

TENDER FOR CIVIL, ELECTRICAL, HVAC,
FURNITURE, CCTV & NETWORKING WORKS
OF ANCHOR INSTITUTE OF SOLAR ENERGY
LAB, MEVAD, MEHSANA, GUJARAT

GPRI/AISE/ Civil, Electrical, HVAC, Furniture, CCTV & Networking works/2019/002

Tender for Civil, Electrical, HVAC, Furniture, CCTV & Networking works of Anchor Institute of Solar Energy lab GPRI College, Mevad, Mehsana, Gujarat.

Employer : Gujarat Power Engineering and Research Institute

Site Address & Correspond. Address : Gujarat Power Engineering and Research Institute
At Village: Mevad, Dist: Mehsana. Nr. Toll Booth,
Ahmedabad- Mehsana Express way.
Pin code: 384460

Phone No : 02762 – 285875/72/73

Date of Pre- Bid : 10th June, 2019 at 2:00 pm at GPRI, Mehsana

Date of tender submission : 15th June, 2019 up to 04:00 pm at GPRI

Date of technical Bid opening : 17th June, 2019 at 2:00 pm at GPRI

Date of Price Bid opening : 20th June, 2019 at 2:00 pm at GPRI

Part- A**General & Technical Specifications**

1	Name of Work	:	Tender for Civil, Electrical , HVAC, Furniture, CCTV & Networking Works of Anchor Institute of Solar Energy Lab at GPERI College, Mevad, Mehsana, Gujarat
2	Scope of Work	:	<ul style="list-style-type: none"> 1) Civil Works for Anchor Institute 2) Electrical & ELV Works 3) SITC of HVAC Works 4) Supply and installation of Readymade furniture works 5) SITC of CCTV & Networking works
3	Time Limit / Period of completion of the works	:	Overall Completion Time : 02 Months
4			Information about Tender Document
4.1	Pre Bid Meeting	:	Dt. 10-06-2019 @ 2:00 pm Address : At Employer / Client/Owner's office" as specified above
4.2	Tender Submission	:	By 15-06-2019@ 4:00 pm. Address : At Employer / Client/Owner's office" as specified above
4.3	Technical bid Opening	:	By 17-06-2019@ 2:00 pm. Address : At Employer / Client/Owner's office" as specified above
5	Tender validity	:	45 days from the submission of tender
6	Defects liability period	:	12 months from the date of issue of "virtual completion certificate".
7	Earnest money deposit	:	Rs. 2,00,000/- in favour of GPERI ANCHOR INSTITUTE-SOLAR payable at Mehsana in the form of D.D.
8	Security deposit	:	10 % of the contract value to be given by the DD/bank guarantee at the time of award of the contract.
8.1	Release of sd	:	On completion of the work amounting 50% of the contract value
8.2	2.5% (25% of 10% sd)		On completion of the work amounting 75% of the contract value
8.3	2.5% (25% of 10% sd)		On architect's virtual completion certificate of the works.
8.4	2.5% (balance 25% of 10% sd)	:	After rectification of the defects , if any, pointed out during the defects liability period

9	Retention money	:	
10	Release of retention money		On architect's certificate of virtual completion of the works.
	1.25% (25% of retention amt)		After rectification of virtual completion of the works
	3.75% (balance 75 % of retention amt)		After rectification of the defects, if any, pointed out during the defects liability period.
11	Total Retention	:	Total 15% as follows: a) 10 % of contract value in form of security deposit (as specified in 10 above). b) 5 % of contract value or total project cost, whichever is higher (as specified in 12 above).
12	Mobilization Advance	:	5%of the contract amount of the project against submission of the bank guarantee of the equivalent amount of any of the nationalized bank in the prescribed format. Out of which, 2.5% of the contract amount shall be released with the work order and balance 2.5% of the contract amount shall be released only after actual mobilization at site.
13	Recovery of Mobilization advance	:	The recovery of the advance shall commence from the first R.A. bill and in three equal installments.
14	Material Advance	:	70 % Advance against non-perishable materials like kota stone ,etc. Should be given either at the purchase rate or at the amount arrived from the tendered rates of respective item whichever is lower. These advances shall not exceed 10% of the contract value at any time.
15	Recovery of Material Advance	:	From the successive RA bill
16	Value of works for interim certificates	:	Minimum 15% of contract value of monthly running bills whichever is higher
17	Penalty for delay in completion time	:	0.30 % of contract value per day subject to maximum limit of 5% of the "contract value)
18	Payments:		
18.1	Period of honoring certificates	:	30 days from Virtual Completion or date of submission of final bill whichever is later.
18.2	Period of honoring final measurements	:	30 days from Virtual Completion or date of submission of final bill whichever is later
18.3	All payment made by the Employer/Client/ Owner shall be payableat	:	Gandhinagar

19	Other Charges		
19.1	Charges for Electrical Power Supply	:	Shall be recovered at actual from each running bill. Employer /Client/Owner shall arrange the power supply at one point and contractor has to arrange to borrow power from that point onwards via approved Energy meter (to be installed by the contractor).
19.2	Charges for Water Supply	:	The contractor shall have to replace the existing submersible bore pump of the same capacity and Make , free of cost, after handing over of the building in usable condition including necessary yield test.
19.3	Extra items	:	With 15% which includes all type of taxes and duties , labor and profit including overheads.
19.4	Escalation	:	No escalation to be given.
20	Insurance to be covered up by the contractor	:	1)Workmen's Compensation 2)Contractor's All Risk (CAR) policy 3) Third party
21	Barricading of the site		The rate shall be inclusive of constructing temporary barricading of the front boundary wall inclusive of signage. If required
22	Tender Rate	:	The rates shall also be firm and not subject to exchange variations, labor conditions, fluctuations in railway freights or any conditions whatsoever. The Rates of the items to be quoted shall be with GST

NAME OF WORK: CIVIL, ELECTRICAL, HVAC, FURNITURE, CCTV & NETWORKING WORKS OF ANCHOR INSTITUTE OF SOLAR ENERGY LAB AT GPRI COLLEGE, MEVAD, MEHSANA, GUJARAT

SI No.	Description	Serial Page No.
1	2	3
1.	Contents	01
2.	Forwarding letter	
3.	Notice of Tender IAFW-2162 (Revised 1960) including Appendix 'A' to notice inviting Tender	
4.	Instructions for filling and submission of tenders	
5.	Tender and contract for works [comprising Schedule 'A', 'B', 'C' & 'D'- IAFW-2159] (Revised 1947)	
6.	General Conditions of contracts IAFW-2249 (1989 Print) including amendments/errata there to and Schedule of Minimum Wages	
7.	Special Conditions	
8.	Particular Specifications including List of drawings	
9.	Corrigendum to the tender Document	
10.	Relevant correspondence	
11.	Acceptance letter	
	Total Pages	

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

DATE:

GUJARAT POWER ENGINEERING & RESERCH INSTITUTE

Nr.Toll Booth, Ahmadabad -Mehsana Express Highway

Village: Mevad

Ta &Dist.:Mehsana

Tel: +91-02762-285875/71/72/73

Fax: +91-02762-285875

1st June, 2019

M/s _____

NAME OF WORK: CIVIL, ELECTRICAL, HVAC, FURNITURE, CCTV & NETWORKING WORKS OF ANCHOR INSTITUTE OF SOLAR ENERGY LAB AT GPERI COLLEGE, MEVAD, MEHSANA, GUJARAT

Dear Sir (s),

1. Tender documents in respect of above work are published on **1st June, 2019** in Gujarat Samachar and also uploaded on our institute website. The quoted Tender will be received on **15th June, 2019** up to 4:00 pm and technical bid opened on or after **17th June, 2019** at 2:00 pm at GPERI. The tender is on single stage two cover tendering system. The contents of Cover I & Cover II are specified in NOTICE OF TENDER.
2. Bids will be received Offline by PURCHASE OFFICER up to the date and time mentioned in the NOTICE INVITNG TENDER (NIT). No tender/bid will be received in physical form and any tender/bid received in such manner will be treated as non bona fide tender/bid.
3. Bid will be opened on due date and time fixed for opening in the presence of tenderers/bidders or their authorized representatives, who have uploaded their quotation bid and who wish to be present at the time of opening the bids.
4. Your attention is also drawn to instruction on filling and submission of tender attached herewith. You may forward your points on tender documents and/or depute your technical representative

for discussion on tender/drawing and to clarify doubts, if any, on or before **10th June, 2019**. You are requested not to write piecemeal points and forward your points duly consolidated before due date viz. **10th June, 2019**.

5. Unlisted contractors are required to submit the scanned copies (in pdf file) of documents required as per eligibility criteria mentioned in instructions for filling the tender documents and Appendix 'A' to NIT along with EARNEST MONEY DEPOSIT (EMD) amounting of Rs. 2, 00,000/- on submit the physical documents in the office of **Gujarat Power Engineering & Research Institute, Mevad, Mehsana- 384460** within time limit specified in NIT. Inadequacy/deficiency of documents shall make the bid liable for rejection resulting in disqualification for opening of finance bid.
6. (a) Contractor having not executed standing security bond and standing security deposit in any GPRI formation shall upload scanned copy of EARNEST MONEY DEPOSIT (EMD) mentioned in Notice of Tender and shall ensure receipt of hard copy of EMD in the office of tender issuing authority before date & time fixed for this purpose. In case of failure to abide by any of these two requirements, the finance bid will not be opened.

(b) Contractor having not executed standing security bond and standing security deposit in any GPRI formation would be required to deposit individual security deposit on acceptance of tender which will be calculated with reference to the tendered cost as per scales laid down by GPRI for calculation of "EARNEST MONEY" of Rs. 2, 00,000/- (Rupees Two Lakh only).
8. The contractor must ensure that the tender/bid on the proper form is uploaded in time as the Purchase Officer will take no cognizance of any quotations/offer received in any other electronic or physical form like fax/by hand/through post from tenderer/bidder even if they are received in time.
9. In view of delays due to system failure or other communication related failures, it is suggested that the tender/bid be uploaded, if necessary, sufficiently in advance of the last due date and time fixed.
10. General Conditions of Contracts (IAFW-2249) (1989 Print) and errata and amendments thereto, Schedule of minimum fair wages and Quotation are not enclosed with these documents. These are available for perusal in the Office of GPRI concerned and this office.
11. Any tenderer, who proposes alterations to any of the condition, specifications laid down in the tender documents or any new condition, whatsoever, is liable to be rejected.
12. This letter shall form part of the tender documents.

13. Court of the place from where tender has been issued shall alone have jurisdiction to decide any dispute out of or in respect of this tender. After acceptance of tender Condition-72 of Jurisdiction of courts of IAFW-2249 shall be applicable.

14. **CLARIFICATION ON PROVIDENT FUND CODE NUMBER:**

(a) Contractors who have not yet been allotted Permanent Provident Fund Code Number shall submit proof indicating their online application and upload their temporary PF code number allotted online. The temporary PF code number so uploaded shall be considered sufficient for the purpose of tendering.

(b) The above documents in Bound format shall be uploaded in Cover No 1 of the bid

YOURS FAITHFULLY,

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

DATE:

NOTICE INVITING TENDER (NIT)
(IN LIEU OF IAFW-2162 (REVISED 1960))

1. A tender is invited for (see Appendix-'A').
2. The tender shall be based on (see Appendix-'A').
3. The work is to be completed within the period as indicated in the aforesaid Appendix-'A' from the date of handing over site which may be about two weeks after the date of acceptance of the tender.
4. Normally the Contractors whose names are on the GPRI approved list for the area in which the work lies and within whose financial category the estimated amount would fall may tender. But in case of term contracts, Contractors in category 'SS' to 'E' may tender. In case where the tendered amount is in excess of the financial category of the Contractor, the Accepting Officer reserves the right to accept the tender, in which event the tenderer would be required to lodge additional security deposit as notified by the accepting officer in terms of conditions of contract.
5. Contractors whose names are on the GPRI approved list of any GPRI formation and who have deposited standing security deposit and have executed standing security bond may also tender without depositing earnest money along with the tender and if the Accepting Officer proposes to accept the tender, such tenderer would be required to deposit security deposit as notified by the Accepting Officer before acceptance of tender. In case, however, the Accepting Officer subsequent to deposition of security deposit decides not to accept the tender for any reason whatsoever the amount deposited will be refunded to the Contractor.
 - 5.1 Not more than one tender shall be submitted by one Contractor, or one firm of Contractors.
 - 5.2 Under no circumstances will a father and his son(s) or other close relations who have business dealing with one another will be allowed to tender for the same contract as separate competitors. A breach of this condition will render the tender of both parties liable to rejection.
 - 5.3 Invitation for applications for issue of tender does not constitute any guarantee for issue of tender to the applicant, even to enlisted Contractor of appropriate class. Issue of tender will be decided by the Accepting Officer based on interalia past track record, financial position and experience of similar works executed by the Applicant/Contractor. The Accepting Officer shall consider applications received up to the date of receipt of application/extended date of receipt of applications for issue of tender. The Applicant/Contractor will be informed regarding non-issue of tender without assigning reasons. The applicant/contractor, if he so desires may appeal to the next higher Engineer authority with copy to the Accepting officer. No appeal/representation shall be entertained in respect of applications for issue of tenders as received after the due date of receipt of applications/extended date of receipt of applications. The decision of the next higher

Engineer authority shall be final. No Applicant /Contractor shall be entitled for any compensation whatsoever for rejection of his application.

- 6.** The **GPERI** will be the Accepting Officer here-in-after referred to as such for the purpose of this contract.
- 7** The appropriate Standing Security amount for this work shall be as deposited by the Contractors, enlisted in the Command in which the work lies for (see Appendix-‘A’). In case of a Contractor who has not executed the Standing Security Bond, the tender shall be accompanied by earnest Money amounting to (see Appendix-‘A’) in the form of deposit at Call receipt issued in favor of the GPERI concerned from a Scheduled Bank or in the form of receipted treasury Challan, the amount being credited to the revenue deposit of the GPERI (see Appendix-‘A’).
- 7.1** A Contractor who is not enlisted for the area in which the work lies, but whose name is in the GPERI approved list of any GPERI formation and who has deposited standing security and executed standing security bond may tender without depositing earnest money along-with the tender but if the Accepting Officer decides to accept the tender, such tenderer shall lodge security deposit as notified by the Accepting Officer with the Controller of Defense Account concerned in the prescribed form shall deposit within thirty days of the receipt by him of notification of acceptance of the tender the additional amount as mentioned in the aforesaid Appendix ‘A’ failing which the sum will be recovered from the first RAR payment or from the first final bill in case of term/running contracts, However, in case where any payments is made to the Contractor within thirty days of the receipt by him of notification of acceptance of tender the amount of additional security shall be recovered from such payment.
- 7.2** A Contractor who has executed the standing security bond but not for the appropriate class as mentioned above shall deposit within thirty days of the receipt by him of notification of acceptance of the tender the additional amount as mentioned in the aforesaid Para 9.1, failing which the sum will be recovered from the first RAR payment or from the first final bill in case of term/running contracts, However, in case where any payments is made to the Contractor within thirty days of the receipt by him of notification of acceptance of tender the amount of additional security shall be recovered from such payment.
- 7.3** The GPERI will return the earnest Money wherever applicable to all unsuccessful tenderers by endorsing authority and deposit receipt for its refund on production by the tenderer a certificate of the Accepting Officer that a bonafide tender (vide condition 16 hereinafter) was received and all documents were returned. The GPERI will either return the earnest Money to the successful tenderer by endorsing on the deposit receipt for its refund on receipt of an appropriate amount of security deposit or will retain the same on account of part of security deposit if such a transaction is feasible.
- 7.4** Copies of the drawings and the documents pertaining to the work signed for the purpose of identification by the Accepting officers or his accredited representative, sample of materials and stores to be supplied by the contractor will also be available for the

inspection of tenderer/bidder at the office of Accepting Officers and concerned GPERI office during working hours.

7.5 Tender issued to Contractors who are not enlisted with GPERI and not executed the standing security bonds:

(a) The amount of earnest money for the work to be furnished along-with the tender shall be as mentioned in Appendix-‘A’.

7.6 Tender issued to Contractors who are enlisted and have lodged the standing Security Deposit Bond of lower class: The amount of additional security deposit for the work, in case the tender is accepted shall be the difference between ‘Individual Security Deposit’ calculated with reference to this TENDERED COST as per the scale laid down by the GPERI for calculations of Earnest Money and the Standing Security Deposit lodged. Copies of the drawings and the documents pertaining to the work signed for the purpose of identification by the Accepting Officer or his accredited representative and sample of materials and stores to be supplied by the Contractor will be opened for the inspection at the concerned GPERI office (See Appendix-‘A’) during office working hours.

The tenderers are advised to visit site by making prior appointment with the GPERI by giving sufficient time. Tenderer shall be deemed to have full knowledge of all relevant document samples, site, etc. whether he has inspected these or not.

- 8.** Tender of any tenderer who proposes any alternation to any of the conditions laid down or who proposes any other condition of any description whatsoever is liable to be rejected.
- 9.** The Uploading of bid implies that he has read this notice and the condition of contract and has made himself aware of the scope and specifications of work to be done and of the conditions and the rates at which stores, tools and plants etc will be issued to him and local conditions and other factors having bearing on the execution of the work.
- 10.** Tenderers must be in possession of a copy of the Standard Schedule of Rates (as applicable) and specifications including errata and amendments there to.
- 11.** The Accepting Officer reserve the right to accept a tender submitted by a public undertaking giving a price preference over other tender(s) which may be lower as are admissible under the Govt policy. No claim for any compensation or otherwise shall be admissible from such tenderer/bidder whose tender/bid.
- 12.** The Accepting Officer does not bind himself to accept the lowest or any tender to give any reasons for not doing so.
- 13.** The Notice Inviting Tender (NIT) Including Appendix ‘A’ shall form part of the contract.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

DATE:

APPENDIX 'A' TO NOTICE INVITING TENDER		
1	Name of Work :-	Civil, Electrical , HVAC, Furniture, CCTV & Networking Works of Anchor Institute of Solar Energy Lab at GPRI College, Mevad, Mehsana, Gujarat
2	Period of Completion :-	2 months
3	Address :-	GUJARAT POWER ENGINEERING & RESEARCH INSTITUTE, MEVAD, MEHSANA.
4	Type of Contract :-	The tender shall be based on drawing and specification (IAFW-2159) and GCC (IAFW 2249) with schedule 'A' (list of item of work) to be priced by tenderer. The tenderer are required to quote their Lump Sum amounts for pre priced parts of schedule 'A' and quote rates against items of other parts of schedule 'A'.
5	Information & Details: (a) Tender issue date (b) Last date of tender submission (c) Technical bid opening Date (d) Price bid opening meeting	Refer critical dates
6	Tender issuing and Accepting officer :-	GPRI
7	Executing agency :-	Geo Designs & Research (P) Ltd.
8	Earnest Money :-	Rs. 2,00,000/-in favor of GPRI ANCHOR INSTITUTE-SOLAR Payable at GPRI

Notes:

- (a) Contractor has to bid for the full tender, partial bidding is unacceptable.
- (b) Contractor one class below (two class below in case of remote and difficult area) may also bid for this tender. Their application shall be considered subject to fulfilment of other eligibility criteria given in NIT when number of applicants of eligible class qualifying for the tender are less than 7 (seven).

- (c) In case number of eligible class contractors satisfying the eligibility criteria give in NIT are 7 or more than 7, application of one class below the eligible class shall not be considered except those who have previously completed similar works satisfactorily and are meeting the criteria of up gradation In respect of past experience and / or average annual turnover as applicable and financial soundness (solvency / financial soundness and working capital) provided the value of works is less than twice the tendering limit of such contractors. Contractors one class below the eligible class may upload necessary documents wrt works experience and financial soundness in cover 1 of tender (T bid).
- (d) (i) Applications/ bid not accompanied by scanned copies of requisite DD/Bankers Cheque towards cost of tender and earnest money (as applicable) shall not be considered for validation of 'T' bid and their finance bids will not be opened.
- (ii) Contractors should ensure that their original bids will not be opened (as applicable) are received within 7 days of bid submission end date.
- (iii) In case of applications/bids from enlisted contractors of GPRI, where physical copies are not received by the stipulated date, their finance bids will NOT be opened. However non-submission of physical copies of cost of tender shall be considered as wilful negligence of the bidder with ulterior motives and such bidder shall be banned from bidding for a period of six months commencing from the date of opening of finance bid (cover 2).
- (d) Contractors may note that they shall not be loaded beyond their tendering limit as under:-
- (aa) In case contractors of eligible class are selected for issues of tender: 4 to 5 times the tendering limit.
- (bb) In case of one class (two class in case of remote and difficult area as the case may be) contractors are selected for issue of tender: 6 to 7 times
- (cc) In case of unlisted contractors: 2times the upper tendering limit of class for which contractor meets the criteria for enlistment.
- (e) In case any deficiency is noticed, in the documents required as per NIT, after opening of cover 1 (T bid) and during technical evaluation, a communication in the form of speed post etc. shall be sent to the contractor to rectify the deficiency within a period of 7days from date of communication failing which financial bid (cover 2) shall not be opened and contractor shall not have any claim on the same.
- (g) Contractors not enlisted with GPRI will be required to upload necessary documents to prove their eligibility for enlistment in eligible class & category of work, including Affidavit for no recovery outstanding.

Details of three highest values similar nature of works executed during last five years, financial year –wise in tabular form giving name of work, Accepting Officer's details, viz,

Address, Telephone, Fax No, E- mail ID etc., date of acceptance of tender and actual date of completion. This shall be duly signed by proprietor / all partners / authorized Director of Pvt. /Public Ltd, as applicable. It should indicate whether extension was granted or compensation was levied. Attested copy of acceptance letter and completion certificate shall be enclosed of each work. In case performance report has been given by the client same shall also be submitted duly attested.

- (i) Solvency certificate and working capital certificate issues by schedules bank.
- (ii) Annual turnover certificate for last 2 years issues by Chartered accountant along with relevant pages of audited balance sheets in support thereof
- (iii) Affidavits for possession of movable & immovable properties by proprietor / partner owning the immovable property along with valuation certificate from registered valuer in spoil of movable & immovable properties. In case if Limited Company, the immovable property is required to be in the name of the company
- (h) In case of rejection of technical /prequalification bid, contractor may appeal to next higher engineer.

INSTRUCTIONS ON FILLING AND SUBMISSION OF TENDER

1. EARNEST MONEY DEPOSIT (EMD)

Contractor(s) who are not enlisted with GPERI / who are enlisted but have not executed the Standing Security Bond shall submit Earned Money Deposit as detailed in Notice of Tender in one of the following forms, along with their tender / bid :-

- (a) Deposit at Call Receipt from a Scheduled Bank in favour of **GPERI.**
- (b) Receipted Treasury Challan, the amount being credited to the Revenue Deposit of **GPERI.**

It is advisable that Earnest Money is deposited in the form of deposit call receipt from an approved Scheduled Bank for easy refund. In case the tender / bidder wants to lodge 'EARNEST MONEY DEPOSIT' in any other form allowed by GPERI, a confirmation about its acceptability will be obtained from the Accepting Officer well in advance of the bid submission end date and time. Earnest Money Deposit shall be submitted in the name of concerned GPERI.

NOTE:

Earnest Money Deposit (EMD) in the form of cheque / bank guarantee etc. will not be accepted. NON-SUBMISSION OF EARNEST MONEY DEPOSIT (EMD) (along with Technical Bid & hard copy before the date & time fixed for opening of BOQ) WILL RENDER THE BID DISQUALIFIED FOR OPENING OF COVER II (FINANCE BID)

2. SECURITY DEPOSIT

Required to pay an amount equivalent to 10% (Ten) of the value of the work order as Performance Guarantee (Security Deposit) within 10 days from the date of the work order. The order is liable to be cancelled, if security deposit is not submitted on time at the cost and the risk of the successful bidder (at the discretion of GPERI).

3. GENERAL INSTRUCTIONS FOR COMPLIANCE

- 3.1 Bid shall be Submitted on or before the bid closing date mentioned in the tender. No tender/bid in any other electronic or like email / fax will be considered.
- 3.2 Drawings, if issued in physical form, must be returned duly initialed by the tenderer /bidder in separate envelope indicating his name and address.
- 3.3 The tender shall be signed, dated and witnessed at all places provided for in the documents after acceptance. All corrections shall be initialed. The Contractor shall initial every page of tender and shall sign all drawings forming part of the tender. Any tender/bid, which proposes alterations to any of the conditions whatsoever, is liable to be rejected.
- 3.4 Hard copies of all above documents should be sent by the contractor to the Tender issuing authority well in advance to be received before the date & time fixed for the same.

- 3.5 The tenderer/bidder shall quote his rate on the BOQ file only. No alteration to the format will be accepted, else the bid will be disqualified and summarily rejected.
- 3.6 In case the tenderer/bidder has to revise / modify the rates quoted in the BOQ he can do so only in the BOQ, through hard copy only before the bid closing time and date.
- 3.7 Put the General Conditions & Technical Specifications and Drawings in single cover and BOQ put in second cover. Both cover put in single main cover.

4. REVOKATION/REVISION OF OFFER UPWARD/ OFFERING VOLUNTARY REDUCTION, AFTER OPENING OF FINANCIAL BIDS BY LOWEST BIDDER

In the event of lowest tenderer/bidder revoking his offer or revising his rates upward/ offering voluntary reduction, after closing of bid submission date & time, his offer will be treated as revoked and the Earnest Money deposited by him shall be forfeited. In case of GPERI enlisted Contractors, the amount equal to the Earnest Money stipulated in the Notice of tender, shall be notified to the tenderer/bidder for depositing the amount through MRO. Bids of such Contractors/bidders shall not be opened till the aforesaid amount equal to the earnest money is deposited by him in Govt Treasury. In addition, bids of such tenderer/bidder and his related firm shall not be opened in second call or subsequent calls. Reduction offered by the tenderer/bidder on the freak high rates referred for review shall not be treated as voluntary reduction.

5. C P M (Critical Path Method)

- 5.1 The project planning for work covered in the scope of tender is based on CPM.
 - 5.2 The tenderer/bidder is expected to be fully conversant with the CPM technique and employ technical staff who can use the technique in sufficient details. Sufficient books and other literature on the subject are widely available in the market which the tenderer/bidder may make use of.
 - 5.3 The tenderer's/bidder's attention is drawn to special condition of the tender regarding preparation of the detailed network analysis and time schedule for the work and his liability for employing sufficient resources to adhere to this schedule. Any inability on the part of the tenderer/bidder in using the technique will be taken as his technical inefficiency and will affect his class of enlistment and future prospect/invitation to tenders for future works.
 - 5.4 Department may issue amendments/errata in form of CORRIGENDUM to tender /revised BOQ to the tender documents. The tenderer/bidder is requested to read the tender documents in conjunction with all the errata/ amendments/corrigendum, if any, issued by the department.
6. These instructions shall form part of the contract documents.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

GUJARAT POWER ENGINEERING & RESERCH INSTITUTE
Nr. Toll Booth, Ahmadabad - Mehsana Express Highway
Village: Mevad
Ta & Dist.: Mehsana

Tel: +91-02762-285875/71/72/73

Fax: +91-02762-285875

1st June, 2019

SUPPLY OF FURNITURE AND PROVIDING CIVIL,ELECTRICAL, HVAC, CCTV NETWORKINGWORKS AT
GUJARAT POWER ENGINEERING & RESEARCH INSTITUTE, MEVAD, MEHSANA.

Shri / Sushri _____ of _____ is /are hereby

Authorized to tender for the above work. The Tender to be published at the GPRI on date and time as per critical dates given in the tender document and Bids (Cover 1 & 2) will be opened on date and time as per critical dates given in the tender document.

All correspondence concerning this tender should be addressed as indicated at the top of the sheet quoting reference as given.

Signature of Officer Issuing Documents

Appointment:

Signature of Contractor

Date

TENDER (CONTD.)

Brought Forward Rs. _____ for the Lump Sum of Rs. _____

(Rupees _____

_____ Only)

Signature _____ Dated _____

Name of Signatory _____ in the capacity of

_____ duly authorized to sign the tender for and

on behalf of _____ (IN BLOCK LETTERS)

WITNESS & ADDRESS

NAME AND ADDRESS OF TENDERER

TELEPHONE NO _____

ACCEPTANCE

_____ Alternations have been made in these documents and as evidence that these alternations were made before the execution of the contract agreement they have been initiated by the Contractor and _____.

The said Officer is hereby authorized to sign and initial on my behalf the documents forming part of this contract.

The above tender was accepted by me on _____ day of _____ on behalf of the President of India for the Lump Sum of Rs. _____

(Rupees _____
_____ Only)

Date : _____ day of Signature:

Appointment:

ACCEPTING OFFICER

T E N D E R

To

Having examined and perused the following documents:

1. Specifications signed by the Principal.
2. Drawings detailed in the specifications.
3. General Conditions of Contracts IAFW-2249 [1989 Print] .
4. Water Condition 31 of IAFW-2249 [General Conditions of Contracts].
5. Should this tender be accepted, * I/WE AGREE

***(a)** "That the sum of **Rs. 2,00,000 (Rupees Two Lakh only)** forwarded as Earnest Money which shall either be retained as a part of Security Deposit or be refunded by the GPRI on receipt of an appropriate amount of the Security Deposit, within the time specified as per condition 22 of IAFW-2249.

(b) To execute all the works referred to in the said documents upon the terms and conditions contained or referred to therein and as detailed in the Summary and to carry out such deviations as may be ordered vide condition 7 of IAFW-2249 up to a maximum of **(+)10% (Ten Percent)**.

**Delete whichever not applicable.*

In lieu of IAFW-2159 (Revised 1947)

Total brought forward from BOQ on serial page No. 83 for the Lump Sum of

Rs. _____/-

(Rupees _____)

_____ only)

Signature _____ in the capacity of
_____ duly

authorized to sign the

Tender for and on behalf of

GPERI _____

(BLOCK CAPITALS)

Name of the Signatory:

(IN BLOCK CAPITALS)

Date :

Postal Address :

Witness

Telegraphic Address:

Address

Telephone:

NAME OF WORK: SUPPLY OF FURNITURE AND PROVIDING CIVIL, ELECTRICAL, HVAC ,
CCTV & NETWORKING WORKS AT GUJARAT POWER ENGINEERING & RESEARCH
INSTITUTE, MEVAD, MEHSANA.

ACCEPTANCE

_____ Alterations have been made in these documents and as evidence that these
Alterations were made before the execution of the Contract Agreement these have been initialed
by the Contractor and **Sushri/Shri** _____

The said Officer/Officers is/are hereby authorized to sign and initial on my behalf the documents
forming part of this contract.

The above tender was accepted by me on behalf of the President of India for the Lump Sum of

(Rupees _____
_____ only)

On the _____ day of

Signature _____ dated this _____ day of _____

**GUJARAT POWER ENGG & RESEARCH INSTITUTE
Nr. Tollbooth, Ahmadabad- Mehsana Express
Highway, Village: Mevad,
Ta & Dist: Mehsana-384460**

Accepting Officer:

NAME OF WORK: SUPPLY OF FURNITURE AND PROVIDING CIVIL, ELECTRICAL, HVAC, CCTV & NETWORKING WORKS AT GUJARAT POWER ENGINEERING & RESEARCH INSTITUTE, MEVAD, MEHSANA.

**GENERAL CONDITIONS OF CONTRACTS - IAFW 2249 (1989 PRINT) FOR
ITEM RATE CONTRACTS**

A copy of the GENERAL CONDITIONS OF CONTRACTS - IAFW 2249 (1989 Print) with errata 1 to 20 and amendment No. 1 to 40 has been supplied to me/us, has been perused by me/us and is in my/our possession. I/We have read and understood the provisions contained in the aforesaid GENERAL CONDITIONS OF CONTRACTS before submission of this tender and I/We shall abide by the terms and conditions thereof, as modified if any, elsewhere in these tender documents.

It is hereby further agreed and declared by me/us, that the GENERAL CONDITIONS OF CONTRACTS, IAFW-2249 (1989 Print) including condition 70 thereof pertaining to settlement of disputes by arbitration, containing 33 pages (serial page Nos. 54 to 86) with errata 1 to 20 and amendment Nos. 1 to 40 (serial page Nos. 123 to 140) form part of these tender documents.

Note: In case of difference in interpretation due to wordings of English and Hindi versions of the General Conditions of Contracts (IAFW-2249) (1989 Print), the English version will prevail.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

DATED:

NAME OF WORK: SUPPLY OF FURNITURE AND PROVIDING CIVIL, ELECTRICAL, HVAC, CCTV & NETWORKINGWORKS AT GUJARAT POWER ENGINEERING & RESEARCH INSTITUTE, MEVAD, MEHSANA.

SCHEDULE OF MINIMUM FAIR WAGES

It is hereby agreed that the 'Schedule of Minimum Fair Wages' as published vide Government of India / State Govt. / Union Territory latest Notification forms part of these tender documents. My/Our signature here under amounts to my/our having read and understood the provisions contained therein and I/we agree that I/we shall abide by the same and that aforesaid documents form part of this tender.

SIGNATURE OF CONTRACTOR

DATED:

**FOR ACCEPTING
OFFICER**

SPECIAL CONDITIONS

1.1 GENERAL

The following conditions shall be read in conjunction with General Conditions of Contracts IAFW-2249 (1989 Print) and IAFW-2159 (Revised 1947)/IAFW-1779-A (Revised 1955) including and Amendments thereto. If any provision in these special conditions is at variance with the provisions of the above mentioned Documents, provisions in these special conditions shall be deemed to take precedence there over.

1.2 VISIT TO SITE

The tenderer is advised to inspect the site, by prior appointment with **GPRI**, to ascertain the nature of site, access thereto, local facilities for procurement of materials, working hours and labour rates prevalent in the area and all other matters affecting his price in the tender for execution and the completion Of the work. The tenderer shall be deemed to have full knowledge of the site (s) whether or not he actually visits it/these. For the purpose of collection of materials and execution of the works, the site will be considered as lying in area as mentioned in clauses hereinafter.

1.3 SECURITY AND PASSES

1.3.1

Tenderers attention is invited to condition 25 of IAFW-2249. He shall employ only Indian Nationals after Verifying their antecedents and loyalty. He shall ensure that no person of doubtful antecedents and Nationality is, in any way, associated with work. If for reasons of technical collaboration or other consideration, the employment of any foreign national is unavoidable, the contractor shall furnish full Particulars to this effect to the Accepting Officer at the time of submission of his tender. The contractor shall on demand by the Engineer-in-Charge, submit a list of his agents, employees and work people Concerned and shall satisfy the Engineer-in-Charge as to the bonafide of such people.

1.3.2

The Engineer-in-Charge shall, at his discretion has the right to issue passes, as per rules and regulations of the installation/area in force, to control the admission of the contractor, his agents, employees and work People to the site of the work or any part thereof. Passes shall be returned on any time on demand by the contractor and his agents, employees and work people shall observe all rules promulgated by the authority controlling the installation/area in which the work is to be carried out e.g. prohibition of smoking and lighting, fire precautions, search of persons at entry and exit, keeping to specific routes, observing specified timings, etc. Nothing extra shall be admissible for any man hours etc. lost on this account.

1.4 MATERIALS AND SAMPLES

1.4.1 Refer condition 10 of IAFW-2249 and clause.

- 1.4.2 Materials provided by the contractor for incorporation in the works shall, unless otherwise specified in the particular specifications be ISI marked. ISI means Indian Standards as issued by the Bureau of Indian Standards. Wherever in the specifications 'ISI' is referred to, it means the edition with all amendments, Current on the due date of receipt of the tender documents.

The tenderer is advised to inspect other materials, which are displayed in the office of GPERI, before Submitting his tender. The tenderer shall be deemed to have inspected the samples and satisfied himself as to the nature and quality of materials, he is required to incorporate in the Work irrespective of whether he has actually inspected them or not. The materials to be incorporated in the work by the contractor shall be ISI marked or shall be equal or superior in quality to sample displayed and shall comply with the specifications given hereinafter. The contractor shall produce samples of all materials, articles, fittings, accessories etc. that he proposes to Use and get these approved in writing by the Geo Designs & Research (P) Ltd. Within reasonable time from the date of commencement of work as per work order. The materials, articles, etc. as approved shall be labeled as such and shall be signed by the GPERI and contractor's representative. These samples shall be kept in the custody of the GPERI/Engineer-in-Charge.

The contractor shall not procure materials unless the samples are first got approved by the GPERI.

- 1.4.3 The brand of all materials, articles, fittings, etc. approved together with the names of the manufacturers and firms from which supplies have been arranged shall be recorded.
- 1.4.4 (a) A list of items/articles, which are having ISI certification mark and are readily available, is given in Appendix 'A'. It is mandatory that ISI certified marked items/articles as listed in Appendix 'A' shall be incorporated in the work.

(b) The Govt. reserves the right to get the items/articles listed in Appendix 'A' tested in approved laboratories. The cost of sample for testing shall be borne by the contractor and the remaining expenses such as cost of transportation of sample to laboratory and testing fee shall be borne by the Govt., if the test result is found to be satisfactory. However, in the event of the test result being found unsatisfactory, the entire cost of testing including cost of sample shall be borne by the contractor. Government may get more than one sample of the same materials tested and the cost of such testing shall be borne by the Government.

1.5 PROPRIETARY/ BRANDED MATERIAL

1.5.1 ----Nil----

1.5.2 Materials brought to site shall be stored as directed by the Engineer-in-Charge and those already recorded in measurement book shall be suitably marked for identification.

1.5.3 The contractor shall obtain proprietary/ branded materials from manufacturers or from manufacturer's authorized stockists where such authorized stockist has been appointed. The contractor shall, on demand, produce original receipted vouchers/ invoices of suppliers to the GPERI, to ensure that the contractor has actually brought the required quantity of the materials from the authorized dealers/manufacturers and also to be find out the rates thereof. The original vouchers/ invoices shall be defaced and stamped by Engineer-in-Charge, indicating contract

number, name of work, under his dated signature. The contractor shall ensure that the materials are brought to site, in original sealed containers/ packing bearing manufacturer's marking except in the case of the requirement of material(s) being less than the smallest packing.

1.5.4 PRODUCTION OF VOUCHERS FOR MATERIALS

Contractor shall produce original purchase vouchers/Invoices challan along with Test Certificate wherever applicable from the manufacturers and or their authorized agents for the full quantity of the materials as applicable as prerequisite documents before submitting claims for payment for advance on account of materials lying at site in accordance with condition 64 of IAFW-2249, General Conditions of Contracts. However, vouchers in respect of cement, steel, PP-R pipes, precast cable cover, LT panel board, GI pipes, VCB, APFC power panel, major E/M equipments e.g. Transformers, DG sets, Pumps, motors, AC and all equipments shall be submitted invariably.

1.5.5 The vouchers shall be endorsed, dated and initialed by the Engineer-in-Charge giving the contract number and name of work. A certified copy of each of such vouchers signed both by Engineer-in-Charge and the contractor shall be kept on record.

1.5.6 When the cost of each category of material is less than Rs.1,000/- production of voucher may not be insisted upon, if the GPERI is otherwise satisfied with the quality & quantity of material brought by contractor.

1.6 TIME AND PROGRESS (CPM CHART)

1.6.1 The CPM Chart to be prepared as per Condition 11 of IAFW-2249 (General Conditions of Contracts) shall consist of detailed network analysis and a time Schedule. The critical path network will be drawn jointly by the GPERI and the contractor soon after acceptance of the tender. The contractor so as to finish the work within the stipulated time will do the time scheduling of the activities. On completion of the time schedule, firm calendar date Schedule will be prepared and submitted by the contractor to the GPERI who will approve it after due scrutiny. The Schedule will be submitted in four copies within two weeks from the date of handing over the site.

1.6.2.1 During the currency of the contract, the contractor is expected to adhere to the time schedule and this adherence will be a part of the contractor's performance under this contract. During the execution of work, the contractor is expected to participate in the reviews and updating of the net work undertaken by the GPERI. These reviews may be undertaken at the discretion of the Geo Designs & Research (P) Ltd. either as a periodic appraisal measure or when the quantum of work ordered on the contractor is substantially changed through deviation orders or amendments. Any revision of the time schedule as a result of the review will be submitted by the contractor to the Geo Designs & Research (P) Ltd. within a week for his approval after due scrutiny. The contractor will adhere to the revised schedule thereafter. In case of contractor disagreeing with the revised schedule the same will be referred to the Accepting Officer, whose decision will be final, conclusive and binding. GPERI approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time.

1.6.2.2 Extension of time shall be considered and decided by the appropriate authority mentioned in condition 11 of IAFW-2249 and separately regulated.

- 1.6.3 The contractor shall mobilise and employ sufficient resources to achieve the detailed schedule within the broad frame work of the accepted methods of working and safety.
- 1.6.4 No additional payment will be made to the contractor for any multiple shift work or other intensive methods contemplated by him in his work schedule, even though the department approves the time schedule.

1.7 SECURITY OF CLASSIFIED DOCUMENTS

Contractor's special attention is drawn to condition 2-A and 3 of General Conditions of Contracts (IAFW-2249). The contractor shall not communicate any classified information regarding the works either to sub-contractors or others without prior approval of the Engineer-in-Charge. The contractor shall also not make copies of the design/drawings and other documents furnished to him in respect of the works and he should return all documents furnished to him in respect of the works on completion of the work or earlier termination of the contract. The contractor shall along with the final bill, attach a receipt from the Engineer-in-Charge in respect of his having returned the classified documents as per condition 3 of General Conditions of Contracts (IAFW-2249).

1.8 FAIR WAGES

The contractor shall have no claims, whatsoever if on account of any rules and regulation or otherwise he is required to pay wages in excess of the fair wages shown in the schedule of wages under condition 58 of General Conditions of Contracts IAFW-2249.

1.9 PERIOD FOR KEEPING TENDER OPEN

The tender shall remain open for acceptance for a period of 30 (Thirty) days from the date specified for its submission.

1.10 RECORD OF CONSUMPTION OF CEMENT

- 1.10.1 For purpose of keeping record of cement brought by contractor and consumed in works, the contractor shall maintain a pucca bound register, with serially numbered pages with all pages initialed by Engineer-in-Charge against numbering, in the form approved by the Engineer-in-Charge showing daily receipts of cement brought by contractor, quantity used in works and balance in hand. The register shall be signed daily by representative of GPRI and contractor in token of their verification of its correctness and will be checked by Engineer-in-Charge, at least once a week and on the days cement is brought by contractor.
- 1.10.2 The aforesaid provision will not however, absolve the contractor of his responsibility to justify the consumption of cement at the time of finalization of his accounts.
- 1.10.3 The register shall be kept at site in the safe custody of the contractor during progress of the work and he shall on demand produce the same for verification by inspecting officers. On completion of the works cement register shall be handed over to the Engineer-in-Charge for record with GPRI.

1.11 ROYALTIES

Delete the existing condition 14 of IAFW-2249 and insert the word "BLANK" in lieu.

1.12 LAND AND LABOUR ACCOMMODATION, AND STORES AND WORKSHOP ETC.: ----Nil—

1.13 CO-OPERATION WITH OTHER AGENCIES

1.13.1 The contractor shall permit free access and generally afford reasonable facilities to other agencies or departmental workmen engaged by Government to carry out their part of the work, if any, under separate arrangements.

1.13.2 The contractor's prices shall be deemed to cater for all the above contingencies and nothing extra shall be admissible on this account.

1.14 LABOUR (REGULATION & ABOLITION) ACT

1.14.1 Contract labour (Regulation & Abolition) Act 1970 is applicable to GPRI contractors. Rates quoted by the tenderer shall be deemed to take into account the cost, etc., required to comply with the provisions contained in the said act and the rules framed under the said act.

1.14.2 Refer Condition 58 of IAFW-2249. The "Schedule of Minimum Wages" as published vide Govt. Of India Notification as available on date of receipt of tender forms part of these tender documents. However, the contractor shall not pay wages lower than minimum wages for labour as fixed by the Govt. Of India/ State Govt./ Union territory under Minimum Wages Act or Contract Labour (Abolition and Regulation Act), whichever is higher.

1.14.3 The fair wages referred to in condition 58 of IAFW-2249 will be deemed to be the same as the minimum wages payable as referred to above.

1.14.4 The contractor shall have no claim whatsoever, if on account of local factors and/or regulations, he is required to pay the wages in excess of minimum wages as described above during the execution of work.

1.15 WATER SUPPLY

1.15.1 Refer condition 31 of General Conditions of Contracts (IAFW-2249) and clause 1.13 of GPRI Schedule.

1.15.2 **Water will be supplied by GPRI** & contractor shall make his own arrangements for water for the entire work. However, the contractor if he so desires, will be permitted to drill bore well(s) in the area at his own cost. The well(s) dug/drilled by the contractor shall become the property of the Govt. without any extra cost. The contractor shall at his own cost, get the water tested from recognized Govt. Laboratory about the portability of water and produce the certificate to the GPRI.

1.15.3 Water used for mixing and curing shall be generally potable water, clean and free from impurities viz. oils, acids, alkaline salts, sugar, organic materials or other substance that may be deleterious to concrete or steel and also conform to IS-456.

1.16 ELECTRIC SUPPLY : Electricity will not be supplied by GPRI and contractor shall make his own arrangement for electric supply for the entire work.

1.17 RELEASE OF ADDITIONAL SECURITY DEPOSIT

Additional security deposit when deposited by the contractor as per clause 22 of IAFW-2249 shall be released in two stages as under:-

- (a) 50% additional security deposit shall be released on payment of final bill provided there are no claims outstanding against the contractor in respect of the contract in which the additional security is lodged and the final bill is not minus. In the event of Department's claims against the contractor and/or the final bill being minus, the amount of the security deposit shall be adjusted against the claims due to Government and the balance, if any, will be released to the contractor.
- (b) Balance 50% of the additional security deposit will be released to the contractor after the expiry of defect liability period as per condition 68 of IAFW-2249.
- (c) In order to implement the above procedure the contractor is advised to deposit the additional security in two equal parts so as to facilitate its release.
- (d) The above clause is not applicable for release of Earnest Money/Security Deposit deposited by a contractor who has not executed the Standing Security Bond with the department.

1.18 MINOR CONSTRUCTIONAL DETAILS

Lump sum quoted by the contractor shall be deemed to allow for all minor constructional details which are not specifically shown on drawings or given in the Particular Specifications but are essential for the execution of work and services in workman like manner and sound construction. In case of difference of opinion between the contractor and GPRI as to whether or not certain item of work constitutes 'Minor Constructional Details' which is deemed to have been included in the contractor's quoted lump sum, the decision of the Accepting Officer shall be final, conclusive and binding.

1.19 STACK MEASUREMENTS

1.19.1 Refer Special Conditions 20A.1.2 of Schedule Part II.

1.19.2 Soling, Stone chipping for premixed carpet, etc. shall be stacked at suitable level places and their measurements recorded in measurement book and signed and dated by the GPRI representative and the contractor as a check to ensure that the required quantities have been brought at site for incorporation in the work. No deductions shall be made in the stack measurement for unevenness of ground.

1.19.2 This provision, however, shall not absolve the contractor from providing more materials required to complete the work to the required specification and to repair potholes, cracks, etc. that may occur during rolling.

1.20 -----Nil-----

1.21 SALES TAX CONSEQUENT UPON THE CONSTITUTION (FORTYSIXTH AMENDMENT ACT 82).

- (a) Tendered rates shall be inclusive of all taxes and levies payable under the respective statute including Sales Tax/Labour Cess/ Education Cess/ VAT/Service Tax on Works Contract imposed on transfer of the right to use any goods for any purpose, Act of Goa State Government promulgated consequent to the 46th amendment to the constitution.
- (b) Tenderer shall note that no separate amount is to be indicated for the above mentioned Sales Tax/Labour Cess/ Education Cess/ VAT/Service Tax on Works Contract payable to Goa Government, in his tender. The element of this Sales Tax shall be included by the tenderer in his lump sum/unit price quoted.
- (d) Any tender which proposes any alteration to the above condition and/or which proposes the element of Sales Tax/Labour Cess/ Education Cess/ VAT/Service Tax on Works Contract separately over and above the quoted lump sum/unit price will be treated as conditional tender and is liable for rejection.

1.22 RE-IMBURSEMENT/REFUND ON VARIATION IN "TAXES DIRECTLY RELATED TO CONTRACT VALUE".

- (a) The rates quoted by the Contractor shall be deemed to be inclusive of all taxes (including Sales Tax/VAT on materials, Sales Tax/VAT on Works Contracts, Turnover Tax, Service Tax, Labour Welfare Cess/tax etc.), duties, Royalties, Octroi & other levies payable under the respective statutes. No reimbursement/refund for variation in rates of taxes, duties, Royalties, Octroi & other levies, and/or imposition/abolition of any new/existing taxes, duties, Royalties, Octroi & other levies shall be made except as provided in sub para (b) here-in-below.
- (b) (i) The taxes which are levied by Govt at certain percentage rates of Contract Sum/Amount shall be termed as "taxes directly related to Contract value" such as Sales Tax/VAT on Works Contracts, Turnover Tax, Labour Welfare Cess/tax /Service Tax on Works Contract and like but excluding Income Tax. The tendered rates shall be deemed to be inclusive of all "taxes directly related to Contract value" with existing percentage rates as prevailing on last due date for receipt of tenders. Any increase in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on last due date for receipt of tenders shall be reimbursed to the Contractor and any decrease in percentage rates of "taxes directly related to Contract value" with reference to prevailing rates on last due date for receipt of tenders shall be refunded by the Contractor to the Govt/deducted by the Govt from any payments due to the Contractor. Similarly imposition of any new "taxes directly related to Contract value" after the last due date for receipt of tenders shall be reimbursed to the Contractor and abolition of any "taxes directly related to Contract value" prevailing on last due date for receipt of tenders shall be refunded by the

Contractor to the Govt/deducted by the Govt from the payments due to the Contractor.

(ii) The contractor shall, within a reasonable time of his becoming aware of variation in percentage rates and/or imposition of any further “taxes directly related to Contract value”, give written notice thereof to the GPERI stating that the same is given pursuant to this Special Condition, together with all information relating thereto which he may be in a position to supply. The Contractors shall submit the other documentary proof/information’s as the GPERI may require.

(iii) The Contractor shall, for the purpose of this condition keep such books of account and other documents as are necessary and shall allow inspection of the same by a duly authorized representative of Govt, and shall further, at the request of the GPERI furnish, verified in such a manner as the GPERI may require, any documents so kept and such other information as the GPERI may require.

(iv) Reimbursement for increase in percentage rates/imposition of “taxes directly related to Contract value” shall be made only if the Contractor necessarily & properly pays additional “taxes directly related to Contract value” to the Govt, without getting the same adjusted against any other tax liability or without getting the same refunded from the concerned Govt Authority and submits documentary proof for the same as the GPERI may require”.

1.23 ADVANCES ON ACCOUNT OF NON-PERISHABLE MATERIALS

The contractor may be paid advance on account to the full value of the under mentioned materials only, brought on the site, on his furnishing guarantee bond(s) from a scheduled bank for the amount of the retention money, should otherwise be recoverable from him under the contract :-

- (i) Factory made panelled shutters.
- (ii) Factory made Aluminum windows/ ventilators.
- (iii) Sanitary fittings.
- (iv) Builder’s hardware fittings (iron mongery).
- (v) Electrical cables/ wires/ fittings/ fixtures.
- (vi) Water supply pipes, fittings/ fixtures.

The Bank Guarantee Bonds shall be executed for a period and on a form as directed by the Accepting Officer. The contractor shall further arrange to extend the period of Guarantee Bond if and when necessary, as directed by the Accepting Officer or shall furnish fresh guarantee bond of similar value. It will be noted that advance on account to the full value to materials brought on the site is permissible only in respect of fittings and fixtures and other manufactured items which do not lose their identity. Materials like bricks, aggregate, precast concrete and similar items shall not be taken in the list.

1.24 CLEANING DOWN (Refer Condition 49 of IAFW-2249)

The contractor shall clean all floors, walls, remove cement, lime, paint marks/drops etc clean the joinery glass panes etc., touch up all painters work and carry out all other necessary items of work in connection therewith and leave the whole premises clean and tidy before handing over the building. No extra payment shall be claimed by the contractor for this operation.

1.25 LABEL OF ARTICLES

Contractor shall provide aluminium LABEL of not less than 75mmx25mm and of adequate gauge with brass screws on articles like transformer, panel board, generating set etc. indicating there on the names of the firm, the contract No. and year as directed by GPERI. The cost of such aluminium labels shall be deemed to be included in the quoted rates against respective item of Schedule `A'.

1.26 DAMAGE TO STRUCTURE

Any damage done to the structure built or being built by other agency during execution of work shall be made good by the contractor at his own cost and the site of work left clean and tidy on completion. Rectification, reinstatement, making good etc shall conform to the standard of materials originally used in the work and finished work shall match with existing work in all respect to the entire satisfaction of the GPERI.

1.27 METHOD STATEMENT

1.27.1 The contractor shall plan for execution and completion of work with foresight to ensure timely execution with the quality of work desired.

1.27.2 Period of completion shall be divided into months/ fortnights/ weeks and plan for each months/fortnights/weeks by preparing schedule for every months/ fortnights/weeks with following details, even before commencement of work.

- (a) Items of work to be executed with quantity.
- (b) Labour to be deployed trade wise,
- (c) T & P to be deployed.
- (d) Material to be brought to site for works to be executed next week.
- (e) Type and number of engineers to be employed.

1.27.3 Any special item of work to be executed along with description of method as to how contractor intends to execute. It must be submitted in advance.

1.27.4 Contractor shall also plan in advance and make available all the requisite safety equipment for the labour.
A list of the same shall be given.

1.27.5 Contractor shall produce test certificate of T & P being deployed at site. The test certificates shall indicate the present capacity of the T&P and shall not be more than 6 months old.

1.27.6 The above details shall be furnished by contractor within 10 days of commencement of work. Work will be not allowed to be executed without these details. However, date of commencement of work will be within one month of acceptance as per contract.

1.27.7 Delay on account of non-submission of these details /test certificate will be attributable to contractor and no extension of time will be granted on this account.

****MONTH/FORTNIGHT/WEEK NO**

From _____ to _____

EXECUTION

SPECIAL CONDITIONS (CONTD/-)

Sl No	Item of work	Quantity
1		
2		

Sl No	No of Engineers to be employed	
		Nos
1	Civil (a) Graduates (b) Diploma Holders	
2	Electrical (a) Graduates (b) Diploma Holders	
3	Mechanical (a) Graduates (b) Diploma Holders	

Sl No	Labour required to be employed	
	Trade	Nos
1	Mazdoor	
2	Manson	
3	Electrician	
4		
5		
6		

Sl No	T&P to be deployed	
	Type	Nos
1		
2		
3		
4		

**MATERIALS TO BE BROUGHT AT SITE FOR EXECUTION MONTH/
FORT NIGHT/ WEEK WISE DETAILS**

SI No	Description of Material	Quantity	Source

1.28 OFFICIAL SECRETS ACT

The contractor shall be bound by the Official Secrets Act, 1923.

1.29 CONCILIATION

1.29.1 Scope of conciliation

The scope of conciliation shall be restricted to the following types of disputes with financial limits as indicated therein:-

- (a) Disputes relating to levy of compensation for delay in completion- actual amount of Compensation.
- (b) Disputes relating to technical examination of works.
- (c) Disputes relating to interpretation of the provisions of the contract with reference to their application to parties.
- (d) Disputes relating to non-return of Schedule` stores over issued to contractor.
- (e) Any other dispute having fair chances of being resolved by conciliation and considered fit to be referred to conciliation by the parties.

1.29.2 For items (b), (c), (d) and (e) each as stated above the financial limit shall be Rupees two Lakhs or one percent of the contract amount whichever less is.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

DATED

PARTICULAR SPECIFICATIONS

1.0 SCOPE OF WORK

The scope of work consist of SUPPLY OF FURNITURE AND PROVIDING ELECTRICAL, HVAC & NETWORKINGWORKS AT GUJARAT POWER ENGINEERING & RESEARCH INSTITUTE, MEVAD, MEHSANA. Including all connecting items as given in BOQ complete all as shown on drawings and as specified in the particular specification hereinafter.

2.0 DIMENSION

In laying out building the center line dimensions mentioned in the drawings or deduced there from shall be strictly followed

3.0 MATERIALS

3.1 All materials to be supplied by the contractor for incorporation in work shall confirm to relevant specifications / IS.

3.2 In case specifications of materials needed for incorporation is not contained anywhere in the contract documents, the specifications of such materials proposed to be incorporated in work shall be got approved in writing from the GPRI before incorporation in the work. Contractor is advised to check availability, lead, time of procurement from these suppliers before quoting.

3.3 As far as practicable all manufactured articles other than those manufactured in contractor's workshop at site shall bear ISI certification mark and which are readily available in the market and are given in Special Conditions. It is mandatory for the contractor that ISI certified marked

Items/articles as listed therein shall only be incorporated in the work. Names of manufactures/suppliers of certain items/materials are given in Appendix 'B' to Particular Specifications. The Contractor is advised to check availability / lead time of procurement from these suppliers before quoting.

3.4 Local materials such as stone aggregate, sand, lime etc shall generally conform to the sample kept in GPRI office in addition to their conformity with relevant specifications given in the tender documents. The samples of such materials shall be got approved from GPRI in writing before the materials are brought at site in bulk. The contractor shall submit samples of materials to Geo Designs & Research (P) Ltd. through Engineer-in-Charge for approval.

3.5 Letters conveying approval of samples/materials by GPRI will inter alia mention source of supply/name of manufacturer, trade name/brand (if applicable) and reference to clause of the tender documents containing specification of particular materials.

- 3.6 The contractor and executives will ensure that the materials incorporated in the work are identical with the approved samples.

4.0 TESTING OF MATERIALS

- 4.1 All the materials to be incorporated in the work shall be subject to quality control tests as per the testing procedure and frequency as laid down in relevant IS and or as specified in the tender.
- 4.2 Irrespective of whatever is indicated elsewhere in the tender documents the modalities of testing arrangements shall be as given here in after.

5.0 EXCAVATION – GENERAL

- a) Excavation shall be done to the depth as shown on drawings/as required at site and as directed by Engineer-in-Charge.
- b) Decision of the GPRI shall be final, conclusive and binding as regards classification of soils and rocks met during excavation.

6.0 FOUNDATION AND PLINTH

- a) The lump sum cost for works under Schedule 'A' Part I shall be for the construction of buildings as per the contract drawings & specifications. Any change in foundations and plinth, necessitated, which may have to be carried out as per the decision of the GPRI, shall be adjusted through a proper deviation order.
- b) Site plan shows location of buildings, should it be found necessary to vary the siting of these buildings, no claim for additional expenses, if any, will be entertained on this account by the Department.
- c) Quoted cost of all items of Schedule 'A' Part I as well as subsequent parts shall also be deemed to include for removal of roots of the trees if met during excavation.
- d) Excavation for foundation of building / structure under Schedule 'A' Part I includes for excavation in sand dunes also. Contractor will not have any extra claims to make the side of trenches stable for and/ or to have wider width of trenches.

7.0 CONCRETE WORK

7.1 CEMENT

- (a) Type of cement for the subject work shall be ordinary Portland cement grade 43 (forty three) in accordance with IS 8112-1989 unless otherwise mentioned. The Contractor may be permitted to use ordinary Portland cement grade 53 (Fifty three) also without any extra cost to the Government with prior approval of GPRI.

7.2 FINE AGGREGATE

- (a) Fine aggregate for concrete works shall be natural sand/crushed, stone sand/crushed gravel.
- (b) The sand shall be hard, dense, strong, durable, clear and free from veins and adherent Coatings and free from injurious amount of disintegrated pieces, alkali, vegetable matters And other deleterious substances. As far as possible, flaky and elongated pieces should be Avoided.
- (c) Natural river sand/crushed stone sand shall be obtained from the permanent river sources As approved by the GE.

7.3 COARSE AGGREGATE

- (a) Coarse aggregate for all cement concrete work shall be graded broken/ crushed trap Stone obtained from approved quarries.
- (b) Coarse aggregate shall be obtained from the sources as approved by the GPRI.

7.4 GRADING OF COARSE AGGREGATE Graded Aggregate of nominal sizes given hereunder, shall be used, unless specified otherwise, in the specifications hereinafter:

- (a) Plain or reinforced cement concrete except in foundation of brick or stone Walls/pillars, floors and sub base to floors.
 - (i) For structural elements of depth/thickness more than and including 100mm: 20mm
 - (ii) For structural elements of depth/thickness less than 100mm: 12.5mm

Note: However, in no case the nominal size of aggregate shall be greater than one fourth the minimum thickness of the member

- (b) Plain concrete in foundation of brick or stone walls, pillars, floors and sub-base to floors.
 - (i) Under 30mm thickness : 12.5mm
 - (ii) 30mm to 80mm thickness : 20mm
 - (iii) Exceeding 80mm thickness : 40mm

.5 MIX OF CONCRETE:-

7.5.1 Irrespective of what is specified in drawings, mix of cement concrete in various situations shall be as Under unless otherwise stated in after in Particular Specifications :-

	Situation		Type of Concrete
	(a) Foundation concrete for all buildings, under brick/ stone Walling and lean concrete under plinth/grid/toe beam and steps, in gaps Between plinth/column under footing.		M 10 Nominal Mix

(b) Foundation concrete under column footing if not Shown in Drawings.	M 10 Nominal Mix
(c) PCC in sub floors (base concrete) for PCC / Tiles floor	M 7.5 Nominal Mix
(d) PCC in plinth protection, drain and channel, PCC Cills and PCC block for holder-bats, and plugging for scaffolding Holes.	M 10 Nominal Mix
(e) All RCC work	RMC Grade M30 (Design mix)
(f) PCC in bed plate, benching, splash stones, coping, DPC And Pre-cast articles.	M 15 Nominal Mix
(g) Cement concrete in any other situation not mentioned Above.	M 15 Nominal Mix

7.5.2 Small projects having total volume of concreting not be exceeding 30 cum will be dealt as Under:-

(a) A normal weigh-batching plant shall be utilized for these types of projects. The Specifications of the plant shall be as under:-

(i) The plant shall be a three hopper plant. Three hoppers shall be used for Cement, fine aggregate and coarse aggregate.

(ii) The plant shall be motorized.

(iii) Arrangements shall be made for addition of water by weight/volume.

(b) The mix design shall be arrived at as per IS 10262-2009 after three trial mixes and Shall be approved by the Geo Designs & Research (P) Ltd. before the start of the Work.

(c) Sampling of concrete shall be as per IS: 456-2000.

7.5.3 Medium and large Projects shall be dealt with as under:-

(i) Projects having concreting work of more than 30 Cum shall be considered as Medium and large projects.

(ii) Concreting in these projects shall be carried out by any of the following ways at the Option of contractor. However, no financial adjustment will be done if the contractor Uses any of the two methods:-

(a) By procurement from an approved RMC plant.

(b) From an automatic computerized weigh batching plant installed at site by the Contractor (As per details given below).

7.5.4 **READY MIX CONCRETE (RMC)**

7.5.4.1 RMC as specified shall conform to IS: 4926-2003.

7.5.5 The contractor shall procure concrete from RMC manufacture as listed hereinafter RMC plant if specifically set up from one of the listed manufacturer shall conform to IS 4926:2003.

7.5.6 Mix of the two types i.e. RMC and concrete in situ shall not be permitted for the same element of structure.

7.5.7 The contractor shall obtain a written approval from GPERI for the specific manufacturer from whom he is intends to procure the RMC. GPERI shall verify the suitability of the plants for the particular project after considering all provisions given in IS: 4926-2003. Following are of the some aspects may be verified by GPERI:-

- (i) Output capacity of plant. Min output capacity for RMC plant shall be 30 CUM per hour or as specified in CA.
 - (ii) Pollution Under Check Certificate. The relevant and valid PUC certificate from Government agency shall be available for the plant.
 - (iii) Calibration Certificate :- Relevant and valid calibration certificate shall be checked for the plant as well as for the testing machine
 - (iv) Transit Mixers:- The number and the condition of the transit mixers shall be Satisfactory.
 - (v) Vicinity of the plant with respect to the site:- The distance between the plant and the site shall be such as it may satisfy the transportation time as allowed in the IS code.
- 7.5.8 For projects at locations where movement of transit vehicles are restricted during day time contractor shall carry out the concreting work during night or late hours after obtaining necessary approval from the GPERI as well as users.
- 7.5.9 The contractor shall forward an information note as shown in Appx 'D' of IS : 4926 – 2003, duly countersigned by GPERI to the RMC supplier. A copy of the same shall be kept at site for verification.
- 7.5.10 MIX DESIGN: The mix proportions intended to be used for the demanded mix shall be obtained from the manufacturer in writing and shall be verified by GPERI to ensure that these are complying with the provisions of IS : 456-2000 and IS : 10262.

- (i) The contractor shall also produce copies of the test certificate for the materials being used by the RMC manufacturer for the verification by the GPRI. GPRI shall give a provisional approval for the mix proportion based on this and work can commence accordingly. However final approval will be given only after verifying the 28 day cube strength of the first batch brought at site, as stated herein after at clause 8.7.9 (ii).
- (ii) The use of admixture shall be as per the provisions of clause 5.5 of IS : 456 and the amount shall be based on the provisions of IS ; 10262. The details of the admixture shall be clearly spelt out at serial no (c) and (d) of Part 'B' of the delivery ticket. In no case amount of extra admixture shall be added at site to regain lost workability.
- (iii) Admixtures shall be charged to the mixer at the same time in the mixing sequence for every batch. Liquid admixtures shall be charged with the water. Powdered admixture shall be sprinkled into the mixer with other dry ingredients. When more than one admixture is used, they shall be batched separately and they shall not be premixed before entering the mixer.
- (iv) The department executive shall have right to visit the RMC plant and collect raw materials being used for testing the same. Such test shall be conducted at least once in three months or after every 200 cum of concrete whichever is earlier.
- (v) The agreement between the RMC manufacturer and the contractor should ensure deployment of a qualified supervisor at plant site and random check by Geo Designs & Research (P) Ltd. supervisor / executives

7.5.11 TRANSPORTATION OF CONCRETE

- (i) The concrete shall be transported only in agitating type truck mixer. The concrete shall be discharged from the truck mixer within two hours after the concrete at the plant. The time of adding water to the cement at the batching plant shall be taken as the time of mixing the concrete. Further the concrete thus discharged shall be placed in position and compacted within 30 minutes, after delivery at site.
- (ii) Each truck arriving at site shall be accompanied with delivery ticket as specified in IS: 4926

Annex 'G' clause 9.4. The following shall be recorded at site:-
 - (a) The locations where the particular batch is used.
 - (b) The workability of the concrete as measured at site.
 - (c) The designation / Marking of the cubes prepared for testing from the batch.

7.5.12 SAMPLING

- (i) The sampling criteria for testing of concrete received from the RMC plant shall be as per clause 6 of IS: 4926. One sample containing 9 cubes shall be prepared from each truck mix or 50 cum whichever is less. Out of this one specimen of 3 cubes shall be tested for 7 day strength. The min strength at 7 days shall be at least 2/3 of the specified strength as per clause 16 of IS: 456, acceptance criteria for concrete. The

second set of 3 cubes shall be tested for 28 days strength. The third set of three cubes shall be kept for records and any further testing as required. It may be noted that the sampling criteria for concrete based on volume of concrete as specified in clause 15.2.2 of IS: 456 is not applicable for concrete procured from RMC plants.

- (ii) However the first batch of concrete of a particular grade received from a particular manufacturer shall be sampled by taking at least 12 cubes. These cubes shall be tested in the presence of the GPRI for confirmation before the final approval of the RMC manufacturer. These cubes shall be tested as follows:-
 - (a) Specimen of 3 cubes – for 7 days strength. In case these test report does not satisfy the requirement of 2/3rd of the acceptance criteria for 28 day strength, further supply and use of concrete from the particular manufacturer shall be suspended till the 28 day strength are available.
 - (b) Specimen of 6 cubes shall be tested for 28 day strength. The manufacturer shall be approved for supply if these values are acceptable as per clause 16 of IS: 456, (even if the cubes have failed during 7 day testing). If the reports are not satisfactory the supply from the manufacturer shall be suspended forth with. All the members already cast with these mixes shall be subjected to suitable NDT tests as specified and further corrective measures or demolition of such members shall be taken. The rates quoted by the contractor shall be deemed to be inclusive of the above and nothing extra shall be payable.

7.5.13 List of Approved RMC manufacturer's is given below:-

- (i) Lafarge India Pvt Ltd
- (ii) ACC Ready Mix concrete
- (iii) RMC, Ready Mix (India) Pvt. Ltd,
- (iv) Any other plant as approved by Accepting Officer

7.5.14 If so desires, the contractor can set up his own RMC plant conforming to all stipulations of IS 4926:2003 without any price adjustment. Defense land shall be made available to install the RMC Plant at site only.

7.5.15 The minimum cement (43/53 grade OPC) content for RMC M-30 & RMC M-45 (Design Mix) shall be as per IS-456-2000.

7.5.16 In the event of deviation involving price adjustment, though the contractor have used RMC in lieu of design mix, the rate applicable for RMC M-30 /M-45 shall be as per SSR rate for RCC M-30/M-45 design mix concrete adjusted with contractor's quoted percentage.

7.5.17 When required, the RMC plant selected by the contractor shall provide information about the ingredient in the making RMC including admixture, used for RMC to GPRI. Admixtures for improving workability of concrete and extension of setting time shall be conforming to IS 6925 and IS 9103.

7.5.18 The contractor is responsible for the quality of ready mix concrete manufactured at plant site with respect to the strength, cement content and use of constituent materials as per approved design mix.

7.5.19 Placing and compaction of concrete shall conform to IS: 4926-2003

7.6 CURING OR WATERING

Masonry work shall be kept constantly moist for a minimum period of 7 days.

8.0 -----Nil-----

9.0 FLOORING

9.1 GENERAL

- a) Provisions contained in Clause 13.25, 13.32, 13.38 and 13.39 of GPRI Schedule are to be adopted for laying floors and pavements.
- b) Floors shall be laid to levels or to falls as shown on drawings and as directed by the Engineer-in-Charge. Floor finish shall be extended over dwarf walls, doors and other openings.
- c) Sinking of floors in kitchens, toilets, baths and WCs etc. where shown on drawings shall not be achieved by reducing RCC slab thickness.
- d) Connected ramps shall have the same type of floors as adjoining floors of building and shall have in addition chequered finish.
- e) The dividing line between the floors of different types wherever they so meet between adjoining rooms, shall be determined on the basis of the finish visible when the doors are closed and the applicable finish shall accordingly be provided.
- f) Floor finish over RCC slabs shall be laid all as specified in GPRI Schedule.
- g) Sub floor may not be laid in panels. Topping layers of PCC floor and under and top layers of terrazzo cast in situ floors shall be laid in square or rectangular panels as directed by Engineer-in-Charge. Length of panel not exc. 2.0m, length to width ratio not exc. 1.5 times in rectangular panels.

9.2 CEMENT CONCRETE SUB FLOOR

Cement concrete sub floor (i.e. PCC Sub base laid below floor finish) in ground floor as indicated in Schedule of finishes shall be plain cement concrete M-7.5/M-10 Grade, using 40mm graded stone aggregate and same shall be provided as per thickness and locations as indicated in drawings

9.3 CEMENT CONCRETE FLOORS

- a) PCC floors/wearing coat (laid over hard core/cement concrete sub floor/RCC slabs) as indicated in Schedule of finishes shall be plain cement concrete M-20 Grade using 20mm graded stone aggregate and the same shall be provided at location mentioned in drawings and as per the thickness indicated in drawings.
- b) Cement concrete in floor/wearing coat shall be laid in alternate bays not exceeding four square meters. 3 mm thick glass dividing strips shall be provided (to form joint) in all cement concrete floors and wearing coat. The Glass dividing strips shall be 3mm less than the thickness of PCC floor/wearing coat. The glass dividing strips shall be inserted in the PCC floor/wearing coat while the concrete is still plastic and the strips shall be left in position. PCC floors/wearing coat to be provided with glass strip shall not be laid in alternate bays and this will not involve any price adjustment.
- c) The surface of PCC floor/wearing coat shall be finished (with a steel trowel) to an even and smooth surface using extra cement.
- d) Cement concrete flooring shall be carried out as specified in Clause 13.32 of GPRI Schedule Part I.
- e) If chequered finished is shown on drawing then same shall be achieved by making impression by expanded metal or mesh as directed by Engineer-in-Charge on top surface of concrete while it is still green. The expanded metal shall be impressed to maximum possible depth by tamping and removing the same carefully.

RAMP

- a) Ramps shall be provided as per details shown in drawing.
- b) Ramp shall be provided with 100mm thick PCC M-20 Grade using 20mm graded stone aggregate over 100mm thick PCC (1:4:8), type D2 using 40mm graded stone aggregates over 150mm thick hard core over approved earth filling surface. PCC flooring shall be finished chequered. This shall be achieved by making impression by expanded metal or mesh as directed by Engineer-in-Charge on top surface of concrete while it is still green. The expanded metal shall be impressed to maximum possible depth by tamping and removing the same carefully”.

9.5 MACHINE CUT MACHINE POLISHED KOTA STONE FLOORING

- a) Machine cut machine polished Kota stone flooring shall be provided in the locations indicated in drawings/Schedule of finishes.
- b) Kota stone tiles/slab shall have size 450mm x 600 mm for flooring shall be of selected quality, hard, sound dense & homogeneous in texture, free from defects & conforming to clause 13.12 of SSR Part I. Thickness of tile shall be 20 to 25mm as indicated in drawings.
- c) Kota stone tiles/slabs shall be set, jointed & pointed in neat cement slurry with pigment to match the colour of tiles and laid over 20mm thick bedding layer in CM 1:3 over concrete sub-base/ RCC slab. Joints shall be thin & nearly indistinguishable.

- d) Polishing of Kota stone flooring shall be done to achieve mirror polish with using polishing machine and required grinding stones and in a manner and to the satisfaction of Garrison Engineer.

9.6 MACHINE CUT MACHINE POLISHED KOTA STONE SKIRTING

- a) Kota stone skirting shall be provided at locations as shown on drawings. The height of skirting shall be as shown on drawing and if not shown shall be 125 mm height.
- b) Kota stone tiles shall be laid over 10mm thick cement and sand mortar (1:4) irrespective of whatever specified elsewhere, jointed and pointed in grey cement. The exposed surfaces of Kota stone shall be machine polished.
- c) Kota stone tile for skirting shall be of the selected quality hard, sound, dense and homogenous in texture, free from defects, machine cut and machine polished all as specified in clause 13.12 of GPERI Schedule Part I. The size of the Kota stone tile skirting as shown in drawing and shall be 12mm to 15 mm thick. Where size does not fit on the same place, it shall be provided as per directions of Engineer-in-Charge. The Kota stone shall be uniform in thickness & shall be uniform in colour.

9.7 NON SKID CERAMIC TILES FLOORING/DADO

- a) Nonskid ceramic tiles in flooring / dado shall be provided in the locations indicated in drawings/ Schedule of finishes.
- b) Nonskid ceramic tiles in flooring shall be 300 mm x 300 mm size and 6 to 7 mm thick, coloured of group B II (a)/ B II (b) and of abrasion resistance PEI -III or above. Ceramic tiles fixed with 15 mm thick cement sand screed 1:4 over PCC sub base / RCC slabs. Tiles shall be set and jointed in neat cement paste and shall be grouted with Epoxy grout "Ezy grout from Somany", "Ferro102 from Ferrous Crete", Bal Endura, Fevimate TG from Dr Fixit. Joints shall be thin & nearly indistinguishable. The workmanship in all respects shall be as specified in Clause 13.40 of SSR Part I.
- c) Non Skid ceramic tiles shall be any one of the make as per make. Colour, pattern & design of tiles shall be as approved by GE.
- d) Glazed ceramic tiles in dado shall be 300 mm x 300 mm size and not less than 7 mm thick, coloured, shall be of group same as that of the floor and shall be provided in locations shown on drawing. Tiles shall be fixed with polymer modified tile adhesive "Ezy fix from Somany", "Ferro 1111 from Ferrous Crete" , " Fevimate XL from Pidilite", Bal Endura. Joints grouted with Epoxy grout "Ezy grout from Somany", "Ferro102 from Ferrous Crete", Bal Endura, Fevimate TG from Dr Fixit.. Joints shall be thin & nearly indistinguishable. The workmanship in all respects shall be as specified in Clause 13.40 of SSR Part I.
- e) Height of dado shall be as shown on drawing.
- f) Tiles shall be laid on 15 mm thick cement mortar (1:4) irrespective of whatever specified in drawing / elsewhere over neat cement slurry @ 3 kg/m² over RCC slab or sub base. The joints shall be grouted and pointed with white cement mixed with pigment to match with shade of tiles.

- g) The tiles in skirting and dado shall be laid over a bedding layer of 10 mm thick in cement mortar (1:3) and as specified with cement slurry @ 3 kg/m². Grouting and pointing to joints shall be with white cement mixed with pigment to match with shade of tiles.

CEMENT PLASTER SKIRTING / DADO

Cement plaster skirting / dado where indicated in drawings shall comprise rendering coat 15mm thick in cement and sand mortar (1:4) and 5mm thick finishing coat in cement and sand mortar (1:3) trowelled to an even and smooth finish using extra cement irrespective of whatever specified elsewhere. The height of skirting shall be 100mm irrespective of what is indicated in drawings.

9.9 -----Nil----

9.10 VITRIFIED TILES IN FLOORING AND SKIRTING

Vitrified tiles for drawing room for flooring and skirting of size 600 x 600 mm and 10 mm thick irrespective of whatever specified in drawing minimum confirming to IS – 13006 / EN – 176 (Group B-I). The shade and design of vitrified tiles shall be as shown on drawings and approved by GPRI from the makes given in Appendix 'B'. Tiles shall be laid on 15 mm thick cement mortar (1:4) irrespective of whatever specified in drawing /elsewhere over neat cement slurry @ 3 kg/sqm over RCC slab or sub base. The joints shall be grouted and pointed with white cement mixed with pigment to match with shade of tiles. The tiles in skirting and dado shall be laid over a bedding layer of 10 mm thick in cement mortar (1:3) and as specified in clause 13.40.1 and 13.40.2 of GPRI schedule part I with cement slurry @ 3 kg/sqm. Grouting and pointing to joints shall be with white cement mixed with pigment to match with shade of tiles.

9.11 GRANITE STONE: Granite stone shall be ruby red if not indicated otherwise on drawings, machine cut, polished. Unless otherwise mentioned on drawings the thickness of granite on any location shall be 18-20 mm.

10.0 PLASTERING

10.1 GENERAL

- a) Where plaster on concrete surfaces is shown to match the adjacent brick surfaces, the mix of plaster shall be as for the brick surfaces.
- b) All plastered surfaces shall be trowelled to a smooth and even surface without using extra cement.
- c) Thickness of cement plaster mentioned hereinafter shall be finished thickness exclusive of dubbing. Dubbing may however be done in one operation with plaster.

d) All corners, angles, junctions and edges shall be truly vertical or horizontal as the case may be and shall be carefully finished. Corners around jambs of openings and junctions of walls shall be rounded to minimum radius of 5mm.

e) Grooves between junction of RCC and masonry shall be formed on internal faces.

f) Particular attention of the contractor is invited to take note of local practices and local availability of materials like bricks / stones, form work etc for any extra quantity of mortar required for rendering smooth, extra dubbing required, touching up properly and achieving smooth and even surfaces. This shall be deemed to have been included in the lump sum quoted for plaster work, as applicable.

10.2 MATERIALS:-

a) Cement: - Refer `Appendix `C' to these particular specifications.

10.3 CEMENT PLASTER (INTERNAL) & CEILING PLASTER:-

a) Cement plaster (internal) wherever indicated in drawings for walls shall comprise rendering of 15mm thick in cement and sand mortar (1:6) finished smooth with white cement putty finish irrespective of what is indicated on Schedule of finishes.

b) Cement plaster for soffit of slabs i.e. ceiling and all exposed concrete surfaces shall comprise rendering of 5mm thick in cement and sand mortar (1:3) finished smooth with white cement putty finish irrespective of what is indicated on Schedule of finishes.

c) The plaster work on the concrete surfaces adjoining to wall shall be carried out as per specification for the wall plaster.

10.4 WHITE CEMENT PUTTY FINISH

Cement plaster (internal) mentioned above and soffit of slabs i.e. ceiling, shall be treated with white cement putty finish to thickness not less than 1.00mm trowled to an even and smooth finish. White cement putty to be used shall be as approved by the GE.

10.5 CEMENT PLASTER (EXTERNAL)

a) Cement plaster (external) wherever indicated in drawings for wall shall comprise of 10mm thick backing coat of cement and sand mortar (1:4) and 5mm thick finishing coat of cement plaster comprising cement and sand mortar (1:4) mixed with integral water proofing compound. After application the surfaces shall be finished sponge finish.

b) Irrespective of what is shown in drawings top, front and side surfaces of chajjas and front and sides of canopies shall be given plaster in two coats as specified hereinbefore.

c) The percentage of integral water proofing compound to be used in the work shall be as per the manufacturer's instructions, but in case of deviation the same shall be 3% (by weight of cement).

11.0 ---- Nil---

12.0 PAINTING

12.1 GENERAL

- a) All synthetic enamel paint, emulsion paint shall be of 1st quality manufactured by the standard firms of make as per Appendix 'B' attached.
- b) The contractor shall inform the GPRI, within three weeks of the acceptance of the tender, the brand/names of the manufacturers of paint proposed to be used in the works and submit samples thereof and obtain prior written approval of GPRI before their use in works.
- c) The contractor shall when so required by the GPRI, produce certificate from the manufacturer or their representative to establish that the brands of paints purchased by the contractor from them, satisfy the requirements of the relevant Indian Standards.
- d) Paints for priming coat, under coat and finishing coat shall be of the same manufacturer.
- e) Tint of paint, if not mentioned in drawings/Schedule of Finishes, will be approved by the GE.

12.2 WORKMANSHIP

- a) All wood work required to be painted shall be smoothened, sized and knotted and then applied with priming coat. Stopping and filling (filler coat) shall be done after priming coat and surface rubbed down it to a level of smooth surface and thereafter under coat and finishing coat applied, all as specified in Clause 17.6 of GPRI Schedule. Steel and iron work shall be painted in the manner as specified in Clause 17.8 of GPRI Schedule Part I.
- b) Other steel surfaces exposed to view but not covered in Schedule of Finishes or their finishing is not specifically indicated in other drawings or specified elsewhere shall be given two coats of synthetic enamel paint over a coat of primer of tint as directed by the GE.
- c) No treatment shall be given to reinforcement.
- d) Bottom of door shutters shall be given one coat of primer only.
- e) Irrespective of what is indicated in drawings and specified elsewhere, finishing coat and under coat for exposed steel and wooden surfaces shall be with synthetic enamel paint.

12.3 CEMENT SLURRY

Portions of MS bolts, lugs, anchor bolts etc embedded in concrete shall be treated with neat cement slurry.

13.0 MISCELLANEOUS ITEMS:All items as given in this clause if shown on drawings shall be provided as per details shown in drawings and specifications given below and their cost shall be deemed to be included in lump sum cost of buildings in Sch 'A' Part I.

13.1 NICHE SWITCH BOARD

All surfaces of the niche shall be plastered to match the surrounding surfaces. Size of niche shall be to suit the size of steel boxes to be provided under Schedule 'A' Part-III.

13.2 PCC BLOCK MASONRY STEPS

Wherever shown on drawing provide PCC solid block masonry steps of grade type C-5 shall be constructed in CM (1:4) over PCC 1:4:8, Type D2 foundations all as shown on drawings. "Treads of steps shall be provided with kota stone slab 20 to 25 mm thick polished machine cut and in a single piece laid over a screed of 20 mm thick in cement mortar 1:4 irrespective of whatever is shown on drawing. Kota stone for treads shall be with bull nosing.

13.3 PARAPET

Wherever parapets are provided, water proofing treatment as per specifications given hereinbefore shall be done at the junction of the parapet and roof slab as per drawing.

13.4 STAINLESS STEEL SINK AND DRAINAGE BOARD: Stainless steel sink with drainage board at situation where shown on drawings shall be provided. Stainless steel sink with drainage board shall be of glossy finish, ISI marked, of make as specified in Appendix 'B'. The sink with drainage board shall have overall size shall be 41" x 20" and bowl size 20" x 16" with 8" depth for officer's

DUs. For Senior / Junior Sailors the overall size shall be 32" x 18" and bowl size 16" x 14" with 8" depth. The grade of stainless steel shall be 304 AISI and thickness of steel sheet shall be 1 mm. The sink shall be provided with suitable size of brackets and 32 mm bore GI pipe medium grade waste pipe with coupling.

13.5 RAILING FOR STAIR CASE AND BALCONY: Railing for stair case and parapet shall be provided as per details shown on drawings. Stainless steel pipe for hand rail shall be grade 316, wall thickness 1.65mm. For balcony / parapet railing, mortise holes left in concrete / masonry for fixing balusters of railing shall be grouted in CM (1:2) and finished to match the adjoining surfaces.

13.6 RCC JALLI: Where RCC jalli has been shown on drawings, the same shall be precast RCC (1 cement: 2 coarse sand: 1 stone aggregate of 6 mm nominal size). The thickness of jalli shall be 50mm Unless otherwise shown on drawings. The RCC Jalli shall be reinforced with 6 mm MS rod and 3 mm dia MS wire around the hollow space of Jalli. Precast RCC Jalli units shall be set and jointed in CM (1:3) in the situation shown in the drawings. Exposed faces of Jalli shall be brought to a fair and even

surface. Samples of RCC Jalli shall be got approved from the GE. In the event of deviation, RCC Jalli specified herein shall be priced as per condition 53 of General Conditions of Contract.

13.7. ALUMINUM COMPOSITE PANEL (ACP)

(a) Aluminium composite panel shall be provided as per the size and location shown on drawing along with details and shall be procured from any of the following manufacturers after approval of accepting officer:-

- 1) M/s Jindal Aluminium Ltd Jindal Nagar, Tumkur Road, Bangalore-560073
Phone +91-80-23715555 (6 lines) Fax (+) 91-80-23713333
- 2) M/s Alstone International
- 3) M/s Tata Blue scope Steel Ltd, Gurgaon
- 4) Aluco bond

(b) Providing, designing, cutting, bending and fixing 3mm thick aluminium composite cladding of approved make on external façade of size as shown with water tight system either curved or straight in plan. Skin material 0.50 mm thick aluminium sheet (3005 H6) core material natural polyethylene, aluminium cladding panel to be of approved colour / shade fixed with extruded aluminium basic frame, angle cleats, weather sealants, rivets, GI brackets all as approved. Using suitable chemical / anchor bolts on structural steel work including necessary accessories complete in all respects. Where level difference is shown dummy structural steel backup frame shall be provided. The finished surface shall be protected with 80 microns self-adhesive peel off film with two layers of white and black tested to withstand at least 6 months exposure to local weather condition, without losing the original peel off characteristic or causing stains or other damages. The quoted rate also includes for any provision of open able access panels for services wherever required. Weather silicon sealant, non-streaking / staining weather sealant shall also be used wherever required.

(c) Technical Data

1. Composition: Skin material 0.30 mm thick aluminium sheet (3005 H6)
core material natural polyethylene
2. Dimensions: Panel thickness – 3mm Panel size – 600mm x 600 mm panels,
Tolerance - Width + 2.0 mm, Length + 4.0 mm,
Thickness + 0.02mm
3. Principal Properties :Panel weight – 4.62 Kg/m² Thermal expansion – 1mm/M/60 deg C
4. Acoustic Properties : Average airborne sound transmission loss 25 db
5. Mechanical Properties :Tensile Strength RM > 130 MPa 0.2% Proof stress RP> 90 MPa
Modulus of Elasticity E 70,000 MPa

Elongation A-50 >

5%

6. Aluminium extrusion: Extrusions shall be of aluminium alloy 6063 T5,

Conforming to BS-1470-1475: 1972 in mill finish.

No cladding element shall sustain permanent deformation of failure under loading equivalent 1.5 times the design wind pressure.

(d) DEFLECTION

Deflection of aluminium frame shall not exceeding 1/175 of the clear span.

(e) EXPANSION AND CONTRACTION

The cladding shall be fabricated and erected as to provide for all expansion and contraction of the components. Any temperature change due to climatic conditions shall not cause harmful buckling, opening of joints, undue stress on fastening and anchors, noise of any kind or other defects.

(f) FLATNESS

The cladding surface taken individually shall not have any irregularities such as oil canning, waves, buckles and other imperfections when viewed at any position but not less than at an angle of 15 degrees to the true plane of the panel with natural lighting of incident of not less than the same angle.

(g) WATER TIGHTNESS

The panel cladding shall be constructed to be airtight with provision for rear ventilation.

(h) ACOUSTIC TREATMENT

The cladding panel system shall be designed so as to dampen noise caused by splashing water.

(i) FIXING

Fasteners including concealed screws, nuts, bolts and other items required for connecting aluminium to aluminium shall be of non-magnetic stainless steel.

2. Rivets used for fastening panel to aluminum sub-frame shall be of alloy aluminum large flange head type with stainless steel mandrel.

3. All fixing anchors, brackets and similar attachments used in the erection shall be of aluminium or non-magnetic stainless steel.

(j) WEATHER SEAL

1. All exposed joints between panels which require to be watertight, shall be sealed with extruded EPDM gasket of hardness approx. 75 SHORE.

All secondary weather seal shall be of self-adhesive tape as approved by GE.

13.8 (a) GLASS MOSAIC TILES

(i) External grade glass mosaic tiles comprising of 25% light shade and 75% dark shade of 20 x 20 mm x 4 mm thick, chamfered, assembled on paper sheet size 327 x 327 mm. Make shall be of M/s HR Johnson (India) Ltd, Mumbai,

(ii) The glass mosaic tiles shall be fixed over a bedding layer of 10 mm thick in cement mortar (1:3) and as specified in clause 13.40.1 and 13.40.2 of GPRI schedule part I.

(b) **WORKMANSHIP**

The adhesive shall be applied to the surface to be tiled with a notched trowel using a scraping motion to work the adhesive into good contact with the surface to be covered. In addition the colored adhesive shall be troweled onto the backside of each sheet of Glass Mosaic tiles with the flat side of the trowel immediately before placement of the sheet into the freshly troweled adhesive on the surface to receive the tile work. Only as much Adhesive shall be applied as can be covered within 10-15 minutes, or while the adhesive surface is still wet and tacky. Tile shall then be set in place and rapped or beaten gently with a grouting float to insure 100% full bedding and a true surface. Tile shall be aligned to show uniform joints and then allowed to set until firm. The face of the sheets of front mounted glass mosaic tiles shall then be dampened and the face mount paper removed. Excess adhesive must be cleaned from the surface of the Tile with a wet cloth or sponge while the adhesive is fresh.

(c) GROUTING AND POINTING JOINTS:

Touch up grouting of the tile work can be accomplished once the installation mortar has become firm and the face mounted sheets of paper have been removed. Joints shall be

Grouted with adhesive Grout as per manufacturer's instruction, color to be the same as used for setting, fortified with adhesive Grout. Joints shall be packed full and free of all voids and pits. Excess grout shall be cleaned from the surface as the work progresses, while grout is fresh and before it hardens. The day after installation grout film or haze shall be removed using a detergent solution. No acids should be used for cleaning glass mosaic tile work. The curing of tile installation mortars, adhesives & grouts is retarded by low temperatures and finished work should be protected for an extended period of time.

13.9 BLANK

13.10 WOODEN WALL PANELLING

Wooden wall paneling shall be provided at locations as shown and specified in drawing. Wooden frame work to wall for fixing the particle board shall be provided with second class hard wood. Prelaminated particle board 9 mm thick with decorated face shall be fixed on second class teak wood framing. The wooden surface shall be polished all as specified. Fixing and workmanship shall be as specified in GPRI clause 8.27 of SSR Part –I and as specified in the drawing.

14.00 ----Nil-----

15.00 ----Nil-----

16.00 ----Nil-----

17.0 INTERNAL ELECTRIFICATION

17.1 SCOPE OF WORK

The work included in this schedule comprises of internal electrification complete including testing as shown on drawings. The layout of conductors/cable route shall be as directed by the Engineer-in-Charge.

17.2 GENERAL REQUIREMENTS

- j) This installation shall strictly comply with the provisions contained in the latest edition of the Indian Electricity Rules and amended IS-732-1963. Code of practice for Electrical wiring and fittings
- k) In buildings as applicable to these works except where such regulation and rule are modified by these specifications.
- l) The position of various electrical fittings and fixtures shown on the drawings may be changed by the Engineer-in-Charge at the time of execution if found necessary.
- m) All electrical work shall be executed properly by skilled licensed electricians and ITI certificate holder under the supervision of suitably qualified electrical supervisors with minimum qualification shall be degree in electrical engineering. The contractor on demand by Engineer-in-Charge shall produce such evidence of qualification of his workmen, supervisors(s) either at the time of commencement of the work or at any time thereafter during the contract period.
- n) The run of PVC/Steel conduits shall be marked on the walls and soffit of roof / floors slabs for the wiring. Approval of the Engineer-in-Charge shall be obtained in writing before starting the works.
- b) Looping back system of wiring shall invariably be used throughout the installation.
- c) All electrical fittings and wirings shall be clear of door, windows and other openings.
- o) The main switches and controls should have the voltage of supply clearly painted on Them.
- d) The phase indication (RYB) should be provided at the main incoming switches and controls.
- p) The name of functions of each distribution board shall be clearly and neatly painted on the distribution boards.

17.3 MATERIALS AND SAMPLE BOARD

- a) All materials unless otherwise specified shall possess ISI mark or conform to relevant IS specifications or to BSS if ISS is not available. Approved samples shall be labelled as such and signed both by the contractor and the Engineer-in-Charge. They shall remain in the custody of Engineer-in-Charge, till final completion of work.
- b) The contractor is deemed to have included in rates, cost of making holes/chases where required through masonry or concrete work for taking in cables/conduits and conductors etc and making good the same to match with existing surfaces.

17.4 TYPE OF WIRING

The type of wiring shall be as given in relevant section of Schedule 'A'. Particular specification and as directed by Engineer-in-Charge. Point wiring for light/power/fan/bell or buzzer/telephone point(s) includes all works comprising of:-

- c) Supplying and fixing/drawing of copper conductor cables including surface / concealed stove enamelled steel conduit or PVC conduit and fittings and accessories for carrying out wiring as specified in Schedule 'A'.
- d) Supply and fixing of suitable size sunk CI/pressed steel terminal box covered with white plastic laminated sheet to accommodate requisite switches, fan regulator(s), sockets or switch socket combination.

17.5 CABLES

Cable for internal wiring for light, power and sub mains shall be with copper conductor and shall be of following type :-

- 17.6 Wiring in concealed steel conduit: Steel insulated single core multi stranded copper conductor sheathed cable up to 1100 volts grade conforming to IS 694.

17.7 FLEXIBLE CORDS TWISTED WITH COPPER CONDUCTOR

Flexible cord twin core with tinned annealed copper conductor stranded, PVC insulated, twisted together, size 23/0076.

17.8 PVC CONDUIT AND FITTINGS

These shall be medium grade in accordance with IS specification and make as per Appendix 'B' attached.

- 17.9 **PLUG, SCREWS AND FASTNERS:** All as specified in Clause Schedule.

17.10 SUNK TYPE BOXES

These shall be of cast iron or pressed steel conforming to IS-5133 (Part I) and as specified in Clause.

17.11 CEILING ROSE, SHADES AND BULK HEAD FITTING

These shall be as specified in Schedule.

17.12 **SWITCH, SOCKET OUTLETS** these shall be of Bakelite flush type 5 or 15 amps multipurpose non-shuttered type conforming to relevant IS.

17.13 **LAMP HOLDER** these shall be of brass conforming with IS-1250 and as per Schedule.

17.14 **MINIATURE CIRCUIT BREAKER/MCB DB**

These shall conform to IS 8828 and shall be housed in suitable size standard sheet metal enclosure.

17.15 **LIGHT FITTING**

These shall be as specified in Schedule 'A', Particular Specifications and as shown in drawings.

17.16 **LOCATION OF VARIOUS FITTINGS**

Particular attention is drawn to the neatness in appearance which is to be achieved by judicious location of light fittings, switches socket outlets and main controls etc. Due regards shall be given to doors, windows, opening, etc. in fixing the run of cables, position of fittings, control switches etc. The location of fittings etc shall be marked in advance on walls etc. and approved by GPRI.

17.17 **APPROVAL OF SAMPLES**

Sample of all materials to be incorporated should be approved by GPRI before incorporation and shall conform to IS wherever applicable.

17.18 **EARTHING AND TESTING**

Earthing shall be carried out as described in IS 3043 and as per Schedule 'A' and as shown in drawing.

17.19 **SITING ELECTRICAL EQUIPMENT**

The siting of cable conduit, controls, distribution boards, fittings and accessories, etc. shall be as laid down in IS 4648 "Guide for electrical layout in building" or as directed by EIC.

17.20 **SYSTEM OF WIRING**

Wiring shall be carried out with PVC insulated cable and shall run as far as possible near walls, ceilings so as to be easily accessible and capable of being inspected. Power wiring shall be kept apart and shall be distinct from other wiring. Separate conduit shall be used for power wiring.

17.21 **CONTROLS AT POINT OF ENTRANCE OF SUPPLY**

These shall be a linked main switch gear with MCB on each live conductors of supply main at the point of entrance. No fuse shall be inserted in the neutral.

17.22 **FAN REGULATORS AND CLAMPS**

a) All ceiling fans and regulators shall be earthed effectively by means of suitable aluminium earth continuity conductors. Cost of earthing of fans and regulators/fittings (with aluminium

earth continuity conductors) shall be deemed to be included in the unit rate for point wiring for fans/lights.

- b) The ceiling fans with down rods and regulators shall be issued under Schedule `B' free for fixing and connecting only.

17.23 TYPE OF SWITCH BOARD

Hinged type metal boards for mounting main switch/MCCB/MCB and electric meter shall be of 16 gauge MS sheets with provision of locking arrangement and all as specified.

17.24 TESTING

- a) On completion of the work the entire electrical installation shall be tested by the Contractor for the following tests which shall be carried out in accordance with IEE Regulations in the presence of Engineer-in-Charge.
 - (i) Continuity,
 - (ii) Insulation Resistance,
 - (iii) Earth Resistance,
 - (iv) Any other test prescribed by Engineer-in-Charge.
- b) All testing equipment/apparatus materials, labour etc required for above test shall be provided by the Contractor by his own expense through his sources. Works for which test results do not conform to standards will be redone by contractor at his own expenses.
- c) The result of aforesaid test shall be recorded jointly and signed (in triplicate) by the contractor and the Engineer-in-Charge.

17.25 The lump sum quoted for item of Schedule `A' Part I are deemed to include for provision of wall mounting panel board made out of 2mm thick MS sheet on angle iron frame of suitable size for mounting the KWH meters & cut-outs/ MCBs catered for the respective Blocks.

17.26 SAMPLES

Before commencing the work the contractor shall produce samples of all the material proposed to be incorporated in the work for the approval of the GE. Samples that are approved will be retained by the GPRI until the work is finally completed and accepted. Materials conforming to approved samples only shall be incorporated in the work.

18.0 WOOD WORK AND JOINERY

18.1 TIMBER

- a) Timber for all joinery and wood work shall conform to specifications given in Clause 7.3 of the GPRI Schedule and shall be within the permissible limits of defects defined in Clauses 7.4 and 7.5 of the GPRI Schedule Part I.

- b) Timber shall be well seasoned, whether air or kiln dried at the discretion of the contractor but without any price adjustments. The moisture content of timber shall not exceed the limits laid down vide Clause 7.7 of the GPERI Schedule. Adequate number of test shall be carried out by the Engineer-in-Charge to determine the moisture content in the timber to be used in the work and the contractor shall provide necessary facilities for test as required by Engineer-in-Charge without any extra cost to Government. Testing charges shall also be deemed to be included in lump sum quoted by the contractor for Schedule "A" Part-I.

18.2 PRESERVATION OF TIMBER

- a) Preservative antitermite treatment shall be carried out to all wood work and joinery fabricated by the Contractor at site. Factory made ply/boards are deemed to be provided with antitermite treatment.
- b) Chemical used for antitermite treatment to wood work and joinery shall be copper NAPTHANATE, ASCU or any other chemical specified in IS-401, applied in any one of the manners specified in ibid IS.
- c) The species of timber for joinery/furniture items fabricated at site and prefabricated wood products i.e. particle board etc. shall be as specified hereunder.

<p>(i) Fully panelled or partly panelled/ glazed/wire gauzed shutters.</p> <p>(ii) Frames of built-in cupboards / cabinets and furniture items, if indicated of timber.</p>	<p>Factory made shutters with styles/rails of 2nd class hard wood as per IS-1003 (Part-I) of species LAUREL / BIJASAL / BENTEAK / VENTEAK / SAL, to be obtained from list of approved manufacturers IIInd class Hard wood (Sal)</p>
<p>(iii) Wooden pelmets</p>	<p>Pelmets of particle boards shall be provided as specified hereinafter.</p>
<p>(iv) Edging/beading for particle/ block/ mediumdensity fiber board exposed to view in shutters,</p> <p>shelves and tops of built-in furniture, cupboards</p> <p>and cabinets.</p>	<p>Teak/Shisham wood.</p>
<p>(v) Gutties plugs cleats / stoppers, beading and fillets for shutters and frames.</p>	<p>Second class hardwood (Sal/Kalasisiris/Chaplash/ Hollock)</p>

(vi) All other woodwork and joinery not otherwise specified.	Second class hardwood (Sal/ Kalasiris/Chaplash/ Hollock).
(vii) Door frames	Second Class Hard Wood.(Sal)

FACTORY MADE PANELLED DOOR SHUTTERS

- a) Panelled door shutters and glazed / gauged shutters shall be factory made shutters conforming to IS-1003 (Part-I). Styles and rails shall be kiln seasoned and chemically treated by pressure process as per para 5.5 of IS-401 (under vacuum pressure). The dimensions and overall sizes shall however be as shown on drawings.
- b) The thickness of door shutters shall be as shown on drawings and if not shown on drawings, the same shall be 35mm
- c) Irrespective of what is indicated on drawings panels for panelled door shutters shall be with 12mm thick particle board BWR quality grade 'A' exterior grade solid core, general purpose commercial face veneer on both sides conforming to IS-3097. Panelled shutter shall be provided with suitable size wooden beading all round the panel insert on both the sides of the shutter.

18.4 FACTORY MADE SKELETON SHUTTER FOR MOSQUITO PROOF DOORS

- a) Mosquito proof shutters where indicated on drawings shall be of factory made skeleton shutters conforming to IS-1003 (Part-I) with second class hard wood styles and rails of species specified here-in-before and wire gauze as shown on drawings. The dimension and overall size shall however be as shown on drawings.
- b) Timber shall be of kiln seasoned and chemically treated by pressure process as specified in para 18.5 of IS-401 (under vacuum pressure).
- c) Other treatments to timber surfaces such as tarring, painting etc., shall be carried out in addition.

18.5 Factory made panelled / skeleton shutters shall be obtained from any one of the manufacturer's inspection and approval. Sample shutters shall be got approved from the GPRI before placing bulk order.

18.6 Factory made panelled / skeleton shutters may be obtained from any other manufacturer, provided the same fulfil the following requirements:-

- a) Shall conform to the specification given above.

- b) Standard and quality are equal or superior to that of the products mentioned above.
- c) Is approved by the Accepting Officer in writing before incorporation in the work.

18.7 Factory made shutters shall be brought to site before applying the primer and the shutters shall be got passed by the Engineer-in-Charge before application of the primer.

18.8 PARTICLE BOARDS

- a) Plain Particle board wherever shown on drawing or specified hereinafter shall be BWP grade (Exterior grade) bonded with BWP quality phenol formaldehyde synthetic resin adhesive and confirm to IS 3087. Pre-laminated Particle board wherever indicated on drawing or specified hereinafter shall be of decorative type provided with laminated decorative surfaces and shall conform to IS-12823.
- b) Edges of shutters where indicated on drawing of particle boards, shall be provided with 4mm edging of wood specified hereinbefore.

18.9 PLYWOOD

All plywood where indicated on drawings shall be BWP grade conforming to IS-303. Decorative lamination where indicated in drawings shall conform to IS-1328.

18.10 WORKMANSHIP

- a) Joinery shall be wrought all over. Timber surface exposed to view shall be wrought and for surface not exposed to view shall be clean sawn. The workmanship and fixing of joinery shall be as per Clauses.
- b) The dimensions of the various components of joinery (other than block board shutters) shown on drawings, wherever at variance, shall supersede the standard dimensions mentioned in the GPRI Schedule. However for pricing deviations involving any joinery work, the rates in the GPRI Schedule for the corresponding joinery shall be applicable.
- c) Unless otherwise specified, all work both carpenter's and joineries shall have full dimension shown on drawings except that an allowance of 1.5 mm shall be allowed for each wrought face. Wooden beads and fillets shall however, hold the full dimensions as shown on drawings. The Contractor shall also maintain the overall sizes of the doors and windows etc., as shown on drawings.
- d) Timber members up to 3.00 meter length shall be in one piece.
- e) 2mm thick PVC sheet to a height 200mm shall be provided to both sides and also at bottom edge of all door shutters of kitchen, unless other material is indicated on drawings.
- f) Vertical members of wooden doorframes shall be embedded 40mm deep below FFL. All door shutters shall have 2 to 3mm clearances above FFL.

18.11 FRP DOORS FOR WC & BATH

- a) All door shutters and frames of WCs, Wash and toilets shall be of FRP as shown on drawing
- b) FRP door shall be of make DELUX POLYFAB or ADVANCE MARKETING or SAI SWARNA FIBRE PLAST, PUNE.
- c) The thickness of FRP shutters & thickness shall be as shown in drawing. Shutter shall be in depressed panel design and colours as approved by GPRI and shall be include extra reinforcement on edges. The core of Shutter in styles and rails area shall be of polyurethane foam. The panel area shall have ply-FRP sandwich construction having 4mm thick ply to have embedded wooden blocks for taking fixtures. Shutter shall have recesses to take hinge to fix wooden frame. The whole shutter shall have resistant to mild acid /alkali. Aluminium iron mongery to FRP shutter shall be fixed as per manufacturer's instructions. Any tenderer offering FRP shutter with more thickness of FRP will not be paid anything extra.

18.12 ALUMINIUM WINDOWS / DOORS AND VENTILATORS

- a) Aluminium doors / windows / ventilators shall generally confirm to clause 10.37 of MES Schedule Part I and shall be provided at locations and as per the details shown on drawings. Aluminium doors/windows/ventilators shall be made out of extruded aluminium Sections and powder coated. The thickness of powder coating shall not be less than 50 micron for aluminium doors, aluminium windows and ventilators with natural matt finish. Sections of Aluminium doors / windows / ventilators shall be obtained from any of the firm as listed in Appendix 'B'.
- b) Glazing of aluminium doors / windows / ventilators shall be with sheet glass ordinary quality conforming to IS-2835 -1977 and thickness of sheet glass irrespective of whatever mentioned in drawing shall be 6 mm. Glazing for WC/ toilet shall be figured glass conforming to IS-5437, 1969 & thickness shall be 6mm.
- c) **All fittings to aluminium doors / windows / ventilators shall be as per the manufacturer's instructions.**
- d) Where shown in the drawings, Aluminium windows and ventilators shall be provided with Aluminium grills all as shown on drg Contractor may procure the Aluminium sections from the other manufactures as given in Appendix 'B' equivalent to sections of Jindal Aluminium Company . In case the weight of sections is more than that of 'Jindal Aluminium Company', No extra cost shall be paid on this account..
- e) Where shown on the drawings, Aluminium windows and Ventilators shall be provided with fly proofing shutters of aluminium XPM jalli 24 gauge thickness & average 1.40mm width of aperture to be provided all as specified/shown in drawing. Aluminium door shall be provided with fly proofing shutters and grills of specification

have been shown in drawings. Aluminium sections shall be obtained from any of firm as listed in Appendix `B'.

- f) All other specifications for these aluminium doors/ windows/ ventilators shall be as per the relevant drawings mentioned in the list of drawings.

19.0 BUILDERS HARDWARE

19.1 All articles of iron mongery (Builder's Hardware) shall generally conform to the specifications given in section 9 of GPERI Schedule Part I. The contractor shall produce the samples of each article of builder's hardware which he proposes to use and get the same approved in writing by the Geo Designs & Research (P) Ltd. Articles of builder's hardware shall bear ISI mark, wherever available.

19.2 The type of builder's hardware shall be as follows:-

- a) Butt hinges shall be of stainless steel (with stainless steel pin) and shall be of bright finish with smooth surface.
- b) Double / single action spring hinges and catches shall be of mild steel.
- c) Coat hooks/pegs shall be of brass chromium plated.
- d) Irrespective of what is shown on drawings all other articles / fittings of builder's hardware shall be of extruded sections, aluminium anodised white. Thickness of anodising shall be 15 microns.
- e) All hardware shall be fixed with steel cadmium plated screws.

19.3 The type pattern and size of aluminium anodised fittings shall be as follows:-

- a) Aldrop bolts (sliding door bolt) shall be provided to doors where indicated on These shall be with hasp and staples (bolt type) and fixing clips etc. complete and shall conform to IS-2681. Aldrop bolts shall be fixed with nuts and bolts only.
- b) Hasp and staples shall be of safety pattern plate type.
- c) Hooks and eyes shall be plate type and the hooks shall be out of extruded section.
- d) Door handles shall be of plain pattern with back plate. The dia of the bars shall be 10mm.

- e) Barrel bolt/tower bolts shall be provided with 10mm dia shoot upto 150mm and 12mm dia shoot above 150mm.
- f) Sliding latch shall be 200mm long of 15.5 x 9mm flat slide.
- g) Where shown on drawing, magic eye shall be provided in the main entrance door of each quarter as approved by GPRI.
- h) Screws for all fittings shall match the respective fittings, both in materials and finish except that screws for anodised aluminium fittings shall be of steel cadmium plated.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

PRE-QUALIFICATION CRITERIA FOR SELECTION OF CONTRACTORS

Accordingly, following criteria is proposed.

- (a) Contractor should have completed three similar types of work out of given six type works in last five years.
- (b) Minimum turn over should be Rs. 1 Cr. in last 5 financial years.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICER

PARTICULAR SPECIFICATIONS (CONTD/-)**Appendix "A"****LIST OF BIS CERTIFIED PRODUCTS TO BE INCORPORATED IN THE WORK**

SI No.	Material	IS No.
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1. Concrete:

Integral water proofing compounds	IS-2645- 2003
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2. Joinery:

Wooden flush door shutters, solid core type	IS-2202, Part I -1999
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3. Building Hardware:

(a) Steel butt hinges	IS-1341-1992
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(b) Ferrous tower bolts	IS-204, Part I- 1991
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(c) Non-ferrous tower bolts	IS-204, Part II- 1992
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(d) Door handles (non-ferrous)	IS-208-1996
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(e) Parliament hinges (ferrous)	IS-362-1991
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(f) Continuous piano hinges	IS-3818-1992
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(g) Non-ferrous metal sliding door bolts	IS-2681-1993
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(h) Tee and strap hinges	IS-206-1992
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(i) Mild steel sliding door bolts	IS-281-1991
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PARTICULAR SPECIFICATIONS (CONTD/-)

- | | |
|--|---|
| <p>4. Steel and Iron Work:</p> <p>Steel Doors, Windows and Ventilators</p> | <p>IS-1038-
1983</p> |
| | |
| <p>5. Roof Covering:</p> <p>Bitumen felts for water proofing and damp proofing</p> | <p>IS-1322-
1993</p> |
| | |
| <p>6. Ceiling & Lining:</p> <p>(a) Plywood for general purposes</p> <p>(b) Block boards</p> <p>(c) Veneered particle board</p> <p>(d) Marine plywood</p> <p>(e) Fibre hardboard</p> <p>(f) Medium density fibre board</p> | <p>IS-303-1989</p> <p>IS-1659-
2004</p> <p>IS-3097-
2006</p> <p>IS-710</p> <p>IS-1658-2006</p> <p>IS-12406-2003</p> |
| | |
| <p>7. Flooring:</p> <p>(a) White portland cement</p> <p>(b) Cement concrete flooring</p> | <p>IS-8042-1989</p> <p>IS-1237-1980</p> |
| | |
| <p>8. Water supply, plumbing, drains & sanitary appliances:</p> <p>(a) Concrete pipes with or without reinforcement</p> <p>(b) Salt glazed stoneware pipes & fittings</p> <p>(c) Centrifugally cast (Spun) Iron spigot & socket soil, waste & vent</p> | <p>IS-458-2003</p> <p>IS-651-1992</p> <p>IS-3989-1984</p> |

(d) UPVC soil, waste & rain water pipes	IS-4985-2000
(e) Cast iron / ductile iron drainage pipe & pipe fittings for over ground non-pressure pipes, spigot & socket services	IS-1729-2002
(f) Galvanized mild steel tubes	IS-1239 Part-I-2004
(g) Galvanized mild steel tube fittings	IS-1239, Part II-1992
(h) Vitreous China sanitary appliances	
(i) Wash down water closets	IS-2556-Part-II-2004
(ii) Squatting pans	IS-2556 Part-III-2004
(iii) Wash basins	IS-2556 Part-IV-2004
(j) Plastic WC seat covers	IS-2548 (Part-I & II)-1996
(k) Flushing cisterns for water closets and urinals other than plastic	IS-774-2004
(l) Ball valves (horizontal plunger type) including floats for water supply purposes	IS-1703-2003
(m) Cast copper alloy screw down bib taps and stop valves	IS-781-1984
(n) Pillar taps	IS-1795-1982
(o) Cast iron manhole covers	IS-1726-1991

9 Electrical Works:

(a) Ceiling rose	IS-371-1979
(b) Tumbler switches	IS-3854-1966
(c) Socket outlet - 3Pin plug and socket	IS-1293-2005
(d) Switch fuses (mains & switches)	IS-4064-
(e) Rigid steel conduit	IS-9537 Part-II-1981
(f) Rigid non-metallic conduits	IS-3419-1988
(g) Single core cable polyethylene insulated and PVC sheathed cable	IS-1596-1977

(h) Starter for tube light	IS-2215-1983
(j) Fluorescent lamps	IS-2418 Part-I to IV-1977
(k) Aluminum stranded conductor	IS-398-1976
(l) MCBs	IS-1828-1996

Note: Corresponding year against each IS code whether mentioned / not, latest version in the trade shall be implied.

SIGNATURE OF CONTRACTOR

FOR ACCEPTING OFFICE