.

4.1.1.2 High skilled Labours cum field Supervisor- 01 Nos.

4.1.1.3 Skilled types Labours- 05 Nos

4.1.1.4 Local Unskilled type Labours- 15 Nos

4.2 Educational qualification/experience details of the manpower

4.2.1.1 Local labors unskilled type - As per the approved labors list & familiar with horticulture activities.

4.2.1.2 Skilled labors type- 8-10 Years' experience in horticulture maintenance activities. Valid work experience certificates shall be produced during the time of joining.

4.2.1.3 High skilled labor cum field supervisor- H.S. pass and 8-10 years' experience in horticulture maintenance activities. Valid academic qualification & work experience certificates shall be produced during the time of joining.

4.2.1.4 Project in Charge- Graduate in any stream (Graduate in agriculture or horticulture is preferable) with 10 years' experience in Horticulture maintenance activities. Valid academic qualification & work experience certificates shall be produced during the time of joining.

4.3 The contractor should take prior approval of the CV/Biodata of the manpower before deployment of the worker. If any change in the manpower group happen, the contractor should get those manpowers approved it accordingly on advance basis.

4.4 The contractor should submit PF submission challan, master roll copy, wages copy etc. on or before 10th in every month without fail.

4.5 The contractor should give contract letter/joining letter/appointment letter to every worker of this project during the time of joining in this site. After acceptance a copy of the letter should be given to the OTPC for record purpose.

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SCHEDULE OF APPROXIMATE QUANTITIES AND RATE

1. The quantities given herein are those upon which the lumpsum cost of the work is based. They are subjected to alterations omissions, deductions or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities of the work to be done. The unit rate noted below are those governing payment of extras or deductions for omissions, according to the conditions of the contract as set forth in the preliminary specifications of the Chhattisgarh state. detailed standard specifications and other conditions or specifications of this contract.
2. It is to be expressly understood that the measured work is to be taken net (notwithstanding) any custom or practice to the contrary according to the actual quantities when in place and finished according to the drawings or as may be directed from time to time by the Architects, and the cost calculated by measurements or weight, at the respective prices, without any additional charge for any necessary or contingent works connected there with. The rates quoted are for work in site and complete in every respects.
3. If any operation of work, which is specified in the respective items mentioned in the schedule of quantities, is not executed by the contractor then proportionately the rate quoted in the schedule shall be refixed.

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SAFETY CODE

Scaffolds:

- 1 Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying material as well, suitable footholds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical)
- 2 Scaffolding or staging more than 4m. above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached bolted, braced and otherwise secured at least 3 feet high above the floor or platform of such scaffoldings or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 3 Working platform, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m above the ground level on the floor level. They shall be closely boarded, should have adequate width and should be suitably fastened, as described in (ii) above.
- 4 Every opening in the floor of a building or in a working platform be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1m. Wherever there are open excavations in ground, they shall be fenced off by suitable railing and danger signals installed at night so as to prevent persons slipping into the excavations.
- 5 Safe means of access shall be provided to all working platforms and the working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9 m. in length while the width between side rail in rung ladder width shall in no case be less than 290mm. for ladder upto and including 3m. in length. For longer ladders this width should be increased at least 20mm. for each additional meter or length.
- 6 A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Engineer-in-charge obtained prior to construction.
- 7 All personnel of the Contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
- 8 Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or the public.
- 10 Excavation and Trenching:
 - 1 All trenches, 1.25m or more in depth, shall at all times be supplied with at least one ladder for each 30m in length or fraction thereof. Ladder shall be extended from bottom of the trench to at least 1m. above the surface of the ground. The side of the trench which are 1.5m or more shall be sloped back to give suitable slope or securely held by timber bracing, so as to avoid the dangers of sides to collapse. The excavated material shall not be placed within 1.5m. of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

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

3 Demolition:

1 Before any demolition work is commenced and also during the process of the work.

All roads and open areas adjacent to work site shall either be closed or suitably protected;

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

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

4 Personal Safety Equipments:

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

2 Worker employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.

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

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

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

6 The Contractor shall not employ men below age of 18 years and women on the work of painting with products containing lead in any form. Where ever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken.

5 No paint containing lead or products shall be used except in the form of paste or readymade paint.

1 Overalls shall be supplied by Contractors to the workmen and adequate facilities shall be provided to enable the worker painters to wash during the cessation of work.

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

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6. Hoisting Machines:

1 Use of hoisting machines and tackle including their attachment, anchorage and supports shall conform to the following standards or conditions:

2 These shall be good mechanical construction, sound material and adequate strength and free from patent defect and shall be kept in good repair and in good working order.

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

4 Every crane driver or hoisting applications operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding which give signals to operator.

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

6. In case of department machines, the safe working load shall be notices by the Engineer-in-Charge. As regards Contractors machines the Contractor shall notify the safe working load to the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Engineer-in-charge concerned.

7. Motors, gearing transmission, electric wiring and other dangerous parts of hoisting, appliances should be provided with efficient safe guards hoisting ap liances should be provided with such means as will reduce to the minimum the risk of acc dental decent of the load, adequate precautions should be taken to reduce to the minimum t e risk of any art of a suspended load becoming accidentally displaced. When workers employe on electrical installations which are already energized insulating mats, wearing apparel, such s gloves sleeves and boots as may be necessary should be provided. The workers should not we l' any rings, watches and carry keys or other materials which are good conductors of electricity.

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

8. To ensure effective enforcement of the rules and regulations relating to safety precautions, the arrangements made by that Contractor shall be open to inspection by the Labour Officer, Engineer-in-Charge of the department or their representatives. Notwithstanding the above clauses from 9.5.1 to 9.5.5 there is nothing in these to exempt the Contractor from the operation of any other Act or Rule in force in the Republic of India.

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MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY CONTRACTORS

1 Application:

These rules shall apply to the Contractor for **TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT CORPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR, CHHATTISGARH STATE.**

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

3 "Large Work Place" means a place at which, at an average 500 or more workers are employed in connection with construction work.

2 First Aid:

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

2 At large work places, where hospital facilities are not available within easy distance of the work. First Aid post shall be established and be run by a trained compounder.

3 Where large work places are remote from regular hospitals, indoor ward shall be provided with one bed for every 250 employee.

4 Where large work places are situated in cities, in towns or in their suburbs and no beds are considered necessary owing to the proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals. At other work places, some conveyance facilities, such as a car, shall be kept readily available to take injured person or persons suddenly taken seriously ill to the nearest hospital.

3 Drinking Water:

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

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

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

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

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Washing and Bathing place:

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

Such places shall be kept in clean and drained condition.

Scale of Accommodation in Latrines and Urinals:

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

No. of Seats

Where the number of persons does not exceeds 50, 2

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

For every additional 100 3 per 100

Latrines and Urinals for Women:

If women are employed separate latrine and urinals, screened from those of men and marked in the vernacular in conspicuous letter. "For Women Only" shall be provided on the scale laid in 6.0. Those for men shall be similarly marked "For Men Only". A poster showing the figure of a man and a woman shall also be exhibited at the entrance of latrines for each sex. There shall be adequate supply of water close to the urinals and latrines. laid in 6.0 Those for men shall be similarly marked "For Men Only". A poster showing the figure of a man and a woman shall also be exhibited at the entrance of latrines for each sex. There shall be adequate supply of water close to the urinals and latrines.

Latrines and Urinals:

Except in work places provided with water flushed latrines connected with a water borne sewerage system, all latrines shall be provided with receptacles on dry earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary condition. The receptacles shall be tarred inside and outside at least once a year.

Construction of Latrines:

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

Disposal of Excreta:

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

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Provision of Shelters during rest:

At every work place there shall be provided, free of cost, two suitable sheds one for meals and the other for rest separately for men and women for the use of labour. The height of the shelter shall not be less than 11 feet from the floor-level to the lowest part of the roof. The sheds should be roofed with at least thatch and mud flooring will be provided with a dwarf wall around not less than 750mm. Sheds should be kept clean and the space should be on the basis of at least 0.50 Square meters per head.

Creches:

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

- 1 Thatched roofs:
- 2 Mud floor and walls:
- 3 Planks - spread over the mud floor and covering matting.

The huts shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the place clean. There shall be two ayahs in attendance. Sanitary utensils shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the hut shall be restricted to children their attendants and mothers of the children.

- 2 Where the number of women workers is more than 25 but less than 50, the Contractor shall provide at least one hut and one ayah to look after the children of women workers.
- 3 The size of creche or creches shall vary according to the number of women workers.
- 4 The creches or creche shall be properly maintained and necessary equipment like toys, etc. shall be provided.

Canteen:

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

The above rule shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contract.

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LIST OF APPROVED MANUFACTURERS / NATURAL SOURCES OF MATERIALS TO BE USED IN THE CIVIL
WORKS SUBJECT TO THE APPROVAL OF SAMPLES BY THE CONSULTANT.
(ALL THE MATERIALS USED HAVE TO CONFIRM TO GREEN INTERIOR NORMS OF IGBC)

S.No	MATERIAL NAME.	BRAND / MANUFACTURER.
1.	CEMENT	JK. ULTRATECH, ACC/LAFARGE (43 GRADE FOR PLASTERING AND 53 GRADE FOR RCC WORKS)
2.	CEMENT BRICKS	GOOD QUALITY CEMENT BRICKS
4.	PAINTS	ASIAN, NEROLAC, JOTUN, BIRLA EXTERIOR GRADE AND INTERIOR GARDE
5.	HYSD / MILD Steel (TMT)	TATA, SAIL,VSP
6.	SAND	RIVER SAND / ROBO SAND
7.	TEXTURE PAINT	BERGER /ASIAN /DULOX/NEROLAC
13	PARKING TILES	HINDUSTAN AND CLASSIC
14	M.S STEEL TUBULAR HOLLOW SECTIONS SOILD SECTIONS, FLATS	TATA, SAIL,VSP, APPOLO, JINDAL
15	STRUCTURAL GLAZING , CURTAIN WALL GLAZING ALUMINIUM SECTIONS	JINDAL, NALCO, BALCO, SUMANGALAM
16	GLASS FOR CURTAIN GALZING	SAINT GOBIN,ASHI FLOAT,MODI GUARD
17	ACP MAKE	EURO BOND, AULCOBOND, ALUDECOR
18	DECORATIVE TILES	JOHNSON, KAJARIA, RAK
19	BOM BARRIER	NEPTUNE (FAAC), ESSL, GANDHI AUTOMATIONS, GODREJ.
20	STAINLESS STEEL	JINDAL, TATA STEEL
21	SANDWICH PUF PANELS	KIRBY, TATA, JINDAL.

NOTE : The contractor shall use only above mentioned material or equivalent make to be approved by the Consultant. All other materials shall confirm to the specifications laid down. The tenderer shall take this into account while tendering rates / prices. The Architect has got every right to select any of the above Makes for the Project. However the samples of every material including all fixing accessories shall be got approved by Architect before Execution.
ALL MAKE SHALL BE CONFIRMING TO BIS ONLY.

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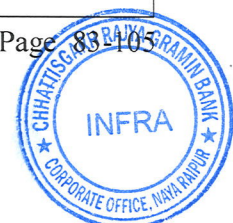
ABSTRACT OF GENERAL CONDITIONS OF CONTRACT

1	Name of the Work	TENDER FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA RAIPUR ,CHHATTISGARH STATE.
2	Cost of application / tender document	Rs 2500.00 (TWO THOUSAND FIVE HUNDRED ONLY) drawn in favour of CRGB payable at Raipur Chhattisgarh SHALL BE PUT IN THE TECHNICAL BID
3	Time and last date of Submission of Tender	11/03/2024 Up to 2.00 PM
4	Place & Address for submission of tender / contact person / telephone no / e-mail add.	THE GENERAL MANAGER (admin), CHHATTISGARH RAJYA GRAMIN BANK, CORPORATE OFFICE,PLOT NO 47 SECTOR 24 NAYA RAIPUR CHHATTISGARH ph no 0771-4388828/29/30 Pin .492013.
5	Date, Time and Place of Opening of tenders (Price Bid on _____). Contact person details: Name _____ Contact no: _____	Technical Bid opening : 11/03/2024, 3.00 PM. In the office of THE GENERAL MANAGER (admin), CHHATTISGARH RAJYA GRAMIN BANK, CORPORATE OFFICE,PLOT NO 47,SECTOR 24 ATAL NAGAR NAYA RAIPUR CHHATTISGARH Pin .492018. Price bids shall be opened Separately and the date of opening shall be Informed to all tenderers.
6	Quantum of Earnest Money Deposit (EMD) Rs _____ drawn in favour of _____ payable at _____ (to be payable along with tender bid)	Rs 1,67,000.00 drawn in favour of CRGB payable at Raipur Chhatisgarh or MSME OR NSIC certificates of approved relavant trade.
6b	Initial Security Deposit (ISD) (payable by L1 bidder after award of the work)	2% of value of the tender value including EMD paid along with the tender, but not exceeding Rs 10 lakhs. ISD is payable within 14 days of award of the work. EMD and ISD shall be refunded after completion of the work. EMD and ISD shall be paid by DD/BC or by Bank Guarantees by any nationalized bank or than CRGB .
7	Quantum of Retention Money	Deductible in running bills: 8.0 % of the value of each interim bill and total deductible as detailed in the tender document.

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8	Terms of payment of Bills, if any. Specify the minimum value of work for payment of running account bills.	Interim bills or periodical running bills on satisfactory completion of minimum value of work of RS 50,000,00. 00 (Rupees Fifty Lakhs only) excluding security advance on materials. No advance or mobilization advance shall be paid in any circumstances.
9	Liquidated Damages (penalty clause)	In case of delay a penalty @ the rate of 0.5% of estimated cost per week subject to a maximum of 5 % of accepted contract sum but not exceeding the Total Security deposit. (ISD plus Retention Money) would be strictly imposed.
10	Stipulated time for completion of the work.	4 months from date of handing over site
11	Estimated Value of tender / project	1.66 Cr.
12	Validity period of the tender.	90 days from opening (Price Bid)
13	Taxes	I.T will be deducted at source as per the Norms and GST will be paid as applicable.
14	Electronic Payment	Payment shall be made through Electronic modality. Contractor should feasible the followings details 1. Name of the Bank, 2. Name of the Branch, 3. A/c No, 4. IFSC Code.
15	Submission of Work Program in the form of Gantt Chart / Bar Chart / PMP	7 days from the date of Acceptance letter.
16	Insurance of the Work	Before Commencement of the Work (CAR Policy) and Third party policy
17	Date of Commencement	Two weeks from the date of the acceptance letter or the day on which the contractor is taking possession of the site, whichever is earlier.
18	Period for Certification of interim bills by the Architect	15 days from the date of Receipt of the bill by the Architect
19	Period for Honoring interim Certificates issued by the Architect	15 days from the date of Receipt of the Certificate from the Architect.
20	Period for Honoring Final Certificates issued by the Architect	6 weeks from the date of Receipt of the final Certificate from the Architect.
21	Period of Certificate of Final bill by Architect	30 days from the date of Receipt of bill by the Architect.
22	Period of Settlement of Final Bill by the Bank	3 months from the date of issue of certificate by the Architect.
23	Defect Liability Period	12 months from the certified date of handing over of the building and issue of Virtual Completion certificate by the Architect, whichever is later.
24	Release of Initial Security Deposit	After Satisfactory Virtual completion and Certification of Final Bill.

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25	Release of Retention Money in 2 Parts	50% of the Retention amount is refunded on issue of Virtual Completion certificate by the Architect, Balance 50% will be refunded 14 days after defect liability period provided all defects are attended satisfactorily in accordance with snag list issued to
26	Pre Bid Meeting for Technical Clarifications	Pre Bid Meeting for Technical Clarifications will be held on 01/03/2024 AT 3.00 PM CRGB Corporate Office PLOT NO 47 ,SECTOR 24 NAYA RAIPUR CHHATISGARH beside Punjab national bank Regional office.

**SIGNATURE OF THE CONTRACTOR
WITH DATE**

**WITNESS:
DATE:**

Signature of contractor

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DECLARATION

I/We have inspected the site of works and have made me / us fully acquainted with the local conditions in and around the sites of works. I/We hereby declare that I/We have gone through the conditions laid down in the Notice Inviting Tender, Conditions of Contract, Technical Specifications and understood the same and on the basis of the same I/We quoted our rates in the Schedule of Quantities attached with the tender documents.

I/We shall also uniformly maintain such progress as may be directed by the Employer / Architect to ensure completion of same within the target date as mentioned in the tender document.

Witness:

Signature of Tender

Address _____

Date: _____

NOTE :

ALL TECHNICAL CLARIFICATIONS IF ANY SHOULD FORM A PART OF TECHNICAL BID. TECHNICAL CLARIFICATIONS AFTER OPENING OF THE TENDERS WILL NOT BE ENTERTAINED AT ANY COST.

CONDITIONAL TENDERS WILL BE SUMMARILY REJECTED.

Signature of contractor

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**BOQ FOR EXTRA DEVELOPMENT WORKS FOR CONVENIENCE AND AMBIENCE
ENHANCEMENT AT COPORATE OFFICE, PLOT NO 47, SECTOR 24 IN ATAL NAGAR, NAYA
RAIPUR ,CHHATTISGARH STATE**

S.NO	DESCRIPTION	UNIT	QTY	RATE	AMOUNT
	EXTRA DEVELOPMENT WORKS				
1	ROAD WORKS				
A	WET MIX MACADUM				
	Providing and laying in range of 100 to 150 mm thick Wet Mix Macadam layer conforming to clause 40 of Specification for road and bridge works (5th Revision) of MORT&H (Ministry of Road Transports and Highways), including cost of coarse aggregates fine aggregates, etc through cleaning and thoroughly mixing with water in WMM plant at required OMC as approved by the Engineer-In-charge, carrying the premixed materials by means of tipper, trucks or any other approved and suitable arrangements, laying the mixed materials over the prepared surface by means of paver finisher including manual operation as and when required for proper grade, level and camber, through rolling with power roller with necessary hand packing and pinning to give an even surface, including running expenses of all plants and machineries, inclusive expenses of proper traffic control during laying to the satisfaction of Engineer-In-charge, required quality control tests at required interval etc complete in all respect as directed, compacted thickness of Water Mix Macadam layer in range of 100 to 150 mm.	CU.M	152		
B	POLYTHENE SHEET OF 2MM THICK				
	Providing and laying of 2MM THICK polythene sheet on WMM as concrete slab vapor retarder to retard moisture from concrete as per the directions of the architect. The sheet shall be fixed with suitable nails as required. The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	SQ.M	1425		
C	VACUUM DEWATERING FLOORING				
	Providing and laying of Vacuum Dewatering flooring with the Following Specifications:				
a	Laying of RCC M25 Grade (1:1:2) of 150mm thk over WMM, WITH COLOUR PIGMENTION IF NESSCESSARY using 20mm size hard granite machine crushed graded metal (Coarse aggregate) and River sand from approved quarry. The concrete shall be vibrated and finished smooth by power trowelling and finished as directed. Required levels or slopes shall be maintained on the top surface. (Ready Mix Concrete is Preferred)	CU.M	245		

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b	Finishing the top concrete surface of flooring laid under above item by providing vacuum dewatering system including finishing the top using power trowels to a smooth and fair surface as directed.	SQ.M	1630		
c	Cutting of grooves on concrete at 1000mm C/C on both ways within 4 days after completion of laying of concrete as above using a power driven cutting machine complete and as directed. The width & depth of the groove shall be 5mm & 25 mm as directed.	R.M	3260		
	The rates quoted shall be inclusive of all the material like cement, River Sand, coarse aggregate, and water to work site, MS Angles and sections, Vibrators, dewatering pumps, labour, Making bunds for Curing and filling water in the bunds for completion of work.				
	TOTAL ROAD WORKS				
2	PARKING TILES				
	Designer Parking with tiles in cement concrete M 30 GRADE of size 16"x16" of 1st quality of super company make or equivalent of 25 to 30 mm thick of approved colour not less than with compressive strength of 450kg/cms ² over a base coat in C.M (1:6), 18 mm thick including applying neat cement slurry honey like consistency spread at the rate of 3.30kg/Sqm and filling the joints with white cement mixed with pigments of matching shade laid over existing concrete bed/RCC slab including cost of base coat, cost and conveyance of all materials, excluding CC bed/RCC slab, labour charges for mixing cement mortar, laying of tiles to required slopes/levels, curing etc complete for finished item of work for all parking area BASIC RATE OF THE TILE SHALL BE RS : 550 SQMTS HINDUSTAN, CLASSIC.	SQ.M	242		
	TOTAL PARKING TILES				
3	BRICK WORK AND CLADDING WORKS				
	BRICK WORK FOR FLOWER BEDS (DRAWF WALL) RANGING 450MM TO 600MM HT				
A	Providing and constructing 230 mm thick Brick masonry using approved quality Table Moulded bricks or cement bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls, pillars, pillars etc at all levels including curing, etc. including packing the residual space providing openings as directed The rate shall be inclusive of all the material, labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	CU.M	75		

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	BRICK WORK FOR COMPOUND WALL RANGING 1800MM TO 2100MM HT				
A1	Providing and constructing 230 mm thick Brick masonry using approved quality Table Moulded bricks or cement bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls, pillars, pillasters etc at all levels including curing, including scaffolding etc. including packing the residual space providing openings as directed The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	CU.M	21		
B	Providing and constructing 115mm thick Brick masonry in CM 1:4 straight or curved walls, piers and architectural features at all levels including a concrete band of 75mm thick with 3-nos of 8mm dia reinforcement rod at every 750mm ht with M20 grade concrete mix including shuttering, staging, MS scaffolding, centering, formwork, curing, etc., cement mortar of 1:4 including packing the residual space between masonry & other structural members like columns, beams, slabs etc., providing openings as directed and finishing neatly around the same, the cost of all materials including reinforcement steel, cost of labour, cost of equipment and machinery, work at all leads and lifts, loading and unloading, transportation, and all other incidental charges etc., complete. The work shall be carried out as per the directions of the Engineer in charge	SQ.M	15		
C	PCC-WORKS				
	Plain Cement Concrete (1:4:8) proportion nominal mix (cement: fine aggregate: Coarse aggregate) for foundations using 40mm size (SS5) hard granite metal from approved quarry including cost and conveyance of all materials like cement, sand, coarse aggregate, water etc. to site, including seigniorage charges, sales & other taxes on all materials and including all charges for machine mixing, laying concrete in foundations ramming in 10 cm layer finishing top surface to the required level curing etc., complete for finished item of work for leveling c	CU.M	10		
D	PLASTERING FOR DRAWF WALL AND COMPOUND WALL	SQ.M	965		
	Plastering in 2 coats with 16mm thk 12mm thk in CM (1:6)prop and top coat 4mm thk in CM (1:4)prop for internal walls at all levels including shuttering, staging, scaffolding, curing, etc.with dubara sponge finishing including cost and conveyance of all materials all leads and lifts, loading and unloading, transportation, and all other incidental charges etc. complete. The work shall be carried out as per the directions of the Architect. The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.				

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E	TEXTURE PAINT FOR DRAWF WALL AND COMPOUND WALL	SQ.M	965		
	Providing & applying of Texture paint on walls with a base coat of primer and applying texture of desired shade and pattern either with roller/ spray / trowel finish with two coats of painting with exterior grade weather shield emulsion paint of approved brand and manufacture at all levels complete for 100% wash ability elasticity and water proofing of texture for longer & dust proof life of texture paint as per manufacturer specifications and direction of Architect. as per the drawing. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation & scaffolding necessary for the complete execution of the item.				
F	DECORATIVE TILES CLADDING FOR FLOWER BEDS FOR PLANTER BOX	SQ.M	105		
	Providing CLADDING with Decorative tiles of 10/12 mm thk.(ex showroom rate not less than RS 85/Sft) as per design set over a base of Cement paste Jointed neatly with cement putty to full depth mixed with matching colour pigment full and half rounding and polishing on edges and including cost and conveyance of all materials seignorage fee, all taxes, water to work site and all operational, incidental labour charges such as scaffolding, mixing, motor, lift charges, curing etc. complete for finished item of work as directed by the Engineer in charge/Architect				
G	GRANITE CORNICE ON PLANTER BOX IN 300MM WIDE	SQ.M	60		
	Providing and fixing with polished granite slabs of 36 mm thk for CORNICE as per design set over a base of CM(1:5) prop. Jointed neatly with cement putty to full depth mixed with matching colour pigment full and half rounding and polishing on edges and including cost and conveyance of all materials seignorage fee, all taxes, water to work site and all operational, incidental labour charges such as scaffolding, mixing, motor, lift charges, curing etc. complete for finished item of work as directed by the Engineer in charge/Architect. (Basic Rate of Granite : Rs.1500 to per SQMT)				
H	ARCHITECTURAL GROOVES	RMT	1000		
	Providing architectural grooves of size 25 x 12 mm finished in CM(1:3) proportion at the junction of RCC columns with brick masonry and beams with brick masonry walls or as directed incl. cost of conveyance of all materials to site, seignorage charges, all labour charges for all operations incl. MS scaffolding, curing etc. complete for all floors at all height.				

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	BRICK CORNICES				
I	Providing and constructing 50 mm thick Running Cornices in Bricks using approved quality Table Moulded bricks or cement bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls, pillars, pilasters etc at all levels including curing, etc. including packing the residual space providing openings as directed. The rate shall be inclusive of all the material, labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	RMT	450		
	TOTAL BRICK WORK AND CLADDING WORKS				
4	WATER CHANNEL WORKS				
A	Dismantling, Removing all the existing concrete slabs with out damaging the slabs and storing at safe place and re fixing slabs after the finish of the work. Any damage caused to the slabs during removal, the contractors shall cast a new slab as per the specifications given by the bank at their own cost. The rate shall be inclusive of all the material, labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	RMT	210		
B	Removing and Carting away the Existing loose bricks, brick bats, Cement Dropings, Mud, Plastic wastes etc and any other materials as directed and debris from the site to the contractors own dump yard atleast 10 km away from the site. The Channel shall be then cleaned by scraping and brooming with broom and then shall be washed clean with water. The rate shall be inclusive of all the material, labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect. Only floor area of Water channel will be measured for bill.	SQ.M	205		
C	Plastering in 2 coats with 16mm thk 12mm thk in CM (1:6) prop and top coat 4mm thk in CM (1:4) prop for internal walls at all levels including curing, etc. with dubara sponge finishing including cost and conveyance of all materials all leads and lifts, loading and unloading, transportation, and all other incidental charges etc. complete. The work shall be carried out as per the directions of the Architect. The rate shall be inclusive of all the material, labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	SQ.M	410		
D	Providing and laying Screed concrete in 1:2:4 with 25mm to 150mm thickness to maintain slopes with 12mm to 20mm crushed stone and down graded stone aggregates wherever to required thickness, slope and trowel finished smooth as directed including levelling, compacting, all leads and lifts with necessary curing and shuttering etc. complete at all levels.	CUMTS	30		

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E	Providing and applying of cement slurry finish @ 4.4 kg/sqm over Screed as per the directions. The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	SQ.M	410		
F	Providing, Fabricating, assembling, hoisting/erecting and fixing in position of Grate cover with MS Flats of 75mm wideX10mm thk at 75mm C/C including cutting, welding, riveted, bolted the members as per the drawing and design. The MS Flats shall be painted with 2 coats of Zinc chromate red oxide as primer and 2 coats of synthetic enamel paint of suitable shade and colour. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation, Grinding, finishing edges, etc necessary for the complete execution of the item.	KG'S	5250		
	TOTAL WATER CHANNEL WORKS				
5	GATE WORKS MAIN & REAR GATE				
A	Providing MS gate as per drawings using 60mmX40mmX4mm thk hollow MS rectangular tubes as outer frame and 60mmX30mmX3mm thk hollow MS rectangular tubes as internal frames and 4mm thk MS Perforated sheet as per the directions of Architect. including cutting bars, welding, fixing in position ,applying one coat of red oxide and enamel paint including cost & conveyance of all materials to site labour charges etc complete for finished item of work as directed by the Engineer-in-charge/Architect.	KG'S	1190		
B	ACP CLADDING				
	Providing and cladding Aluminum Composite Panel cladding over existing frame work including angles, brackets, fastners etc. to exterior surface in straight panels with 4 mm thick exterior grade aluminium composite panels comprising of two skins of 0.5 mm thick aluminium on both side, laminated to a thermoplastic core with one outer skin of aluminium coating with PVDF coating in solid & metallic colour as required . The ACP panels of required size as per the architectural drawings to be fixed after making tray from all sides with 20mm flange after making groove with router to be fixed to frame work of required aluminium extruded section	SQ.M	16		
	The ACP panel trays to be fix to existing frame work with the help of aluminium angle cleat of required size & thickness, pan headed SS tempered screws of required length . All joints to sealed using weather silicon sealent of Dow corning make of grade DC 789 or equivalent after providing backer rod at all junctions / joints of ACP tray to make entire cladding water tight with monolithic silicon grooves . The entire job including the cost of providing bird/ vermin proof seal at bottom and				

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	flashing at top, removal of masking film & finally cleaning the panels to make adhesive & dust free including all materials ,labour, T&P , scaffolding etc. all complete as per specifications and shop drawings based on design approved by Engineer -in- charge /Architect				
C	DISMANTALING				
	Dismantling Removing and Carting way the Existing RCC columns, plinth beams and other RCC ietms and Existing brickwork & any other item as directed and debris form the of the site to the contractors own dump yard atleast 10 km away form the site. The work shall be carried out as per the directions of the Architect. The rate shall be inclusive of all the labour, transportation necessary required for the complete execution of the item as directed by the architect.	CUMTS	10		
D	RCC FOR GATE COLUMNS				
	Reinforced Cement Concrete M 25 GRADE MIX 1: 1: 2 to the required strength as per SS and IS-456:2000 using 20mm size hard granite machine crushed graded metal (Coarse aggregate) and sand from approved quarry, and placing necessary reinforcement in position including cost and conveyance of all materials like cement, Sand, coarse aggregate, and water to work site, seigniorage charges on all materials, including shuttering and scaffolding with steel props and steel plate as per the approved shuttering plan and other accessories as per norms and stability calculations, all taxes and all operational, incidental, labour charges, mixing concrete, laying and lift charges, vibrating, curing etc., complete for finished item of work as per standard specification but excluding cost of steel reinforcement and its fabrication charges etc., complete for finished item of work as directed by the department/Architect. NOTE: The concrete shall attain the strength of 250 N/MM2 in 28 Days	CUMTS	5		
E	STEEL FOR GATE COLUMNS				
	Fabrication and placing of /Tor steel 415 grade steel reinforcement confirming to IS-226 and 1786-1985 of any approved TMT of different diameters straightening, cutting & bending to required sizes & shapes placing in position with cover blocks of approved material & size tying firmly with MS binding wire 18 guage forming grills for reinforcement work as per approved design & drawings to be supplied at the time of executing the work including cost & conveyance of steel and all materials and all wastages such as overlaps, couplings, welded joints, chairs, space bars, binding wire, cover blocks and all operational, incidental, labour charges such as cutting, bending, placing in position, tying etc., complete for finished item of work as directed by the Engineer-in-charge / Architect.	MT	0.5		

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	TOTAL GATE WORKS				
6	BOM BARRIER WORKS				
	Supplying, Installing, Testing and Commissioning of Bom Barrier Near the Gate as per the Following specifications	NOS	1		
	Barrier Boom Length :Upto 5 - 6 mtr				
	Height of the boom from ground : 884 +or – 50 mm				
	Opening & Closing Time: 2 to 4 sec				
	Operating Voltage: 230 V AC 50Hz				
	Motor Power supply : 24 V DC				
	Control Unit : Microcontroller/ PLC				
	Duty Cycle : Intensive use.				
	Operating Temperature Range : -20 to +55° C				
	Boom Shape : Semi elliptical .				
	Boom shall be made of white painted Aluminium Bar with red adhesive refracting strips for bars.				
	1 unit shall be housed in weather proof housing with at least IP 54 Protection for easy maintenance.				
	CED: Cathode electro deposition process for rust free housing & paint RAL 2004.				
	The Boom Barrier should smoothly open and close without bounce/jerks at end positions.				
	Safety: Embedded Controller Software for detection of presence of vehicle on Safety loops. Loop detector to be provided to prevent barriers from closing on the vehicles.				
	On power failure- There should be an option of in build in power backup in case of power failure.				
	Version: Shall be available in Left –Hand and right-hand version with provision of interchangeable from left –hand version to right hand version and vice versa at site.				
	Power: It should have a durable motor for long lasting purpose and it should not generate less than 200 Nm torque.				
	Control panel should have the feature for attaching safety and other command device.				
	Barrier with breakaway fitting.				
	MCBF: 5 million cycles.				
	Boom Barrier must be CE certified.				
	Specified Make/Company (OEM) should be Certified Quality & Environment in compliance with:				
	• UNI EN ISO 9001,				
	• UNI EN ISO 14001, BS OHSAS 18001:2007 CERTIFIED.				
	There shall be TUV certification for the Boom barrier.				
	TEST certificate for Boom Barrier to be provided. Bidder will provide the Manufacturing Authorisation Form from OEM.				
	OEM should have Direct Presence in India. Importer & distributors Excluded & Should provides the spare part availability for next 10 Years.POST Warranty Certification to be provided for the same from OEM.				
	TOTAL BOM BARRIER WORKS				

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7	MISCELLANEOUS WORKS				
A	Removing of existing external yard lighting poles and re fixing in new location as directed by architect. The rate shall be including excavation upto 900mm depth, PCC, filling of the new pit and Refilling of the old pit, RCC filling, required electrical connections, all labour, any other required materials etc.	NOS	2		
B	Providing & applying two coats of painting with exterior grade weathersheid emulsion paint of approved brand and manufacture on existing texture paint at all levels complete for 100% wash ability elasticity as per manufacturer specifications and direction of Architect. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation & scaffolding necessary for the complete execution of the item.	SQ.M	655		
C	GLASS WORK FOR GATE WAY AT 6M HEIGHT				
	Providing and fixing of 12mm thick toughened glass using suitable aluminum frame in required shape including cutting, fixing at 6m height level etc and making the same good, with necessary screws, sealants wherever required., making complete as per the design and drawing. All the exposed edges shall be crystal polised all-round. Necessary aluminum support shall be made to support the glass firmly. The rate shall be inclusive of all the necessary material, scaffolding, required hardware, labour, transportation, necessary for the complete execution of the item.	SQ.M	20		
D	BRICK WORK FOR RAMPS TO BUILDINGS AT PORTICO				
	Providing and constructing 230 mm thick Brick masonry using approved qualityTable Moulded bricks or cement bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls, pillars, pillasters etc at all levels including curing, etc. including packing the residual space providing openings as directed The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	CU.M	5		
E	BRICK WORK FOR RAMPS TO PARKING AREA				
	Providing and constructing 230 mm thick Brick masonry using approved qualityTable Moulded bricks or cement bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls, pillars, pillasters etc at all levels including curing, etc. including packing the residual space providing openings as directed The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	CU.M	9		

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F	SS RAILING				
	For Stair case railing Providing and fixing Brushed stainless steel (SS Grade : 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge,	RM.T	10		
	TOTAL MISCELLANEOUS WORKS				
8	RAIN WATER HARVESTING PIT 1.5MX1.5MX2.0MD				
A	Earth work excavation , removal, disposal and Carting away the excavated earth form the site to the contractors own dump yard or Municipal Dump yard atleast 10 km away form the site. The rate shall include all the labour for Excavation, transportation for Carting away excavated earth, etc for the complete item of work. From 0 m to 2.0M D.	CU.M	5		
B	Supplying, filling, spreading & leveling Metal of 40mm thk from 1.0 m to 2.0 m lvl in pit, complete as per directions. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation, necessary for the complete execution of the item.	CU.M	2.5		
C	Supplying, filling, spreading & leveling Metal of 20mm thk from 0.50 m to 1.0 m lvl in pit, complete as per directions. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation, necessary for the complete execution of the item.	CU.M	1.25		
D	Supplying, filling, spreading & leveling course sand from 0 m to 0.50 m lvl, in recharge pit, complete as per directions. The rate shall be inclusive of all the necessary material, required hardware, labour, transportation, necessary for the complete execution of the item.	CU.M	1.25		
E	Providing and constructing 230 mm thick Brick masonry using approved qualityTable Moulded bricks in CM 1:6 of minimum 50 kg sq/cm in straight walls at all levels including shuttering, staging, scaffolding, curing, etc. including packing the residual space between masonry & other structural members like columns, beams, slabs etc., providing openings as directed The rate shall be inclusive of all the material ,labour, hardware, transportation necessary required for the complete execution of the item as directed by the architect.	CU.M	0.5		

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F	Plastering in 2 coats with a base coat of 20mm thk 16mm thk in CM (1:6) and 4mm thk in CM (1:4) prop for external wall with dubara sponge finishing including cost and conveyance of all materials seignorage fee, all taxes, water to work site and all operational, incidental labour charges such as scaffolding, mixing, motor, lift charges, curing etc. complete for finished item of work as directed by the Engineer in charge/Architect	SQM	5		
	TOTAL COST FOR 1NO RAIN WATER HARVESTING PIT				
	TOTAL COST FOR 3NOS RAIN WATER HARVESTING PIT S (Total cost of Rain water Harvesting pit X 3 Nos)				
9	PARKING SHED & PUMP HOUSE SHED STEEL FABRICATION WORKS FOR SOLAR PANELS				
A	EARTH WORK				
	Earthwork excavation in all types of Footings, stacking the excavated earth where ever indicated in site and Refilling with useful earth & carted morrum as required etc complete. Rate to include disposing of not usable excess earth and carting away to a distance of minimum 5km to the municipal or contractors own dump yard. shoring, bailing out water, etc. complete. Contractor shall get acquainted with site conditions and soil report . The rate shall be inclusive of all the necessary material,required hardware, labour, transportation & MS scaffolding necessary for the complete execution of the item.	CU.M	80		
B	PCC-WORKS				
	Plain Cement Concrete (1:4:8) proportion nominal mix (cement: fine aggregate: Coarse aggregate) for foundations using 40mm size (SS5) hard granite metal from approved quarry including cost and conveyance of all materials like cement, sand, coarse aggregate, water etc. to site, including seignorage charges, sales & other taxes on all materials and including all charges for machine mixing, laying concrete in foundations ramming in 10 cm layer finishing top surface to the required level curing etc., complete for finished item of work for levelling course below column footings	CU.M	10		
C	RCC WORKS				
	Reinforced Cement Concrete M 25 GRADE MIX 1: 1: 2 to the required strength as per SS and IS-456:2000 using 20mm size hard granite machine crushed graded metal (Coarse aggregate) and sand from approved quarry, and placing necessary reinforcement in position including cost and conveyance of all materials like cement, Sand, coarse aggregate, and water to work site, seignorage charges on all materials, including shuttering and MS scaffolding with steel props and steel plate as per the approved shuttering plan and other accessories as per norms and stability calculations, all taxes and all operational, incidental, labour charges, mixing				

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	concrete, laying and lift charges, vibrating, curing etc., complete for finished item of work as per standard specification but excluding cost of steel reinforcement and its fabrication charges etc., complete for finished item of work as directed by the department/Architect.NOTE: The concrete shall attain the strength of 250 N/MM2 in 28 Days				
i	Footings	CU.M	18		
ii	Columns	CU.M	5		
D	STEEL				
	Supplying of Tor steel ,Fabrication and placing of /Tor steel 500 grade steel reinforcement confirming to IS-226 and 1786-1985 of any approved TMT of different diameters straightening, cutting & bending to required sizes & shapes placing in position with cover blocks of approved material & size tying firmly with MS binding wire 18 guage forming grills for reinforcement work as per approved design & drawings to be supplied at the time of executing the work including cost & conveyance of steel and all materials and all wastages such as overlaps, couplings, welded joints, chairs,space bars, binding wire, cover blocks and all operational, incidental, labour charges such as cutting, bending, placing in position, tying etc., complete for finished item of work as directed by the Engineer-in-charge / Architect.	MT	2		
E	STRUCTURAL STEEL:				
	Providing fabricating, welding and/or bolting, as required, erecting and fixing in position all types of structural steel works viz. columns beams, rafters, trusses, castellated girder purlins, frame , sag rods pipe & cable racks and pipe bridges etc. made up of rolled or built up sections with moment or shear connections, shop/site fabricated including all accessories via nuts, bolts, cleasts, gussets, suspenders etc as per specification complete as directed by Engineer/Owner. The rate to include for welding weights, site connection, nut & washer & bolts, scaffolding, working platform, etc including painting (red oxied and enamel paint) as per the manufacturer specification. The rate shall include for preparing & providing detailed fabrication drawings based on design drawing & getting the same approved from the Engineer/ Architect.				
a	ISMB'S				
i	ISMB 150MM	MT	7.5		
ii	ISMB 200 MM FOR GATE	MT	0.5		
b	MS Z PURLIN				
i	150x50x3mm Z Purlin	MT	7		

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c	MS PLATES				
i	20mm thk	MT	0.6		
ii	12mm thk	MT	0.3		
d	MS BOLTS				
i	20mm Dia J Bolts 600 longs	MT	0.5		
ii	12mm Dia Bolts with nuts	MT	0.1		
iii	10mm Dia Bolts	MT	0.1		
TOTAL COST FOR PARKING SHED & PUMP HOUSE SHED STEEL FABRICATION WORKS FOR SOLAR PANELS					
10	LANDSCAPING WORKS				
A	Supplying and filling with mixture of good earth and well decomposed cow dung manure with earth PH value between 5.5 to 7.5 at site including royalty and carriage upto site to fill the constructed flower beds for accommodating ground covers and plants.	CU.M	278		
B	Supplying and plantation of ground covering plants of 6" ht. well settled in 4 inch x 5 inch poly bags viz. Altranenthra 3 varieties, Iresine Lavendra, Opiopogum, Wadelia, Verbena, Jade, Golden Duranta, Red Duranta, Rhoeo compacta, Lantana Sellowiana (Red & White) asparagus var., chlorophytum, etc.(Species can be changed as per site requirement and as per direction of architect)	NO.S	10500		
C	Exotic Plants: Supply and plantation of Below plants as per sample approved by the Architect. Plants should be quite healthy, disease free as per ht. & specification given. (Species can be changed as per site requirement and as per direction of architect)				
i	Marigold Palm (6'-0" to 7'-0" height)	NO.S	50		
ii	Areca Palm (5'-0" to 6'-0" height)	NO.S	150		
iii	Plumeria rubra (White flower) (Temple tree) (6'-0" to 8'-0" height)	NO.S	10		
D	Grassing with 'Doob' grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn free from weeds and fit for mowing including supplying good earth if needed (the good earth shall be paid for separately). In rows 5 cm apart in either direction.	SQ.M	600		
E	HOLLOW TERRA COTTA JALI WORKS				
	Providing Supplying, and fixing of Designer Terracotta tiles (amber jali,Four Petal jali,Opal jali) of size 200mmx200mm (variance of +/- of 10mm) of thickness 70mm to the wall on a basement projection as per the directions.The terracotta jali shall be arranged and fixed with MYK LATICRATE MAXI 335	SQ.M	70		

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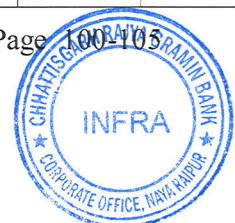


	to the plum in stages. The jali shall be painted with terracots colour in two coats as per the directions. The rate shall include				
F	IRRIGATION WORKS FOR LANDSCAPE				
	Providing, Laying, Joining & Commissioning of Rigid PVC pipe as per IS 1432 of following sizes with necessary fittings, adhesives etc. complete (Supreme / Finolex / Jain/ Kisan / Prince make)				
i	PVC Pipe 25 mm X 10 kg/cm ²	RMT	500		
ii	PVC Pipe 20 mm X 10 kg/cm ²	RMT	500		
iii	Providing, Laying, Joining and Commissioning 50mm Flush Valve with Assembly with necessary fittings, adhesives etc. complete- Make- Harit/ Jain	NO.S	25		
iv	Providing, Laying, Joining and Commissioning SINGLE PIECE BALL VALVE with Assembly with necessary fittings, adhesives etc. complete- Make- Harit/ Jain	NO.S	25		
v	LLDPE Tubing 16 mm Size / 2.5 Kg/Cm ² as per IS 12786 I.S.I/With all necessary fittings like Volve/bend/Joiner etc	RMT	100		
vi	Supply and Installation of Rotating Sprinkler nozzles with all suitable accessories required as per site conditions and directions of Architect.	NO.S	25		
G	ELECTRICAL WORKS FOR LANDSCAPE WORKS FOR BOLARD LIGHTING				
	S & I of 1100V grade armoured cable having sector / circular shaped aluminium / copper FRLS conductor PVC insulated cores, laid in 25mm dia PVC pipe wrapped inner sheathed, 2 Runs of 12 swg GI strip / wire armoured and overall extruded PVC sheathed confirming to IS: 1554, laid on wall / ceiling using GI clamps & spacers as per route shown at site and scope also includes termination of the cable as required with suitable glands and lugs further as directed by Architect in following sizes.				
i	3C X 2.5 Sq.mm Cu. Arm cable for LIGHT FIXTURES (UNDER GROUND)	RMT	1750		
ii	LIGHTING DB				
	Supply and installation of 4 way, TPN MCB type lighting distribution Board flush mounted on wall, sheet metal fabricated, powder coated, having dust - proof and vermin proof, gasketed and hinged door with all internals such as DIN rails, neutral - link, interconnected wiring, complete with earthing lugs housing following switchgears (LDB)				
	1 no., 63A, TPN, ELCB (100mA) incomer				
	12 nos, 6-16A, SP, MCB outgoing				

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	Full Set as above	SET	1		
	LIGHT FIXTURES				
iii	FIXING OF EXISTING BOLARD LIGHTS as directed.	NOS	41		
	TOTAL COST FOR LANDSCAPING WORKS				
11	CONNECTING BRIDGE WORKS (BETWEEN HO BLOCK AND STC BLOCK)				
A	STRUCTURAL STEEL:				
	Providing fabricating, welding and/or bolting, as required, erecting and fixing in position all types of structural steel works viz. beams, Channels, rafters, trusses, castellated girder purlins, etc made up of rolled or built up sections with moment or shear connections, shop/site fabricated including all accessories via nuts, bolts, cleasts, gussets, suspenders etc as per specification complete as directed by Engineer/Owner. The rate to include for welding weights, site connection, nut & washer & bolts, scaffolding, working platform, etc and same will not be measurement for payment (painting & sand blasting shall be paid separately under relevant item). The rate shall include for preparing & providing detailed fabrication drawings based on design drawing & getting the same approved from the Engineer/ Owner.				
a	ISMB 300	MT	4.15		
b	ISMB 250	MT	1.70		
c	HOLLOW SECTIONS 100MMX100MMX5MM THK	MT	1.90		
d	HOLLOW SECTIONS 49.5MMX49.5MMX4.5MM THK	MT	0.60		
e	PURLINS 49.5MMX49.5MMX4.5MM THK	MT	0.90		
f	ISA 75MMX75MMX6MM THK	MT	0.75		
g	6MM THK MS SHEET ON FLOOR	MT	2.75		
B	ROOF WITH Sandwich PUF Panels				
	Providing & fixing for Roofing Colour coated, Double skin, The upper skin made out of Colour coated Galvalume sheet 0.5 mm thick for the base & The Lower sheet 0.5mm PPGI Sheet With Guard Film. The gap of 75 mm thick between the two sheets. The gap between the two sheets to be filled with Insulating material of PUFF of density as per Directions. The sheet minimum width not less then 1000mm. The cost to include that for all necessary screws, bolts, washers, scaffolding, etc complete	SQM	75.00		
	Contractor shall note to quote rates for providing aluminum over lap of 150mm OR over lap of one corrugation of the galvalume sheets both for the lateral & logitudinal directions. Also aluminum projection of 450mm shall be provided, measured from the building plinth line. No extra cost/payment shall be given for the over lapand the projections for the Galvalume sheets.				

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	Contractor to note that, Payment shall be made on plinth area basis only, by considering building plinth area for calculating the overall surface area of the Galvalume Sheet roofing. There will not be any consideration for the slopped, projected and overlapped sheeting areas.				
C	GUTTER				
	Providing and fixing precoated galvanised steel sheet roofing accessories 0.50 mm (+ 0.05 %) total coated thickness, Zinc coating 120 grams per sqm as per IS: 277, in 240 mpa steel grade, 5-7 microns epoxy primer on both side of the sheet and polyester top coat 20 microns using self drilling/ self tapping screws complete : Gutter (600mm overall girth)	RMT	20.00		
D	GLAZED CURTAIN WALL SYSTEM				
a	Glazed Curtain Wall System – Providing and fixing aluminum curtain wall system, the glass to be fixed at the outer side of the Aluminium frame with two sides structural silicon sealant (SG18/DC995) and two side mechanical support with pressure plate and cap. The system should be without direct touch between in and out profiles to avoid acoustic transfer, the system to have a thermal analyst to ensure max. U-value of 2.7 w/sqm, every glass panel to be drained separately to avoid water chambers in the system and to assure easy detection of water problems and repair if required.	SQM	90.00		
	(i) Specially designed mullions and transoms of extruded aluminum sections shall be of 6063 alloy. Specially designed mullions and transoms of extruded aluminum sections shall be of 6063 alloy.				
	(ii) Coating of Aluminum section will be done with 50-60 micron pure polyester powder coating of required colour as per direction of Architect.				
	(iii) Vertical mullions (100 x 54 mm with minimum 2.5 mm thickness at the back side) to be fixed to RCC beams / columns with designed Aluminum brackets and Stainless steel Anchor fasteners PVC ply / Teflon separator membranes between metal to metal joints.				
	(iv) Horizontal transoms (100 x 54 mm with minimum 2.5 mm thickness at back) to be fixed to vertical mullions with SS screws such that they are not seen in vision panels, forming grid systems of required size as per elevation drawings for vision and spandrel glazed panels.				
	(v) Heavy duty, best quality EPDM gaskets at joints and connection between Aluminum members.				
	(vi) Glazed curtain wall infill panels including approved fire-stop-cum smoke seal wherever applicable.				
	(vii) All components should be sealed for water proofing with silicon of Wacker, DOW corning make or equivalent.				

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	Vision panel with glazed units of size as per design / drawing and consisting of 6 mm thick clear float toughened glass of approved shade with characteristics as per specification fixed in precise size on the outer face of the infill panel of approved make and glazed in fill panel to be formed by approved means of special structural quality silicone adhesive sealant layer manufactured by Wacker, Dow corning or equivalent as per direction of Architect.				
	(Item includes Supplying, Installation and Fixing of Aluminum Frame with structural members, mullions, Transom, subframe, cover plate, fixtures etc. including supply installation of 6 mm thick toughened Glass including cost of sealants, brackets, fasteners, screws, sleeve, spacer tap, backer rod, bolts, gasket, fixtures, double stage scaffolding, sales tax, excise duty, custom duty etc. etc. complete in all respect). The work is to be carried out by a Specalised Agency approved by the Architect.				
b	EXTRA FOR TOP HUNG OPENABLE IN THE INSIDE GLAZED CURTAIN WALL : Extra for Top hung openable made of any size in structural glazing for the air flow using pulse handle and SS hinges with the sash frame resting on the transom and opening allowed upto 30 degrees. The cost is over and above the structural glazing at item no.4(a).	SQM	10.00		
E	ACP CLADING				
	Designing, Providing and installing aluminium cladding including frame work comprising of necessary mullions , transoms, angleclips brackets etc. in extruded aluminium section anodised (minimum 20 microns) angles, brackets, fastners etc. to exterior surface in straight panels with 4 mm thick exterior grade aluminium composite panels comprising of two skins of 0.5 mm thick aluminium on both side, laminated to a thermoplastic core with one outer skin of aluminium coating with PVDF coating in solid & metallic colour as required (AL-04 & AL-08 of ALSTRONG or equivalent in other approved brand). The ACP panels of required size as per the architectural drawings to be fixed after	SQ.M	125		
	making tray from all sides with 20mm flange after making groove with router to be fixed to frame work of required aluminium extruded section. The ACP panel trays to be fix to aluminium frame work with the help of aluminium angle cleat of required size & thickness, pan headed SS tempered screws of required length . All joints to sealed using weather silicon sealent of Dow corning make of grade DC 789 or equivalent after providing backer rod at all junctions / joints of ACP tray to make entire cladding water tight with monolithic silicon grooves . The entire job including the cost of providing bird/ vermin proof seal at				
	bottom and flashing at top, removal of masking film & finally cleaning the panels to make adhesive & dust free including all materials ,labour,T&P , scaffolding etc. all complete as per				

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	specifications and shop drawings based on design approved by Engineer -in- charge /Architect				
	(Note :- The minimum weight of Mullions, Transoms and panels used in the frame work shall be as follows : Mullions @ 1.976Kg/Rmt, Transom @1.359Kg/Rmt, frame of panel				
F	SCAFFOLDING (DOUBLE SCAFFOLDING SYSTEM)				
	Providing and fixing double scaffolding system (cup lock type) on the exterior side, up to 12M height made with 40 mm dia M.S. tube 1.5 m centre to centre, horizontal & vertical tubes joining with cup & lock system with M.S. tubes, M.S. tube chaises, M.S. clamps and M.S. staircase system in the scaffolding for working platform etc. and maintaining it in a serviceable condition for the required duration as approved and removing it there after .The scaffolding system shall be stiffened with bracings, runners, connection with the building etc wherever required for inspection of work at required locations with essential safety features for the workmen etc. complete as per directions and approval of Engineering-charge .The elevational area of the scaffolding shall be measured for payment purpose. The rate shall be inclusive of all the necessary material,required hardware, labour, transportation necessary for the complete execution of the item.	SQ.M	300		
G	ANTI SKID VITRIFIED FLOORING				
	Supply, providing and laying of 1st quality anti-skid vitrified tiles of approved colour and design 10 mm thick floor tiles of approved make and 600 x 600 size fixed over 20 mm thick cement base mortar 1:6 The scope work is inclusive of providing proper slopes, filling the joints with Epoxy Grout and matching pigment etc complete in all respects as directed by Architect. The basic cost of the tile is Rs 600.00 per sq.mt.	SQM	60.00		
H	MINERAL FIBRE CEILING TILES				
	Providing and fixing in the true horizontal level false ceiling system of Armstrong world industries. The suspension system shall be the Armstrong Trulock Silhouette revealed profile grid system with 15mm wide flanges incorporating a 3mm or 6mm central recess color black or white revealed Silhouette main runners and cross tees to have mitered ends with birds mouth notches to provide mitered cruciform junctions. Main runners to be spaced at 12mm c/c fixed by using 2mm pre straightened GI Wire.Main tee,rotary stitched of size 15mm x44mmx3600mm at every 1200mm c/c maximum and 1200mm cross tee of size 15mmx44mm x1200mm at every 600 mm c/c maximum and 600mm c/c cross tee of size 15mmx44mmx600mm at every 1200mm c/c maximum and 19mmx19mmx3000 wall angle	SQ.M	60.00		

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	allround the wall to form grid size of 600mmx600mm and suspending the grid using 2mm prestraigthened GI Wire and 6mm nylon raw plug at every 1200mm intervals at the main tee and laying of dunne premier micro look mineral fiber tiles manufactured by Armstrong world industries of size 600mmx600mmx15mm over the formed grid complete as directed				
	TOTAL COST FOR CONNECTING BRIDGE WORKS				
	SUMMARY				
1	ROAD WORKS				
2	PARKING TILES				
3	TOTAL BRICK WORK AND CLADDING WORKS				
4	WATER CHANNEL WORKS				
5	GATE WORKS				
6	BOM BARRIER WORKS				
7	MISCELLANEOUS WORKS				
8	TOTAL RAIN WATER HARVESTING PIT WORKS				
9	PARKING SHED & PUMP HOUSE SHED STEEL FABRICATION WORKS FOR SOLAR PANELS				
10	LANDSCAPING WORKS				
11	CONNECTING BRIDGE WORKS				
	TOTAL RUPEES				
	DISCOUNT IF ANY				
	GRAND TOTAL				
	NOTE : GST EXTRA AS APPLICABLE				

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