NEPAL ELECTRICITY AUTHORITY

(An Undertaking of Government of Nepal)

Distribution and Consumer Services Directorate

Kathmandu Regional Office

Baneshwor Distribution Centre

NATIONAL COMPETITIVE BIDDING (NCB)

BIDDING DOCUMENTS

FOR

Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.

TENDER NO: NEA/BDC/074/075/Civil -01

Nepal Electricity Authority
Distribution and Consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre
Old Baneshwor, Kathmandu
Tel.: + 977 -014474097
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December, 2017

Abbreviations

BD …..……	Bidding Document
BDF ……	Bidding Forms
BDS ……	Bid Data Sheet
BOQ ……	Bill of Quantities
COF ……	Contract Forms
DP ……..	Development Partners
DoLIDAR ……..	Department of Local Infrastructure Development and Agricultural Road
ELI …….	Eligibility
EQC ……...	Evaluation and Qualification Criteria
EXP ……	Experience
FIN …….	Financial
GCC ……	General Conditions of Contract
GON ……	Government of Nepal
ICC ……..	International Chamber of Commerce
ITB ……..	Instructions to Bidders
JV ……	Joint Venture
LIT ……..	Litigation
NA ……..	Not Applicable
NCB ……	National Competitive Bidding
PAN ……	Permanent Account Number
PPA …….	Public Procurement Act
PPMO …….	Public Procurement Monitoring Office
PPR ……	Public Procurement Regulations
PL ……	Profit & Loss
SBD …….	Standard Bidding Document
SCC …….	Special Conditions of Contract
TS ……	Technical Specifications
VAT ……	Value Added Tax
WRQ ……	Works Requirements

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Invitation for Bids

(First date of Publication- Mangsir 19, 2074)

1. Nepal Electricity Authority (NEA), Baneshwor Distribution Center, Kathmandu Regional Office, Distribution and Consumer Services Directorate invites wax sealed tenders from registered manufacturers, Contractors and Suppliers for:
Tender No**. NEA/BDC/074/075/Civil-01: Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.**

2. The mode of procurement is through National Competitive Bidding (NCB) Procedure.
3. Interested eligible Bidders may obtain further information pertaining to bid and e-bidding form NEA website www.e-nea.org.np for their reference.
4. A complete set of Bid Documents may be purchased during office hours on all working days from Baneshwor Distribution Center by any interested Bidder from **Mangsir 19, 2074** onwards upon submission of a written application to address given below accompanied by a bank voucher of the amount (non refundable) specified in Clause 6 below towards the cost of the Bid Documents deposited in NEA, Baneshwor Distribution Centre, Deposit Account Number **01901030022808 at Nepal Investment Bank, Battisputali Branch, Kathmandu,** Nepal or by an account payee bank draft of the same amount issued in favour of NEA. If the specified last date of Bid purchase falls on a public holiday, bid can be purchased on the next working day. Subsequently, the last date of bid submission and opening will be extended by one day.
5. Bidders must produce a notarized copy of the certificates of Vat registration and PAN registration at the time of purchase of Bid Documents.
6. All Bids accompanied by a bid bond in amount & validity period as specified below must be delivered in accordance with the Instructions to Bidders at or before 12:00 hours local time on or before the dates at Baneshwor Distribution Centre. The Bids shall be opened at 14:00 hours local time on the same date of the Bid submission, in the presence (or without presence) of the authorized representatives of the Bidders who choose to be present Baneshwor Distribution Centre. If the specified dates of Bid submission and opening fall on a public holiday, Bid submission and opening shall be done on the next working day. Late bids will be rejected.
7. NEA shall not be responsible for any costs or expenses incurred by bidders in connection with the preparation or submission of bids.

Tender No.	Cost of Tender Document (NRs.)	Last date of Bid purchase	Last date of Bid Submission	Bid Bond		Estimated Cost (NRs. With VAT)
				Amount (NRs.)	Validity Period	
1.NEA/BDC/074/075/Civil -01	3,000/-	Poush 19,2074	Poush 20, 2074	77,500.00	120 days from the last date of bid submission	28,70,080.00

8. NEA reserves the right to accept or reject any Bid, partly or wholly, or cancel the Bids altogether, without assigning any reason whatsoever.
9. Interested eligible Bidders may obtain further information from the Office given below:

Nepal Electricity Authority
Distribution and Consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre Office
Tel.: + 977 -014474097
Fax: + 977-014461527

नेपाल विद्युत प्राधिकरण
बानेश्वर वितरण केन्द्र

सिलबन्दी बोलपत्र आह्वानको सूचना

मिति : २०७४।०८।१९

यस वितरण केन्द्रअन्तर्गत तपसिलअनुसारका कार्यहरू गर्न नेपाल सरकारबाट सम्बन्धित कार्य गर्नका लागि इजाजत प्राप्त मू.अ.कर (भ्याट)मा दर्ता भएका, आय कर तिरेका रजिष्टर्ड फर्महरूबाट निम्न सर्तहरूका अधिनमा रही बोलपत्र आह्वान गरिएको छ। उल्लेखित बोलपत्रसँग सम्बन्धित आवश्यक कुराहरू बुझ्नुपरेमा कार्यालय समयभित्र सम्बन्धित कार्यालयबाट बुझ्न सकिने छ।

सि.नं.	वितरण केन्द्र	सिलबन्दी बोलपत्र नं.	कार्यको विवरण	सिलबन्दीबोलपत्र नं. खरिद गर्ने कार्यालय	सिलबन्दीबोलपत्र नं दाखिला, खोल्ने मिति र समय	सिलबन्दी बोलपत्रको दस्तुर	बैंक तथा धरौटी खाता नं., ठेगाना	बिडबण्ड रकम रू.	बिडबण्ड अबधि	अनुमानित लागत रकम रू.
१.	बानेश्वर वि.के.	NEA/ BDC/074/075/ Line-01	Installation/Erection, Shifting, Commissioning & Testing and Handover of 11/0.4/.23 kV Distribution Line and Transformers in Kathmandu Metropolitan City, Chabahil Chowk to Jorpati, Sankhu road area.	मिति २०७४।०८।१९ देखि मिति २०७४।०९।१९ सम्म अफिस समयमा बानेश्वर वितरण केन्द्रबाट खरिद गर्न सकिने छ। E-Bidding बाट प्रस्ताव पेश गर्न चाहनेका लागि http://www.nea.org.np बाट फारम डाउनलोड गरी नियमानुसार पेश गर्न सकिने छ। खरिद गर्ने अन्तिमदिन सार्वजनिक विदा परेमा बोलपत्र खरिद गर्ने मिति अर्को दिन सर्नेछ।	मिति २०७४।०९।२०गते दिनको १२ बजेसम्म दाखिला गरी सोही दिनको २ बजेपछि (सार्वजनिक विदा परेमा सो को भोलिपल्ट) बानेश्वर वितरण केन्द्रमा खोलिने छ।	३,०००।० (बानेश्वर वितरण केन्द्रको फुटकर काउण्टर मा ३ बजेसम्म रसिद काटी खरिद गर्न सकिनेछ)	बानेश्वर वितरण केन्द्रको नाममा रहेको नेपाल इन्भेष्टमेन्ट बैंक लि., बत्तिसपुतली शाखा धरौटी खाता नं. ०१९०१०३००२२८०८ मा जम्मा गरेको सक्कल बैंक भौचर	३,२५,०००।००	१२० दिन (बोलपत्र दर्ता गर्ने अन्तिम दिन बाट	१,१९,८०,६२१।५० (भ्याटसहित)
२.		NEA/ BDC/074/075/ Civil-01	Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.					७७,५००।००		२८,७०,०८०।०० (भ्याटसहित)

SECTION II

INSTRUCTIONS TO BIDDERS

A. General

1. Scope of Bid

1.1 The Employer as defined in the Bidding Data invites Bids for the supply and construction of Works, as described in the Bidding Data. The name and identification number of the Contract are provided in the Bidding Data.

The successful Bidder will be expected to complete the Works by the Intended Completion Date specified in the Bidding Data and Special Conditions of Contract (SCC).

2. Source of Funds

2.1 The Source of fund is Government of Nepal (GON).

3. Eligible Bidders

3.1 This invitation for Bids is open to all registered Bidders with qualifications as described in the Bidding Data.

3.2 All Bidders shall provide in Section III, Forms of Bid and Qualification Information, a statement that the Bidder (including all members of a joint venture and subcontractors) is not associated, nor has been associated in the past, directly or indirectly, with the consultant or any other entity that has prepared the design, specifications and other documents to be used for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the Works, and any of its affiliates, shall not be eligible to Bid.

3.3 Government-owned enterprises may only participate if they are legally and financially autonomous, operate under commercial law, and are not a dependent agency of the Employer.

4. Qualification of the Bidder

4.1 All Bidders shall provide in Section III, Forms of Bid and Qualification Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as required in the Qualification Information.

4.2 In the event that prequalification of potential Bidders has been undertaken, only Bids from prequalified Bidders will be considered for award of Contract. These qualified Bidders should submit with their Bids, unless otherwise stated in the Bidding Data any

information updating their original prequalification applications or, alternatively, confirm in their Bids that the originally-submitted prequalification information remains essentially correct as of the date of bid submission. The update or confirmation should be provided in Section III.

4.3 If the Employer has not undertaken prequalification of potential Bidders, all Bidders shall include the following information and documents with their Bids in Section III, unless otherwise stated in the Bidding Data:

a. Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the bid to commit the Bidder;

b. Total monetary value of construction work performed for each of the last ten years;

c. Experience in works of a similar nature and size for each of the last ten years, and details of work under way or contractually committed; and clients who may be contacted for further information on those contracts (to comply with this requirement, works cited shall be at least 80% complete);

d. Major items of construction equipment proposed to carry out the Contract;

e. Qualifications and experience of key site management and technical personnel proposed for the Contract;

f Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past ten years;

g. Evidence of adequacy of working capital for this Contract (access to line(s) of credit and availability of other financial resources);

h. Authority to seek references from the Bidder's bankers;

i. Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount; and

j. Proposals for subcontracting components of the Works amounting to more than 10 percent of the Contract Price.

4.4 Bids submitted by a joint venture of two or more firms as partners, limitation of number of partners as specified in Bidding Data, shall comply with the following requirements, unless otherwise stated in the Bidding Data:

a. The bid shall include all the information listed in Sub-Clause 3 above for each joint venture partner;

b. The bid shall be signed so as to be legally binding on all partners;

c. All partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

d. One of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners; and

e. The execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

4.5 Failure to fulfil any of the requirements specified in Qualification Requirements given below shall result in disqualification of the Bid.

1. Power of Attorney

The Bid shall include a notarized power of attorney authorizing the signatory of the bid to commit the Bid on behalf of the Bidder.

2. Legal Status

i. **For the Bidder which is not a Joint Venture(JV):**

The Bidder shall be a contractor legally registered for at least five (5) years. A notarized copy of legal registration certificate shall be submitted along with the Bid.

ii. **For the JV Bidder:**

- Original of joint venture agreement legally binding on all JV partners shall be included in the Bid. The joint venture agreement shall bear the seal of the entities and signatures of personnel authorized by the respective entities forming the joint venture. All such authorization documents shall also be included in the Bid. These authorizations documents shall be on the original letterhead to the respective entities with stamp/seal of the entity.
- The number of joint venture partners shall not exceed three (3).
- The lead partner of the JV shall be a contractor legally registered for at least five (5) years.
- The other partners of JV shall be contractors legally registered for at least there (3) years.
- Notarized copies of legal registration certificates for each JV partners shall be submitted along with the Bid.

3. Project Experience

i. **For the Bidder which is not a Joint Venture (JV):**

- The Bid shall include certificates from the end users validating that the Bidder has successfully completed design (if the Bid involve design), construction, and commissioning of at least one contract of similar size and

nature, or number of contracts of similar nature whose aggregate size is not less than the size of this bid. The end user certificates shall clearly state that the contracts have been completed within last five years from the last date of bid submission.

- The end user's certificates included in the Bid shall be on the end user's original letter head with valid address for correspondence and signed by or on behalf of the end user.

ii. **For the JV Bidder:**

- The lead partner shall have completed at least one project of size not less than 60% of the size of this Bid.
- Each of the other partners of the JV shall have accomplished at least one project of size not less than 20% of the size of this Bid.
- The Bid shall include certificates from the end users for the lead partner and each of the other partners validating that they have successfully completed design (if the Bid involve design), supply, construction, installation and commissioning of projects of the size stated in above two clause. The end user certificates shall clearly state that the contracts have been completed within last five (5) years from the last date of bid submission.
- The JV partners together shall have successfully completed design (if the Bid involve design), supply, construction, installation and commissioning of projects whose aggregate size is not less than that of this Bid.

4. **Financial Capacity of the Bidder**

i. **Financial Statements**

The Bidder including joint venture partners, if any, shall submit audited financial statements (Balance Sheet and Profit & Loss Account) for the last three (3) fiscal years. Balance sheet and Profit & Loss Account sheet shall be signed and sealed by the registered auditor(s).

ii. **Line of Credit**

In the event that the working capital of the Bidder (including each of the JV partner) is to be supplemented with the line of credit from a Bank, the Bidder shall submit original letter of the Bank pledging unequivocally that the Bank will provide required financial support in case the Bidder is awarded the contract. The amount of line of credit shall be clearly mentioned in the Bank letter. The bid title and the bid number shall also be mentioned in the Bank letter.

iii. **Average Annual Turnover**

- **For the Bidder which is not a Joint Venture (JV)**
  The Bidder shall have Average Annual Turnover (defined as the total payments received by the Bidder averaged over last three years period) of at least equivalent to amount stated in Bidding Data.
- **For the JV Bidder**
  The Average Annual Turnover of the lead partner shall not be less than value specified in Bidding Data. Average Annual Turnover of each of other partners shall not be less than value specified in Bidding Data Aggregate

Annual Turnover (with line of credit facilities) of all the JV partners shall not be less than the value specified in sub-clause just above.

iv. **Availability of Financial Resources (Working Capital)**

- **For the Bidder which is not a Joint Venture (JV)**
  The Bidder shall have Working Capital (defined as total current assets less total current liabilities) of at least value specified in Bidding Data
  If the Bidder's Working Capital is inadequate, the Bidder shall supplement Working Capital with Banker's letter confirming the availability of a line of credit such that aggregate of the Bidder's Working Capital for the last fiscal year and the line of credit shall not be less than the required amount stated in this sub-clause.
- **For the JV Bidder**
  Working Capital of the lead partner shall not be less than value specified in Bidding Data Working Capital of each of other partners shall not be less than value specified in Bidding Data. Aggregate Working Capital (with line of credit facilities) of all the JV partners shall not be less than the value specified in sub-clause just above.

4.6 Domestic Bidders and joint ventures of domestic and foreign Bidders applying for eligibility for a domestic margin of preference in bid evaluation shall supply all information to satisfy the criteria for eligibility as described in Clause 30 of these Instructions to Bidders.

5 One Bid per Bidder

5.1 Each Bidder shall submit only one bid, either individually or as a partner in a joint venture. A Bidder who submits or participates in more than one bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) shall cause all the proposals with the Bidder's participation to be disqualified.

6 Cost of Bidding

6.1 The Bidder shall bear all costs associated with the preparation and submission of his bid, and the Employer will in no case be responsible or liable for those costs.

7. Site Visit

7.1 The Bidder, at the Bidder's own responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the Bidder's own expense.

B Bidding Documents

8. Contents of Bidding Documents

8.1 The set of Bidding Documents provided by the Employer comprises the documents listed in the table below and addenda issued in accordance with Clause 10:

Section I:	Invitation for Bids
Section II:	Instructions to Bidders
Section III:	Sample Forms of Bid, Qualification Information, Letter of Acceptance and Agreement
Section IV:	General Conditions of Contract (GCC)
Section V:	Special Condition of Contract (SCC)
Section VI:	Forms of Securities
Section VII:	Supplementary Condition of Contract (SuCC)
Section VIII:	Technical Specifications and Drawings
Section IX:	BOQ and Work Schedule

The Bidder is expected to examine all instructions, forms, terms, specifications and other information required by the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in rejection of its bid.

9. Clarification of Bidding Documents

9.1 A prospective Bidder requiring any clarification of the Bidding documents may notify the Employer in writing or by fax at the Employer's address indicated in the Invitation for Bids or Bidding Data. The Employer will respond to any request for clarification received earlier than the number of days prior to the deadline for submission of Bids as specified in the Bidding Data. Written copies of the Employer's response will be forwarded to all purchasers of the Bidding documents, including a description of the inquiry, but without identifying its source.

10. Amendment of Bidding Documents

10.1 Before the deadline for submission of Bids, the Employer may modify the Bidding documents by issuing addenda.

10.2 Any addendum thus issued shall be part of the Bidding documents and shall be communicated in writing or by fax to all purchasers of the Bidding documents. Prospective Bidders shall acknowledge receipt of each addendum by fax to the Employer.

10.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer shall extend, as necessary, the deadline for submission of Bids, in accordance with Sub-Clause 20.2 below.

C. Preparation of Bids

11. Language of Bid

11.1 All documents relating to the bid shall be in English or in Nepali.

12. Documents Comprising the Bid

12.1 The bid submitted by the Bidder shall comprise the following:

i. The bid (in the format indicated in Section III including SCC);

ii. Bid Security;

iii. Priced Bill of Quantities;

iv. Qualification Information Form and Documents;

v. Information on eligibility;

vi. Any other materials required to be completed and submitted by Bidders, as specified in the Bidding Data.

13. Bid Prices Clause

13.1 The Contract shall be for the whole Works, as described in scope of works based on the priced Bill of Quantities submitted by the Bidder.

13.2 The Bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items for which no rate or price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

13.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as of the date 28 days prior to the deadline for submission of Bids, shall be included in the rates, prices and total Bid Price submitted by the Bidder.

13.4 The rates and prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract if provided for in the Bidding and Contract Data and the provisions of 47 of the Conditions of Contract. The Bidder shall submit with the bid all the information required under the Contract Data and Clause 47 of the Conditions of Contract.

13.5 Discount: If the Bidder intends to offer any discount, it should always be expressed in percentage and that will be applicable to each unit rate.

14. Currencies of Bid and Payment

14.1. The currency of the bid and payment shall be in Nepalese Rupees.

15. Bid Validity

15.1 Bids shall remain valid for the period specified in the Bidding Data.

15.2 In exceptional circumstances, the Employer may request that the Bidders extend the period of validity for a specified additional period. The request and the Bidders' responses shall be made in writing or by fax. A Bidder may refuse the request without forfeiting the Bid Security. A Bidder agreeing to the request will not be required or permitted to otherwise modify the bid, but will be required to extend the validity of Bid Security for the period of the extension, and in compliance with Sub-Clause 16 in all respects.

16. Bid Security

16.1 The Bidder shall furnish, as part of the bid, a Bid Security in Nepalese Rupees in the amount specified in the Invitation for Bids.

16.2 The Bid Security shall, at the Bidder's option, be in the form of earnest money, bank draft or a bank guarantee from a reputable bank in Nepal acceptable to the Employer. The format of the bank guarantee shall be in accordance with the form of Bid Security included in Section VI; other formats may be permitted, subject to the prior approval of the Employer. The Bid Security shall remain valid for a period of 30 days beyond the original validity period for the bid and any period of extension subsequently requested under Sub-Clause 15.2.

16.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer. The Bid Security of a joint venture must define as "Bidder" all joint venture partners and list them in the following manner: a joint venture consisting of "_____," "_____," and "_____".

16.4 The Bid Security of unsuccessful Bidders will be returned within 30 days of the end of the bid validity period specified in Sub-Clause 15.1.

16.5 The Bid Security of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security may be forfeited

a. If the Bidder withdraws the bid after bid opening during the period of bid validity; *or*

b. If the Bidder does not accept the correction of the Bid Price, pursuant to Clause 27; *or*

c. in the case of a successful Bidder, if the Bidder fails within the specified time limit to

(i) Sign the Agreement; *or*

(ii) Furnish the required Performance Security.

17. Alternative Proposals by Bidders

17.1 Bidders shall submit offers that comply with the requirements of the Bidding documents, including the basic technical design as indicated in the Drawings and Specifications. Alternatives will not be considered unless specifically allowed in the Bidding Data. If so allowed, Sub-Clause 17.2 shall govern.

17.2 If so allowed in the Bidding Data, Bidders wishing to offer technical alternatives to the requirements of the Bidding documents must also submit a bid that complies with the requirements of the Bidding documents, including the basic technical design as indicated in the Drawings and Specifications. In addition to submitting the basic bid, the Bidder shall provide all information necessary for a complete evaluation of the alternative by the Employer, including design calculations, technical specifications, breakdown of prices, proposed construction methods and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.

18. Format and Signing of Bid

18.1 The Bidder shall prepare one original of the documents comprising the bid as described in Clause 12 of these Instructions to Bidders, bound with the volume containing the form of bid, and clearly marked "ORIGINAL." In addition, the Bidder shall submit one copy of the bid clearly marked as "COPY." In the event of discrepancy between them, the original shall prevail.

18.2 The original and a copy of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the Bidding Data and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be initialed by the person or persons signing the bid.

18.3 The bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

18.4 The Bidder shall furnish information as described in the form of bid on commissions or gratuities, if any, paid or to be paid to agents relating to this bid, and to contract execution if the Bidder is awarded the Contract.

D. Submission of Bids

19. Submission, Sealing and Marking of Bids

19.1 The Bidder shall seal the original and a copy of the bid in two inner envelopes and one outer envelope, duly marking the inner envelopes as "ORIGINAL" and "COPY".

19.2 The inner and outer envelopes shall:

a. be addressed to the Employer at the address provided in the Bidding Data;

b. bear the name and identification number of the Contract as defined in the Bidding Data and SCC; and

c. provide a warning not to open before the specified time and date for bid opening as defined in the Bidding Data..

19.3 In addition to the identification required in Sub-Clause 19.2, the outer envelopes shall indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 21.

19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the bid.

20. Deadline for Submission of Bids

20.1 Bids shall be delivered to the Employer at the address specified in the Bidding Data no later than the time and date specified in the Bidding Data.

20.2 The Employer may extend the deadline for submission of Bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the Bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1 Any bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the Bidder.

22. Withdrawal and Modification of Bids

22.1 Bidders may withdraw or modify their Bids after it has been submitted by giving a written notice, duly signed by an authorized representative and shall include a copy of the authorization in accordance with Clause 18.2, 24 hours before the deadline prescribed in Clause 20. The corresponding modification of the bid must accompany the respective written notice.

22.2 Each Bidder's withdrawal or modification notice shall be prepared, sealed, marked, and delivered in accordance with Clauses 18 and 19, with the outer and inner envelopes additionally marked "WTHDRAWAL" or "MODIFICATION" as appropriate.

22.3 No bid may be modified after the deadline for submission of Bids.

22.4 Withdrawal of a bid between the deadline for submission of Bids and the expiration of the period of bid validity specified in the Bidding Data or as extended pursuant to Sub-Clause 15.2 may result in the forfeiture of the Bid Security pursuant to Clause 16.

22.5 Bidders may only offer discounts to, or otherwise modify the prices of their Bids by submitting bid modifications in accordance with this clause, or included in the original bid submission. Intended discount offer should always be expressed in percentage to be applied to each unit rate.

22.6 Modification in joint ventures: If there is any change in the configuration of a joint venture of the Bidders prior to the deadline of the submission of Bids, the Bidder shall produce the following documents duly signed by the respective parties:

a. a memorandum or any other legal documents clearly indicating the new status of the joint venture.
b. in case of an outgoing or incoming joint venture partner, a written statement of consent from such partner.

It should be noted that any outgoing partner as per this provision shall not be allowed to join in as partner of other competing Bidders for the same Bidding.

E. Bid Opening and Evaluation

23. Bid Opening

23.1 The Employer will open the Bids, including modifications made pursuant to Clause 22, in the presence of the Bidders' representatives who choose to attend at the time and in the place specified in the Bidding Data.

23.2 First envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next envelopes marked "Modification" shall be opened and read out with the corresponding bid. No bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at bid opening. Only envelopes that are opened and read out at the bid opening shall be considered further.

23.3 The Bidders' names, the Bid Prices, the total amount of each bid and of any alternative bid (if alternatives have been requested or permitted), any discounts, bid withdrawal and modification, the presence or absence of Bid Security, difference of rate in words and figures, quoted price for alternate technical specification if proposed, whether the Bid Form has signature of the bidder or authorized representative, corrections/effacement or obliteration in bidding document, any remarks made by the bidder in the Bid Form,

details of rates if requested and such other details as the Employer may consider appropriate will be announced by the Employer at the bid opening.

23.4 The Employer will prepare minutes of the bid opening, including the information disclosed to those present in accordance with Sub-Clause 23.3.

24. Process to Be Confidential

24.1 Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced.

25. Clarification of Bids and Contacting the Employer

25.1 To assist in the examination, evaluation and comparison of Bids, the Employer may, at the Employer's discretion, ask any Bidder for clarification of the Bidder's bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing or by facsimile, but no change in the price or substance of the bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 27.

25.2 Subject to Sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, he should do so in writing.

25.3 Any efforts by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result the rejection of the Bidder's bid.

25.4 In case of e-submission of bid, the Bidder shall be required to submit the original Completed Bid consisting of Forms of Bid, Qualification Information, Bill of Quantities Etc. as listed in Special Instruction to Bidders for e-bidding Clause A (ii) for verification Purpose upon notification to do so from Employer within 3 days

26. Examination of Bids and Determination of Responsiveness

26.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each bid

(a) meets the eligibility criteria defined in Clause 3;

(b) has been properly signed;

(c) is accompanied by the required securities; and

(d) is substantially responsive to the requirements of the Bidding documents.

26.2 A substantially responsive bid is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one

(a) which affects in any substantial way the scope, quality, or performance of the Works.

(b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or

(c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

26.3 If a bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the nonconforming deviation or reservation.

27. Correction of Errors

27.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

a. where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and

b. where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern, and the unit rate will be corrected.

27.2 The amount stated in the bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the bid will be rejected and the Bid Security may be forfeited in accordance with Sub-Clause 16.6(b).

28. Currency for Bid Evaluation

28.1 Bids will be evaluated as quoted in Nepalese Rupees in accordance with Sub-Clause 14.1

29. Evaluation and Comparison of Bids

29.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 26.

29.2 In evaluating the Bids, the Employer will determine for each bid the evaluated Bid Price by adjusting the Bid Price as follows:

i. making any correction for errors pursuant to Clause 27;

ii. excluding provisional sums and the provision, if any, for contingencies in the Bill of Quantities, but including Day work, where priced competitively;

iii. making an appropriate adjustment for any other acceptable variations, deviations or alternative offers submitted in accordance with Clause 17; and

iv. making appropriate adjustments in unit rates to reflect discounts or other price modifications offered in accordance with Sub-Clause 22.5.

29.3 Further the employer shall evaluate:

a. Whether the construction work plan, work performance schedule and mobilization period is consistent with the requirement of the bidding document or not,

b. Whether the quoted item unit rates in the Bill of quantities are reliable or not,

c. Whether or not the quoted price is unbalanced due to unnaturally high rates quoted by the bidder for work items to be completed in the initial stages of the contract or for work items whose quantities are assumed by the bidder to be underestimated.

29.4 If the bid, which results in the lowest Evaluated Bid price, is unbalanced or frontloaded in relation to the Employer's estimate of the items of Work to be performed under the contract pursuant to Sub- Clause 29.3, the Employer shall ask the bidder to give clarification with detailed rate analysis for any or all items of the Bill of Quantities. If the clarification is found satisfactory then the Employer shall increase at the expense of the bidder the performance security set forth in Clause 34 by an additional 8% of the quoted amount to protect the Employer against financial loss in the event of default of the successful bidder under the contract and if the clarification is found unsatisfactory then the Employer may reject such bid.

29.5 The Employer reserves the right to accept or reject any variation deviation or alternative offer. Variations, deviations, and alternative offers and other factors which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer will not be taken into account in bid evaluation

29.6 The estimated effect of any price adjustment conditions under Clause 47 of the Conditions of Contract, during the period of implementation of the Contract, will not be taken into account in bid evaluation.

30. Preference for Domestic Bidders

30.1 Domestic Bidders shall be given as preference.

F. Award of Contract

31. Award Criteria and Intention to Award

31.1 Subject to Clause 32, the Employer will select and award the Contract to the Bidder whose bid has been determined to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price, provided that such Bidder has been determined to be (a) eligible in accordance with the provisions of Clause 3 and (b) qualified in accordance with the provisions of Clause 4 and no application for review of decision is received from other Bidders pursuant to Sub-Clause 31.3.

31.2 The Employer shall notify its intention to award the Contract to the selected bidder in accordance with Sub-Clause 31.1 within 7 days of selection of his bid. Further, the employer shall also provide information regarding the name, address and the contract amount of the successful bidder to all the bidders who participated in the bid.

31.3 Any Bidder who is not satisfied with the procurement process or Employer's decision provided as per Sub - Clause 31.2 and believes that the Employer has committed an error or breach of duty which has or will result in loss to the bidder then the bidder may give an application for review of the decision to the Employer with reference to the error or breach of duty committed by the Employer. The review application should be given within 7 days of receipt of information regarding the issue of letter by the Employer notifying its intention to award the contract to the successful bidder.

31.4 If the review application is not received by the Employer pursuant to Sub-Clause 31.3 then the bid of the Bidder selected as per Sub-Clause 31.1 shall be accepted by the Employer.

32. Employer's Right to accept any Bid and to reject any or all Bids

32.1 Notwithstanding Clause 31, the Employer reserves the right to accept or reject any bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

33.1 The Bidder whose bid has been accepted in accordance with Sub-Clause 31.4 will be notified of the award by the Employer prior to expiration of the bid validity period by facsimile confirmed by registered letter. This letter (hereinafter and in the General Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion and

maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

33.2 The notification of award will constitute the formation of the Contract, subject to the Bidder furnishing the Performance Security in accordance with Clause 34 and signing the Agreement in accordance with Sub-Clause 33.3.

33.3 The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and sent to the successful Bidder with the notification of award along with the Letter of Acceptance. Within 15 days of receipt, the successful Bidder shall sign the Agreement and deliver it to the Employer.

33.4 Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful.

34. Performance Security

34.1 Within 15 days after receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in the amount stipulated in the SCC and in the form stipulated in the Bidding Data, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the General Conditions of Contract.

34.2 If the Performance Security is provided by the successful Bidder in the form of a bank guarantee, it shall be issued, at the Bidder's option, either (a) by a bank located in Nepal acceptable to the Employer or (b) a foreign bank through a correspondent bank located in Nepal.

34.3 The Employer may use his own Performance Security form provided it conforms to prevailing laws and regulations.

34.4 Failure of the successful Bidder to comply with the requirements of Sub-Clause 34.1 and Sub-Clause 29.4 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

35. Advance Payment and Security

35.1 The Employer shall make an Advance Payment on the Contract Price as stipulated in the General Conditions of Contract, subject to a maximum amount as stated in the Bidding Data.

36. Additional Securities

36.1 The Contractor shall provide additional Performance Security pursuant to Sub-clause 29.4. Failure to do so shall result in forfeiture of the Bid Security and award of the Contract to the next lowest evaluated substantially responsive Bidder.

37. Adjudicator/ Dispute Resolution Board

37.1 If any dispute arises between the Employer and the Contractor in connection with the execution of the Contract, the parties shall attempt to settle such dispute amicably. If the parties fail to resolve the dispute amicably then the dispute may be referred to the Adjudicator or Dispute Resolution Board (DRB) as specified in the Bidding Data by either party in writing.

37.2 If Adjudicator is specified pursuant Sub-Clause 37.1, the Employer proposes the person named in the Bidding Data to be appointed as Adjudicator under the Contract, at the hourly fee as specified in Bidding Data plus reimbursable expenses. If the Bidder disagrees with this proposal, the Bidder should so state in his Bid. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the SCC pursuant to Clause 24.1 of the General Conditions of Contract (GCC), to appoint the Adjudicator.

38. Corrupt or Fraudulent Practices

38.1 The GON requires that the Employer as well as Bidders observe the highest standard of ethics during the procurement and execution of contracts. In pursuance of this policy, the GON:

a. defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

ii. "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish Bid Prices at artificial noncompetitive levels and to deprive the Employer of the benefits of free and open competition;

b. will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question; and

c. will declare a firm ineligible for a stated period of time, to be awarded a GON funded contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a GON -funded contract.

39. Conduct of Bidders

39.1 The Bidder shall be responsible to fulfill his obligations as per the requirement of the Contract Agreement, Bidding documents, GON"s Procurement Act and Regulations.

39.2 The Bidder shall not carry out or cause to carry out the following acts with an intention to influence the implementation of the procurement process or the procurement agreement:
a) Give or propose improper inducement directly or indirectly,
b) Distortion or misrepresentation of facts
c) Engaging or being involved in corrupt or fraudulent practice
d) Interference in participation of other prospective bidders.
e) Coercion or threatening directly or indirectly to cause harm to the person or the property of any person to be involved in the procurement proceedings,
f) Collusive practice among bidders before or after submission of bids for distribution of works among bidders or fixing artificial/uncompetitive bid price with an intention to deprive the Employer the benefit of open competitive bid price.
g) Contacting the Employer with an intention to influence the Employer with regards to the bid or interference of any kind in examination and evaluation of the bids during the period after opening of bids up to the notification of award of contract.

40. Blacklisting Bidder

40.1 Without prejudice to any other right of the Employer under this contract, GON, Public Procurement Monitoring Office may blacklist a bidder for his conduct up to three years on the following grounds and seriousness of the act committed by the bidder:

a) If it is proved that the bidder committed acts pursuant to the clause 39.2.

b) If the bidder fails to sign an agreement pursuant to clause 33.3.

c) If it is proved later that the bidder/contractor has committed substantial defect in implementation of the contract or has not substantially fulfilled his obligations under the contract or the completed work is not of the specified quality as per the contract.

d) If convicted by a court of law in a criminal offence which disqualifies the bidder from participating in the contract.

e) If it is proved that the contract agreement signed by the bidder was based on false or misrepresentation of bidder's qualification information.

f) Other acts mentioned in the Bidding Data.

40.2 A firm declared blacklisted and ineligible by the GON and or concerned Donor Agency in case of donor funded project shall be ineligible to bid for a contract during the period of time determined by the PPMO and or the concerned donor agency.

G. Bidding Data

Instruction to Bidders Clause References

A. General

ITB 1.1 *The Employer is:* **Nepal Electricity Authority (NEA),** who appoints the Contractor. **NEA,** as used in this document, shall carry the same meaning as "Employer".

The Works are: Tender No. **NEA/BDC/074/075/Civil-01: Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.**

The scope of work covered under this shall include **Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.** The Contractor shall have to carry out Supply of materials; Retrofitting and Rehabilitation of the building and handover to **NEA** after completion.

The Intended Completion date is: **3 months** from the date of contract effectiveness.

ITB 2.1 *The Source of Fund:* Fund made available by Government of Nepal (GON).
The "Donor" means: Not Applicable.

ITB 3.1 *Bidder's Eligibility Requirements are:*

a) Up to date Firm/Company Registration Certificate

b) Business Registration License

c) Nepalese Bidders and Nepalese JV partners must submit VAT and PAN Registration Certificates. Non-Nepalese Bidders shall be required to submit the Temporary License and VAT registration certificates at the earliest possible after the Contract signing but not later than 45 days.

d) Tax Clearance Certificate or Submissions of Tax Returns up to F.Y. 2073/74.

e) A written declaration made by the Bidder stating that the Bidder is not ineligible to participate in the Bid; has no conflict of interest in the proposed bid procurement proceedings and has not been punished for the profession or businesses related offence.

f) Joint Venture Authorization/ Agreement (if any)

g) Power of Attorney (Notarized)

h) Other documents as needed

ITB 3.4 *Following is the addition of the new definitions:*

"Bidder" shall mean a legally registered entity submitting the Bid proposal. The entity may be a supplier or manufacturer of the tendered Goods or contractor or any combination of them in the form of a Joint Venture as specified in Qualification Requirements.

"Joint Venture" shall mean a legally enforceable association constituted by legally registered entities with the purpose of committing the obligations required by the Bid.

"Goods" shall mean equipment, plant, goods, materials, etc. to be supplied and installed for the completion of the work as particularly described in the specifications.

ITB 4 All Sub-Clauses of Clause 4 are **Not Applicable**

ITB 7.1 *Add the following after ITB 7.1*:

The Bidder shall be responsible to familiarize himself with all aspects, conditions and requirements of the Works, to interpret rules and regulations made by or on behalf of the Employer and all laws and regulation of government of Nepal that may in any manner affect or apply to the operations and activities of the Contractor under the Contract or in connection there with and no claim will be considered at any time for extension of time of completion or reimbursement of any expense incurred or both as a result of any misunderstanding in regard to the conditions imposed by the Contract or prevailing at the site or in Nepal. Information regarding work standards and regulations for employment of Contractor's personnel may be obtained from:

Ministry of Social Welfare and Labor, Government of Nepal, Department of Labor, Kathmandu/Nepal

ITB 9.1 *Employer's address for clarification purposes is:*

Nepal Electricity Authority
Distribution and consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre
Tel.: + 977 -014474097
Fax: + 977-014461527

The Employer will respond to any request for clarification, provided that such request is received no later than 14 days prior to the deadline for submission of bids.

ITB 13.1 *Add the following after ITB 13.1:*

i) Bidders shall quote for the entire facilities on a "single responsibility"

basis such that the total bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the bidding documents in respect of the manufacture, including procurement and subcontracting (if any), delivery, construction, installation and completion of the facilities. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the facilities and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc., operation, maintenance and training services and such other items and services as may be specified in the bidding documents, all in accordance with the requirements of the Conditions of Contract.

ii) Bidders are required to quote the prices for the commercial, contractual and technical obligations outlined in the Bidding Documents.

iii) Bidders shall give a breakdown of the prices in the manner and detail called for in the Bill of Quantities.

iv) In the Price Schedules, Bidders shall give the required details and breakdown of their prices.

ITB 15.1 *The period of bid validity shall be 120 days after the deadline for bid submission.*

ITB 16.1 *The amount of Bid Security shall not be less than:* NRs. 77,500/-

ITB 17.0 *Alternative proposal to the requirements of the Bidding documents will not be permitted.*

ITB 18.2 *The written confirmation of authorization to sign on behalf of the Bidder shall indicate:*

(a) The Bid shall include a notarized power of attorney authorizing the signatory of the bid to commit the Bid on behalf of the Bidder; and

(b) In the case of Bids submitted by an existing or intended JV an undertaking signed by all parties (i) stating that all parties shall be jointly and severally liable, and (ii) nominating a Representative who shall have the authority to conduct all business for and on behalf of any and all the parties of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.

ITB 19.2 a. *The Employer's address for the purpose of bid submission is*:

Nepal Electricity Authority
Distribution and consumer Services Directorate
Baneshwor Distribution Centre
Tel.: + 977 -014474097

Fax: + 977-014461527

b. *Name and Identification number of the Contract*

Tender No. NEA/BDC/074/075/Civil-01: Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.

ITB 20.1 *The deadline for submission of Bids shall be:* 12:00 (Noon) Poush 20, 2074.

ITB 23.1 *The bid opening shall take place on 14:00 (Noon)* Poush 20, 2074.

Nepal Electricity Authority
Distribution and consumer Services Directorate
Baneshwor Distribution Centre
Tel.: + 977 -014474097
Fax: + 977-014461527

ITB 32.0 *Following is the addition to the said clause:*

ITB32.2 *Bids shall be rejected as being non-responsive if*

a. The bidder has not purchased and returned the original document issued by NEA.

b. The Bid Document is issued in the name of one firm and Bid proposal submitted by another firm. The bid has been purchased in the name of single firm and submitted in the name of Joint Venture and vice versa.

c. The Bid does not contain wax sealed bid proposal.

d. The Bid is not signed and stamped by the bidder or their authorized representative.

e. It is proved that bidders have submitted the bids by making such arrangements that limits the participation of other bidders or influences the bid price in any manner.

f. The Bid is received by NEA after the deadline for submission of Bids.

g. All the information required by the bid document is not mentioned or falsely quoted.

h. The documents and guarantee/bank voucher as required by the bid are not attached with the bid proposal.

i. The notarized copy of joint venture agreement is not attached, in case the bidder is participating in the bid in Joint Venture.

j. The amount of commission, currency of payment, and method of payment to the bidder's agent are not revealed.

k. Any other conditions/information about the local agent is not revealed or falsely mentioned.

l. The notarized power of attorney to sign the bid on behalf Bidder and the joint venture (if any) is not attached.

m. The percentages of liability among joint venture partners are not clearly mentioned.

n. The bid is conditional.

o. Any conditions mentioned in tender invitation are not fulfilled.

p. Data on qualifications of Bidder/ Manufacturer (Form G) are not filled and the supporting documents required by the forms are not furnished.

q. Proposed delivery schedule showing completion dates more than NEA's requirement.

r. The Bid fails to satisfy that Bid is fully cognizant of the scope and details of the work involved.

s. The Bid does not contain technical information and documents for major items required by the Specifications for materials on which the bidder is offering.

t. The offered goods are not substantially in compliance with the specification.

u. If the attached Technical Data Sheet in the specification is not properly completed and/or data furnished are not supported by the catalogues and test reports (wherever required).

v. Qualification criteria as per bidding data Sheet, ITB Clause 4.0 are not met.

w. The description provided by the bidders pertaining to the qualification is found to be false or is substantially incomplete.

x. The bidder is blacklisted in its contractual obligations in past NEA contracts.

y. If the required documents are not submitted authenticated English version. However the documents in Nepali language issued from the concerned authority of Nepal will also be accepted.

z. The bidder does not offer all the items and quantity specified in Price Schedule.

aa. The Bid Security (Bid Bond) is not enclosed pursuant to ITB Clause 16 or is not acceptable in form and / or substance.

bb. The Bid has price escalation clause.

cc. The Bid Security submitted is not specifically mentioned to be applicable to the offer of the Bidder.

dd. The Bid Bond submitted by someone other than the Bidder does not clearly mention that the Bond is submitted on behalf of the Bidder in the Bid Bond itself.

ee. The Bid Bond is not in the name of Joint Venture, in case of Joint Ventures.

ff. The bid price of lowest substantially responsive bidder is substantially higher than the estimated price.

gg. The Bidder does not submit the original completed Bid document/clarification to Special Instruction to Bidders for e- Bidding clause B (iii) for within 3 days.

ITB 33.3 *Delete ITB sub-clause 33.3 and replace it with the following:*

Within 15 days after receipt of the Letter of Acceptance the successful Bidder shall present himself for Contract Negotiation and Contract signing.

ITB 33.4 *Delete ITB sub-clause 33.4 and replace it with the following:*

Upon the furnishing by the successful Bidder of the Performance Security, the Employer will promptly sign a Contract Agreement with the Bidder and notify the other Bidders that their Bids have been unsuccessful.

ITB 34.1 The Standard Form of Performance Security acceptable to the Employer shall be a Bank guarantee using the form provided in Section VI. The Performance Security shall be valid until a date 30 days from the date of issue of the Defect Liability Certificate.

ITB 35.1 *Not Applicable*

ITB 37.1 *Reference of Dispute to: DRB.*

ITB 37.2 *The Adjudicator proposed by the Employer is:* Not Applicable
The hourly fee for this proposed Adjudicator shall be: Not Applicable
The biographical data of the proposed Adjudicator is as follows: Not Applicable

Members of DRB to be appointed within 90 days after signing of the Contract Agreement.

ITB 40.1 *f) Additional acts as ground for black listing:* None

Special Instruction to Bidders for e-Bidding

Bidders may submit their bids electronically as per specific procedures and requirements as specified in the Instructions to Bidders (ITB). General procedures for electronic bid submission (e-submission) is described below.

Bid preparation

A Bidder who wish to submit the bid electronically may purchase the Bid Document directly from the Employer office or may download the bid document from the website and deposit the equivalent amount in the Revenue account of the employer as specified in the notice or/and Bid Document.

Description of bid submission procedure through electronically (e-submission) only:

i) Interested bidders shall, either purchase the Bid Document directly from the Employer office or may download the bid document from the website and deposit the equivalent amount in the Revenue account of the employer as specified in the notice or/and Bid Document.

ii) The Bidder shall fill the following documents and forms (in hard copy of issued bid documents), signed by the authorized representative with seal of the company.

a) Bill of Quantity (BOQ) with rate, amount

b) Forms of Bid, Qualification Information

iii) The Bidder shall then scan the completed original documents, forms in PDF files with appropriate filename shown in the table below.

Single Envelop document set (As guided by PPMO)

document_name	mandatory	filename	remark
Letter of Bid	1	Letter bid -1	
Bid Security (Bank Guarantee)	1	Bid security-2	
Company Registration	1	Company reg-3	
VAT Registration	1	VAT-Reg-4	Mandatory for National Firms
Tax Clearances Certificate	1	Tax-5	Mandatory for National Firms
Power of Attorney of Bid signatory	1	Power of att-6	
Business Registration (Licence) Certificate	1	Licence-7	
Bank Voucher for Cost of Bid Doc	1	Voucher-8	
Joint Venture Agreement	1	JV-Doc-9	Mandatory for JV Firms
Qualification Information	1	Qualifications-10	
Applicable Price Adjustment Table	1	Price adjust-11	Mandatory if Applicable
Complete BoQ	1	BOQ-12	

Two Envelop document Set (As guided by PPMO)

Letter of Technical Bid	1	Letter techbid-1	Technical Document
Bid Security (Bank Guarantee)	1	Bid security-2	Technical Document
Company Registration	1	Company reg-3	Technical Document
VAT Registration	1	VAT-Reg-4	Technical Document [Mandatory for Nationa..
Tax Clearances Certificate	1	Tax-5	Technical Document [Mandatory for Nationa..
Power of Attorney of Bid signatory	1	Power of att-6	Technical Document
Business Registration (Licence) Certificate	1	Licence-7	Technical Document
Bank Voucher for Cost of Bid Doc	1	Voucher-8	Technical Document
Joint Venture Agreement	1	JV-Doc-9	Technical Document [Mandatory for JV Firms]
Qualification Information	1	Qualifications-10	Technical Document
Letter of Price Bid	1	Letter Pricebid -1	Financial Document
Applicable Price Adjustment Table	1	Price adjust-2	Financial Document
Complete BoQ	1	BOQ-3	Financial Document

Note; ***Mandatory*** *means the mentioned files shall be in e-submission and non submission of such file shall be considered as non-responsive.*

iv) For e-submission purpose the Bidder shall, at first, register in the e-procurement section of NEA Web site **http://www.nea.org.np**
v) After preparing all the required bidding documents in PDF scan files as specified in (ii) and (iii), the Bidder shall upload the PDF bid files and submit his complete bid online through e-procurement section of NEA website **http://www.nea.org.np** within the specified date and time.

The Employers address for the purpose of e-submission of bid;

The Employers address for the purpose of electronic Bid submission is e-procurement section of http://www.nea.org.np**.** In case of e-submission of bid, the bidder shall submit his bid electronically in PDF files in the manner as specified above and additional submission of hard copy of "Original plus one copy of bid" is not mandatory.
In case both the electronic bid and original bid in hard copy are submitted to the Employer within the specified time period, the Bidder's electronic bid and original bid in hard copy will be accepted for evaluation provided the Bid price in Bill of Quantity Sheet is same. If there is any discrepancy in Bid price in Bill of Quantity between the electronic and original bid in hard copy it will be treated as two separate bids from one Bidder and hence, both the electronic bid and original bid in hard copy shall be disqualified, as per ITB Clause. However, for electronically submitted bid in PDF files, the bidder shall be required to submit documents/clarifications as specified in ITB Clause within 3 days.

The deadline for e-submission of bids shall be;

i) Bidders shall be also explained about the details of e-submission procedures in the pre-bid meeting.
ii) The e-procurement system will accept the e-submission of bid during office hours from the date after publishing the notice and will automatically not allow the e-submission of bid after the deadline for submission of bid, as specified above.
iii) The standard time for e-submission is Nepalese standard time as set out in the server of NEA.
iv) In case of e-submission of bid, the Bidder shall submit his bid electronically in PDF files in the manner as specified in ITB Clause only, and submission of "original plus one copy" shall not be required before deadline for submission time as per ITB Clause.

Provision for Substitution or Modification or Withdrawal of Bid

When a bidder submits his bid in hard copy the e-procurement section **does not allow** the Bidder to submit his Substitution, or Modification, or Withdrawal through e-procurement section of NEA's Web site.

In case of e-submitted bid;

i) Bidders may submit his Substitution or Modification or Withdrawal either in hard copy or through e-submission.

ii) For Substitution of Bid the Bidder shall follow similar steps as specified in ITB Clause with a Substitution letter in PDF file.
iii) For Modification or Withdrawal of bid the Bidder is required to submit PDF scan copy of their Modification or Withdrawal letter and a written Power of Attorney of the signatory for Modification/ Withdrawal, duly signed by Authorized Representative/s of the Firm / all authorized Joint Venture partners.

Bid opening for e-submitted bid

i) Electronically submitted bid shall be opened first at the same time and date as specified in the ITB and IFB notice.
ii) The e-procurement system allows the Employer to download and open the e-submitted bid files from bidders only after the time for opening the bids.
iii) The e-submitted bids must be readable through open standards interfaces. Unreadable and or partially submitted bid files (not complying the ITB Clauses) shall be considered incomplete and rejected for further bid evaluation.
iv) After opening of e-submitted bids files, all files shall be printed and recorded at the time of bid opening.
In case of "WITHDRAWAL" or "MODIFICATION" or "SUBSTITUTION" by the Bidder through e-submission, the e-submitted PDF files under "WITHDRAWAL" or "MODIFICATION" or "SUBSTITUTION" shall be opened and read out first. Bids for which acceptable notice of "WITHDRAWAL" or "SUBSTITUTION" has been submitted pursuant to ITB Clause shall not be opened.

Clarification of Bid

In case of e-submission of bid, the Bidder shall be required to submit the original completed Bid consisting of Forms of Bid, Qualification Information, Special Conditions of Contract, Bill of Quantities, Supplementary Information and other clarifications for verification purpose upon notification to do so from the Employer.

Examination of e-submitted Bids and Determination of Responsiveness

For a e-submitted bid to be substantially responsive the requirement as specified in the ITB Clauses shall be fulfilled.

Evaluation and Comparison of e-submitted Bids

1. In case of e-submitted bids, the Employer evaluates the bid based on the information as per electronically submitted bid files. For clarification/ verification purpose, the Employer may request the Bidder to submit documents/ clarifications as specified in ITB Clause.

2. In case, the Bidder could not substantiate or provide evidence to prove the information provided in e-submitted bid through documents/ clarifications as per ITB Clause, the bid shall not be considered for further evaluation and respective ITB Clause for forfeiture of bid security shall be applicable.

Steps to be followed by a Bidder to submit the electronic bid submission

1. Prepare the paper bid document

- Either purchase the Bid Document directly from the Employer office or may download the bid document from the website and deposit the equivalent amount in the Revenue account of the employer as specified in the notice or/and Bid Document.
- Fill the rates and amount in BOQ,
- Fill the Bid Form,
- Prepare the necessary copy of Company registration, VAT/PAN registration , Tax clearance certificate,
- Prepare the necessary specific papers like Power of Attorney for bid signatory, Joint Venture agreement, if bidding in JV,
- Prepare summary of qualification information sheet (Financial turnover, Experience, Manpower, Equipment, Credit line, Litigation etc) in the specified format,
- Prepare the bid guarantee letter for the specified bid security amount and in the specified format,

2. Prepare the Electronic bid files in pdf format

- Once prepared the above paper documents the bidder shall prepare the electronic bid files in pdf format as follows.
- Scan the above documents in pdf format, give the specific file name for each document.
- Prepare all scanned bid files in pdf format and save them in a separate folder in own computer to ease bid uploading process.

3. Electronic bid submission

- Once the electronic bid files are ready the Bidder shall connect to internet.
- Open the NEAs website www.nea.org.np and open E-procurement section.
- Register in the Bidders name and get User name and Password for Login.
- Confirm the registration by clicking the specified link in auto generated e-mail from NEAs web site.
- After confirmation for bidders registration click Bidder, fill User name, Password and Login.
- Choose and click the specific tender notice for which the electronic bid files has been prepared.
- Click the Bid now button to submit the electronic bid files.
- Upload each specified electronic bid files by clicking the Upload button and select the respective bid files by Browsing.

- Once all the electronic bid files are uploaded, click the Submit the Bid button for final e-submission of electronic Bid.
- Once the e-submission is successfully completed the Bidder shall receive a auto generated confirmation e-mail from the NEAs website.
- Bidder to keep the conventional paper bid document , qualification information, and other related documents safe as the Buyer may seek the supporting bid documents and clarifications, as necessary during bid evaluation process.
- The Bidder shall submit the necessary supporting documents and clarifications (conventional bid document).

Section III

Sample Forms of Bid, Qualification Information, Letter of Intention to Award, Letter of Acceptance and Agreement

Notes to Bidders
The Bidder shall fill in and submit this bid form with the bid. Additional details on the price should be inserted if the bid is in various currencies. If the Bidder objects to the Adjudicator proposed by the Employer in the Bidding documents, he should so state in his bid, and present an alternative candidate, together with the candidate's daily fees and biographical data, in accordance with Clause 37 of the Instructions to Bidders.

SAMPLE FORM OF BID

Date:
To:
Nepal Electricity Authority
Distribution and Consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre
Tel.: + 977 -014474097
Fax: + 977-014461527

Name of the Contract: Tender No. **NEA/BDC/074/075/Civil-01: Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.**
Having examined the Bidding Documents, including Addendum Nos. [insert numbers] the receipt of which is hereby acknowledged, we, the undersigned, offer to design, manufacture, test, deliver, install, pre-commission and commission the Facilities under the above named Contract in full conformity with the said Bidding Documents for the sum of **[amount of local currency in words], [amount in figures]** or such other sums as may be determined in accordance with the terms and conditions of the Contract. The above amounts are in accordance with the Price Schedules attached herewith and are made part of this Bid.

We undertake if our Bid is accepted, to commence the Works and to achieve Completion within the respective times stated in the Bidding Documents.

If our Bid is accepted, we undertake to provide an advance payment security and a performance security in the form, in the amount, and within the times specified in the Bidding Documents.

This Bid and your written acceptance of it shall constitute a binding Contract between us. We understand that you are not bound to accept the lowest or any bid you receive.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agents	Amount and currency	Purpose of commission or gratuity
1.		

2. *[if none, state "none"]*		

We hereby confirm that this bid complies with the bid validity and Bid Security required by the Bidding documents and specified in the Bidding Data and/or Invitation for Bids.

Authorized Signature: ……

Name and Title of Signatory:…….

Name of Bidder:…….

Address:…….

QUALIFICATION INFORMATION

1. Individual Bidders or Individual Members of Joint Ventures

1.1 Constitution or legal status of Bidder: *[attach copy]*
All Bidders shall submit following documents as pre- requisites for eligibility:

a) Registration Certificate *[attach copy]*

b) Place of Registration *[insert]*

c) Principal place of Business *[insert address]*

d) Business Registration License *[attach copy]*

e) VAT and PAN Registration Certificates *[attach copy]*

f) Tax Clearance Certificate or Submissions of Tax Returns as specified in Bidding Data *[attach copies]*

g) A written declaration made by the Bidder stating that the Bidder is not ineligible to participate in the Bid; has no conflict of interest in the proposed bid procurement proceedings and has not been punished for the profession or businesses related offence.

h) Joint Venture Authorization/ Agreement (if any)

i) Power of Attorney

1.2 Total annual volume of construction works performed in last ten years, in Nepalese Rupees. Complete the Qualification Form furnished, and attaches the copies of relevant documents. (NA)

Year (F/Y)	Name of Contract	Amount of work done, NRs.

1.3 Work performed as prime Contractor or member of a joint venture on works of a similar nature and volume over the last ten years. The values should be indicated in the same currency used for Item 1.2 above. Also list details of work under way or committed, including expected completion date. Complete the Qualification Form furnished and attaches the copies of relevant documents. (NA)

Project name	Name of client and contract	Type of work performed and year of completion	Completion date or Expected Completion date	Total Value of Contract	Value of remaining work
1. 2.					

1.4 Major items of Contractor's Equipment proposed for carrying out the Works. The equipment shown in the table shall be required at the minimum. List all information requested below. Refer also to Sub-Clause 4.3(d) of the Instructions to Bidders. If the equipments are to be leased/ hired, submit papers making specific arrangement for leasing/hiring. (NA)

Item of equipment	**Description, make, and age (years)**	**Condition (new, good, poor) and number available**	**Owned, leased (from whom?), or to be purchased (from whom?)**

1.5 Qualifications and experience of key personnel proposed for site management, administration and execution of the Contract. Attach bio-data and detailed curriculum vitae. Refer also to Sub-Clause 4.3(e) and 4.5(e) of the Instructions to Bidders and Sub-Clause 9.1 of the General Conditions of Contract. (NA)

Position	**Name**	**Years of experience (general)**	**Years of experience in proposed position**
1. 2.			

1.6 Proposed subcontracts and firms involved. Refer to Clause 7 of General Conditions of Contract. (NA)

Sections of the Works	**Value of Subcontract**	**Subcontractor (name and address)**	**Experience in similar work**
1. 2.			

1.7 Financial reports for the last three years: balance sheets, Income statements, cash flow statements, auditors' reports, etc. Complete the Qualification Form furnished and attached copies of reports. (NA)

1.8 Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit, etc. List below and attach copies of support documents. (NA)

Source of financing	**Amount in NRs.**
1. 2.	

1.9 Name, address, telephone and facsimile numbers of banks that may provide references if contacted by the Employer. (NA)

Name	Address	Telephone/fax number	E-mail address
1. 2.			

1.10 Information on current litigation in which the Bidder is involved. (NA)

Other party(ies)	Cause of dispute	Amount involved
1. 2.		

1.11 Statement of compliance with the requirements of Sub-Clause 3.1 and 3.2 of the Instructions to Bidders.

1.12 Proposed Program (work method and schedule). Descriptions, drawings, and charts, as necessary, to comply with the requirements of the Bidding documents.

2. Joint Ventures

2.1 The information listed in 1.1 - 1.11 above shall be provided for each partner of the joint venture.

2.2 The information in 1.12 above shall be provided for the joint venture.

2.3 Attach the power of attorney of the signatory (ies) of the bid authorizing signature of the bid on behalf of the joint venture.

2.4 Attach the Agreement among all partners of the joint venture (and which is legally binding on all partners), which shows that

(a) all partners shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms;

(b) one of the partners will be nominated as being in charge, authorized to incur liabilities, and receive instructions for and on behalf of any and all partners of the joint venture; and

(c) the execution of the entire Contract, including payment, shall be done exclusively with the partner in charge.

3. Additional Requirements

3.1 Bidders should provide any additional information required in the Bidding Data or to fulfill the requirements of Sub-Clause 4.1 and Clause 30 of the Instructions to Bidders, if applicable. (NA)

3.2 Complete the attach Qualification Forms. (NA)

LETTER OF INTENTION TO AWARD

Date:

To: *[name and address of the Contractor]*

This is to notify you in accordance with the Instruction to Bidders that it is our intention to award the contract *[name of the Contract and identification number, as given in the* Contract Data a*nd/or SCC]* to you as your Bid price of *[amount in numbers and words in Nepalese Rupees]*, as corrected and modified in accordance with the Instructions to Bidders, is determined to be substantially responsive and lowest evaluated Bid price.

Authorized Signature:_____

Name and Title of Signatory:_____

Name of Agency:_____

LETTER OF ACCEPTANCE

Date:

To: *[name and address of the Contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the Contract and identification number, as given in the* Contract Data *and/or SCC]* for the Contract Price of the equivalent, of *[amount in numbers and words in Nepalese Rupees]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

(a) We accept that ***[name proposed by Bidder] be appointed as the Adjudicator.***

(b) We do not accept that ***[name proposed by Bidder]*** be appointed as adjudicator, and by sending a copy of this letter of acceptance to ***[insert the name of the Appointing Authority],*** we are hereby requesting ***[name],*** the Appointing Authority, to appoint the Adjudicator in accordance with Clause 38.1 of the Instructions to Bidders.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract documents.

Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Agreement

AGREEMENT

This Agreement, made the **[day]** day of **[month],** [**year]** between **Nepal Electricity Authority,** (hereinafter called "the Employer") and **[name and address of Contractor]** (hereinafter called "the Contractor").

Whereas the Employer is desirous that the Contractor execute [***name and identification number of Contract***] on turnkey basis covering design, manufacture, test, deliver, install, complete and commission (hereinafter called "the Works") and the Employer has accepted the bid for _____ **[insert the amount in currencies of the bid in numbers and words]** by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

Now this Agreement witnessed as follows:

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract hereinafter referred to, and they shall be deemed to form and be read and construed as part of this Agreement.

2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.

   i. Agreement
   ii. the Letter of Acceptance
   iii. the Contractor's Bid
   iv. the Special Conditions of Contract
   v. the General Conditions of Contract;
   vi. the Specification
   vii. the Drawings; and
   viii. the Bill of Quantities; and
   ix. any other document listed in the SCC as forming part of the Contract

3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects wherein the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties thereto have caused this Agreement to be executed the day and

year first before written.

The Common Seal of _____
was hereunto affixed in the presence of: _____

Signed, Sealed, and Delivered by the said _____
in the presence of: _____

Binding Signature of Employer _____
Binding Signature of Contractor _____

QUALIFICATION FORMS (QF)

QF1-	General Information
QF2-	Experience in Contracts of Similar Works
QF3-	Summary of Current Contract Commitments/Works in Progress
QF4-	Financial Data
QF5-	Annual Turnover Data
QF6-	Manufacturing Experience
QF7-	Manufacturer's Authorization Certificate
QF8-	Declaration of Local Agent

Note:

1. These forms shall be filled up and furnished by the Bidder and its Joint Venture partner(s), if any.

2. If necessary, additional sheets may be added to the forms. Each page of each form should be clearly marked in the right top corner as follows: Form QF1, page 1; Form QF1, page 2, etc.

3. Some forms will require attachments. Such attachments should be clearly marked as follows: Attachment 1 to Form QF1, Attachment 2 to Form QF1, etc.

QF-1. GENERAL INFORMATION

Bidder and its Joint Venture Partner(s) and/or Subcontractors are requested to complete the information in this form. Nationality information of Bidders should also be provided.

1.	Name of Bidder	
2.	Head office address	
3.	Local office address (if any)	
4.	Telephone	Contact address
5.	Facsimile	e-mail
6.	Place of incorporation / registration	Year of incorporation / registration
7.	Main lines of business 1. Since: 2. Since: 3. Since: 4. Since:	

Note:
Copies of following credentials shall be attached:

a) Notarized copy of incorporation/registration certificate
b) Copy of tax clearance certificate.
c) Notarized copy of joint venture agreement, if any.
d) Copy of authorization letter from manufacturer, if Bidder is not a manufacturer.
e) Organization chart

Signature and Seal of Bidder:

QF-2. SUMMARY OF CURRENT CONTRACT COMMITMENTS/WORKS IN PROGRESS (NA)

Name of Bidder/Joint Venture Partner:

Bidder and its Joint Venture partner(s) and/or Subcontractors should provide information on their current contracts that have been awarded, for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.

Contract	Client	Date of Contract	Total Amount (NRs.)	Date of completion

Attach copies of intent, performance certificate or other document as appropriate.

Signature and Seal of Bidder:

QF-3. EXPERIENCE IN CONTRACTS OF SIMILAR WORKS (NA)

Name of Bidder/Joint Venture Partner:

Use a separate sheet for each contract. Reference for satisfactory completion of each project should be attached.

1.	Contract No.	
	Name of contract	
	Country	
2.	Name of employer	
3.	Employer address	
4.	Nature of works and special features relevant to the contract:	
4.1	New or Refurbishment / Reinforcement of existing substation:	
4.2	Voltage level of substation, kV:	
4.3	Transformer installation, voltage level and rating in MVA:	
4.4	Scope of works (Supply /Erection/Turnkey):	
5.	Contract role (check one) ☐ Sole contractor ☐ Subcontractor ☐ Partner in a joint venture: Lead ☐ Non-Lead ☐	
6.	Value of the total contract (in specified currencies at completion, or at date of award for current contracts): Currency:	
7.	Equivalent value US$	
8.	Date of award	
9.	Date of completion	
10.	Contract duration: _____ years _____ months	
11.	Reason for delay (if any) in completion:	

Note:

a) Attach duly notarized end user's certificates evidencing successful completion of project.
b) If the work is done in Joint Venture, attach the duly notarized JV agreement which shall show the percentage share of respective partners of J/V.

Signature and Seal of Bidder

QF- 4. FINANCIAL DATA (NA)

Name of Bidder/Joint Venture Partner:

Bidder and its Joint Venture partner(s) should provide financial information to demonstrate that they meet the requirements of the bidding document. Each Bidder and its joint venture partner(s) must fill in this form. If necessary, use separate sheets to provide complete banker information. A copy each of the audited balance sheet for the following last three years should be attached.

Banker	Name of banker	
	Address of banker	
	Telephone	Contact name and title
	Facsimile	Email

Summarize actual assets and for the following last three fiscal years.

Financial information in NRs.	Last three fiscal years		
	Year 1	Year 2	Year 3
1. Total assets			
2. Current assets			
3. Total liabilities			
4. Current liabilities			
5. Profits before taxes			
6. Profits after taxes			

Specify proposed sources of credit line to meet the cash flow demands of the Project.

Source of credit line	Amount (NRs.)
1.	
2.	

Attach audited financial statements for the above three years (for the Bidder and its joint venture partner(s)) certified by a registered accountant.
Attach original Bank References for Bidder and JV Partner(s).

Signature and Seal of Bidder:

QF-5. ANNUAL TURNOVER DATA (NA)

Name of Bidder/ Joint Venture Partner:

Bidder and its Joint Venture partner(s) are requested to complete the information in this form separately. The information supplied should be the annual turnover of the Bidder, in terms of the amounts billed to clients for each year for work in progress or completed. In case of a joint venture, a copy of the Joint Venture Agreement must be attached.

Use a separate sheet for Bidder and its Joint Venture partner(s).

Annual turnover data for the following last three fiscal years		
Year	Turnover	NRs.

Signature and Seal of Bidder:

QF-6. MANUFACTURING EXPERIENCE (NA)

1. Name of the Plant and Equipment:

2. Production capacity (average annual):

3. First year of manufacturing:

4. Quantity produced [Sets/Numbers/ Km]:

   i) B.S. :
   ii) B.S. :
   iii) B.S. :

5.	Manufactured under own development?	Yes	No
6.	Manufactured under license from:		
7.	Manufactured in collaboration with:		
8.	Has the Bidder R&D Section?	Yes	No
9.	Has manufacturer a Quality Assurance Plan (QAP) in place?	Yes	No
10.	Is the manufacturer certified or accredited by an organization?	Yes	No

11. Name the organization and type of certification/accreditation:

Note:

Copy of following document shall be attached:

a) Copy of Quality Assurance Plan (ISO 9001) for each manufacturer as sought in specification.

b) The above details shall be produced for the major materials as specified in the Bidding Data Sheet.

c) Copy of Incorporation/Registration of manufacturer (For the major materials as specified in the Bidding Data Sheet).

d) Manufacturer's user certificates, supply record executed in the past and currently being executed with the list of clients with complete postal address, telephone and fax number if any.

QF-7. MANUFACTURER'S AUTHORIZATION CERTIFICATE (NA)

The Bidder shall furnish authorization certificates in the following format for specified equipment.

To:
Nepal Electricity Authority
Distribution and Consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre
Tel.: + 977 -014474097
Fax: + 977-014461527

WHEREAS ---------- (name of the manufacturer) who are established and reputable manufacturers of ---------- (name and/or description of the goods) having factories at ---------- (address of factory) do hereby authorize ---------- (name and address of Bidder) to submit a Bid and subsequently negotiate and sign the Contract with you against Invitation for Bid (IFB) No. ..... for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per the Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids. The warranty period for the treated wooden poles manufactured by us is ten years (applicable for treated wooden poles only). We further extend our full commitment to provide after sales service.

_____
(Signature and Seal for and on behalf of Manufacturer)

Note: The original Manufacturer's Authorization Certificate shall be submitted in the bid.

Signature and Seal of Bidder:

QF-8. DECLARATION OF LOCAL AGENT

A foreign Bidder wishing to have or already having a local agent shall state the following:

1. Name of local agent: _____

2. Address & Telephone/Fax Number of the local agent:

_____

_____

3. Amount of commission: _____

4. Currency of payment: _____

5. Method of payment: _____

6. Other conditions of the Agreement (if any): _____

Signature and Seal of the Bidder:

Nepal Electricity Authority
Declaration Form (for E-bidding)

S.No.	Description		Status			
			Issued to (as applicable)	Issued by (as applicable)	Date of Issue	No. of Pages
1	Notarized Power of Attorney from the Company to Sign on Company's behalf (For Single Bidder)					
2	Joint Venture Agreement; ***If any***					
3	Notarized Power of Attorney to Sign the Bid on Company's behalf (Each Partner in case of JV)					
4	Notarized Power of Attorney to Sign the Bid (On Behalf of JV)					
5	Registration Certificate of the Bidder (and each partners in case of JV)					
6	Bid Security					
7	Price Schedule					
8	Bid Form					
9	Qualification Forms					
10	Complete Certified Audited Report of the Bidder (and each partner in case of JV)	Year 1				
		Year 2				
		Year 3				
11	Performance (or user) Certificate/s (Bidder)	1				
		2				
		3				
		4				
12	Manufacturer's Authorization/s (Not Applicable)	1				
		2				
		3				
		4				
13	Power of Attorney from the Company to Issue the Manufactures Authorization (Not Applicable)					
14	Business License of Manufacturer/s (Not Applicable)	1				
		2				
		3				
		4				
15	User Certificate/s (Manufacturer) (Not Applicable)	1				
		2				
		3				
		4				
16	ISO Certificate(Not Applicable)	1				
		2				
		3				

		4				
17	Type Test Report/s (if required as per specification) (Not Applicable)	1				
		2				
		3				
		4				
18	Technical Data Sheet(Not Applicable)	1				
		2				
		3				
		4				
19	Other Certification (as per requirements)	1				
		2				
		3				
		4				

Section IV

General Conditions of Contract (GCC)

A. General

1. Definitions

1.1 Boldface type is used to identify defined terms.

The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in Clauses 24 and 25 hereunder.

Bill of Quantities means the priced and completed Bill of Quantities forming part of the bid.

Compensation Events are those defined in Clause 43 hereunder.

The **Completion Date** is the date of completion of the Works as certified by the Manager, in accordance with Sub-Clause 54.1.

The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contractor** is a person or corporate body whose bid to carry out the Works has been accepted by the Employer.

The **Contractor's bid** is the completed Bidding documents submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the Letter of Acceptance and thereafter as adjusted in accordance with the provisions of the Contract.

Days are calendar days; months are calendar months.

Day works are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.

A **Defect** is any part of the Works not completed in accordance with the Contract.

The **Defects Liability Certificate** is the certificate issued by a Manager upon correction of defects by the Contractor.

The **Defects Liability Period** is the period named in the SCC and calculated from the Completion Date.

Drawings include calculations and other information provided or approved by the Manager for the execution of the Contract.

The **Employer** is the party who employs the Contractor to carry out the Works. 'NEA' shall imply 'Employer' throughout this document.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The **Initial Contract Price** is the Contract Price listed Employer's Letter of Acceptance.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the SCC. The Intended Completion Date may be revised only by the Manager by issuing an extension of time or an acceleration order.

Materials are all supplies, including consumables, used by the Contractor for incorporation in the Works.

Plant is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.

The **Site** is the area defined as such in the SCC.

The **Manager** is the chief of Monitoring Division (or any other officer appointed by the Employer and notified to the Contractor, to act in replacement of the Manager) to exercise Employer's right under the contract and is responsible for supervising the execution of the Works and administering the Contract.

Engineer is the designated officer of NEA who is authorized to act on behalf of Manager in all technical matters related to the Works.

Inspector is an individual designated by the Manager to inspect the completed Work, or portions thereof with the authority thereof, to inspect such work for compliance with the General Specifications, Standards, and Scope of Work, and enable to recommend periodic payments to the Contractor for certain work performed.

Site Investigation Reports are those that were included in the Bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site. These reports also include those reports which are prepared for construction material sources.

Specification means the Specification of the Works included in the Contract and any modification or addition made or approved by the Manager.

The **Start Date** is given in the SCC. It is the latest date when the Contractor shall commence execution of the Works. It does not necessarily coincide with any of the Site Possession Dates.

A **Subcontractor** is a person or corporate body who has a contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.

Temporary Works are works designed, constructed, installed and removed by the Contractor that are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Manager which varies the Works.

The **Works** are what the Contract requires the Contractor to construct, install and turn over to the Employer, as defined in the SCC.

2. Interpretation

2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Manager will provide instructions clarifying queries about these Conditions of Contract.

2.2 If sectional completion is specified in the SCC, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).

2.3 The documents forming the Contract shall be interpreted in the following order of priority:

(1) Agreement,
(2) Letter of Acceptance,
(3) Contractor's bid,
(4) Special Conditions of Contract,
(5) General Conditions of Contract,
(6) Specifications,
(7) Drawings,
(8) Bill of Quantities, and
(9) Any other document listed in the SCC as forming part of the Contract

3. Language and Law

3.1 The language of the Contract and the law governing the Contract are stated in the SCC.

4. Manager's Decisions

4.1 Except where otherwise specifically stated, the Manager will decide contractual matters between the Employer and the Contractor in the role representing the Employer fairly and impartially.

5. Delegation

5.1 The Manager may delegate any of his duties and responsibilities to other people except to the Adjudicator, after notifying the Contractor, and may cancel any delegation after notifying the Contractor.

6. Communications

6.1 Communications between parties that are referred to in the Conditions of Contract shall be effective only when in writing. A notice shall be effective only when it is delivered.

6.2 If a notice given pursuant to Sub Clause 6.1 fails to be delivered due to failure to trace the address of the party then the notice shall be published as public notice in a National daily newspaper and when the notice is so published then the notice shall be considered to be delivered to the concerned party.

7. Subcontracting

7.1 The Contractor may subcontract with the approval of the Manager, but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

8. Other Contractors

8.1 The Contractor shall cooperate and share the Site with other contractors, public authorities, utilities and the Employer between the dates given in the Schedule of Other Contractors, as referred to in the SCC. The Contractor shall also provide facilities and services for them as described in the Schedule. The Employer may modify the schedule of other Contractors and shall notify the Contractor of any such modification.

9. Personnel

9.1 The Contractor shall employ either the key personnel named in the Schedule of Key Personnel, as referred to in the SCC, to carry out the functions stated in the Schedule or other personnel approved by the Manager. The Employer on the Manager's recommendation will approve any proposed replacement of key personnel only if their qualifications and abilities are substantially equal to or better than those of the personnel listed in the Schedule.

9.2 If the Manager asks the Contractor to remove a person who is a member of the Contractor's staff or work force, stating the reasons, the Contractor shall ensure that the person leaves the Site within 7 days and has no further connection with the work in the Contract.

9.3 A child who has not attained the age of fourteen years shall not be employed in any work as a laborer.

9.4 During continuance of the Contract, the Contractor and his subcontractors shall abide at all times by all labor laws, including child labor related enactments, and rules made there under.

10. Employer's and Contractor's Risks

10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

11. Employer's Risks

11.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

(a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment) which are due to

i. use or occupation of the Site by the Employer or for the purpose of the Works, which is the unavoidable result of the Works; or

ii. negligence, breach of statutory duty or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.

(b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

11.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant and Materials is an Employer's risk except loss or damage due to

a. defect which existed on the Completion Date;

b. an event occurring before the Completion Date, which was not itself an Employer's risk; or

c. the activities of the Contractor on the Site after the Completion Date.

12. Contractor's Risks

12.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death and loss of or damage to property (including, without limitation, the Works, Plant, Materials and Equipment) which are not Employer's risks are Contractor's risks.

13. Insurance

13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the SCC for the following events which are due to the Contractor's risks:

a. Loss of or damage to the Works, Plant and Materials;

b. Loss of or damage to Equipment;

c. Loss of or damage to property (except the Works, Plant, Materials and Equipment) in connection with the Contract; and

d. Personal injury or death.

13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Manager for the Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

13.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due.

13.4 Alterations to the terms of insurance shall not be made without the approval of the Manager.

13.5 Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1 The Contractor, in preparing the bid, may refer to any Site Investigation Reports stated in the SCC. In accordance with the Instructions to Bidders, Bidders must make their own arrangements to verify the availability and suitability of construction materials when preparing their Bids.

15. Queries about the SCC

15.1 The Manager will clarify queries on the SCC.

16. Contractor to Construct the Works

16.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

17. The Works to Be Completed by the Intended Completion Date

17.1 The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the Program submitted by the Contractor, as updated with the approval of the Manager, and complete them by the Intended Completion Date.

18. Approval by the Manager

18.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Manager, who is to approve them if they comply with the Specifications and Drawings.

18.2 The Contractor shall be responsible for design of the Temporary Works.

18.3 The Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

18.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

18.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Manager before their use.

19. Safety

19.1 The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

20.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site shall be the property of the Employer. The Contractor shall notify the Manager of such discoveries and carry out the Manager's instructions for dealing with them.

21. Possession of the Site

21.1 The Employer shall give possession of all parts of the Site to the Contractor. If possession of a part is not given by the date stated in the SCC, the Employer will be deemed to have delayed the start of the relevant activities, and this will be a Compensation Event.

22. Access to the Site

22.1 The Contractor shall allow the Manager and any person authorized by the Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

23. Instructions

23.1 The Contractor shall carry out all instructions of the Manager which comply with the laws of Nepal.

23.2 The Contractor shall permit the Donor Agency to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by the auditors appointed by the Donor Agency, if so required by the Donor Agency.

24. Appointment of the Adjudicator/DRB members

24.1 The Adjudicator shall be appointed jointly by the Employer and the Contractor, at the time of the Employer's issuance of the Letter of Acceptance or within 30 days of the Start date of the contract. If, in the Letter of Acceptance, the Employer does not agree on the appointment of the Adjudicator or the parties cannot reach an agreement on the appointment of the Adjudicator, the Employer will request the Appointing Authority designated in the SCC, to appoint the Adjudicator within 15 days of receipt of such request.

24.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 30 days, the Adjudicator shall be designated by the Appointing Authority at the request of either party, within 15 days of receipt of such request.

24.3 The DRB if specified in Bidding Data/ SCC shall be formed within 30 days of the Start date of the contract. The Dispute Resolution Board (DRB) shall comprise of three members. Each Party shall appoint one member each and the third party who shall act as the Chairman shall be appointed by the two members appointed by the Parties.

24.4 If a DRB member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced member was required to have been appointed.

25. Procedures for Disputes

25.1 If any dispute shall arise due to the decision taken by the Manager, which the Contractor believes was either outside the authority given to the Manager by the Contract or that the decision was wrongly taken, then the parties shall attempt to settle such dispute amicably within 15 days of the notification of the Manager's decision. However if the dispute is not settled amicably or no attempt is made to settle the dispute amicably then the decision shall be referred to the Adjudicator or DRB as specified in Bidding Data/ SCC within 30 days of the notification of the Manager's decision.

25.2 The Adjudicator or DRB shall give a decision in writing within 30 days of receipt of a reference of a dispute pursuant to Sub- Clause 25.1.

25.3 The Adjudicator or the DRB Members shall be paid by the hour at the rate specified in the SCC, together with reimbursable expenses of the types specified in the SCC, and the cost shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator or DRB. Either party may refer a decision of the Adjudicator or DRB to an Arbitrator within 30 days of the Adjudicator's or DRB's written decision. If neither party, refers the dispute to arbitration within the above 30 days, the Adjudicator's or the DRB's decision will be final and binding.

25.4 In case of arbitration, the arbitration shall be conducted in accordance with the arbitration procedures published by the institution named and in the place shown in the SCC.

B. Time Control

26. Program

26.1 Within the time stated in the SCC, the Contractor shall submit to the Manager for approval a Program showing the general methods, arrangements, order, and timing for all the activities in the Works.

26.2 An update of the Program shall be a program showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work, including any changes to the sequence of the activities.

26.3 The Contractor shall submit to the Manager for approval an updated Program at intervals no longer than the period stated in the SCC. If the Contractor does not submit an updated Program within this period, the Manager may withhold the amount stated in the SCC from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Program has been submitted.

26.4 The Manager's approval of the Program shall not alter the Contractor's obligations. The Contractor may revise the Program and submit it to the Manager again at any time. A revised Program shall show the effect of Variations and Compensation Events.

27. Extension of the Intended Completion Date

27.1 The Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

27.2 The contractor shall submit an application to the Employer for extension of time, stating the causes for delay, 7 days before the expiry of the Contract completion date.

27.3 The Manager shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Manager for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28. Acceleration

28.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Manager will obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date will be adjusted accordingly and confirmed by both the Employer and the Contractor.

28.2 If the Contractor's priced proposals for acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

29. Delays Ordered by the Manager

29.1 The Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

30. Management Meetings

30.1 Either the Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30.2 The Manager shall record the business of management meetings and provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall be decided by the Manager either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

31. Early Warning

31.1 The Contractor shall warn the Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work increase the Contract Price or delay the execution of the Works. The Manager may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate shall be provided by the Contractor as soon as reasonably possible.

31.2 The Contractor shall cooperate with the Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone involved in the work and in carrying out any resulting instruction of the Manager.

C. Quality Control

32. Identifying Defects

32.1 The Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Manager considers may have a Defect.

33. Tests

33.1 If the Manager instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

34. Correction of Defects

34.1 The Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion, and is defined in the SCC. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

34.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Manager's notice.

35. Uncorrected Defects after Completion Date

35.1 If the Contractor has not corrected a Defect within the time specified in the Manager's notice, the Manager will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

D. Cost Control

36. Bill of Quantities

36.1 The Bill of Quantities shall contain items for the construction, installation, testing and commissioning work to be done by the Contractor.

36.2 The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

37. Changes in the Quantities

37.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Manager shall adjust the rate to allow for the change.

37.2 The Manager shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 10 percent, except with the prior approval of the Employer.

37.3 If requested by the Manager, the Contractor shall provide the Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

38. Variations

38.1 All Variations shall be included in updated Programs produced by the Contractor.

39. Payments for Variations

39.1 The Contractor shall provide the Manager with a quotation for carrying out the Variation when requested to do so by the Manager. The Manager shall assess the quotation, which shall be given within seven days of the request or within any longer period stated by the Manager and before the Variation is ordered by him.

39.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Manager, the quantity of work above the limit stated in Sub-Clause 37.1 or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

39.3 If the Contractor's quotation is unreasonable, the Manager may order the Variation and make a change to the Contract Price, which shall be based on the Manager's own forecast of the effects of the Variation on the Contractor's costs.

39.4 If the Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.

39.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

40. Cash Flow Forecasts

40.1 When the Program is updated, the Contractor shall provide the Manager with an updated cash flow forecast. The cash flow forecast shall include different currencies, as defined in the Contract, converted as necessary using the Contract exchange rates.

41. Payment Certificates

41.1 The Contractor shall submit to the Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.

41.2 The Manager shall check the Contractor's monthly statement (bill) and certify the amount to be paid to the Contractor.

41.3 The value of work executed shall be determined by the Manager.

41.4 The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

41.5 The value of work executed shall include the valuation of Variations and Compensation Events.

41.6 The Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

42. Payments

42.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Manager within 30 days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the late payment is made at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.

42.2 If an amount certified is increased in a later certificate or as a result of an award by the Adjudicator or an Arbitrator, the Contractor shall be paid interest upon the delayed payment as set out in this clause. Interest shall be calculated from the date upon which the increased amount would have been certified in the absence of dispute.

42.3 Unless otherwise stated, all payments and deductions will be paid or charged in the proportions of currencies comprising the Contract Price.

42.4 Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

43. Compensation Events

43.1 The following shall be Compensation Events:

a. The Employer does not give access to a part of the Site by the Site Possession Date stated in the SCC.

b. The Employer modifies the Schedule of Other Contractors in a way that affects the work of the Contractor under the Contract.

c. The Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.

d. The Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.

e. The Manager unreasonably does not approve a subcontract to be let.

f. Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Acceptance from the information issued to Bidders (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.

g. The Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

h. Other contractors, public authorities, utilities, or the Employer do not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.

i. The advance payment is delayed.

j. The effects on the Contractor of any of the Employer's Risks.

k. The Manager unreasonably delays issuing a Certificate of Completion.

43.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Manager shall estimate and decide on the basis of facts of the events and supporting documents whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

43.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Manager shall adjust the Contract Price based on the Manager's own forecast. The Manager will assume that the Contractor will react competently and promptly to the event.

43.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Manager.

44. Tax

44.1 The Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date 30 days before the submission of Bids for the Contract and the date of the last Certificate of Completion. The adjustment shall be the change in the amount of tax payable by the Contractor, provided such changes are not already reflected in the Contract Price or are a result of Clause 46.

45. Currencies

45.1 Where payments are made in currencies other than Nepalese Rupees, the exchange rates used for calculating the amounts to be paid shall be the exchange rates stated in the Contractor's bid.

46. Price Adjustment:

The Contract is subject to price adjustment only for cement and steel reinforcement in accordance with Clause 46.3 of the Conditions of Contract and the governing formula is as given below.

46.1 Prices shall be adjusted for fluctuations in the cost of inputs only if provided for in the SCC. If so provided, the amounts certified in each payment certificate, after deducting for Advance Payment, shall be adjusted by applying the respective price adjustment factor to the payment amounts due in each currency. A separate formula of the type indicated below applies to each Contract currency:

$$Pc = A_c + B_c * \frac{Imc}{Ioc}$$

Where:
Pc is the adjustment factor for the portion of the Contract Price payable in a specific currency "c".

Ac and Bc are coefficients specified in the SCC, representing the nonadjustable and adjustable portions, respectively, of the Contract Price payable in that specific currency "c"; and Imc is the index prevailing at the end of the month being invoiced and Ioc is the index prevailing 30 days before bid opening for inputs payable; both in the specific currency "c".

46.2 If the value of the index is changed after it has been used in a calculation, the calculation shall be corrected and an adjustment made in the next payment certificate. The index value shall be deemed to take account of all changes in cost due to fluctuations in costs.

46.3 Price Adjustment Formula

If, price adjustment provision is not applicable pursuant to Sub-clause 46.1 then the Contract is subject to price adjustment only for construction material in accordance with this clause. If the Contract Agreement is concluded following the Invitation for National Level Bidding and after the signing of the Contract Agreement, if the price of the

construction materials stated in the SCC increase or decrease in an unexpected manner in excess of ten (10%) percent in comparison to the base price stated in the SCC, then the price adjustment for the increase or decrease of price of the construction material beyond 10% shall be made by applying the following formulas:

For unexpected increase in price

$$P = [R1 - (R0 * 1.1)] * Q$$

For unexpected decrease in price

$$P = [R1 - (R0 * 0.90)] * Q$$

Where:
" P" is price adjustment amount
" R1" is the present price of the construction material
" R0 " is the base price of the construction material
" Q" is quantity of the construction material consumed in construction during the period of price adjustment consideration

Delete the portion "If the Contract Agreement is concluded following the Invitation for National Level Bidding and" of the second sentence.

For the purposes of this sub-clause, the bases to be considered are as follows:

(i) Base Date

The base prices of the construction materials shall be taken as of 30 days before the deadline for submission of the Bid. In case the Base Prices at such day are not available, then the month in which such date falls shall be considered as Base Date.

(ii) Base Price

The Base Price of the steel reinforcement bars and Ordinary Portland Cement that are applicable to the civil works in the Contract shall be as fixed by the District Rate Fixation Committee of the Government of Nepal. In case, the committee has not fixed such rates by the month in which the Base Date falls, then the Base Price shall be the average of the Ex-Factory Price of at least three manufacturers consisting of (i) manufacturer(s) operating as the Government of Nepal undertaking or under the GON control, and (ii) private manufacturer(s). In case of material not manufactured by GON undertaking company, then the average of Ex-Factory Price of at least three private manufacturers shall be considered.

(iii) Present Date

The Present Date is the date on which the Contractor submits the invoice of the work performed to the Employer. However, the Contractor must submit invoice of the work performed within 15 (fifteen) days of the completion of that particular work. In case the Present Prices at such day are not available, then the month in which such date falls shall be considered as Present Date.

(iv) Present Price

The Present Price of the steel reinforcement bars and Ordinary Portland Cement that are applicable to the civil works in the Contract shall be as fixed by the

District Rate Fixation Committee of the Government of Nepal and available in the month in which the Present Date falls. In case, the Committee has not fixed such during this period, then the Present Price shall be the average of the Ex-Factory Price of at least three manufacturers consisting of (i) manufacturer(s) operating as the Government of Nepal undertaking or under the GON control, and (ii) private manufacturer(s) . In case of material not manufactured by GON undertaking company, then the average of Ex-Factory Price of at least three private manufacturers shall be considered.

For the purpose of calculation of price adjustment, the Ex-factory price of the same source shall be taken into consideration.

Conditions Applicable To Price Adjustment

The following conditions shall apply:

(a) Price adjustment will be applicable only if the adjustment date prices increase or decrease by 10% or more from the base date prices.

(b) No price adjustment shall be payable on the portion of the Contract price paid to the Contractor as an advance payment.

(c) The total adjustment (plus or minus) shall be subject to a ceiling amount of fifteen (15) percent of the contract price.

(d) The Price Adjustment provision shall not be applicable if the contract is not completed in time due to the delay caused by the contractor or the contract is a Lump sum Contract or a Fixed Budget Contract.

46.4 The Price Adjustment amount shall be limited to a maximum `of 25% of the initial Contract Amount unless otherwise is specified in the SCC.

46.5 The Price Adjustment provision shall not be applicable if the contract is not completed in time due to the delay caused by the contractor or the contract is a Lump sum Contract or a Fixed Budget Contract.

47. Retention

47.1 The Employer shall retain from each payment due to the Contractor the proportion stated in the SCC until Completion of the whole of the Works.

47.2 One half of the retention shall be repaid by the Employer to the contractor within 15 days upon expiry of Defects Liability Period and the Manager has certified that all Defects notified by the Manager to the Contractor before the end of this period have been corrected.

47.3 The remainder of the retention shall be paid by the Employer to the contractor within 15 days after submission of an evidence document issued by the concerned Internal Revenue Office that the contractor has submitted his Income Returns.

47.4 On completion of the whole Works, the Contractor may substitute retention money with an “on demand” Bank guarantee.

48. Liquidated Damages

48.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the SCC for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in the SCC. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor's liabilities.

48.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment of liquidated damage by the contractor, calculated from the date of payment to the date of repayment, at the rates specified in Sub-Clause 42.1.

49. Bonus

49.1 The Contractor shall be paid a bonus calculated at the rate per calendar day stated in the SCC for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The total amount of Bonus shall not exceed the amount stated in the SCC. The Manager shall certify that the Works are complete, although they may not be due to be complete.

50. Advance Payment

50.1 The Employer shall make advance payment to the Contractor of the amounts stated in the SCC by the date stated in the SCC, against provision by the Contractor of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor. Interest will not be charged on the advance payment.

50.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Manager.

50.3 The advance payment shall be repaid by deducting proportionate amounts, as stated in the SCC, from payments otherwise due to the Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses or Liquidated Damages.

51. Securities

51.1 The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount, specified in the SCC, and form and by a bank acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance

Security shall be valid until a date 30 days from the date of issue of the Defects Liability Certificate in the case of a bank guarantee.

52. Day works

52.1 If applicable, the Day works rates in the Contractor's bid shall be used for small additional amounts of work only when the Manager has given written instructions in advance for additional work to be paid for in that way.

52.2 All work to be paid for as Day works shall be recorded by the Contractor on forms approved by the Manager. Each completed form shall be verified and signed by the Manager within two days of the work being done.

52.3 The Contractor shall be paid for Day works subject to obtaining signed Day works forms.

52.4 The hiring charge for equipment other than those specified in the Bill of Quantities shall be based on the standard method of calculation.

53. Cost of Repairs

54.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Liability Period shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

54. Completion

54.1 The Contractor shall request the Manager to issue a Certificate of Completion of the Works, and the Manager will do so upon deciding that the work is completed.

55. Taking Over

55.1 The Employer shall take over the Site and the Works within seven days of the Manager's issuing a Certificate of Completion.

56. Final Account

56.1 The Contractor shall supply the Manager with a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 60 days of receiving the Contractor's account if it is correct and complete. If it is not, the Manager shall issue within 60 days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

57. Operating and Maintenance Manuals

57.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the SCC.

57.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in the SCC or the date instructed by the Manager, or they do not receive the Manager's approval, the Manager shall withhold the amount stated in the SCC from payments due to the Contractor.

58. Termination

58.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

58.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

a. The Contractor stops work for 30 days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Manager.

b. The Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 30 days.

c. The Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation.

d. A payment certified by the Manager is not paid by the Employer to the Contractor within 90 days of the date of the Manager's certificate.

e. The Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Manager.

f. The Contractor does not maintain a Security, which is required.

g. The Contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid, as defined in the SCC.

h. If the Contractor, in the judgment of the Employer, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. For the purpose of this paragraph:

"corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution. "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish Bid Prices at artificial noncompetitive levels and to deprive the Employer of the benefits of free and open competition. "coercive practice

i. The Contractor does not comply with sub-clauses 9.3 and 9.4 of the General Conditions of Contract.

58.3 When either party to the Contract gives notice of a breach of Contract to the Manager for a cause other than those listed under Sub-Clause 58.2 above, the Manager shall decide whether the breach is fundamental or not.

58.4 Notwithstanding the above, the Employer may terminate the Contract for convenience.

58.5 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

59. Payment upon Termination

59.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage to apply to the value of the work not completed, as stated in the SCC. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

59.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

60. Property

61.1 All Materials on the Site, Plant, Equipment, Temporary Works and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

61. Release from Performance

62.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

62. Suspension of Donor Agency Loan/Credit/ Grant

62.1 In the event that the Donor Agency suspends the loan/ credit/grant to the Employer from which part of the payments to the Contractor are being made:

a. The Employer is obligated to notify the Contractor of such suspension within 7 days of having received the Donor Agency's suspension notice; and

b. If the Contractor has not received sums due to him within the 30 days for payment provided for in Sub-Clause 42.1, the Contractor may immediately issue a 15-day termination notice.

F. Additional Clauses

63. Manager's Duties and Authority

63.1 The Manager's duty and authority are restricted to the extent as stated in the SCC.

64. Quarries and Spoil Dumps

64.1 Any quarry operated as part of this Contract shall be maintained and left in a stable condition without steep slopes and be either refilled or drained and be landscaped by appropriate planting. Rock or gravel taken from a river shall be removed over some distance so as to limit the depth of material removed at any one location, not disrupt the river flow or damage or undermine the river banks. The Contractor shall not deposit excavated material on land in Government or private ownership except as directed by the Manager in writing or by permission in writing of the authority responsible for such land in Government ownership, or of the owner or responsible representative of the owner of such land in private ownership, and only then in those places and under such conditions as the authority, owner or responsible representative may prescribe.

65. Safety, Security and Protection of the Environment

65.1 The Contractor shall, throughout the execution and completion of the works and the remedying of any defects therein:

a. Have full regard for the safety of all persons entitled to be upon the site and keep the site (so as the same is under his control) and the works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons.

b. Provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when necessary or required by the Manager or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others.

c. Take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

d. Ensure that any cut or fill slopes are planted in grass or other plant cover as soon as possible to protect them from erosion. This planting shall follow the recommendations given in manuals and handbooks such as "Vegetation structures for stabilizing highway slopes – A manual for Nepal", department of Roads.

e. Any spoil or material removed from drains shall be disposed off to designated stable tipping areas as directed by the Manager.

f. Shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the works.

g. The Manager shall have the power to disallow any working practice or activity of the Contractor or direct that such practices or activities be modified should the Manager consider, on the advice of the relevant Government Departments, that the practices or activities will be harmful to wildlife.

h. Provide on the Site such life saving apparatus as may be appropriate and an adequate and easily accessible first aid outfit or such outfits as may be required by any government ordinance, factory act, etc., subsequently published and amended from time to time.

66. Local Taxation

66.1 The prices tendered by the Contractor shall include all taxes that may be levied in accordance to the laws and regulations in being in Nepal on the date 30 days prior to the closing date for submissions of Bids on the Contractor's equipment, plant and materials acquired for the purpose of the Contract and on the services performed under the Section IV. Nothing in the Contract shall relieve the Contractor from his responsibility to pay any tax that may be levied in Nepal on profits made by him in respect of the Contract.

67. Value Added Tax

67.1 The Contract is not exempted from value added tax. An amount specified in the schedule of taxes shall be paid by the Contractor in the concerned VAT office within time frame specified in VAT regulation.

68. Income Taxes on Staff

68.1 The Contractor's staff, personnel and labor will be liable to pay personal income taxes in Nepal in respect of their salaries and wages, as are chargeable under the laws and regulations for the time being in force, and the Contractor shall perform such duties in regard to such deductions as may be imposed on him by such laws and regulations.

68.2 The issue of the Final Account Certificate pursuant to clause 56 shall be made only upon submittal by the Contractor of a certificate of income tax clearance from the Government of Nepal.

69. Duties, Taxes and Royalties

69.1 Any element of royalty, duty or tax in the price of any goods including fuel oil, lubricating oil, cement, timber, iron and iron goods locally procured by the Contractor for the works shall be included in the Contract rates and prices and no reimbursement or payment in that respect shall be made to the Contractor.

69.2 The Contractor shall familiarize himself with the rules and regulations of Nepal with regard to customs, duties, taxes, clearing of goods and equipment, immigration and the like, and it will be necessary for him to follow the required procedures regardless of the assistance as may be provided by the Employer wherever possible.

69.3 The Contractor shall pay and shall not be entitled to the reimbursement of cost of extracting construction materials such as sand, stone/boulder, gravel, etc. from the river beds or quarries. Such prices will be levied by the local District Development Committee (DDC) as may be in force at the time. The Contractor, sub-contractor(s) employed directly by him and for whom he is responsible, will not be exempted from payment of royalties, taxes or other kinds of surcharges on these construction materials so extracted and paid for to the DDC.

70. Member of Government, etc, not Personally Liable

70.1 No member or officer of GON or the Employer or the Manager or any of their respective employees shall be in any way personally bound or liable for the act or obligations of the Employer under the Contract or answerable for any default or omission in the observance or performance of any of act, matter or thing which are herein contained.

71. Approval of Use of Explosives

71.1 No explosives of any kind shall be used by the Contractor without the prior consent of the Employer in writing and the Contractor shall provide, store and handle these and all other items of every kind whatsoever required for blasting operations, all at his own expense in a manner approved in writing by the Employer.

72. Compliance with Regulations for Explosives

72.1 The Contractor shall comply with all relevant ordinances, instructions and regulations which the Government, or other person or persons having due authority, may issue from time to time regarding the handling, transportation, storage and use of explosives.

73. Permission for Blasting

73.1 The Contractor shall at all times maintain full liaison with and inform well in advance, and obtain such permission as is required from all Government authorities, public bodies and private parties whatsoever concerned or affected, or likely to be concerned or affected by blasting operation.

74. Records of Explosives

74.1 Before the beginning of the Defects Liability Period, the Contractor shall account to the satisfaction of the Manager for all explosives brought on to the Site during the execution of the Contract and the Contractor shall remove all unused explosives from the Site on completion of works when ordered by the Manager.

75. Traffic Diversion

75.1 The Contractor shall include the necessary safety procedures regarding motorized and pedestrian traffic diversion that is needed in execution of the works. The Contractor shall include in his costing of works, any temporary works or diversion that are needed during the construction period. All traffic diversion should be designed for the safety of both the motoring public and the men at work. It shall ensure the uninterrupted flow of traffic and minimum inconvenience to the public during the period concerned. As such, adequate warning signs, flagmen and other relevant safety precautionary measures shall be

provided to warn motorists and pedestrians well ahead of the intended diversion as directed by the Manager. All traffic devices used shall be designed in accordance with prevailing Department of Roads Guidelines or as instructed by the Manager.

76. Conduct of Bidders

76.1 The Bidder shall be responsible to fulfill his obligations as per the requirement of the Contract Agreement, Bidding documents, GON's Procurement Act and Regulations.

76.2 The Bidder shall not carry out or cause to carry out the following acts with an intention to influence the implementation of the procurement process or the procurement agreement:

a) Give or propose improper inducement directly or indirectly,

b) Distortion or misrepresentation of facts

c) Engaging or being involved in corrupt or fraudulent practice

d) Interference in participation of other prospective bidders.

e) Coercion or threatening directly or indirectly to cause harm to the person or the property of any person to be involved in the procurement proceedings,

f) Collusive practice among bidders before or after submission of bids for distribution of works among bidders or fixing artificial/uncompetitive bid price with an intention to deprive the Employer the benefit of open competitive bid price]

g) Contacting the Employer with an intention to influence the Employer with regards to the bid or interference of any kind in examination and evaluation of the bids during the period after opening of bids up to the notification of award of contract Section IV.

77. Blacklisting Bidder

77.1 Without prejudice to any other right of the Employer under this contract, the GON, Public Procurement Monitoring Office may blacklist a bidder for his conduct up to three years on the following grounds and seriousness of the act committed by the bidder:

a) If it is proved that the bidder committed acts pursuant to the Sub- Clause 76.2,

b) If the bidder fails to sign an agreement pursuant to ITB clause 33.3,

c) If it is proved later that the bidder/contractor has committed substantial defect in implementation of the contract or has not substantially fulfilled his obligations under the contract or the completed work is not of the specified quality as per the contract,

d) If convicted by a court of law in a criminal offence which disqualifies the bidder from participating in the contract.

e) If it is proved that the contract agreement signed by the bidder was based on false or misrepresentation of bidder's qualification information,

f) Other acts mentioned in the SCC

77.2 A firm declared blacklisted and ineligible by the GON and or concerned Donor Agency in case of donor funded project shall be ineligible to bid for a contract during the period of time determined by the PPMO and or the concerned donor agency.

Section V

Special Conditions of Contract (SCC)

General Conditions of Contract Clause Reference

1.1 The terms "**Facilities**" and "**Works**" are used interchangeably.

The terms **"Final Acceptance Certificate"** and **"Defects Liability Certificate"** are used interchangeably.

Add new definition as follows:
Final Acceptance means the acceptance by the Employer of the Facilities, which certifies the Contractor's fulfillment of the entire Contract. The "Final Acceptance Certificate" shall be issued to the Contractor after the expiry of the last Defect Liability Period provided the Contractor has also fulfilled all its obligations towards the Income Tax Department and the Customs Department of Government of Nepal.

The ***Site*** means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site. The Site is located at **Kathmandu** *District*.

The ***Donor Agency*** means: Not applicable and ***"loan/credit/grant"*** refers to: Not Applicable

The ***Employer*** is Nepal Electricity Authority (NEA).

The ***Intended Completion Period*** is: **3** months from the date of Contract Effectiveness

The ***name*** and ***identification number*** of the Contract: **NEA/BDC/074/075/Civil-01.**

The scope of work covered under this shall include Tender No. NEA/BDC/074/075/Civil-01: Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu.
as defined in the Bidding Data.

*The **Start Date** shall be*: The Effective Date, upon which the period until the Time for Completion of the Facilities shall be counted from, is the date when all of the following conditions have been fulfilled:

(a) This Contract Agreement has been duly executed for and on behalf of the Employer and the Contractor;

(b) The Contractor has submitted to the Employer the performance security and the advance payment guarantee;

(c) The Employer has paid the Contractor the advance payment

(d) The Contractor has been advised that LC has been issued in its favor.

Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.

Despite whatsoever stated above, the Time for Completion of the Facilities shall, at the latest, be counted down from 45 days from the date of Signing of this Contract Agreement.

2.2 *Sectional Completion are*: None

3.1 *The language of the Contract documents* is English or in Nepali.

The law that applies to the Contract is the law of Nepal.

8.1 *Schedule of Other Contractors*: None

9.1 *The Schedule of Key Personnel*: Manager, Project Manager

11.2 *Add a new item the sub-clause 11.2 as follows*:

d. faulty design or workmanship of the Contractor and/or Manufacturer.

13.1 *The minimum insurance covers shall be:*

(a) Cargo Insurance

Covering loss or damage occurring, while in transit from the supplier's or manufacturer's works or stores until arrival at the Site, to the Facilities (including spare parts therefore) and to the construction equipment to be provided by the Contractor or its Subcontractors.

Amount	**Deductible limits**	**Parties insured**	**From**	**To**
110 % of CIP cost	(*)	Contractor	Dispatch Certificate	Arrival to Site

(*) Excess 5% of claimed amount subject to minimum of NRs 20,000 for normal and NRs 80,000 for act of God/major perils and collapse.

(b) Installation All Risks Insurance

Covering physical loss or damage to the Facilities at the Site, occurring prior to completion of the Facilities, with extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the defect liability period while the Contractor is on the Site for the purpose of performing its obligations during the defect liability period.

(*) Excess 5% of claimed amount subject to minimum of NRs 10,000 for normal period and NRs 30,000 for testing period.

Amount	**Deductible limits**	**Parties insured**	**From**	**To**
110 % of Contract Value	(*)	Contractor	Dispatch Certificate	Final Acceptance Value

(c) Third Party Liability Insurance

Covering bodily injury or death suffered by third parties (including the Employer's personnel) and loss of or damage to property (including the Employer's property and any parts of the Facilities that have been accepted by the Employer) occurring in connection with the supply and installation of the Facilities.

Amount	**Deductible limits**	**Parties insured**	**From**	**To**
NRs. 1 million	As in (b) above	Contractor's Employees	Commencement of Works	Defect Liability Certificate
NRs. 1 million	As in (b) above	Employer's Personnel	Commencement of Works	Defect Liability Certificate
NRs. 1 million	As in (b) above	Employer's Personnel	Commencement of Works	Defect Liability Certificate
NRs. 4 million	As in (b) above	Third Party Personnel	Commencement of Works	Defect Liability Certificate

(d) Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors (whether or not owned by them) in connection with the supply and installation of the Facilities. Comprehensive insurance in accordance with statutory requirements.

(e) Workers' Compensation

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(f) Employer's Liability

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(g) Other Insurances

The Contractor is also required to take out and maintain at its own cost the following insurances:

Details: None

Amount	Deductible limits	Parties insured	From	To

The Employer shall be named as co-insured under all insurance policies taken out by the Contractor except for the Third Party Liability, Workers' Compensation and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insured's under all insurance policies taken out by the Contractor, except for the Cargo, Workers' Compensation and Employer's Liability Insurances. All insurers' rights of subrogation against such co-insured's for losses or claims arising out of the performance of the Contract shall be waived under such policies.

The minimum cover for personal injury or death insurance shall, however, be not less than as per requirements of the Labor Act of Nepal.

13.3 Delete Sub Clause 13.3

14.1 *Site investigation report:* None

21.1 *The Site Possession Date shall be*: As agreed during Contract signing

24.1 *Appointing Authority for the Adjudicator:* Nepal Council of Arbitration (NEPCA)

25.1 *Delete the Sub Clause 25.1 and replace it with the following:*

If any dispute of any kind whatsoever shall arise between the Employer and the Contractor in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity or termination, or the execution of the Facilities—whether during the progress of the Facilities or after their completion and whether before or after the termination, abandonment or breach of the Contract—the parties shall seek to resolve any such dispute or difference by mutual consultation. If the parties fail to resolve such a dispute or difference by mutual consultation, then the dispute shall be referred in writing by either party to the DRB, with a copy to the other party.

25.2 *Add the following at the end of 25.2:*

If the DRB has done so, and no notice of intention to commence arbitration has been given by either the Employer or the Contractor within fifty-six (56) days of such reference, the decision shall become final and binding upon the Employer and the Contractor. Any decision that has become final and binding shall be implemented by the parties forthwith.

25.3 *Fees and types of reimbursable expenses to be paid to the Adjudicator or the DRB members*: As agreed during formation of DRB.

Delete second and third sentences and replace with the following:

If either the Employer or the Contractor is dissatisfied with the Adjudicator's decision, or if the DRB fails to give a decision within twenty-eight (28) days of a dispute being referred to it, then either the Employer or the Contractor may, within fifty-six (56) days of such reference, give notice to the other party, with a copy for information to the DRB, of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

25.4 *The Institution whose Arbitration procedures shall be used*: Nepal Council of Arbitration (NEPCA).

The place for Arbitration shall be: Kathmandu, Nepal

26.1 The Contractor shall submit a revised Program for the Works within 30 days from the date of receipt of the Letter of Acceptance.

26.3 *The period between Program updates is*: 60 days

The amount to be withheld for late submission of an updated Program is: All due bills shall be withheld.

27.2 In GCC 27.2, *replace "7 days" by "at least one month".*

27.3 *Add this new sub-clause:*

If the contractor intends to apply for an extension of the Time for Completion, the Contractor shall give notice to the Employer's Representative of such intention as soon as possible and in any event within 14 days of the start of the event giving rise to the delay. Within 28 days of the start of the event giving rise to the delay, the Contractor shall submit full supporting details of his application.

32.1 *Add following before Clause 32.1*

1. The Employer or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Employer. Technical Specifications shall specify what inspections and tests the Employer requires and where they are to be conducted. The Employer shall notify the Contractor in writing, in a timely manner, of the identity of any representatives retained for these purposes.

2. The inspections and tests may be conducted on the premises of the Contractor or its subcontractor(s), at point of delivery, and/or at the Goods' final destination. If conducted on the premises of the Contractor or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Employer.

3. Should any inspected or tested Goods fail to conform to the Specifications, the Employer may reject the Goods, and the Contractor shall either replace

the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Employer.

4. The Employer's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in Nepal shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Employer or its representative prior to the Goods' shipment from the country of origin.

5. Nothing in Clauses here above shall in any way release the Contractor from any warranty or other obligations under this Contract.

34.1 *The Defects Liability Period is 12 months.*

36.1 In GCC 36.1, *insert "supply" before the word "construction".*

42. *Delete sub-clauses 42.1, 42.2 and 42.3 and replace with the following:*

General

Payments for insurance, clearing, forwarding and transportation up to site, locally manufactured equipment and construction and installations shall be made only in local currency, i.e. in Nepali Rupees.

Advance Payment

Not Applicable.

Payment for Supply, Construction and Installations

i. Payments to the Contractor for progress payments shall be made by the NEA to the Contractor within reasonable time after receipt of invoices.

ii. Payments to be made to the Contractor by the NEA other than progress payments shall be made in accordance with the relevant clauses governing each type of payment.

iii. All payments to the Contractor for work performed under the Contract shall be in Nepalese Rupees in accordance with supply and construction items unit prices pursuant to the Bid Price Schedules. Notwithstanding NEA procedural assistance to the Contractor, will neither make any foreign currency payments to the Contractor for any reason whatsoever nor guarantee any foreign currency commitment by the Contractor.

iv. Payments shall be made adhering to actual measurements at site strictly. For any variations in quantity the unit rate of the bid shall prevail.

v. Progress Payment shall be made only after the completion of work under any construction unit complete as mentioned in BOQ as per standard drawing, specification and as directed by the Manager. Contractor shall not receive any amount against material delivered at sites.

Retention

Five percent (5%) from each progress payment for supply of Plant and Materials; Insurance, Clearing, Forwarding and Inland Transportation to Site; and Construction and Installation works shall be retained. The following conditions shall be fulfilled for the payment of such retained amount:

(a) 5% retention amount shall be paid against issuance of Defect Liability Certificate. This Certificate shall be issued upon receipt of income tax clearance certificate by Government of Nepal (GON), Internal Revenue Department (IRD) and custom clearance documents showing the re-export of all the returnable items or tax payment Certificate for items disposed in the Country including fulfillment of all outstanding obligations. If the Contractor fails to clear all the required taxes, custom clearances and all outstanding obligations as mentioned above, such money shall be deducted from this portion of the Retention money.

The Employer shall pay the Contractor the amounts certified by the Manager within 45 days from the date of approval of each certificate.

Income Tax Deduction

From each progress bill, an amount, as determined by the prevalent rules and regulations of GOVERNMENT OF NEPAL, shall be deducted and deposited with the concerned Tax Department in the Country as a deposit towards Contractor's income tax.

43.1 *Delete sub-clause 43.1 (e), (f), (g) & (i)*

44.1 *Delete sub-clause 44.1 and replace with the following:*

1. In the country of Origin

The prices bid by the Contractor shall include all taxes, duties and other charges imposed outside the Employer's country on the production, manufacture, sale and transport of the Contractor's Equipment, Plant, Materials and supplies to be used on or furnished under the Contract, and on the services performed under the Contract.

2. In Nepal

General:

(a) Unless otherwise specifically declared in the contract documents, the prices bid by the Contractor and its suppliers and subcontractors shall include business taxes and other taxes that may be levied in accordance with the laws and regulations in force or in effect in Nepal as of 28 days prior to the closing date for submission of tenders in the Employer's

country on the Equipment, Plant, Materials and Supplies (permanent, temporary and consumables) acquired for the purpose of the Contract and on the services performed under the Contract. Whatsoever provisions made in the Contract document shall not relieve the Contractor, its suppliers and subcontractors from their responsibility to pay income tax that may be levied in the Employer's country on profits made by the Contractor, its suppliers and subcontractors in respect of the Contract.

(b) **Value Added Tax (VAT):** if not included in the costs while submitting bids by the Contractor, sub contractor or its nominated sub contractor, shall be eligible for refund on all imported equipment and materials to be supplied and delivered exclusively for use in the Project.

(c) In the event that the origin of any of the contractor's or its subcontractor's or the nominated subcontractor's plant, equipment and materials is India, the provisions for the exemption of customs duties and VAT as is mentioned in this clause shall be applied only under the following conditions. Failure to comply with these conditions will result in application of normal customs duties, VAT as per prevailing rules and regulation of Government of Nepal (GON).

i) should the Contractor request payment in Indian Currency, the equipment and materials must have been imported under the 'Duty Refundable Procedures (DRP)'.

ii) should the Contractor request payment in other convertible currencies, the equipment and materials must have been imported under 'In Bond Transfer Procedures.

Staff Income Tax:

The Contractor's staff, personnel and laborers, and those of its subcontractors, will be liable to pay personal income taxes in the Employer's country, irrespective of whether they are local or foreign nationals on income earned including salaries and wages as applicable under the laws and regulations of Nepal. The Contractor shall perform such duties in regard to Tax Deduction at Source (TDS) thereof as may be applicable by such laws and regulations.

Import License:

The Contractor shall inform the Employer and the Project Manager in writing the details of the equipment and materials to be imported into Nepal for use on the Works at least 56 days prior to arrival of shipment at disembarkation port, and shall submit a formal written request for assistance from the Employer for importation processing. The Employer will assist the Contractor to obtain necessary permits for import of such equipment and materials into Nepal. Import license fees or any other charges shall be at the cost of the Contractor. The Contractor shall be responsible for transport from the Port of disembarkation to the Site or location of the Works. The Contractor shall be fully responsible to determine these rates and the amount payable at the time of preparing tender

document and include such costs in its bids. In failing to do so, the Employer shall not be liable to pay such costs and the Contractor shall pay such charges as local or any customs authorities en-route may impose, which will not be an eligible item for refund from the Employer.

Duties on Equipment, Plant, Materials and Supplies:

(a) Notwithstanding the provisions of this document, the Contractor's Plant and Equipment, including essential tools thereof, imported for the sole purpose of executing the Contract on condition of re-export upon completion of the Works, shall be exempt from payment of customs duties, VAT and applicable taxes. However, the Contractor shall deposit the amount or provide a Bank Guarantee to the GON Customs office equal to amount of customs duties and other taxes as per the prevailing laws, rules and regulations of Nepal for those imported equipment, plant, materials and supplies at the time of import. Such deposited amounts shall be refunded, or the Bank guarantee cancelled by the Customs Office after Re-export of those imported equipment, plant, materials and supplies.

(b) Any plant, materials or supplies imported by the Contractor for the performance of the Works but not incorporated in the Works shall be taken out of Nepal within 90 (Ninety) days from the date of issuance of the Performance Certificate. If the Contractor disposes off or consumes any equipment, spare parts, materials or supplies within Nepal, it shall pay all customs duties, VAT, income tax on the sales proceeds and taxes applicable on such items under the laws and regulation of Nepal in force.

(c) Equipment, plant, materials and supplies, imported by the Contractor for execution of the Works, shall be subject to payment of customs duty at a special rate of one percent (1%) of CIP or Customs entry point value. This customs duty shall be paid by the Contractor at the time of import and will be reimbursed by the Employer to the Contractor upon submission of the original receipt issued by the Customs Department.

(d) VAT shall be exempted on all imported materials & equipment purchased for the use in the Works (shall be reimbursed by the Employer in case the Employer is unable to avail exempt facility).

(e) VAT applicable on plant & equipment supplied directly from manufacturing plant in the Employer's country shall be reimbursed.

(f) The Contractor shall maintain records satisfactory to the Employer documenting use of all Plant, Materials and Supplies imported into and/or procured for the performance of the Works. If any of such Plant, Materials and/or Supplies, imported into Nepal or otherwise supplied to the Project at a special or preferential rate of Customs Duties or taxes, are misused or found to be used or appropriated for any purpose other than the Project, the Contractor shall be held fully responsible, and liable to pay customs duties, VAT and other taxes and/or any penalties as may be imposed in

accordance with the prevailing laws and regulations of Nepal.

(g) Income tax assessed in accordance with the prevailing Income Tax Act of Nepal and as per the provision of any specific Double Taxation Agreement, shall be imposed on the Contractor, its sub-contractors and nominated sub- contractors. An advance income tax as per the prevailing income Tax Act and Finance Act shall be deducted from the monthly progress payment of the Contractor.

(h) The Contractor shall pay all duties, taxes, fees and contributions levied in Nepal in Nepalese Rupees as directed by the relevant governmental department or office, or any other local statutory agency or body in accordance with the relevant rules and regulations.

(i) The provisions of this clause shall apply equally to foreign subcontractors or nominated subcontractors of the Contractor employed for the Works.

(j) The Contractor and any foreign subcontractors or nominated subcontractors employed on the Works, if not already registered in Nepal, shall be required to get registered with the Inland Revenue Department (IRD) for the purpose of the Contract, which shall be undertaken within 28 days after signing of the Contract Agreement. The Contractor, sub-contractor or the nominated subcontractor shall submit certified copies of the Registration Certificate(s) to the Manager within 14 days of registration.

(k) Other local fees and charges (toll taxes) shall be applied in accordance with the prevailing laws and regulations of Nepal.

The Contractor shall pay all applicable customs & taxes and the Employer shall reimburse the same at the earliest.
Locally available goods, construction materials including fuel, lubricating oil, cement, timber, iron and steel goods, etc. shall be procured locally. All taxes for such goods procured from the local market shall be included in the Contract Rates and Prices and no reimbursement or payment in that respect shall be made to the Contractor.

45.1 *Delete sub-clause 45.1 and replace with the following:*

Payments shall be made in Nepalese currencies.

46. *This is fixed price contract.*

46.1 *Delete sub-clauses 46.1 to 46.5: This is fixed price contract.*

47.1 *The proportion of payments retained is five (5) percent.*

48.1 The liquidated damages for the whole of the Works are 0.05 % of the final Contract Price per day.

The maximum amount of liquidated damages for the whole of the Works is 10% of the final Contract Price.

49.1 The bonus for the whole of the Works is zero (0) percent of the final Contract Price per day.

The maximum amount of Bonus for the whole of the Works is zero (0) percent of the final Contract Price.

50 **Not Applicable**

51.1 If the bid price is within 85% of the official estimate value: five percent of the Bid Price including VAT. If the bid price is less than 85% of the official estimate value, the performance security shall be: (85% of Estimate – Bid Price including VAT) x 0.5 + five percent of Bid Price including VAT. It shall be in the currency of Bid. In case of joint venture (J/V), the Performance Security shall be in the name of J/V. The standard form(s) of Performance Security acceptable to the Employer shall be "an Unconditional Bank Guarantee" acceptable to the Employer of the type presented in the Bidding Documents.

57.1 *The date by which operating and maintenance manuals are required is*: Prior to the issuance of the Certificate of Completion.

The date by which "as built" drawings is required is: Prior to Completion Certificate.

Moreover, should any change is required in the "as-built" drawings because of rectification of any defects within the Defects Liability Period, such changes shall be incorporated and "as-built" drawings shall be updated accordingly before issuance of the Final Acceptance Certificate.

57.2 The amount to be withheld for failing to produce "as built" drawings and/or operating and maintenance manuals by the date required is: Full value of last Invoice.

58.2 (g) *The maximum number of days is*: 30 days; consistent with clause 48.1 of liquidated damages.

59.1 *The percentage to apply to the value of the work not completed, representing the Employer's additional cost for completing the Works, is:* 50%.

The Manager has to obtain the specific approval of the Employer for taking any of the following actions:

a. Approving subcontracting of any part of the works under General Conditions of Contract Clause 7;

b. Certifying additional costs determined under General Conditions of Contract Clause 43;

c. Determining the extension of the intended Completion Date under General Conditions of Contract Clause 27;

d. Issuing a Variation under General Conditions of Contract Clause 1 and 38, except in an emergency situation, as reasonably determined by the Manager; emergency situation may be defined as the situation when protective measures must be taken for the safety of life or of the works or of adjoining property.

e. There shall be no changes in unit rates quoted by the contractor pursuant to clause 37 of General Conditions of Contract.

Section VI. Sample Forms of Securities

Bid Security (Bank Guarantee)

Whereas, *[name of Bidder]* (hereinafter called "the Bidder") has submitted his bid dated *[date]* for the construction of *Tender No.:* .....(hereinafter called "the bid"). Know all people by these presents that We *[name of Bank]* of *[name of country]* having our registered office at *[address]* (hereinafter called "the Bank") are bound unto ..... (hereinafter called "the Employer") in the sum of *[amount]* for which payment well and truly to be made to the said Employer, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this *[day]* day of *[month], [year]*.

The conditions of this obligation are:

(1) If, after bid opening, the Bidder withdraws his bid during the period of bid validity specified in the Form of Bid; or

(2) If the Bidder having been notified of the acceptance of his bid by the Employer during the period of bid validity:

(a) Fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

(b) Fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders; or

(c) Does not accept the correction of the Bid Price pursuant to Clause 27,

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer's having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to him owing to the occurrence of one or any of the two conditions, specifying the occurred condition or conditions

This Guarantee will remain in force up to and including the date [number] days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Guarantee should reach the Bank not later than [date].

Date: _____ Signature of the Bank: _____

Witness: _____ Seal: _____

_____

Performance Bank Guarantee (Unconditional)

To:
Nepal Electricity Authority
Distribution and Consumer Services Directorate
Kathmandu Regional Office
Baneshwor Distribution Centre
Tel.: + 977 -014474097
Fax: + 977-014461527

Whereas *[name and address of Contractor]* (hereinafter called "the Contractor") has undertaken, in pursuance of Contract No. .: ..... to execute ..... (hereinafter called "the Contract");

And whereas it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

And whereas we have agreed to give the Contractor such a Bank Guarantee;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of *[amount of Guarantee] [amount in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of *[amount of Guarantee]* as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed there under or of any of the Contract documents which may be made between you and the Contractor shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

This Guarantee shall be valid until a date 30 days from the date of issue of the Defect Liability Certificate.

Signature and seal of the Guarantor: _____

Name of Bank: _____

Address: _____

Date: _____

Bank Guarantee for Advance Payment (NA)

To: *[name and address of Employer]*

[name of Contract]

Madam/Gentlemen:

In accordance with the provisions of the General Conditions of Contract, Clause 50 ("Advance Payment") of the above-mentioned Contract, *[name and address of Contractor]* (hereinafter called "the Contractor") shall deposit with ..... a Bank Guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of *[amount of Guarantee] [amount in words]*

We, the *[Bank or Financial Institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to ..... on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding *[amount of Guarantee] [amount in words]*.

We further agree that no change or addition to or other modification of the terms of the Contract or of Works to be performed there under or of any of the Contract documents which may be made between ..... and the Contractor, shall in any way release us from any liability under this Guarantee, and we hereby waive notice of any such change, addition, or modification.

The validity period of the guarantee shall be 30 days beyond the period scheduled for repayment of the advance payment and the guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until the ..... receives full repayment of the same amount from the Contractor. Any demand in respect of this Guarantee should reach the Bank not later than [date].

Yours truly,

Signature and seal: _____

Name of Bank: _____

Address: _____

Date: _____

Section VII

SUPPLEMENTARY CONDITIONS OF CONTRACT

1. Construction Management

1.1 The overall management of the supply, delivery and construction activities of the Contractor shall be the right of the NEA and shall be performed by the Personnel authorized by the NEA. The Authorized Personnel shall supervise and administer the Contract work and inform the NEA.

1.2 The Authorized Personnel shall:

a) Identify specific portions of the total works and establish priorities of construction works of those portions to permit an orderly rehabilitation of existing facilities and reduce consumer outages to the minimum extent practicable.

b) Revise and approve all Contractors' rolling work schedules to ensure the compliance with system construction and/or rehabilitation priorities and sequences, and co-ordinate necessary outages with local NEA, operations forces.

c) Supervise and inspect the work completed by the Contractor for conformance with the Schedule of Requirements, Construction Standards, approved Construction Drawings and other Contract requirements.

d) Carry out field measurement of the Works carried out by the Contractor and maintain a field measurement book to assess the progress made every day/month. Measurement so made shall be the basis for raising invoices of the Contractor for making progress payment for that part of the Works completed.

e) Review and recommend for the approval of Contractor's periodic invoices for completed construction works.

f) Prepare and issue the certificates of Provisional and Final Acceptance and make such payments to the Contractor as required by the Contract.

g) Supervise the issue, receipt, and accounting of NEA-furnished materials and equipment to, and from the Contractor.

h) Assist to administer the Contract in all respects.

1.3 The Engineer, as assigned by the NEA, shall assist the Authorized Personnel in all general functions listed in Clause 1.2 above, and in particular, the general functions described in Clause 1.2 a), b), and c).

(a) The Inspector(s) as assigned by the Director or the Authorized Personnel shall inspect the work performed by the Contractor for compliance with the Schedule of Requirements, Construction Standards and the approved construction drawings and maintain records of

such approved works to enable periodic payments to the Contractor for work performed, and acceptance of the Work.

2. Contractor's Workforce

2.1 The Contractor shall employ only the experienced, competent and skilled staffs. Staffs shall include engineers, surveyors, draftsmen, superintendents, foremen, lineman, laborers, mechanics, drivers, and persons of other skills necessary to perform the Works in accordance with the Construction Standards, the approved design and construction drawings, structure data sheet, manufacturer's recommendations, to perform the necessary administrative and warehouse functions, and to complete the Works in accordance with the Contract Execution Schedule.

All line construction staff shall be examined for working skills and must demonstrate to the NEA's satisfaction, working skills and knowledge of all the materials and equipment they will be assigned to work with before being assigned to field work.

2.2 The Contractor shall maintain his workforce in sufficient numbers and skills at all times to maintain the smooth execution of works in accordance with the approved Rolling Construction Schedule.

2.3 Whenever, in the opinion of the Authorized Personnel, any employee of the Contractor is unable to perform his assigned task adequately, incompetent, careless, or obstructs the progress of Work, the Contractor shall, on receipt of written notice from the Authorized Personnel, discharge, or otherwise remove that employee from the Work and not employ the employee again under the Contract.

2.4 During the progress of work, the Contractor shall assign to the work to an experienced and formally qualified engineer and experienced construction superintendent, both of who can communicate well in the spoken and written English language, and who shall be designated in writing to the Authorized Personnel as an authoritative representative of the Contractor.

2.5 The Contractor's workforce shall at all times during the work have in their immediate possession the latest approved Construction Standards, and Structure Data Sheets covering the work that is being performed. The Contractor shall provide copies of the relevant plans and Standards to his construction workforce at his cost. In the event that the Contractor’s workforce are found to be working without possession of the above-listed construction documents, the Inspector shall have the right to stop the work being performed until such time as the workforce is provided with the required documents.

3. Materials (Not Applicable)

3.1 All line materials except some that are mentioned as "Provided by NEA" and equipment required to complete the Works shall be provided by the Contractor. The line materials delivered at the site shall be physically verified by Employer. Minute shall be prepared jointly and submitted to NEA for verification.

4. Rain Days

4.1 A Rain Day is defined as any scheduled work day during which rain occurs, steadily or intermittently, for more than four (4) days. Rain Days shall be confirmed by the Local District authorities or the Authorized Personnel to the Contractor in writing.

4.2 The Contractor shall not be required to perform the work during periods of moderate to heavy rainfall, and Contractor's personnel shall not perform any work on erected structures during periods of rainfall. The Contractor shall not conduct any construction activity closely adjacent to, or in connection with, any energized circuits during periods of rain or any days of intermittent rain.

4.3 The Contract Execution Schedule does not include any allowance of time for construction days lost due to rain.

5. Workmanship

5.1 The Contractor shall employ suitably skilled persons in all tasks necessary to perform the work in accordance with the Contract Specification and in a manner and result acceptable to the Authorised Personnel/ Engineer.

5.2 All materials shall be installed in correct and complete manner in strict compliance with NEA's specification of material and Manufacturer's recommendations and Construction Standards.

5.3 The Contractor shall replace, repair, re-align, re-install, or otherwise correct the workmanship or installation of materials, determined by the Authorized Personnel to be sub-standard and un-acceptable. The remedial measures shall be performed by the Contractor at no additional cost.

6. Safety

6.1 The Contractor shall ensure that all activities areas, and personnel involved in performing the Works, comply fully with all safety regulations or laws promulgated by "GON" with respect to life and property.

6.2 The Contractor shall also insure that all reasonable safety measures, including all measures specified in the contract and be accomplished at all times during the execution of the Work.

7. Take/Handover of the System

7.1 The Contractor shall handover the entire distribution system to the NEA.

SECTION VIII: TECHNICAL SPECIFICATION

A. SPECIFICATION FOR MATERIALS AND CIVIL WORKS

1. GENERAL NOTES FOR CONTRACTOR AND DEFINITIONS

1.1 The work shall be carried out according to the specifications whether specifically mentioned in it or not. No extra in any form shall be paid unless it is definitely stated as an item in the Bill of Quantities. Whenever the specifications are not given or ambiguous, the relevant Indian Standard and further amendments or decision of the Employer/Engineer shall be considered as final and binding.

1.2 The work shall be carried out simultaneously with the electrical, plumbing, sanitary and other services and in cooperation with the contractors of the above services. The work shall be carried on till it is completed satisfactorily along with the completion of essential portion of other services. The contractor shall keep the other contractors informed well in advance of the proposed program of the work so that the proposed work is not hindered. The contractor shall further cooperate with other contractors in respect of any facilities required by them e.g. making holes in shuttering for pipes, electric conduits, fan hooks etc. However, nothing extra shall be admissible to him for such reasonable assistance and facilities afforded to other contractors and the contractor shall be deemed to have taken factor into consideration while quoting his rates.

1.3 The work shall be related to the drawings which the contractor is presumed to have studied. Nothing extra will be paid for any item because of its shape, location or other difficult circumstances, even if the schedule makes no distinction as long as the item is shown in the drawing.

1.4 The source of materials stated in the specifications are those from which materials are generally available. However, materials not conforming to the specifications shall be rejected even if they come from the stated sources. The contractor should satisfy himself that sufficient quantity of material of acceptable specification is available from the stated or other sources.

Where terms “Resident Engineer/Employer", "Representative", "Contractor", "Works" etc. are used, they shall have the meaning defined in the Conditions of Contract or defined in the subsequent specification.

1.5 "Owner" shall mean,
NEA, Baneshwor Distribution Centre**, Old Baneshwor Kathmandu.**

1.6 The requirements of specifications for the materials shall be fulfilled by the Contractor without extra charge including transportation or any other taxes involved that are the item rates quoted shall be deemed to have taken these into account.

2. GENERAL OFFICIAL ACCESSORIES

2.1 OFFICE ACCOMMODATION

The contractor shall provide at his own expense adequate temporary accommodation and toilet facilities for his worker as well as working office space for his staffs and Employer/ Engineer on duty for construction supervision and keep the same in good order. This may be done to suit site conditions with the approval of the Employer / Engineer. The above mentioned temporary structures shall be removed on the completion of works at contractor's own cost.

2.2 BOARDS

A board of size of 1.5m x 1.0m shall be made and put at an approved place on the site. This board shall be painted in approved colour with names of (a) The proposed construction and owner (b) The Contractor (c) The Engineer/Employer and (d) any other specialist consultant, as directed by the Employer/ Engineer. This shall be provided by the Employer/Engineer.

2.3 DRAWING, INSTRUCTION, MEASUREMENTS

All the work shall be done according to the drawings and instructions of the Employer/ Engineer and the Contractor shall arrange to test materials and/ or portions of the works at his own cost in order to prove their soundness and sufficiency. If after any such test and in the opinion of the Employer/ Engineer any work or portion of work is found to be defective or unsound, the Contractor shall pull down and re-execute the same at his own cost. Defective materials shall be removed from the site.

2.4 PREPARING AND CLEARING THE SITE

The site described and shown on the plans shall be cleared of all obstructions, loose stones and materials, rubbish of all kinds as well as brush-wood. All holes or hollows whether originally existing or produced shall be well rammed and levelled off as directed.

2.5 TREES

No trees shall be cut without prior permission. If any trees have to be cut, this shall form an extra item. For the purpose of the specification a tree shall be defined as girth whose circumference of the trunk at 300mm from the base is not less than 900mm.

2.6 MEASURING MATERIALS

Materials requiring measuring shall be measured separately in boxes of appropriate sizes before being mixed. They should be calibrated and marked with red if necessary in presence of the Employer/Engineer.

2.7 TEMPORARY PROTECTION

All trenches, walls, newly laid concrete or other work requiring protection from weather or accidental injury shall be protected by means of tarpaulin or in any other way so as to keep the work safe. Nothing extra shall be paid for this matter.

2.8 QUALITY OF WORK

Materials, tools and plants and workmanship shall be the best of several kinds obtainable in the market and as approved by the Employer/ Engineer.

2.9 LEAVE CLEAN

On completion, all works must be cleaned, rubbish removed and the works and land cleaned of surplus materials, debris and other accumulations and everything left in clean and orderly condition.

2.10 SAMPLES

Samples of each class of work required shall be submitted by the Contractor for the approval of the Employer/ Engineer and after such approval these samples shall be deposited at a place chosen by the Employer/ Engineer. The Contractor will be required to perform all works under the contract in accordance with these approved samples.

2.11 PROVISIONAL ITEMS

All provisional items in the schedule shall be carried out at the discretion of the Employer/Engineer, and may or may not form part of the contract. In case, the provisional items are carried out by the Contractor the rates shall be settled as for extra items as stated in the conditions of contract.

2.12 STORAGE

Safe, dry and proper storage shall be provided for all materials, particularly for cement. The capacity of the cement storage shall be equal to one-fourth of the total quantity to be used but may not exceed 200 tons at the site of work.

3. MATERIALS

3.1 GENERAL

The materials supplied and used in the works shall comply with the requirements of these Specifications. They shall be new, except as may be provided elsewhere in the Contract or permitted by the Employer/ Engineer in writing. The materials shall be manufactured, handled and used in a workmanlike manner to ensure completed work in accordance with the Contract. Where an Indian Standard is specified, the latest version of the standard quoted shall be considered to apply.

3.2 SOURCES

The source of materials should be selected and notified to the Employer/ Engineer and approved by him. The use of any one kind or class of material from more than one source is prohibited, except by written permission of the Employer/ Engineer. Such permission, if granted, will set forth the conditions under which the change may be made. The source or kind of materials shall not be changed at any time without written permission of the Employer/ Engineer. If the product from any source proves unacceptable at any time, the Contractor shall make such arrangements as may be necessary to assure acceptable material, either by alterations in plant operations or by a change of source. Claims for increased costs which may be occasioned by such alterations or changes will not be given consideration, unless the source of the unacceptable material was designated in the Contract as a source of material.

When any manufactured product, either new or used, is furnished by the owner, the location at which such material will be delivered to the Contractor will be designated in the contract. In such cases the contractor shall haul the materials from the designated

delivery point to point of use, and compensation for such hauling will be considered to be included in the Contract unit price for placing the materials in the finished work.

3.3 INSPECTION AND ACCEPTANCE OF MATERIALS

Final inspection and acceptance of materials will be made only at the site of the work. The Employer/ Engineer reserves the right to sample, inspect and test materials throughout the duration of the work, and to reject any materials which are found to be unsatisfactory at the time of use.

A preliminary inspection of materials may be made at the source for the convenience of the Contractor, but the presence of Employer/ Engineer at the source shall not relieve the Contractor of the responsibility of furnishing materials which comply with these specifications. The Employer/ Engineer shall have free entry at all times to those parts of any plant which concern the manufacture or production of the materials ordered.

3.4 SAMPLES AND TESTS

The Contractor shall submit sample of all materials for the approval of the Employer/ Engineer prior to commencement of work. The Contractor shall give immediate notification of the placing of orders for shipment of materials to permit testing. He shall furnish without charge all samples required and he shall afford such facilities as the Employer/ Engineer requires for collecting and forwarding such samples.

The Contractor shall not make use of or incorporate into the work the materials represented by the samples until the tests have been made and the materials are found to comply with the requirements of the specifications, except that any materials which have a satisfactory record of compliance with the Specifications may, at the discretion of the Employer/ Engineer, be used until the tests are completed. If the material fails to pass the tests, no further use thereof shall be made until the Contractor has taken steps satisfactory to the Employer/ Engineer to correct the deficiencies.

When required by the Employer/ Engineer preliminary samples of the character and quantity prescribed shall be submitted by the Contractor or producer for examination and shall be tested in accordance with the methods referred to in this Specification. The acceptance of a preliminary sample, however, shall not be construed as acceptance of materials from the same source delivered later. Only the materials actually delivered for the work will be considered, and their acceptance or rejection will be based on the results of the tests and inspections prescribed in these Specifications.

3.5 DEFECTIVE MATERIALS

All materials which do not conform to the requirements of the Contract will be rejected whether in place or not. They shall be removed immediately or taken away from the site immediately thereafter. No rejected material, the defects of which have been subsequently corrected, shall be used in the work unless approval in writing has been given by the Employer/ Engineer. Upon failure of the Contractor to comply promptly with any order of the Employer/ Engineer given under this Clause, the Employer/ Engineer shall have authority to cause the removal and replacement of rejected material and to deduct the cost thereof from any monies due to the Contractor.

3.6 TRADE NAMES AND ALTERNATIVES

For convenience in designation in the Contract, certain articles or materials to be incorporated in the work may be designated under a trade name or the name of a manufacturer and his catalogue information. The use of an alternative article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the following requirements:

a) The burden of proof as to the quality and suitability of alternatives shall be upon the Contractor and he shall furnish all information as required by the Employer/ Engineer. The Employer/ Engineer shall be the sole judge as to the quality and suitability of all alternative articles or materials and his decision shall be final.

b) Whenever the specifications permit the substitution of a similar or equivalent material or article, no tests or action relating to the approval of such substitute material will be made until the request for substitution is made in writing by the Contractor accompanied by complete data as to the quality of the material or article proposed. Such request shall be made in ample time to permit approval without delaying the work.

3.7 FOREIGN MATERIALS

Materials which are manufactured, produced or fabricated outside Nepal shall be delivered to a distribution point in Nepal, unless otherwise required in these specifications or the special provisions, where they shall be retained for a sufficient period of time to permit inspection, sampling, and testing. The Contractor shall not be entitled to an extension of time for acts or events occurring outside Nepal and it shall be the Contractor's responsibility to deliver materials obtained from outside Nepal to the point of entry into Nepal in sufficient time to permit timely delivery to the job site. The Contractor shall provide the facilities and arrange for any testing required at his own cost. All testing by the Contractor shall be subject to witnessing by the Employer/ Engineer. The manufacturer, producer or fabricator of foreign material shall furnish to the Employer/Engineer a "Certificate of Compliance" with the specifications where required. In addition, certified mill test reports clearly identifiable to the lot of material shall be furnished where required in these specifications or otherwise requested by the Employer/ Engineer. Where structural materials requiring mill test reports are obtained from foreign manufacturers, such materials shall be furnished only from those foreign manufacturers who have previously established, to the satisfaction of the Employer/ Engineer, the sufficiency of their in-plant quality control, as deemed necessary by the Employer/ Engineer, to give satisfactory assurance of their ability to furnish material uniformly and consistently in conformance with these specifications. At the option of the Employer/Engineer, such sufficiency shall be established whether by submission of detailed written proof thereof or through in-plant inspection by the Employer/ Engineer.

3.8 CONTRACT DOCUMENTS

The Contractor is bound to execute and realize the Project works covered under these contract documents.

These contract documents to cover the said work shall along with that is normally understood therein comprise of

a) These Tender Documents.

b) All Tender and Working Drawings issued by the owner prepared by this Employer/ Engineer.

c) All site instructions made in the site order book or log book by the Employer/ Engineer.

d) All instructions given to the contractor by the Employer/ Engineer are in the form of sketches, directions along with requests for additional data, shop drawings, measurements details etc. from the contractor related of this work.

e) All shop drawings and samples approved by the Employer/ Engineer.

f) All manufacturers' specifications, data brochures information etc. approved by the Employer/ Engineer.

g) All aspects of work checked and approved by the Employer/ Engineer either on, or off, the project site.

h) All samples and guidelines that the Employer/ Engineer shall instruct the Contractor to follow. In particular covering all works where the contractor shall follow the existing designs, decoration, methods of construction, finishes proportions, elevations etc. of the existing building.

4. EXCAVATION OF EARTH FOR FOUNDATION AND OTHERS

4.1 LAYOUT AND SITE CLEARANCE

Laying and setting out of building, road, drains, retaining structures, pipe lines and septic tank and soak pit including site clearance by removal of grass, shrubs etc. maximum depth of excavation and filling 0.30m including dressing and levelling.

The Contractor is required to accurately lay out each infrastructure and other facilities as per the instructions and guidance of the Employer/Engineer and his representative at site. For this, the Contractor has to establish points for foundations of the structures as shown in the drawings by establishing reference points fairly permanent to enable regular confirmations by the Employer/Engineer for their accuracy. Ground levels have to be established near to each structure as well for common height control of the structures as per the specific instructions of the Employer/ Engineer.

The site described in plan shall be cleared of all grass, shrubs etc. The maximum depth of excavation or filling shall be 0.3m. The surplus excavated material shall be disposed within a lead of 200m as directed.

No payment shall be made separately for site clearance. The unit price of layout and site clearance shall be incorporated in the unit bid price of earthwork in excavation and filling..

4.2 EARTH WORK

Earthwork in excavation in trenches, foundation rafts etc. in soil including dressing of sides, ramming of bottom, lift up to 3.00m stacking of excavated materials at least 2m clear from the edge of excavation and then returning the stacked soil in 0.15m layer when required in plinth, under floors, sides of foundations, laying and depositing the layer by watering and ramming and then disposing of all surplus excavated soil as directed within a lead of 200m.

4.2.1 EXCAVATIONS

The foundation rafts etc. shall be excavated to the dimensions shown on the drawings and to depth, at which in the opinion of the Employer/ Engineer stratum of good hard soil is observed.

The excavation shall be carefully carried out to the levels, shapes and dimensions as shown in the drawings or as directed by the Employer/ Engineer to receive the concrete work. Should any of the excavation be taken down below the specified levels, the Contractor shall fill in such excavation at his own expense with concrete well rammed in position until it is brought up to the proper levels. Filling in with excavated materials will not be allowed for this purpose. No extra charge will be given for the lift of the excavated materials up to 2.0m. The excavated earth shall be placed at least 4.00m from the edge of foundation. The Contractor, at his own cost, shall dispose of all surplus excavated soil as directed by the Employer/ Engineer within a lead of 200m.

If foundations are made broader or longer than directed, the extra length and breadth shall be filled in after the foundations are built with earth rammed hard, by the Contractor at his own cost. The Contractor shall at his own expense and without extra charge, make provision for all extra excavation in slope, pumping, dredging or bailing out water and these trenches shall be kept free from water while the foundation work is in progress. The Contractor shall also at his own cost remove such portions of boulders or rocks, as are required to make the bottom of the trench horizontal and level. Nothing extra shall be admissible for pumping and/or bailing out water unless otherwise taken separately in the Bill of Quantities.

The trenches, rafts shall be inspected by the Employer/ Engineer before the concrete is laid therein, when the trench level shall be recorded. The filling in of side of trench excavations can be done in not more than 0.15m layers. Each layer shall be well watered and rammed hard before adding the next layer. Such fillings shall be brought up to the ground level without extra charge and shall form part of the item of excavation.

4.2.2 TIMBERING OF TRENCHES FOR FOUNDATION AND OTHER WORK

When foundations are to be taken deep, the sides of the trenches shall be protected by erecting timber shoring and strutting. Timbering shall be close or open depending on the nature of the soil and work. The arrangement of timbering, sizes and spacing of members

shall be as directed by the Employer/ Engineer. Nothing extra on this account shall be admissible unless otherwise taken separately in the Bill of Quantities.

4.2.3 TRIMMING AND LEVELING

The bottom of all foundation should be trimmed and leveled in accordance with the drawings.

4.2.4 DISPOSAL

Disposal of the surplus excavated material shall be done within the site as directed by the Employer/ Engineer. Nothing extra shall be paid for such disposal within the lead of 200m. The excavated material shall be used for filling and terracing, if appropriate.

4.2.5 MEASUREMENT

Measurement shall be the product of the exact length and width of the lowest step of the footings according to the drawing or the Employer/ Engineer's instructions and the depth measured vertically. Where the ground is not level, average depth shall be taken. Rate shall be inclusive of all the works described above.

4.3 PLINTH FILLING/BACK FILLING

Filling in plinth with materials brought from outside in 0.15m layers under floors including watering, ramming consolidation and dressing complete.

a) Sand
b) Earth
c) Random rubble filling

The earth for filling shall be brought from within the site within a lead of 300m, to be approved by the Employer/Engineer, prior to filling. If the earth from within the site be of unsuitable quality, earth shall be brought from outside the site. The sand shall be either a pit sand or river sand as approved.

The work shall be done with earth/sand in 0.15m layers, each layer being well watered and rammed thoroughly.

4.3.1 MEASUREMENT

The measurement shall be taken for the consolidated thickness of earth/sand and paid in cubic meter. Pit or stack measurement shall not be done for payment. Quantity of earth fill under this item shall be calculated as the sum total of earth filling required in trenches around foundations, over raft, under floors or any other filling less the total quantity involved in foundation excavation. It shall include excavation of earth/sand, transportation, screening if necessary, filling and the cost of labour etc. all complete.

5. CONCRETE WORK

5.1 Plain Cement Concrete (P.C.C.) WORKS

Providing and laying plain cement concrete excluding cost of formwork all complete as required

i) PCC 1:2:4 (1 cement: 2 sand: 4 stone aggregate)

5.1.1 MATERIALS

Cement, sand and stone aggregate shall conform to the specifications as under plain Cement Concrete work for RCC works.

5.1.2 MIXING

All proportions shall be by volume except cement which shall be proportioned by weight and as specified. Mixing shall be done in a mechanical mixer as per specifications of reinforced cement concrete work. However, in special cases, hand mixing may be allowed by the Employer/ Engineer when the following procedure shall be adopted. The several materials shall be accurately gauged in boxes and thoroughly mixed on a water tight platform of adequate size, being turned over at least thrice till the color is uniform and then twice wet. Water shall be added gradually and not more than necessary or specified by Employer/ Engineer that much concrete shall be mixed which can be used within half an hour. Each stack shall however be not larger than consuming one bag of cement. All such stacks shall be placed distinct from each other.

5.1.3 LAYING

Concrete shall be laid in horizontal layers of not more than 0.15m thick and gently rammed.

5.1.4 CURING

After laying, the concrete shall be kept wet for seven days constantly by ponding. If cast in hot weather, it shall be covered with gunny bags which shall be kept constantly wet. Other work on concrete shall not start until 3 days after laying of concrete. Concrete curing shall be done strictly for seven days. Any failure of keeping the concrete work in constant wet condition, the work will be done by Employer/ Engineer and cost of above work shall be deducted from Contractor's bill.

5.1.5 MEASUREMENT

Measurement shall be in cubic metre of exact length, breadth and depth. This shall be exclusive of any form work required to complete the item. Rate shall include all materials and labour.

6. Reinforced Cement Concrete (RCC) GENERAL

Providing and laying PCC for RCC work with stone aggregate 20mm and down gauge well graded excluding the cost of formwork and the cost of the reinforcement

i) M 15/20

6.1 MATERIALS

The materials used in the works shall be of the qualities and kinds specified. Materials delivered to the works shall be equal to the approved samples which shall be deposited with the Employer/ Engineer at least 30 days before it is required for use in work. The quantity of all necessary materials should be checked by the Employer/ Engineer for any casting. Delivery shall be made sufficiently in advance of constructional requirements to enable further samples to be selected and tested if so desired by the Employer/ Engineer. No material shall be used in the works until approved. Materials failing to comply with

the approved samples and specification shall be immediately removed from the works at the Contractor's Cost.

6.1.1 WATER

Water used in mixing concrete shall be free from injurious amounts of oils, acids, alkalis, organic materials or other deleterious substances. It should be clean as drinking water.

6.1.2 CEMENT

The cement shall be ordinary Portland cement of approved brand and manufacture and shall comply in all respects with the I.S. 269-1967 for ordinary Portland Cement. It shall be delivered on the site in packages with an unbroken seal fixed by the manufacturer and plainly marked with the name of brand and the manufacture. It shall be stored in a dry place, in regular piles not exceeding six bags high and in such a manner that it will be efficiently protected from moisture and contamination, and that the consignments can be used up in the order in which they are received. Set cement shall be immediately removed from the work and replaced by the Contractor at his own expense. If desired, tests shall be made by taking samples of cement from stores or elsewhere from the works. The selection of samples and procedure for testing shall comply with appropriate I.S. specification.

6.1.3 AGGREGATE

All aggregates shall conform to I.S. 383 - 1970. Aggregate shall, where possible, be derived from a source that normally produces aggregate satisfactory for concrete, and if requested by the Employer/ Engineer, the Contractor shall supply evidence to this effect. If instructed to do so, the contractor shall supply samples of the aggregate for the purpose of making preliminary concrete test cubes as herein-after specified.

Aggregate shall consist of naturally occurring sand and gravel or stone crushed or uncrushed, or a combination thereof. They shall be hard, strong, dense, durable, clean and free from veins and adherent coating. As far as possible, flaky and elongated pieces should be avoided.

Aggregate shall not contain any harmful materials, such as iron pyrites, coal, mica, shale or similar laminated materials, clay, alkali, soft fragments, organic impurities etc. in such quantity as to affect the strength or durability of the concrete or in addition to the above for reinforced concrete, any material which attack the reinforcement. Aggregate which are chemically reactive with the alkalis of cement are harmful, as cracking of concrete may take place. These aggregate shall be protected from spilling oils, mobiles, diesels over it on site.

6.1.4 FINE AGGREGATES (SAND)

The fine aggregate shall be natural sand or sand derived by crushing suitable gravel or stone and shall be free from coagulated lumps. Sand derived from a stone unsuitable for coarse aggregate shall not be used as the fine aggregate.

The fine aggregate shall conform to the requirements of I.S. 383 - 1970. Fine aggregate shall not contain more than 3% of material removable by decantation test, nor more than 1% dry lumps. The total of coal, clay lumps, shale, soft fragments and other deleterious substance shall not be more than 5%.

The percentage of clay lumps shall be determined by examining the various fractions that remain after the material has been tested for grading. Any particles that can be broken with fingers shall be classified as clay lumps and the total percentage of clay lumps shall be determined on the basis of the total original weight of the sample. The fine aggregate shall be well graded from fine to coarse and shall meet the following gradation requirements:

Table - 1 GRADATION FOR FINE AGGREGATE

Sieve designation Percentage by weight passing

Sieve Designation	10mm	No.4	No.16	No.30	No.50	No.100
Fine Aggregate	100	95-100	45-80	25-55	10-30	2-10

Blending will be permitted in order to meet the gradation requirements for the fine aggregate.

6.1.5 COARSE AGGREGATE

The coarse aggregate shall be crushed stone aggregate. The pieces of aggregates shall be angular. Friable, flaky and laminated pieces, mica, shale shall only be present in such quantities as not to affect adversely the strength and durability of the concrete as ascertained by tests on concrete cubes. After twenty four hours immersion in water, a previous dried sample shall not have gained in weight more than 5% and not more than 10% if it is to be used in plain concrete or elsewhere as described. The coarse aggregate shall conform to the requirements of I.S. 383 - 1970. The percentage of wear at 500 revolutions of Los Angeles Rattler Test shall not be more than 50%. The coarse aggregate shall meet the gradation of Table-2. Moreover it should confirm previous specification on coarse aggregate.

Table - 2 GRADATION FOR COARSE AGGREGATE.

Percentage by weight passing

Sieve Designation	50mm	40mm	25mm	20mm	10mm	No.4	No.8
40mm & down	100	90-100	20-25	0-15	0-5		
20mm & down			100	90-100	20-25	0-10	0-5

All R.C.C. work shall be carried out in strict accordance with this specification, I.S. Specifications and the working drawings. Any discrepancies in the dimensions on the drawings or any points not clear to the Contractor shall be brought to the notice of the Employer/ Engineer or clarified in advance before proceeding with the work.

The Contractor shall allow for all wastage in all materials. He shall also allow for all tests of concrete materials and if required produce manufacturer's certificate for cement and steel unless issued by the Owner.

1) All form work should be get checked for levelling and dimensions as well as all necessary supporting spouts from the Employer/ Engineer.

2) Only after getting the formwork checked, reinforcement should be placed properly as according to the drawing and detailing.

3) The date and time of any casting of concrete should be informed to the Engineer/Employer's 2 days in advance.

No concrete work shall be cast in the absence of the Employer/ Engineer. The Contractor shall personally check that both the formwork and reinforcement have been correctly placed and fixed and satisfy himself that all work preparatory to casting is completely ready, before requesting the Employer/ Engineer for final inspection and approval.

6.1.6 ADMIXTURES

The use of admixtures to improve the workability is allowed only if there is proved evidence that neither the strength nor the other requisite qualities of concrete and/or steel accessories grout, etc. are impaired by their use. The use of admixtures containing calcium chloride, fluorides, nitrates and sulphates is prohibited. The decision of the Employer/ Engineer on all matters relating to the use of admixtures shall be final.

Admixtures shall be stored in suitable waterproof building. Any material which has deteriorated or which has been contaminated whether during transit to the site, at the site or otherwise, shall not be used in the work and shall be immediately removed from the site and replaced at the expense of the contractor.

6.1.7 MIX DESIGN

Concrete mixes for various specified design strengths shall be worked out by the Contractor. The mix proportions shall be selected to ensure that the workability of the fresh concrete is suitable for the conditions of handling and placing, so that after compaction it surrounds all reinforcement or tendons and ducts and completely fills the formwork. When the concrete is hardened its quality shall be such as to comply with the strength, durability and other requirements taking into account the conditions to which it will be exposed.

Any standard method of mix design may be used. For determining the "required average strength" the specified minimum shall be taken as one in ten. Unless the Contractor can prove from his past experience that he is capable of achieving a high degree of control a "FAIR" control should be assumed in the initial mix design. Before arriving at the average strength values due regard shall be given to the criteria acceptance of site concrete.

The mixes designed by the Contractor shall be used on works only after obtaining a written approval of the Employer/ Engineer. It is to be understood that the mix design shall be entirely the responsibility of the Contractor and such approval by the Employer/ Engineer shall not relieve him of his responsibility in respect thereof. Sand shall be of an approved quality, clean, sharp and free from injurious amount of dust, mica, shells, soft and flaky particles, shale, alkali, organic matter, loam or other deleterious substances. The sand shall be taken from a source approved by the Employer/Engineer and if

required by him it shall be thoroughly washed, screened and graded by the contractor at no extra cost and to the satisfaction of the Employer/ Engineer.

The whole of the ingredients of the coarse aggregate shall consist of hard stones and shall contain no soft or elongated pieces. If it is considered necessary, the Employer/ Engineer may instruct it to be washed, screened and graded at no extra cost.

6.1.8 MEASUREMENT AND PROPORTIONING OF CONCRETE MATERIALS

The aggregate shall be measured by volume in a gauge box of correct and approved size based on the weight of the material or by other approved accurate means. The gauge box or other container shall be filled with the aggregate without compacting to a predetermined uniform depth, accurate allowance being made for bulking due to moisture content of the fine aggregate, if required on site.

The cement shall be measured by weight, one or more complete bags containing 50kg being used for a single batch of concrete and as the size of the mixer shall permit this to be done. One weighing machine shall be placed in standby condition on casting day and if the Employer/ Engineer feels that any concrete bag contains less than 50kg, he can measure the weight of it and will direct the Contractor to fulfil necessary weight of cement from contractor's side.

The normal proportions of cement and aggregate shall comply with the quantities specified below for the concrete described for each part of the work. The specified quantities shall be altered if instructed after examination of the aggregate materials in samples or in bulk in order to obtain the dense concrete with approved materials. Any such alterations within the range of 1 part of fine aggregate to $1\frac{1}{2}$ parts of coarse aggregate and 1 part of fine aggregate to $2\frac{1}{2}$ parts of coarse aggregate shall be made without any alteration in the charge made by the Contractor.

6.2 PROPERTIES OF CONCRETE

The minimum cement content of the mixture shall be as below in specified in clause no 6.2.1

6.2.1 CONCRETE PROPORTIONS

The minimum cement content of mixture shall be as below:

Grade	Minimum cement content in Kg/cu.m.
M 15	260

6.2.2 WATER CEMENT (W/C) RATIO

In general, w/c ratio of the concrete mix shall be kept minimum during casting. Generally one bag of cement concrete mix shall use 35.6 litres of water or as necessary. As moisture content of fine and coarse aggregate varies, for workability of concrete mix, the Employer/ Engineer may vary the water quantity and once the water quantity to be placed for one bag of cement concrete mix, is fixed by the Employer/ Engineer, the Contractor shall follow it strictly. As information to the Contractor, the Employer/ Engineer will depute one checking supervisor to the mixing batch, the quantity of water used shall be varied to suit the moisture

content of the aggregate, and shall be just sufficient to produce a dense concrete, consistent with practical workability.

6.2.3 CONCRETE GRADE AND STRENGTH

The compressive strength (cube strength) for Portland cement concrete shall be in accordance with I.S. 456-1964.

Grade	Preliminary Test at 7 days	Work Test at 28 days
M 15	100 Kg/cm2	150 Kg/cm2

6.2.4 CONTROL OF CONCRETE

(i) Preliminary Tests

The Contractor shall be called upon to submit representative samples of materials to be used for concrete in order that they may be tested at a laboratory and the suitability of materials established. All expenses in connection with the above materials, tests shall be done by the Contractor.

(ii) Works Cube Tests

During the progress of the work, 15cm cubes shall be made as per I.S. 456-1964 as necessary and tested in accordance with I.S. 516-1959.

6.2.5 MEASUREMENT OF CONSISTENCY

The consistency shall be determined by making trial mixtures with dried aggregate. The consistency of the trial mixture of approved consistency shall be measured as instructed.

The slump of approved trial mixture shall be measured and this slump shall not be exceeded throughout all batches of concrete made from the same materials mixed in the same proportions as the trial mixtures and used in these parts of the works as instructed. In no case, the slump shall exceed 50mm. for concrete in slabs, or exceed 25 mm. for consolidated by mechanical vibration. The slump test shall be made on concrete actually being placed in the works at the commencement of each grade of concrete placing and such other times as instructed.

The apparatus used for the slump test shall be standard cone. When cone is filled, it shall be raised vertically clear of the concrete and the measurement of the slump shall be measured. Care shall be taken to prevent vibration of the sample being tested. If the Employer/ Engineer requires the use of other means for testing the consistency of the concrete it shall be done as instructed without any extra charge. For this standard I.S. Method shall be followed.

6.2.6 CONCRETE MIXING

The cement and aggregates shall be thoroughly mixed together in the specified proportions by volume or weight in a batch type mechanical mixer, unless another type of mixer is approved. The water shall be admitted to drum of the mixer only when all the cement and aggregates constituting one batch be in the drum. The concrete shall be mixed until the mixer is of uniform color and in no case for less than one minute. If the drum rotates at lower speeds, the minimum period shall be increased inversely proportional to that speed.

The period of mixing shall be measured from time when all the materials and water are in the drum. The entire contents of the drum shall be discharged before materials for the succeeding batch are fed into the drum. Materials spilled from the skip or other container shall not be used. No partly set or frozen concrete shall be used in the work. Partly set concrete shall not be remixed with the cement or aggregate of the next batch.

6.2.7 DISTRIBUTION OF CONCRETE

The concrete shall be distributed from the mixers to the position of placing in the works by approved means that do not cause segregation or otherwise impair the quality of the concrete. While transporting concrete over slabs and over beams by any suitable means, the contractor shall conform that the tied bar i.e. upper bar and lower bar shall not get distorted or displaced from its original place.

6.2.8 PREPARATIONS FOR PLACING CONCRETE

Before the concrete is placed, the shuttering shall be tied - up and any water accumulated therein shall be removed. All saw dust, chips, nails, and other debris shall be washed out or otherwise removed from within the formwork. The reinforcement shall then be inspected for accuracy of fixing. Immediately before placing the concrete, the formwork shall, except in frosty weather, be well wetted and inspection opening closed.

6.2.9 PLACING CONCRETE

The interval between adding the water to the dry mix and completion of the concrete placing operation shall not exceed 20 minutes nor, when an approved admixture that accelerates the initial setting of the cement be used, exceed ten minutes or as directed by the Employer/ Engineer.

Except where otherwise approved for slabs and large sections concrete shall be placed in the formwork by shovels or other approved implements and shall not be dropped from height more than 1.5 m nor handled in a manner to cause segregation. Accumulations of hardened concrete dropping on the reinforcement shall be avoided. Concrete shall be sorted along the formwork to that position.

Each layer of concrete while being placed shall be compacted by approved methods of ramming or mechanical vibrations to form a dense surface free from honey combing and tolerably free from water marks and air holes or other blemishes. The concrete shall be tamped against the face of the formwork so as to produce dense smooth surface. The number and type of mechanical vibrations shall be approved before compacting by vibration. Placing and compaction of concrete shall be done in such a manner as not to disturb concrete already placed, and reinforcement projecting from concrete already placed shall not be vibrated or jarred. For concreting reinforced concrete walls and other structures having least lateral dimensions of 13mm. or under, each layer of concrete while being placed shall be properly compacted by approved methods of mechanical vibrations produced by internal or external mechanical vibration.

The laying of concrete over slabs should be uniform thick of required thickness after vibration. This can be confirmed by dipping wooden pegs of required length. The level of all slabs should be in level unless otherwise specified and directed by the Employer/ Engineer. If required, the Employer/ Engineer will check the thickness and give order to the contractor to fill up the newly vibrated slab concrete surface. Any slab thickness after

construction, if found less thickness than specified, the contractor will be responsible for above job.

Any water accumulating on the surface of the newly placed concrete shall be removed by approved means and no further concrete shall be placed thereon until such water is removed. No fresh concrete shall be brought into contact with the concrete containing cement of different type. Unless otherwise approved or instructed, concrete shall be placed in a single operation to the full depth of slabs, beams, and members similar thereto and shall be placed in horizontal layers not exceeding 0.50m deep in walls, columns until completion of the part of the work between construction joints as specified hereafter or of a part of approved extent. At the completion of a specified or approved part of a construction, joints of the form and in the position herein after specified shall be made. If a temporary cessation of concrete placing be unavoidable elsewhere, a construction joint shall likewise be made.

6.3 PLACING CONCRETE IN EXTREME WEATHER

Work shall be done according to clause 20.1.6 of I.S. 456- 1964.

6.4 VIBRATION

6.4.1 APPEARANCE

The concrete that is to be compacted by vibration should appear anything from earth dry to slightly glistening. The mix should have the appearance of lacking in fines.

6.4.2 VIBRATORS

The contractor must use vibrator on beams and slabs to compact the newly laid concrete. Generally two types of vibrator shall be used.

a) NEEDLE OR IMMERSION TYPE OF VIBRATOR

Casting fall beams and columns shall be compacted by means of needle type of vibrator. 4" dia needle type vibrator shall be used over beam section more than 350mm x 400mm and rest of section need only 2" dia needle type vibrator.

b) FLAT BOTTOM VIBRATOR FOR SLABS

The contractor shall require flat bottom type of vibrator to compact all concrete over slabs. No immersion type of vibrator will be allowed to compact the concrete over slab.

Moreover, the contractor shall require at least two number of vibrator for one casting and other should kept in standby position. In case vibrator got damaged or not in working condition during casting, the vibrator shall be immediately replaced. If the contractor shall fail to replace another vibrator during casting, no further casting of concrete will be permitted. The contractor shall in that case, immediately remove the remaining concrete mix from the site of work.

6.4.3 PLACING

Segregation is likely to take place when the concrete is tipped into the form work and this should be avoided. The concrete mix should not contain surplus water and sand which will develop segregation under influence of vibratory compaction. The distribution of new

concrete should be uniform over the whole section and the surface kept horizontal all the time thus ensuring the movement of concrete is downward only. Vibrators shall not be used as a spreading or distributing agent.

The vibrators shall be of rotary out of balance immersion type or the electro-magnetic type and operate at a frequency of not less than 4,000 cycles per minute. The vibration shall be of such a power - input as to produce an acceleration of 1 to 3 m/sec in the mass of the compacted concrete. The vibrators shall be provided for continuous operation.

6.4.4 DISPOSITION OF VIBRATORS

Internal vibrators shall be disposed within the mix, when placed, so as to maintain the whole of the concrete under treatment in an adequate state of agitation such that de-aeration and effective compaction may be attained at a rate commensurate with the supply of concrete from the mixers. Insertion of vibrators at about 450mm centre to centre is considered sufficient.

6.4.5 PERIOD OF VIBRATION

Vibration shall continue during the whole period occupied by placing the concrete, the vibration being adjusted so that the centre of vibration approximates to centre of the mass being compacted at the time of placing. The concrete should not be over vibrated and the period of insertion of internal vibrator should be about 15 seconds at any point.

6.4.6 COMPACTNESS

The concrete shall be judged to be compacted when the mortar fills the spaces between the coarse aggregate so as to form a glistening and even surface except for slight irregularities where the coarse aggregate breaks this smooth surface. When this condition has been attained, the vibrators shall be withdrawn slowly.

The vibrator must not be placed against the steel or the formwork, the minimum distance being 8 mm. It must be placed in such a position that formwork, reinforcement and recently laid concrete are subjected to the minimum amount of vibration.

6.4.7 CONSTRUCTION JOINTS

Construction joints shall be made in the positions hereinafter specified or elsewhere as approved. Such joints shall be truly vertical or horizontal as the case may be, except that in an inclined or curved members the joint shall be strictly at right angles to the axis of the member.

Construction joints shall be made horizontally at the top of the foundations and horizontally 8 mm. below the lowest beam soffit at the head of columns. Concrete in the ribs and slabs of small tee, all beams shall be placed in one operation, but, for large beams concrete in the rib upto a level 2.5 mm. below the slab soffit shall be placed first. Concrete in haunches or splays on the beams or braces and concrete in the head of adjoining portion of the columns shall be placed at the same time as that in the beams or braces. Concrete in splays at the junction of walls and slabs shall be placed at the same time as that in the slab. Construction joints in the length of a beam shall be avoided where practicable, but where joints are unavoidable they shall be made as previously approved

by the Employer/ Engineer. Construction joints in slabs shall be made parallel to the main reinforcement, and where required at right angles to the main reinforcement, they shall be made at a place previously approved by the Employer/ Engineer.

Before placing new concrete against concrete already set, the face of the old concrete shall be cleaned and scum removed. The face shall be roughened and any loose aggregate removed there from. Immediately before placing the new concrete the face of the old concrete shall be thoroughly wetted and a coating of neat cement grout applied. The new concrete shall be well rammed against the prepared face before the grout sets. Construction joints will not be paid separately.

6.4.8 PROTECTION AND CURING OF CONCRETE

Immediately after placing or finishing, concrete surface not covered by forms shall be protected from loss of surface moisture for at least seven days when the average daily temperature is at least 21^{o}C, where Portland cement has been used. Protection from loss of surface water shall be done by any of the following methods where applicable to the type of work involved:

i) By water covering.
ii) By covering of surfaces with water impervious paper.
iii) By application of approved impervious membrane.

Surfaces from which forms have been removed before the curing period has elapsed shall be protected as specified for surfaces not covered by forms. Membrane curing shall not be used on surfaces required to receive additional concrete or concrete fill, or on cement finish coats that are to receive dust proofing or hardening treatments, or during hot weather.

Water curing shall be performed by keeping the concrete surface wet by ponding, by continuous spraying or by covering the surface with an approved water-saturated covering such as 2.5mm of sand or sawdust, or by one or more layers of burlap. The exposed concrete surfaces shall be saturated with water throughout the full stipulated curing period. Where forms remain in place during the curing period, they shall be kept sufficiently wetted with clean water to reduce cracks and to prevent joints from opening in the forms.

The impervious membrane curing compound shall be an approved non-bituminous, colourless, liquid sealing compound in atomized form so as to preserve the natural color of the concrete. The curing compound shall be applied as soon as surface water has disappeared from concrete surfaces with approved pressure spraying equipment in accordance with the manufacturer's directions and in sufficient thickness to form an effective water seal. No compounds shall be used which will adversely affect the subsequent installation of finished flooring.

Joints of sheet membrane used for curing shall be lapped at least 150mm and sealed with water proof tape as recommended by the manufacturer. Polyethylene sheet shall be considered the water-impervious paper for purposes of interpretation of this item. No liquid curing compound may be used without specific written approval of the Employer/

Engineer regarding type, manufacturer, location and extent of use and application procedures.

6.4.9 FINISHES

The concrete surface shall in general be smooth finish. However, immediately after stripping form work, minor defects and honey combed areas shall be patched and holes filled before the concrete is thoroughly dry, patch areas shall be chipped away to 2.5mm depth, with regular edges perpendicular to the surface. Area to be patched shall be thoroughly wet including the areas at least 150mm. wide entirely surrounding them, just prior to placing the patching mortar. Mortar shall be of the same material and proportions as used for the concrete, without coarse aggregate. A sufficient quantity of white cement shall be substituted for part of the ordinary cement so that the patching mortar, when dry, will match the surrounding concrete. Water in the mix shall be kept to a minimum and mortar shall be re-tempered without adding water and shall be allowed to stand for one hour prior to use during which time it shall be mixed to prevent setting. The mortar shall be thoroughly compacted into place, screeded so as to leave the patch slightly higher than surrounding surfaces, left undisturbed for one to two hours to permit initial shrinkage and finished to match the adjoining work. Where patches exceed 2.5mm deep, they shall be trimmed and wet as specified, after which the opening shall be filled to within 2.5mm of the surface. After sufficient shrinkage time has elapsed, the patching shall proceed as described above.

Patches shall be kept wet for five days. Tie holes left by the withdrawal of rods, or holes left by removal of ends of ties shall be filled solidly with mortar. For holes passing entirely through the wall, plunger-type grease gun or other device to force mortar through the wall, starting at the back face, shall be used. When a hole is completely filled, excess mortar shall be struck off with a cloth flush with the surface. Holes not passing entirely through walls shall be filled solidly with mortar. Any excess mortar shall be struck off with a cloth on the wall surface. The surface of non-shuttered faces concrete work other than slabs shall be smoothed with a wooden float (or if approved with a steel trowel) to give a finish equal to that of the rubbed down shuttered faces. Concealed concrete faces shall be left as it is except that honeycombed surfaces shall be made good.

The top faces of slabs not intended to be surfaced shall be levelled and floated to a smooth finish at the levels or falls shown on the drawings or elsewhere.

The floating shall not be executed to the extent of bringing excess fine material to the surface. Ribbed surfaces of slabs shall, where instructed, be formed at the time of taming and leveling. Indentation in slab or stair surfaces shall be formed by approved implements giving the depth and patterns instructed. The top faces of slabs intended to be covered with screed, granolithic or similar surfacing shall be left with a spade finish.

The soffits of slabs and faces of walls intended to be rendered shall be roughened by approved means to form a key. Concrete surfaces to take finishes other than those specifically referred to herein shall be prepared in an approved manner to suit the finish as instructed.

6.5 TEST ON STRUCTURE

The Employer/ Engineer shall instruct that a loading test be made on the works or any part thereof if in his opinion such a test be deemed necessary for one or more of the following reasons:

a) The site - made concrete test cubes failing to attain the specified strength.
b) Over - loading during construction of the works or part thereof.
c) The shuttering being prematurely removed.
d) Concrete improperly cured.
e) Any other circumstances attributable to alleged negligence on the part of the Contractor which in the opinion of the Employer/ Engineer may result in the works or part thereof being less than the expected strength.
f) Any reason other than the foregoing.

The test shall be made at the contractor's own cost. If the test be instructed to be made for one or more of the reasons from (a) to (e) inclusive, and If the test be instructed to be made for the reason (f), the contractor shall make the test and shall be reimbursed for all cost relating thereof irrespective of the result of the test.

For the purpose of the load test on floors, roofs and similar structures and their supports, the test load shall be equivalent to 1 and 2/3 times the superimposed load for which the works or part thereof to be tested have been designed. The test load shall not be applied within 90 days (or 28 days if rapid hardening Portland cement be used) of the completing of placing of the concrete in the part of the works to be tested, and the latter shall not be supported during the test by shuttering or other non permanent support. Means shall be taken to ensure that in the event of a failure under the test temporary support of the loaded member shall be immediately available. The test shall proceed strictly as instructed. For the loading test on floors, roofs or similar structures the result shall be deemed satisfactory if upon removal of the test load, the residual deflection does not exceed one - quarter of the maximum deflection after 24 hours loading. If the residual deflection exceeds this amount the test loading shall be repeated, and the result shall be deemed to be satisfactory if the residual deflection after removal of the second test load does not exceed one-quarter of the maximum deflection occurring during the second test.

If the result of the loading test be not satisfactory, the Employer/ Engineer shall instruct that part of the works concerned shall be taken down or removed and reconstructed to comply with this specification, or that such other remedial measures shall be taken as to make the works secure. If the test be instructed to be made for one or more of the reasons (a) to (e) inclusive as herein before specified, the Contractor shall take down or remove and reconstruct the defective work or shall take the remedial measures instructed at his own cost.

6.5.1 MEASUREMENT

In calculating the contents of any R.C.C. member, for measurement proposes the dimensions adopted shall be structural concrete members exclusive of any finish,

6.5.1.1 RAFT SLABS AND BEAMS

It shall be measured in cu.m. of work done as per drawing. Measurement shall be done for the raft concrete below the column junction to the raft slab/beam. Nothing extra shall be paid for any odd size or shapes.

6.5.1.2 BEAMS

Measurement shall be between R.C.C. columns or resting on walls cubic metre of the work done as shown on the drawing. The depth shall be taken from the bottom of the stem to the top of the slab or projections if any. Lintels when connected to main RCC structure shall be measured as beams.

6.5.1.3 COLUMNS

These shall be measured in cu.m. of work done according to the drawings from top of the footing or raft slab to the top of slab in case of ground floor and from top of slab to the top of slab for all other floors. Unless specified otherwise nothing extra shall be admissible for any odd size and for any special section and shape of column i.e. square, rectangular, round, elliptical etc. and laid at any angle as may be shown on drawings.

6.5.1.4 SLABS

These shall be measured in cubic metre of the work done as per drawings. These shall be measured from beam to beam, wall to wall or beam to wall including bearing part on the wall. Unless otherwise specified in the schedule nothing extra shall be admissible for slabs laid to slope, canopy slabs or those of any shape or section any cantilevered part of any projections small or big beyond the bearing beam or wall as may be shown on drawings or the slabs sunk for lavatory. Plaster shall be paid for separately.

6.5.1.5 WALLS

These shall be measured from end of slab/column/beam, termed wall. It shall be paid in cubic metre excluding the finish.

6.5.1.6 LINTELS

All lintels spanning over independent openings unrelated to main RCC structure shall be measured under lintels, in cubic metre of the work done according to drawing. Width of the lintels shall be taken according to wall thickness specified unless set back or projected from wall as shown on the drawing. Unless otherwise described or shown on the drawings, bearing over the openings shall be depth of the lintel or 150mm whichever is higher.

6.5.1.7 FACIA AND PARAPETS

These shall be measured in cu.m. of the concrete work down as per design, drawing, exclusive of finishing. For sills, all projection up to 100mm beyond the wall on either side shall be made without any extra charge and these shall be inclusive of forming pattern of drip mould.

6.5.1.8 WATER TANK

These shall be measured in cu.m. of concrete work done for all the slab, walls etc. forming the water tank. Nothing extra shall be allowed for its shape, size and location. It shall be paid in cubic metre of the concrete work.

6.5.1.9 COLUMN FOOTINGS

These shall be measured in cu.m. of the concrete work done as per design, drawing. Unless specified otherwise, nothing extra shall be admissible for any particular shape of the footing.

7. REINFORCEMENT

7.1 INSTALLMENT OF REINFORCEMENT STEEL

Supplying and fixing tor steel reinforcement in RCC work including bending, binding with GI wire, placing in position including the cost of binding wire, as per drawing

Reinforcement shall be free from pitting due to corrosion, loose rust, mill scale, paint, oil, grease, adhering earth, or other materials that may impair the bond between the concrete and the reinforcement or that may in the opinion of the Employer/ Engineer cause corrosion of the reinforcement or disintegration of the concrete.

7.2 BAR REINFORCEMENT

Bar reinforcement described as "TOR steel" shall be hot rolled deformed bars or cold twisted steel bars. With respect to manufacture, quality, physical properties and related requirements, reinforcement of the fore-going descriptions shall comply with appropriate parts of IS Standards Nos. 432-1966, 1139-1966 and IS 1786-1966 for mild steel and tor steel respectively.

7.3 CERTIFICATES AND TESTS FOR REINFORCEMENT

For each consignment of bar reinforcement used in the works, the Contractor shall, if required, supply a certificate giving the ultimate strength, yield stress and elongation and the result of the cold bend test for each type and each size of bar. Tests for the purpose of obtaining the information shall conform to relevant I.S. specification.

The reinforcements supplied for which the Manufacturer's test sheets or other records are not available, or where in the opinion of the Employer/ Engineer has been subject to corrosion or other bad effects, the Employer/ Engineer shall select as many test pieces as he deems necessary, and the Contractor shall supply and deliver the test pieces free of cost without reimbursement and pay the cost of preparing and testing them as well. This test shall be performed in presence of the Employer/ Engineer.

7.4 DIMENSIONS OF REINFORCEMENT

The size of reinforcement bar described in the working drawings or elsewhere shall be the minimum and the rolling margin and other tolerances shall be wholly above this size. The length of a reinforcement bar shall not be less than the length on the drawing or elsewhere and shall not be more than 50 mm in excess of that length. Bar bending schedule shall be prepared by the Contractor and submitted for approval of the Employer/ Engineer. Such schedules shall be prepared based on reinforcement details, prior to the execution of the work. Nothing extra shall be paid for this.

7.5 BENDING REINFORCEMENT

Reinforcement bars shall be bent by approved means producing a gradual and even motion. Bars shall comply with the dimensions described in the drawings. Overall dimensions of bent or internal dimensions of bending or the like shall be within a tolerance of 30mm Any discrepancies or inaccuracies found by the Contractor in the drawings or other documents shall be immediately reported to the Employer/ Engineer whose interpretation and requirements relating there to shall be accepted. The internal radius of bends shall be not less than twice the size of the bars unless described to the contrary on the bending lists or elsewhere in the drawing. Hooks and other anchorage bends for tor steel shall be bent to an internal radius of the twice diameter of the bar. This internal radius of the bends of corners of binders or stirrups or links shall be half.

7.6 FIXING REINFORCEMENT

Reinforcement shall be accurately fixed and by approved means maintained in the position described in the drawings. Bars intended to be in contact shall be securely wired together at all such points with 16 gauge soft iron tying wire. Binders, stirrups and links shall tightly embrace the bars with which they are intended to be in contact and shall be securely wired or, if approved, spot welded thereof.

Reinforcement shall be lapped, joined or spliced only at the positions described. Splices and the like found to be necessary elsewhere shall be formed only if and as instructed. Lapping shall be provided as shown in the drawing and as permitted. Where practicable bars in each member shall be assembled and fixed in the form of a rigid cage or skeleton before placing in the moulds or formwork. For this, all lapping bar on beams and slabs shall be scattered i.e. as far as possible minimum number of laps shall be permitted in one section of slab and only one lap will be permitted at one section in case of beams. In case of columns the lapping of bar shall be permitted only at the centre zone of column.

7.7 LAPPING LENGTH

a) In case of beams and slabs, lapping length shall be 57 dia. of designed bar.
b) In case of columns the lapping length shall be 45 dia. of the designed bar.

Immediately before concreting, the reinforcement shall be checked for position, cleanliness, freedom from rust or retarding liquid. Means shall be taken to ensure that reinforcement remains correctly in position with required cover during the placing and compacting of the concrete.

Reinforcement projecting from work being concreted or already concreted shall not be bent out or its correct position for any reason unless approved and shall be protected from deformation or other damage. Reinforcement left projecting for bending with future extensions shall be thoroughly coated with cement grout wash or encased in concrete or other-wise protected from corrosion as instructed.

7.8 COVER OF CONCRETE AND SPACING OF BARS

Unless otherwise described, the clear cover of concrete to the reinforcement shall be as follows:

7.8.1 Horizontal, Vertical or Inclined Slabs

15mm or the size of the bars whichever is greater.

7.8.2 Lintels

20mm or the size of the bar whichever is greater.

7.8.3 Beams

25mm or the size of the main bars whichever is greater. Binders and the like 15mm minimum.

7.8.4 Columns

Cover for main bars for columns not exceeding 20 mm diameter shall be 25mm and the main bars in columns exceeding 20mm diameter shall be 40 mm or the size of the main bars whichever is greater, 15mm minimum for rectangular binders or links or helical binding.

7.9 CHAIRS AND SUPPORTS FOR REINFORCING BARS

Chairs of appropriate depth in suitable form shall be installed on all top bars in case of slab. The shape of chair shall be checked by the Employer/ Engineer. The spacing for slab top bar chairs will be such that during casting time, the reinforcement shall not get disturbed.

7.10 CONCRETE CHAIR BLOCK FOR BOTTOM BARS

All bottom bar in slabs shall be raised as accordance with cover for concrete by means of small concrete blocks tied with binding wires. These blocks shall be placed at sufficient intervals during casting time, to maintain the cover for reinforcement.

In case of beams, the bottom blocks as well as side reinforcement shall be provided with concrete chair blocks so that the reinforcement shall not get disturbed during casting.

7.11 MEASUREMENT

For the purpose of ascertaining payments due to the Contractor the basis of measurements of bar or wire reinforcement used in the works shall be the calculated weight in kg which shall be computed from the sizes and lengths of the bars or wires described on the working drawings or elsewhere. No allowance in the weight shall be made for cutting to waste, rolling margin, extra length, lapping of bars or other tolerances. Nothing extra, whatsoever shall be admissible on bars 12 mm and below, rolled by the Contractor directly from the market on actual weight basis. The Contractor is deemed to have taken this factor into consideration and quoted his rate accordingly in the tender. The Contractor's rate for unit weight of bar reinforcement shall be deemed to include all allowances omitted in calculating the weight and for any other tolerances, and for providing tying wire, spacer bars, chairs and cover blocks as specified hereinafter for carriage and handling, for bending hooking, cranking, and for fixing and maintaining in the correct position in the works. Standard laps of the lengths as shown in the drawing or as instructed at site shall be admissible. Standard hooks (9 times the dia. for each hook for tor steel) shall be added to the finished length to arrive at the length of the bar for cutting and measurement. No hooks are required for ribbed or tor steel.

8. FORMWORK

8.1 CENTERING AND SHUTTERING

Centering and shuttering of plywood and steel formwork in slabs, walls, beams etc. including propping, strutting etc. and removal of forms including applying form oil to shuttering.

8.2 DESIGN

Formwork shall be designed and constructed for removal so that the concrete can be properly placed and thoroughly compacted. Formwork shall be firmly supported and adequately strutted, braced, or tied. It shall be capable of adjustment to the lines and dimensions of the finished concrete and it shall be sufficiently strong to resist without distortion, the pressure of concrete during its placing and compaction, and other loads to which it may be subjected. It shall not be liable to suffer distortion under the influence of the weather. When concrete is to be vibrated, special care shall be taken to ensure that the formwork will remain stable and the joints tight. The safety and adequacy of centering and shuttering shall be the sole responsibility of the Contractor. The Contractor shall if required supply to the Employer/ Engineer drawings and calculations for the formwork he proposes to use, for the concrete work.

8.3 MATERIAL FOR FORMWORK

All surface of the formwork shall be of plywood or steel plate which shall give uniform concrete surface after removal. No wooden planks or other means of form work shall be acceptable. For struts and props the Contractor shall use sal wood 75mm x 100mm props or Iron lifting type strut over form base i.e. it shall not get depressed at the time of loading or casting. Any strut, if found defective shall be replaced as directed by Employer/ Engineer.

8.4 DEFLECTION AND CAMBER

The Contractor shall make allowance for any settlement or deflection of the formwork that is likely to arise during Construction, so that the hardened concrete conforms accurately to the specified line and level. The Contractor shall also make allowance in the formwork for any camber specified by the Employer/ Engineer to allow for the elastic deflection of structural members and deflection due to creep of the concrete. In the absence of any specified camber, the soffit of all beams and slabs shall be given a camber equal to 1/240 of the span length to ensure that the structure has the prescribed shape after removal of the forms.

8.5 SUPPORTS

Formwork shall be constructed so that the formwork to the sides of members can be removed without disturbing the soffit formwork or its supports. Props and supports shall be designed to allow the formwork to be adjusted accurately to line and level and to be erected and removed in an approved sequence without damage to the concrete. Supports shall be carried out which is sufficiently strong to afford the necessary support without damage to any portion of the structure. This may mean in some cases that it be carried down to the foundations or other suitable base. Props and bracing shall be provided for the temporary support of composite construction where separately specified.

8.6 JOINTS AND EDGES

All joints in the formwork shall be close-fitting to prevent leakage of cement slurry from the concrete. At construction joints, formwork shall be tightly secured against previously cast or hardened concrete to prevent the formation of stepping or ridges in the concrete. Formwork shall be constructed to provide straight and true angles, arises or edges. Where cambers are shown on the Drawings, the fillets shall be accurately cut to size to provide a smooth and continuous chamfer. Formwork panels shall have true edges to permit accurate alignment at sides and provide a clean line at construction joints in the concrete which shall be fixed with their joints either vertical or horizontal, unless otherwise specified.

8.7 SUNDRIES

Formwork shall be provided to the top surface of concrete where the slope or the nature of the work requires it. Provision shall be made for forming holes and chases for services and for building in pipes, conduits and other fixings, as shown on the drawings. The material and position of any ties passing through the concrete shall be as directed by the Employer/ Engineer. Except where corrosion of a metal tie is unimportant, it shall be possible to remove a tie so that no part of it remaining embedded in the concrete shall be nearer to the finished surface of the concrete than the specified thickness of cover to the reinforcement. Any holes left after the removal of ties shall be filled with concrete or mortar of approved mix.

8.8 CLEANING AND TREATMENT OF FORMWORK

Spaces to be occupied by concrete shall be free from all rubbish, chipping, shavings, sawdust, dirt and tying wire etc., before concrete is placed. The formwork to be in contact with the concrete shall be cleaned and treated with suitable non-staining form oil or other approved material. Care shall be taken that oil or composition is kept away from contact with the reinforcement or with concrete at any construction joints. Surface retarding agents shall not be used except with the permission of the Employer/ Engineer. Formwork shall be thoroughly cleaned after each use. Damaged or distorted formwork shall not be used.

8.9 PAINTING ON FORMWORK

The concrete repellent painting on all contact surface of the formwork shall be of approved non bituminous colourless form oil so as to preserve the natural color of the concrete. The repellent compound shall be applied so as to effect quick removal of form work. It shall be applied as per the manufacture's direction. No compound shall be used which will adversely affect the concrete work or surface. No form repellent compound may be used without specific written approval of the Employer/ Engineer regarding type, manufactures, location and extent of use and application procedures.

8.10 REMOVAL OF FORMWORK

All formwork shall be removed without shock or vibration that might damage the concrete. Before the soffit and props are removed the surface of the concrete shall be exposed where necessary in order to ensure that the concrete has hardened sufficiently. In no circumstances shall formwork be struck of until the concrete reaches cube strength of at least three times the stress to which the concrete may be subjected at the time of striking. The formwork to vertical surfaces such as walls, columns and sides of beams may be removed after 24 hours in normal weather conditions although care must be taken

to avoid damage to the concrete, especially to arises and features. In cold weather a longer period may be necessary before striking. Suitable curing methods should immediately follow the removal of the formwork. The following minimum times shall elapse before removal of formwork:

The times given for the removal of props are based on the assumption that the total live load plus dead weight to be supported at the time of removal is not more than one half the total design load. For horizontal members where the loading is a higher proportion of the total design load these times may need to be increased.

8.11 MEASUREMENT

Measurement for payment shall be done of the area on which centring shuttering has been done. It shall include the application of the form oil and removal of the formwork as well.

9.0 STONE WORK

9.1 STONE WORK IN FOUNDATION AND IN SUPERSTRUCTURE

All stone work shall be made with random rubble stone from the best quarry and built in 1:4 cement mortar (1 cement: 4 sand) The stones must be approved by the Employer/Engineer before using in the construction work.

The stone shall be hard, tough sound and durable. No stone shall be less than 6" and more than 18". Face stone should be comparatively larger and uniform in size and colour to with a good appearance. Breadth of face stone should be greater than height. All the stones shall be wetted thoroughly before laying.

The joints should not be thicker than 3/4". Face joint should be thinner. No pointing shall be allowed afterwards. In the corners, the stones should be chiselled at both sides and also on the top of the stone walls where the wall is ending and such surfaces being built up. Not more than 2 feet height of masonry shall be constructed at one time.

9.2 MEASUREMENT

The measurement of the work shall be the product of length, height and thickness. All the thickness of stone work shall be measured and will be as per drawing.

11. FINISHING:

11.1 PLASTERING WORKS

11.1.1 CEMENT SAND PLASTERING ON WALLS IN CEMENT SAND (C/S) MORTAR

11.1.1.1 SCAFFOLDING

For plastering work on walls, unless otherwise specified, double scaffolding having two sets of vertical supports shall be provided. The Contractor shall be responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it.

11.1.1.2 MORTAR

The type of mortar mix to be used shall be as specified in the description of the item.

11.1.1.3 WORKMANSHIP

All joints in the masonry shall be raked out properly to a minimum depth of 1/2". Dust and mortar shall be brushed out. The surface shall then be thoroughly washed with water, cleaned and kept wet before plastering is commenced. The thickness of the plaster shall be as specified. The plaster may be applied in 1, 2 or 3 coats as specified or as directed by the Employer/ Engineer, but no single coat shall exceed 1/2" thickness.

Ceiling plaster shall be completed before the commencement of wall plaster. All wall plaster shall be started from the top and work down towards floor.

Gauges of plaster 6" x 6" shall be first applied horizontally and vertically, at not more than 6 ft. intervals over the entire surface to serve as guides for plastering and to ensure even thickness and a true surface. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface. The surface shall be finally given the type of finish as specified in the description of the item or as directed by the Employer/ Engineer. All corners, arises, angles and junctions shall be truly vertical or horizontal as the case may be and shall be carefully finished. Rounding or chamfering corners, arises, junctions etc. where required shall be done without any extra payment.

In suspending work at the end of the day, the plaster shall be left, cut clean to line both horizontally and vertically. The work shall be closed on the body of wall and not nearer than 6" to any corners on arises. When recommencing, the edge of the old work shall be scraped clean and wetted before plaster is applied to the adjacent areas.

Curing shall be started 24 hours after finishing the plaster. The plaster shall be kept wet for a minimum period of 7 days. The dates of plaster shall be legibly marked on the various sections of the wall so that curing for the specified period thereafter can be watched. Any cracks which appear in the surface and all portions, which sound hollow when tapped or are found to be soft or otherwise defective, shall be cut out in rectangular shape and redone as directed by the Employer/Engineer.

11.1.1.4 MEASUREMENT

It shall be done in square metre of the surface over which the plaster has been done. The thickness of the plaster shall not be taken into account except for independent columns where the measurement shall be of finished surface allowing 12mm over the designed dimensions. Opening shall be deducted in full, and jambs and soffits shall be allowed. Openings less than 1 sq.m shall not be deducted and nothing extra shall be paid for finishing jambs, soffits and the sides of such

openings. Unless otherwise specified, nothing extra shall be allowed for plaster on independent columns and beams, short with or on curved surface.

11.1.2 CEMENT SAND PLASTERING ON CEILING IN CEMENT SAND (C/S) MORTAR

11.1.2.1 SCAFFOLDING

Stage scaffolding independent of the walls shall be provided for all ceiling plaster.

11.1.2.2 MORTAR

The mix of mortar to be used shall be as specified in the description of the item.

11.1.2.3 WORKMANSHIP

Projecting burns of mortar formed due to the gaps at joints in shuttering shall be removed. The surface shall be scrubbed clean with wire brushes. In addition, concrete surfaces shall be pack marked with a pointed tool at spacing of not more than 2" centres to ensure proper key for the plaster. The surface shall then be cleaned of all oil, grease, etc. and well wetted before the plaster is applied. The thickness of the ceiling plaster shall be 1/4" to 1/2" unless otherwise specified. The plaster may be applied in one or two coats as specified.

Ceiling plaster shall commence only after the slab above has been finished and the centering removed. In the case of ceiling of roof slabs, plaster shall commence only after the terrace work has been completed. Gauges of plaster 6" x 6" shall be first applied at not more than 5ft. intervals in both directions to serve as guides for the plastering and to ensure even thickness and a true surface. The surfaces of these gauged areas shall be truly in the plane of the finished plaster surface.

The surface shall be finally given a smooth finish, unless otherwise specified, when the work is in progress all horizontal lines and surfaces shall be frequently tested for their accuracy. Curing shall be started 24 hours after finishing the plaster and shall be continued for a minimum period of 7 days. The dates of plaster shall be marked so that curing for the specified period thereafter can be watched.

Any cracks which appear in the surface and all portions, which sound hallow when tapped or are found to be soft or otherwise defective, shall be cut out in rectangular shape and remedied as directed by the Employer/ Engineer.

11.1.2.4 MEASUREMENT

Measurement shall be done in square metre of the surface over which the plaster has been done. The rate shall include all the cost of materials and labour etc.

B. SPECIFICATION FOR PLUMBING AND SANITARY WORK

1. WATER SUPPLY

This section covers the basic requirements for water supply, general requirement of plumbing connection to water supply to water systems.

All pipe work shall be so laid or fixed and maintained as to be and to remain water tight thereby avoiding waste of water, damage and the risk of contamination of water conveyed.

Underground piping shall be laid at such a depth that it is unlikely to be damaged by frost, traffic loads and vibrations. Special precautions shall be taken to avoid damage to the piping by corrosion, water hammering. No abrupt bend shall be made to avoid friction loss.

1.1 LAYING OF MAINS AND PIPES

The mains and pipes on site shall be laid in accordance with good standard practice. The work shall cover all materials required for such pipes and fittings. The work shall include line marking, level marking, excavation and laying, filling with excavated materials, jointing of pipes, groove cutting, fixing with couplings, T-bend etc. complete with testing and ready for operation.

1.2 MATERIALS

The pipes shall be galvanized mild steel seamless screwed and socket tubes confirming to the requirements of at least IS: 1239-1938 and of at least commercial grade of INDIAN TATA tubes of medium grade or as approved by the Employer/ Engineer. All fittings for pipe shall be galvanized mild steel. All pipes shall be tested before use in laying. In general, the pipe diameter shall be in the range of 1"-2" as specified in the Bill of Quantities. Stop-cock, valve etc. shall be of appropriate diameter and capacity made from gun metal of approved quality and make. Jointing of pipes shall be as per standard practice and or as directed.

1.3 METHOD OF EXECUTION

The setting and arrangement of pipes and service net work shall be prepared by the Contractor and all detail drawing shall be prepared and produced for the approval of the Employer/ Engineer. All pipes shall be completely concealed from view unless and until the requirements and as approved by the Employer/ Engineer.

No bend or curve in any line shall be made as it shall diminish the water way or internal diameter of pipe. Water pipes are cut to size ends to be connected shall be threaded and screwed with sockets, joints of G.I. to make all of them completely water tight. All branching or bend shall be done with the help of T or U bends connected with couplings and sockets.

1.4 INSPECTING & TESTING

All pipe fittings and appliances shall be inspected by the Contractor and shall produce the manufactures guarantee of the products. Any defective items shall be clearly marked as rejected and forthwith removed from the site. The Contractor shall inform the Employer/ Engineer for the check before laying.

After laying and jointing, the main shall be slowly and carefully filled with water, so that all air is expelled from the main by providing with stop-cock, allowed to stand full of water for a few days, if time permits, and then tested under pressure. The test pressure shall be 5 kg/cm or double the maximum working pressure, whichever is greater. The test pump be manually operated or power driven. The testing shall be done with joints opened.

The service pipe shall then be inspected under working conditions of pressure and low when all draw off taps are closed, the service pipe shall be absolutely watertight. Any control by the Employer/ Engineer shall not relieve the Contractor of his responsibility for the accuracy of the layout, fittings, or part of them with regards to their functions and quality.

The rates shall be inclusive of all materials required such as pipes, fittings, clamps etc., line marking, level marking, groove cutting, fixing in position, construction of Civil Works as per civil specification, testing all complete. The water supply lines shall be measured in running meter correct to an inch for finished work, including fitting link, joint coupling T-L bend etc. exclusive of taps and valves. Valves, taps shall be measured in number and shall be paid as per Bill of Quantity. Water tanks shall be measured in lump sum inclusive of outlet, inlet, overflow fittings and re-make of civil works as per civil work standards and specification.

The rate shall be inclusive of supply fitting fixing, labour etc. all complete and fixed satisfactorily.

2 DRAINAGE AND SANITARY

The Contractor shall carry out survey for the detail plan for the sanitary installation or drainage installation for approval to the Employer/ Engineer.

The Contractor shall ascertain the Employer/ Engineer about the approximate level of subsoil water and flood level in relation to the sewer system.

Any drainage system be designed and produced for approval to the Employer/ Engineer.

Where no method of disposal is possible, foul water may be collected and dispersed into subsoil, the general sub-soil water level and the sub-soil conditions shall be ascertained including the absorptive capacity of the soil.

If the sub-soil dispersed or soak pit system would be followed, the pit shall not be in the vicinity of water supply source at least by 50cm.

The efficient and adequate system shall be proposed by the Contractor for approval of the Employer/ Engineer.

2.1 SEWER PIPE

2.1.1 PVC PIPES

A PVC pipe conveying to a drain any solid or liquid shall be circular and shall have a minimum diameter of 100mm. The PVC pipes shall be laid from manhole situated outside the building and shall be continued up to septic tank, septic tank to soak pit and separately from building to soak pit.

2.2 RAIN FALL AND RUN-OFF

Rain fall statistics for the area shall be studied by the Contractor. The rain-water run-off of the site area shall discharge directly or by means of a channel into or over an inlet to surface drain.

2.3 TESTING

All sewer pipes and all other pipes when above ground shall be approved by the Employer/ Engineer. Smoke test may be conducted under pressure or 25mm of water maintained for 15 minutes after all trap seals have been filled with water.
Any leakage will be visible and the defective part of work shall be made good by the contractor on his own cost.

The rates shall be inclusive of all materials required such as pipes, fittings, bends, clamps, line marking, level marking, fixing in position, testing etc.

The pipes shall be measured for finished work including fittings, link, joint coupling, T, L, bend, window etc. and paid as per approved rate in Bill of Quantities.

3.0 SELECTION AND INSTALLATION OF SANITARY APPLIANCES

Selection, installation and maintenance of sanitary appliances shall be done in accordance with standard practice.

All sanitary appliances and fittings shall be carefully examined for defects before they are installed and also in the completion of work. The Contractor shall give notice to the Employer/ Engineer from time to time prior to installation and execution of work at least 7 days before fitting after getting approval for the make of appliances.

The rate for all such work shall be for all works described in the Bill of Quantity, description, specification, drawing and direction to execute and to complete in all respect, in position, level dimension, with all necessary fixtures, clamps, connections etc. including cutting, bending, grooving, installation and re-installation of civil works as per specification with materials.

3.1 SANITARY WORKS AND FIXTURES

The work shall cover providing and installing sanitary works and fixtures complete set with all necessary fitting, internal and external for fixing at positions of the building including cutting and making good the damaged groove to its original finish and ready for operation after testing.

3.2 MATERIALS

All sanitary fittings shall be as approved by the Employer/ Engineer. Alternatively a schedule of other manufactured fittings may be submitted for approval of the Employer/Engineer and these shall be indicated in detail along with the tender.

3.4 SEPTIC TANK

The septic tank shall be of chimney made brick masonry work in 1:4 cement sand mortar, the foundation and floor shall be of M15 (Cement: Sand: Aggregate= 1:2:4) concrete.

Inside shall be finished with 12mm cement plaster 1:4 with 1:1 cement smooth punning or as per drawing.

The rate shall include all the necessary fittings, fixture- civil works, UPVC pipe, cowl, bend joints, etc, as per item indicated in Bill of Quantity an shall be paid as per the rate indicated in the Bill of Quantity.

3.5 SOAK PIT

Soak pits shall be constructed with honey combed brick masonry wall in 1:4 cement sand mortar filled with at least 7.5 cm size brick bats or as per drawing and as directed by the Employer/ Engineer.

The upper portion of the lining up to the inlet valve at least 40cm in height should be made with masonry in mortar cement 1:4 for strengthening, for preventing surface water to enter into the pit and to prevent rat throwing earth into the pit. The inlet pipe shall be fixed in the wall of the pit with mortar. The pit shall be covered with R.C.C slab of M15 with necessary reinforcement. The absorption area of sock pit shall depend on the nature of soil type and underground water table. The Contractor shall propose the depth and soak area and location of tanks depending on the number or users, type and nature of soil water table.

Rate shall include the civil work fixture, fill-in materials, labour etc. as per item indicated in Bill of Quantity.

3.6 MAN HOLE

The manhole shall be made as per requirement and direction. The manhole shall be made with brickwork in 1:4 cement mortar concrete base of M15, 20mm plaster with 1:4 cement smooth punning.

The cover shall be of heavy duty metallic and double sealed, complete with painting. The manhole frame bedded in cement mortar shall be given recessed for lifting hooks.

The above mention sanitary and drainage structures shall be as per drawing, the Employer/Engineer's direction and approval of the Employer/ Engineer.

The pipes shall be measured in running meter correct to a as per Bill of Quantities for finished work inclusive of bend, tee etc. The overlaps of such pipes shall not be measured.

The rate shall include all the necessary materials, labour, their fixing fittings, etc as per requirements, approval and as directed by the Employer/ Engineer. It shall contain all the performances regarding groove making, dismantling of R.C., masonry, fixing, concealing and remark with required materials to the standard specified in civil works and as per direction and approval of the Employer/ Engineer and also include labour workmanship, required fixtures with fittings all complete as directed.

4.0 BRICK MASONRY WORK

4.1 Materials

(a) Brick units shall be first class, sound, well burned, and free from defects thatwould impair its strength or affect its service-ability.
(b) Cement shall be ordinary Portland as per ASTM C150 Type I or equivalent.
(c) Sand shall be clean, fine, sharp granules, free from foreign or deleterious matter.
(d) Water shall be clean and free from acid, alkalis, oil or organic matter.
The Contractor should submit samples of cement, sand, lime and locally manufactured brick samples of six pieces for Employer's approval.

4.2 Mortar Mixtures
The type of mortar mixture for brick masonry shall be 1:4 in ratio

4.3 Brick Masonry Laying
(a) Lay brick masonry in accurately spaced courses, level, plumb and true to line.
(b) Soak brick units in clean water for one hour before laying. Units shall be damped when laid.
(c) Lay brick in running bond with joints approximately 10mm wide.
(d) When brick masonry walls cross the recessed floor cable trenches provide and install cast-in-situ concrete lintels of sufficient size and strength to support and carry masonry walls across the trench sprays.
(e) Reinforce all masonry walls with cast-in-situ reinforced concrete formed flush with the masonry surfaces for cement plaster-finish.
(f) Provide concrete plasters and horizontal tie for every 9 square meters of masonry wall surface, plus at all corners and door jambs.

4.4 Curing
Spray masonry surfaces with water twice daily for a period of 10 days, or until the surface receives a plaster finish.
4.5 Protection
Where exposed to weather, protect top of masonry with water tied material in such a way that it will protect the completed work. Masonry wall shall set for 48 hours before any load is applied on the completed work.
Payment for the Contract item “Brick Missionary Work " will be made at the lump sum price bid. Therefore, in the Price Schedule, the lump sum price shall include full compensation for all costs incurred in furnishing all materials, machines, labor and other operations related to floor concreting work of respective building.

1200 PAINTING

1201 Scope

This Section covers furnishing of materials and construction of different types of painting works in accordance with the BOQ, Drawing and this Specification or as directed by the Engineer.

1202 Delivery and Application of Paint:

All materials shall be delivered on site intact in the original drums or tins and shall be mixed and applied strictly in accordance with the manufacturer’s instructions and to the approval of the Engineer. All cement paints and washable distemper shall be applied by brush; emulsion paints shall be applied by means of a brush then rolled. All enamel paints are applied by brush or

sprayed, and bitumen and bituminous base aluminum paints are applied by brush. Before application of any paint, adjoining surfaces shall be covered by cloth, or paper and wherever paints stains it shall be removed before leaving the work in same day.
The only addition, which will be allowed to be made locally will be liquid thinners supplied or recommended by the manufacturers and none shall be, thinned more than approved by the Engineer.

1203 Preparation and priming of surfaces:

Concrete and Cement rendered surfaces shall be smooth and free from defects and shall be allowed to dry out thoroughly. Surfaces shall be thoroughly brushed down and left free from all efflorescence, dirt and dust.
All such surfaces, which are to be finished with oil or enamel paint, shall be primed with two coats of alkali resisting primer.
Plaster surfaces shall be perfectly smooth and free from defect. All such surfaces shall be allowed to dry for a minimum period of four weeks. Surfaces shall be stopped with approved plaster compound, rubbed down flush, thoroughly brushed down and left free from all efflorescence, dirt and dust.
Fair-faced surfaces shall be dry, brushed down and free from dust or dirt and shall be treated with an approved alkali resisting primer (for plastic emulsion).
Metal work generally shall be thoroughly wire brushed to remove all scale, rust, and through sand papering shall be done before any painting is done. Where severe rust exists, the special anti-rust primer must be used. After painting it shall be stored in covered shed and 60cm above ground.
Shop primed surfaces shall have bare places touched up with an approved metal primer.
Un-primed surfaces shall be given one coat of primer as last.
Galvanized surfaces, which are thoroughly weathered, shall be, brushed down with white spirit, washed down and given one coat of zinc chromate primer.
Bituminous-coated surfaces shall be given as isolating coat of shellac knotting followed by an approved metal primer.
Woodwork generally shall be rubbed down, given one coat shellac knotting, one coat wood self knotting primer, and all cracks, nail holes, defects, and uneven surfaces, etc., stopped and faces up with hard stopping rubbed down flush.
Before oiling woodwork all stains must be removed and uniform color obtained and filled.

1204 Colors and Priming:

The priming undercoats and finishing coats shall each be of differing tints and the priming and undercoats shall be of the correct types and tints to suit the respective finishing coats in accordance with the following instructions. All finishing coats shall be of colors and tints selected by the Engineer. The paintwork shall have and uniform finish and all paint for external work shall be exterior quality only.

(1) Rubbing Down:

Each coat of paint shall be properly dried and shall be well rubbed down with fine glass paper before the next coat is applied. The paintwork shall be finished smooth and free from brush marks.

Samples Cards of all paints, etc., shall be submitted to and samples prepared for approval of the Engineer before laying on and such samples, when approved, shall become the standard for work.

(2) Program:

The contractor shall so arrange his program of work that all other Trades are completed and away from the area to be painted when the painting begins.

(3) Ironmongery, Protection and Cleaning Up:

All ironmongery shall be removed from joinery before painting is commenced and shall be cleaned and renovated of necessary and re-fixed after completion painting.

Cover up all floors, etc., with non-resinous sawdust or other approved covering when executing and all painting decorating work.

Paint splashes, spots and stains shall be removed from floors, woodwork, etc., and damaged surface touched up and the whole of the work left clean upon completion.

(4) Materials:

All paint materials of specified brand shall be obtained the manufacturer or authorized dealer. All sealers, primers and undercoating are to be obtained from the makers of the finishing materials and are to be in accordance with their recommendation for the particular finish required.

(5) Knot Sealer:

For use on knots and resinous portions of woodwork.

Stopping and Filling composed of parts putty to one part of stiff white lead.

(6) Lacquer:

Approved polyurethane eggshell clear lacquer applied in accordance with the manufacturer's instructions.

- Polish shall be an approved brand of wax polish.
- Oil shall be best quality linseed oil.
- Filler for polished or oiled surfaces to be Beeswax filler.

(7) Wood Preservative:

All wood work, as specified or instructed shall, be treated after cutting and preparation but before assembly or fixing with three coats of solution consisting of one part if Atlas "A" wood preservative brown grade to three parts of water. The solution is to the brushed in all faces of all timbers unless exposed to view and painted. This is applicable in the wood frame contact with masonry and roof purling, batten and counter rafter.

The contractor shall note that this solution is HIGHLY POISONOUS and shall take all necessary precautions and instruct his workmen accordingly.

(8) Paint Application:

Painting Items as described hereafter shall comprise the following, and shall all include for preparing and priming surfaces as above described: -

Cement Paint	:Apply two coats.
Plastic Emulsion	:Apply a minimum of three coats, using a thinning medium or water only if and as recommended by the manufacturer. An approved plaster primer tinted to match may be substituted for the first coat.
Paint	:Apply two undercoats and one finishing coat of enamel gloss oil paint.
Flat oil paint	:Apply two coats of flat oil paint, using thinning medium in accordance with the manufacturer's instructions.
Oil	:Apply two coats of linseed oil.
Wax Polish	:Apply a minimum of two coats to approval.

Lacquer	:Apply three coats of Polythene lacquer as described, to approval.
Prime	:Prepare and prime only before fixing.

1205 Cement Paint

Cement paint shall be of ready mixed type in sealed container of Approved brand. It shall be procured either in 50 kg. Container or 25 kg.Container. All such container shall have unbroken seal with manufacturer's name and trade marks as well as a description of contents all clearly marked. Such paint shall be mixed and applied strictly in accordance with the manufacturer's instructions and with the approval of site In-charge. All materials shall be stored in dry place.
Only fresh cement paint shall be used, hard or set paint shall not be used. The container shall be made loose by rolling and shaking the container before opening.
First a paste shall be prepared by mixing 2 parts of cement paint powder with one part of water by volume and immediately this shall be thinned by adding another part of water to have uniform solution of consistency of paints.
Before application of paint all dust and foreign materials shall be removed from the surface by use of wire brush. The surface shall be allowed to run off. The fresh mixed point shall be frequently stirred during application and no mixture (paint) shall be used after an hour of mixing. The first coat shall be kept wetted for at least 24 hours before the second coat is applied. The surface shall be thoroughly wetted before the second cost is applied.
The final painted surface shall exhibit uniform and good finished appearance. Measurement shall being square meter of actual covered area. No extra shall be allowed for scaffolding, curing and painting corners, plaster strips etc.

1206 Enamel Paint

The enamel paint shall be of Approved Brand. All surfaces to be painted shall be planed and thoroughly sand papered, first by using No. 120 sandpaper. Ordinary putting shall fill up nail holes, cracks or other in equalities. Putting shall be made up of 2 parts of best quality whiting (absolutely dead stone lime) 1 part if white lead mixed together in linseed oil and kneaded (3 oz. of linseed oil to 1 lb. of whiting). A primer coat shall be locally applied in holes, cracks etc. before putty is applied.
After the surface is dry, it shall be sand paper by using No. 60 sandpaper.
Surface so prepared shall be painted with one coat of primer. The primed surface when dry shall be sand papered by using No. 100 sand paper.
The primed surface so prepared shall be painted with one coat of selected enamel using bristle brush and not horsehair ones. The paint shall be applied in thinnest possible layers with parallel strokes.
Care shall be taken to ensure the surface being free from dust or other foreign material before priming or enameling the surface. No paint shall splash on the floor, wall jambs, sill or other part of the building.
Primers and paints shall be of first class approved quality and of approved manufacturer as specified. These materials shall be ready mixed and in sealed tins with manufacturer's name, color and instruction clearly painted in the container.

1207 Washable Distemper

Washable distemper shall be of approved Brand. The Engineer shall examine the paints before seal is broken.
Only fresh distemper shall be used, hard or set shall not be used.

1208 Plastic Emulsion Paint

Approved brand of plastic emulsion paint shall be used in the plaster of Paris or lime punned surfaces.

1209 Bituminous Aluminum Paint

Bituminous Aluminum paint shall be of approved Brand. The Engineer shall examine the paints before seal is broken.

1309 Red Lead Primer

Red Lead primer paint shall be approved brand. The lead content in the paint shall be less than 60% by weight. The site in charge shall examine the paints before seal is broken.

1210 Chapra Polish

Before application of Chapra polish, the timber surfaces shall be thoroughly sand papered to obtain smooth surfaces and all the dust are removed from the surfaces. A coat of primer of chalk power mixed with resign is applied and sand papered to fill in the voids and joints.
The chapra polish is prepared from the chapra mixed with spirit. The chapra must completely dissolve in the spirit. Over the primed surfaces, two layers of resin is applied by the smooth cotton clothes and dried.

1211 Polyurethane Paint

Approved polyurethane or equivalent eggshell clear lacquer applied in accordance with the manufacturer's instructions.
Polish shall be an approved brand of wax polish.
Oil shall be best quality linseed oil.
Filler for polished or oiled surfaces to be Beeswax filler.

1212 White Washing

Fresh white lime slaked at Site of Work shall be mixed with clean water to make thin cream. It shall be screened through a coarse cloth, and gum (glue) in the proportion of 100 grams to 16 liters of water shall be added.
The surface to be white washed must be dry and thoroughly cleared from dust and dirt. The wash shall be applied with "Babio" or brush, vertically and horizontally alternately, and the wash kept stirring in the container while using as per standard code of practice..
No paint should splash on floor or door/window frames and panels.

1213 Measurement

Prices of paints, etc., shall include for preparation of surfaces, rubbing down between each coat, stopping, knotting, etc., and all other Work in connection as described and as necessary to obtain a first class and proper finish. Should the description stated in the items of the bills be insufficient in the Contractor's opinion to obtain such a finish, the Contractor must allow in his prices for such extra coats, materials or Work necessary to obtain such a finish to the Engineer's approval. Price must include for the provision of all necessary scaffolding, plant and tools, and also for applying different colors and cutting into where and as necessary.
Painting Items as billed hereafter shall comprise the following, and shall all include for preparing and priming surfaces as above described:-
Cement Paint - Apply two coats.

Plastic Emulsion - Apply a minimum of three coats, using a thinning medium or water only if and as recommended by the manufacturer. An approved plaster primer tinted to match may be substituted for the first cost.
Paint - Apply two undercoats and one finishing coat of enamel gloss oil paint.
Flat oil paint - Apply two coats of flat oil paint, using thinning medium in accordance with the manufacturer's instructions.
Oil - Apply two coats of linseed oil.
Wax Polish - Apply a minimum of two coats to approval.
Lacquer - Apply three coats of Polyurethane lacquer as described, to approval.
Prime - Prepare and prime only before fixing.
Measurement of all the painting works will be made in m^2 of works as specified except for the grills, handrails, railing and cornices.

1214 Payment

Payment for work will be made on the basis of contract unit price indicated in the BOQ.
The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified

1700 METAL WORK

Generally all materials shall be the best of their respective kinds, free from defects, and to be obtained from approved manufactures. All work shall be carried out in a workman like manner and strictly as directed by the Project Engineer. The materials in all stages of transportation, handling and storage shall be kept clean, free from injury and breaking, bending and distortion prevented.
All smith's work shall be forged clean from the anvil, all screwed work shall have full internal and external threads.
Balustrades, etc., shall be well framed together and all connections properly fitted, shouldered, drilled, tapped and screwed together with set screws counter sunk flush with the surface where indicated.
Welded joints shall be neatly made, filed smooth and left clean and adequate means shall be employed for temporarily fastening the parts to be welded together until the joints are welded.
Nails, Spikes and Bolts shall be of approved manufacture and best quality mild steel or wrought iron of lengths and weights approved by the Project Engineer.
Nails shall comply with the relevant British or Indian standard Specification.

(1) Windows and Frames

Windows shall not be forced into openings which are out of square or too small. The windows shall be secured at head jamb and sill, and care shall be taken that windows shall be secured distorted when screwing up to lugs and fixing screws. Windows shall be grouted with cement mortar into the prepared openings and joints between building openings and window frames shall be caulked with mastic cement obtained from the window manufactures.

(2) Building in

Unless otherwise described, all items of metal work shall include for "building in" to concrete or walling etc. and for "making good" finishing thereto.

1701 Aluminium Windows Frame and Shutters

(1) Material

These shall be fabricated from 15 micron natural or color anodized Aluminum profiles conforming to IS: 733-1983.

The glazing glass shall be clear IAG float glass or equivalent without any distortion.

The window shall be made out of extruded aluminum section (Al. Mg. Si.) and shall conform to IS – 63400, AA-6063 unless otherwise directed. Aluminum sections shall be anodized and the anodic film shall be 12-15 microns. The colors shall be as directed. The 2-3 tracks on outer frame of standard size otherwise directed shall be fixed in the position by using heavy duty plastic grips with necessary plugs and fillers. All the sliding shutters shall be provided with two ball bearing rollers and ratting pieces/guides one each at the top and bottom, weather strips all around. Openable window shall be double weather stripped, one strip shall be provided in outer frame and outer shall be in the shutter frame. The hinges or stay hinges of openable window shall be strong. Pin of the hinges shall be of non-corroding materials, preferably nylon/steel. All the joints shall be mechanically fixed. All the window shutter shall be provided with special locking arrangement. Glass shall be fixed in the shutter by means of rubber gaskets.

(2) Construction Procedures

The sliding window frames are of two-track design and the shutters are to be jointed by special cleats for extra strength. Rollers mounted on ball bearings are to be fitted to obtain smooth operation. The sliding shutters shall have provisions for grooves for weather strips to exclude wind, water or dust ingress. The shutters are glazed with 4mm thick approved quality and clear transparent glass using gaskets of ethylene- propylene or PVC (EPDM/ PVC). The doorframe shall be made of aluminum extrusion as per design. The ventilator frames with fixed glass shall be of same dimension as the sliding two-track frame. The frames and shutters are to be fabricated by using the crimping method of corner jointing. Corners of frames are to be miter cut on high speed TCT saw machines to give burr free corners. Sturdy corner cleats should hold the frames with only a hairline corner joint visible and the frames should be square/ rectangular and free from distortions. The frames shall be firmly secured to the walls in line and level. Only aluminum screws shall be used for joining and no welding will be allowed. The joint between the frame and the plaster on walls, sill and lintel beam shall be filled with silicon sealant. The aluminum windows/ ventilators/ doors shall be free from scratches and other visible defects.

The frames are fixed to the wall with plastic grips and steel screws of suitable color.

(3) Measurement

Measurement of works will be made in m^2 of works as specified.

(4) Payment

Payment for work will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1702 Mild Steel Folded Door and Windows Frame and Shutters

(1) Materials

Specifications and Codes: All work shall conform to relevant Indian/ British or American Standard specifications and codes of practice for materials, methods and practices.

1. All metals shall be free from defects impairing strength durability or appearance

and shall be of best commercial quality for each intended purpose.

2. Fastenings, which are exposed, shall be of the same materials, color and finish the metal to which they are applied, unless otherwise shown on the Drawings, or specified. All items employed with galvanized iron and steel shall be galvanized ferrous metal.
3. Steel: Mild steel shall comply with B.S. 15, where a guaranteed yield stress is required and shall comply with B.S. 3706 Grade –I for other general uses where a guaranteed yield stress is not required that rolled sections shall comply with B.S. or Mild rolled steel sections/ frames for windows, doors etc. shall be as B.S. 990: Pt2: 1972 or B.S.1787, 1951 or IS 2062-1962. Pressed steel sections & frames for windows, doors & ventilators shall comply with IS 4351 1976.
4. Sheet Steel: Shall conform to the requirement of British Standard Specifications.
5. Filter Metal for Welding: Welding electrodes for manual shielded metal are welding shall conform to British Standard Specification.
6. Details and Specification: of accessory items for which standard products are available are representative guides to requirements for such items Standard products generally meeting such equipments will be accepted, if details of construction and installation are approved of the consultant.

Painting and Protection:

1. All ferrous metal surfaces, except pre-finished galvanized items and those obviously not to be painted, shall before leaving the shop or manufacturing plant, be cleaned of all scale, rust, grease and other foreign matter and shall be given one (1) thorough step coat on all surfaces, of an approved primer of red lead until and unless changed, ready and compatible for finish painting at the building site under painting Section. Primer shall be compatible with materials to be used infield painting and shall be used directly from factory-labeled containers. Touch-up damaged and abraded spots after installation using same paint. Steel fully embedded in concrete shall be left unpainted.

Workmanship

1. All work shall be executed by experienced mechanics and shall conform to details, be clean and straight with sharply defined profiles. Unless otherwise particularly noted, finished surfaces shall have smooth finish.
2. Curved work shall be formed to true radius and punching shall be done cleanly so as not to deform or mar adjacent surfaces.
3. Shop connections shall be welded or rivaled and field connections bolted unless otherwise indicated. Use flat-head counter-sunk rivets finished flush where riveted connections are exposed to view in finished work. Bolts shall be turned up tight and threads deformed to prevent loosening.
4. Castings shall be sound and free from warp, holes and other defects that impair strength and appearance. Exposed surfaces shall have a smooth finish with sharp well-defined lines and arises. Machined joints shall be milled to a close fit. Provide all necessary logs, brackets and similar items so that work can be assembled and installed in a neat, substantial manner.
5. Flanges shall be concealed where pre thickness of metal/ metal sheets and sheets

and details of assembly and support shall be such as to provide sample strength and stiffness.

6. Provide holes and connections as required to accommodate the work of other trades and for site assembly of metal work. Holes shall be drilled or punched and reamed in the shop.
7. Joints and connections exposed to weather shall be formed to exclude water.
8. All materials and workmanship under this section shall be subject to inspection in the mill, shop and field by the consultants.

(2) Construction Procedures

Doors, windows, ventilators and other frames required for fixing glazing/ shutter shall be out of high strength aluminum or steel as described above. All samples are to be approved by the consultant prior to fixing, and the units shall not be forced into opening which are out of square or too small. The doors, windows and ventilators shall be secured at head jamb and sill, and care shall be taken that the units are not distorted when screwing up to lugs and fixing screws. Frames shall be grouted with cement mortar into the prepared openings and joints and the frames shall be caulked with mastic cement/ synthetic resin obtained from the window manufacturers, or as approved and specified. Metal doors, windows and ventilators shall be provided with one shop coat of rust inhibitive paint and three coats of enamel or aluminum paint upon installation. Metal windows shall be installed in masonry or concrete with steel holdfasts in an approved manner and shall be installed in plumb line & level.

i. Each window shall be complete including anchors, clips, bolts, mullions, hardware and attachments required.
ii. Drips and weep holes shall be provided.
iii. Mullion covers shall be provided for mullion.
iv. Openable sections of windows shall be watertight and water stripped.
v. All glazed panels shall be provided with glazing arrangements with clips, beads or other approved method. Glass shall be as per specification and conform to IS: 2835-1977. Putty for fixing shall not be less than 185gms per meter of glass per meter.

Steel Door and Windows Frames shall be made from M.S. Steel sheet of 18G and shutter from 20G M.S. Steel sheet folded to the shape as shown in drawing. The bending joints are welded smoothly and grinded to form the same surface as the section and shall be in perfect line and level. Doors and Windows shall not be forced into openings, which are out of square or too small. The doors and windows shall be secured by three holdfast in each side if required on the top and bottom, and care shall be taken that doors and windows shall not be distorted when screwing up to lugs and fixing screws. Doors and Windows shall be grouted in M15 Concrete at hold fast point into the prepared openings and joints between building openings.

For each doorframe, sal wood timber of 250mm*internal section shape shall be fixed at each hinge location.

Welded joints shall be free from slag, neatly made, filed and grinded smooth and left clean and adequate means shall be employed for temporarily fastening the parts to be welded together until the joints are welded. All welding scrape shall be removed before painting primer.

The Engineer In-charge shall of Indian manufacture and best quality mild steel or wrought iron of lengths and weights approve nails, Spikes and Bolts.
Nails shall comply with the relevant British or Indian standard specification.
Building in unless otherwise described, all items of metal work shall include for "building in" to concrete or walling etc. and for "making good" finishing thereto.

(3) Testing

The Engineer In-charge shall be at liberty at all reasonable times to enter the site of the works, or any other premises in which the work in being prepared for the purpose of inspection. Any work found defective or which is not in accordance with the drawings or the specification, engineer in charge shall reject and such defective work shall be at once make good at the contractor's expenses.

(4) Measurement

Measurement of works will be made in m2 of works as specified.

(5) Payment

Payment for work will be made on the basis of contract unit price indicated in the BOQ.
The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified

1703 Mild Steel Grill

(1) Material

The Mild steel grills are fabricated from the Mild Steel flat, angle and channels conforming to the BS 15 or equivalent. The welding shall be butt-welding conforming to sub clause 170.1
The grips are of plastic or metal. The screws shall be steel screws.

(2) Construction Procedures

The mild steel grill shall be made according to pattern given as per drawing. Welded joints shall be neatly made, filled smooth and left clean, the consultant is to be informed when the welded work is ready for inspection and any such work must be left unprimed until the consultants gives his approval. The contractor shall furnish at his own expenses all necessary tools and all materials, which he may require for the safe erection of the work and remove the same when the work is completed. The contractor shall be solely responsible for any damage doe to the structure during erection and any member, which has been bent or otherwise distorted either before or during erection, shall be straightened or replaced in an approved manner at his own expenses. The grillwork shall be finished with two coats of red lead followed by three coats of aluminum or enamel paint and fixed in the opening, as per instructions of the consultants.
The grills are fixed to window opening by plastic grips with steel screws firmly to the faces of opening.

(3) Testing and Inspection

The erected fencing shall deform any post and wires shall be straight with out sagging.

(4) Measurement

The above work shall be measured in m^2 of opening in vertical plan completed as specified.

(5) Payment

Payment for the work will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1704 Mild Steel Collapsible Gate

The Mild steel collapsible gates are fabricated from the Mild Steel flat, angle and channels conforming to the BS 15 or equivalent. The welding shall be butt-welding conforming to relevant clause of this specification
The grips are of plastic or metal. The screws shall be steel screws.
The gate is primed with two coats of red lead primer.
The gate is painted with two coat of enamel or bituminous aluminum paint as specified in the BOQ, to get uniform painted surfaces.

(1) Measurement

The above work shall be measured in m^2 of opening in vertical plan completed as specified.

(2) Payment

Payment for the work will be made on the basis of contract unit price indicated in the BOQ.
The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1705 Mild steel Main Gate

The Mild steel gates are fabricated from the Mild Steel flat, angle and channels conforming to the BS 15 or equivalent. The welding shall be butt-welding conforming relevant clause of this specification
The grips are of plastic or metal. The screws shall be steel screws. The gate shall of steel sheet conforming to BS 15 or equivalent of 20G.
The gate is primed with two coats of red lead primer.
The gate is painted with two coat of enamel of bituminous aluminum paint to get uniform painted surfaces.

(1) Measurement

The above work shall be measured in m^2 of opening in vertical plan completed as specified.

(2) Payment

Payment for the work will be made on the basis of contract unit price indicated in the BOQ.
The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1706 Cattle Trap

The Cattle Traps are built before the gates to prevent cattle entering the compound. The cattle trap consist of 75mm NB "Heavy Class" Galvanized pipes laid in parallel at the interval 150mm center to center. These pipes are embedded in the concrete works.

(1) Measurement

The above work shall be measured in m of pipe laid completed as specified.

(2) Payment

Payment for the work will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1707 Mild steel Main Gate

The Mild steel grills are fabricated from the Mild Steel flat, angle and channels conforming to the BS 15 or equivalent. The welding shall be butt-welding conforming to sub clause 170.1
The grips are of plastic or metal. The screws shall be steel screws. The gate shall of steel sheet conforming to BS 15 or equivalent of 20G.
The gate is primed with two coats of red lead primer.
The gate is painted with two coat of enamel of bituminous aluminum paint to get uniform painted surfaces.

(1) Measurement

The above work shall be measured in m^2 of opening in vertical plane completed as specified.

(2) Payment

Payment for the work will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

1900 DISMANTLING WORK

1901 Dismantling of Gabions

The Contractor shall dismantle any sound or damaged gabions as indicated in the drawings or as ordered by the Engineer. The resulting property shall be the property of the Employer and all suitable materials shall be stockpiled for reuse within a lead of 30 m as directed by the Engineer. Unsuitable material shall be disposed off as directed by the Engineer.
Gabion dismantling shall include labor, cutting of the binding wire, opening the crate, emptying the stones, transporting the stones and dismantled gabions, stockpiling and all incidental and provisions necessary to complete the work.

1902 Dismantling of Cement Masonry Works

The Contractor shall dismantle any cement masonry works as indicated in the Drawings or as ordered by the Engineer. The resulting material shall be the property of the Employer and all suitable materials shall be stockpiled for reuse purposes within a lead of 30 m as directed by the Engineer. Unsuitable material shall be disposed off as directed by the Engineer.
Cement masonry dismantling shall include use of labor and proper equipment, transporting, stockpiling and all incidental and provisions necessary to complete the work.

1903 Dismantling of Plain Concrete/Reinforced Concrete

The Contractor shall dismantle any plain or reinforced concrete works as indicated in the Drawings or as ordered by the Engineer. The resulting material shall remain the property of the Employer and all suitable materials shall be stockpiled for reuse purposes within a lead of 30 meter. Unsuitable material shall be disposed off as directed by the Engineer.
Concrete/reinforced concrete dismantling shall include use of labor and proper equipment, transporting, stockpiling and all incidental and provisions necessary to complete the work.

1904 Dismantling of Dry Stone Masonry Wall

The Contractor shall dismantle any dry stone masonry wall as indicated in the drawings or as instructed by the Engineer. The resulting material shall remain the property of the Employer and all suitable material shall be stockpiled for reuse purposes within a lead of 30 m as directed by the Engineer.

1905 Measurement

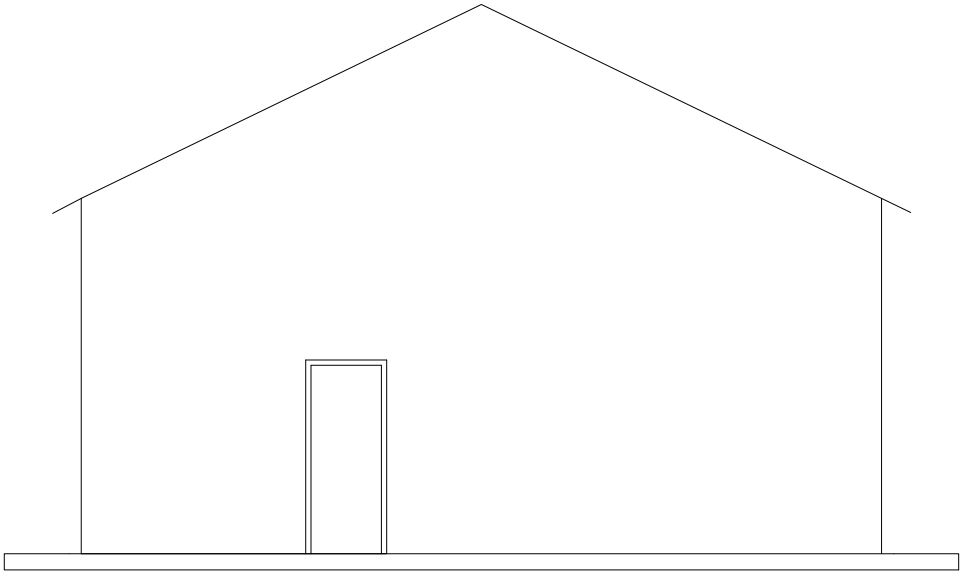
Measurement of works in Sub-Clauses 1901 to 1904 shall be in m^3 according to the average cross-sections at various levels and corresponding lengths measured at site.

1906 Payment

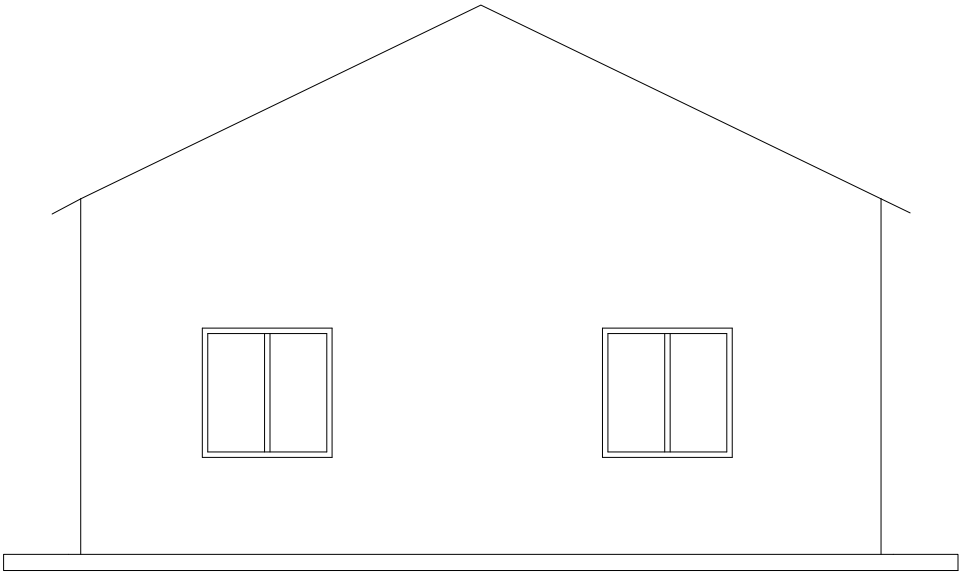
Payment for the above works will be made on the basis of contract unit price indicated in the BOQ.

The payment will be full and final compensation for all material, labor, and equipment to complete the works as specified.

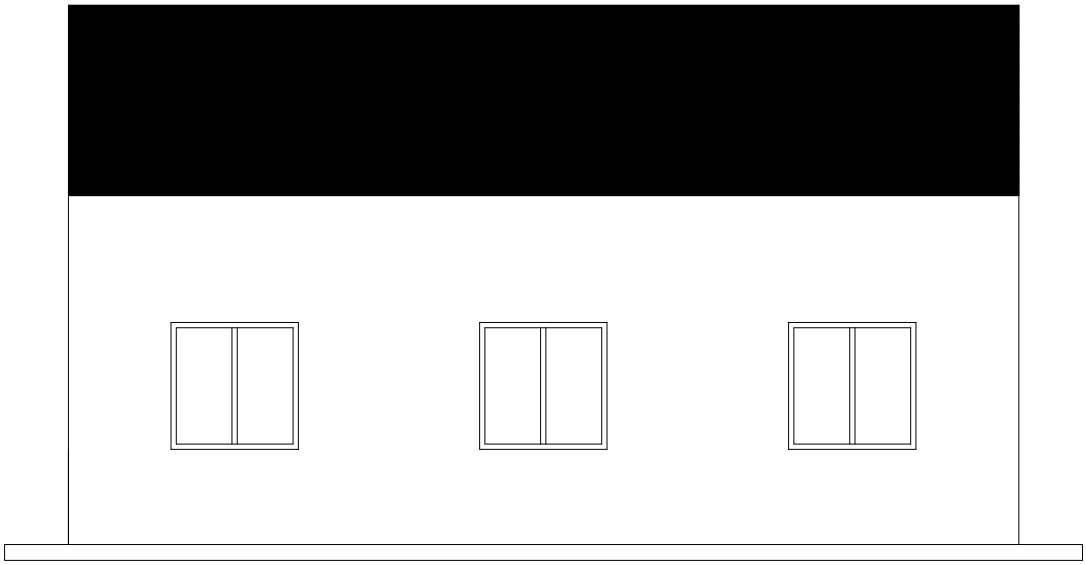
Section VIII (1). Drawings



FRONT VIEW

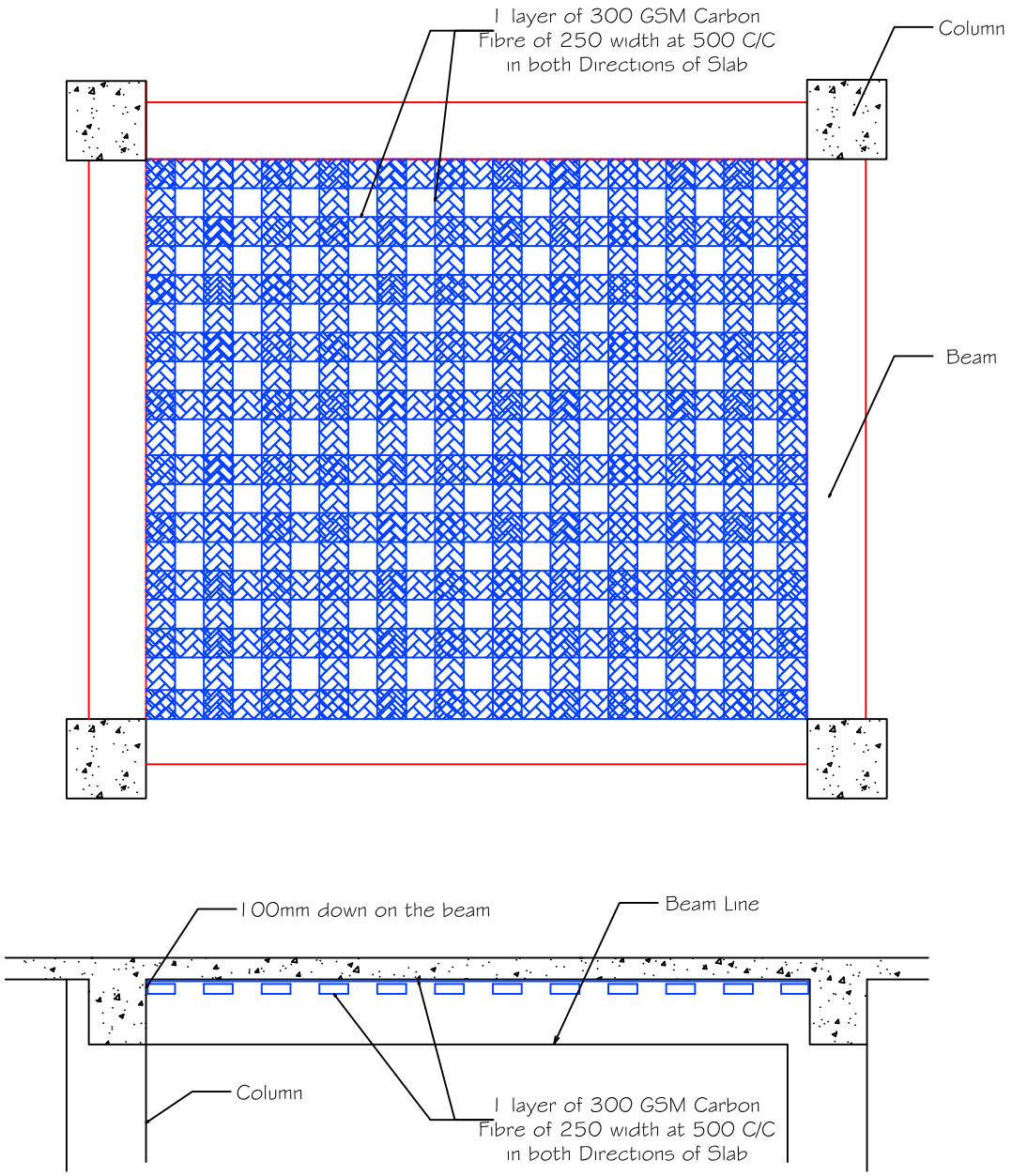


BACK SIDE VIEW



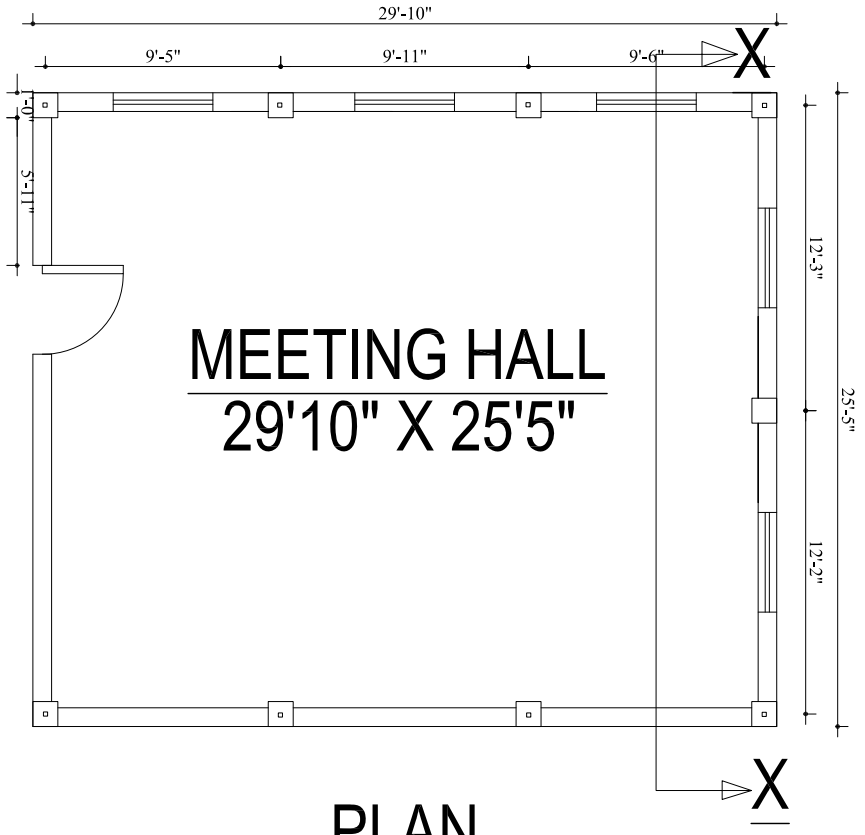
LEFT SIDE VIEW

RIGHT SIDE VIEW

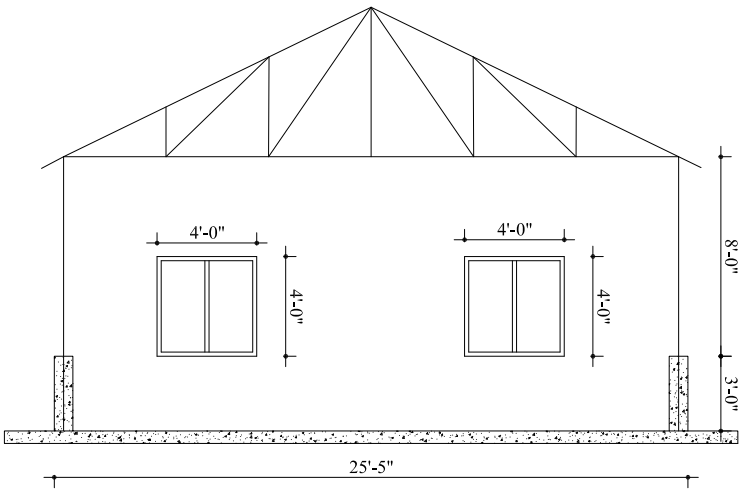


FRP Details for Slab Strengthening

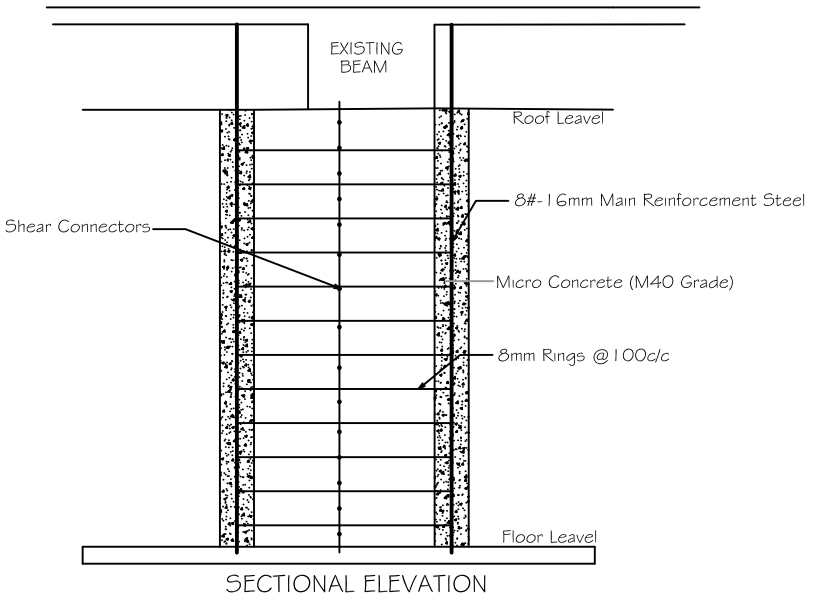
Drawing not to scale
Only Reference Drawings



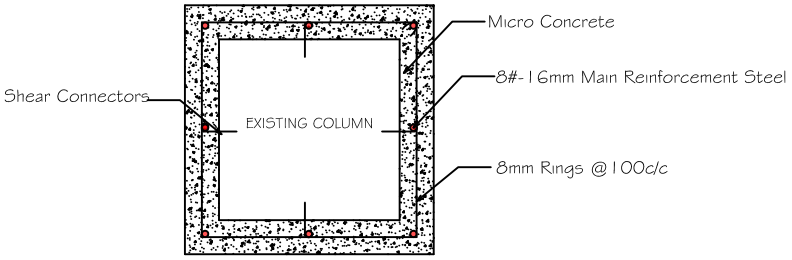
PLAN



SECTION AT X-X

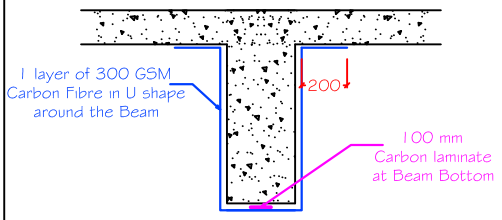


SECTIONAL ELEVATION



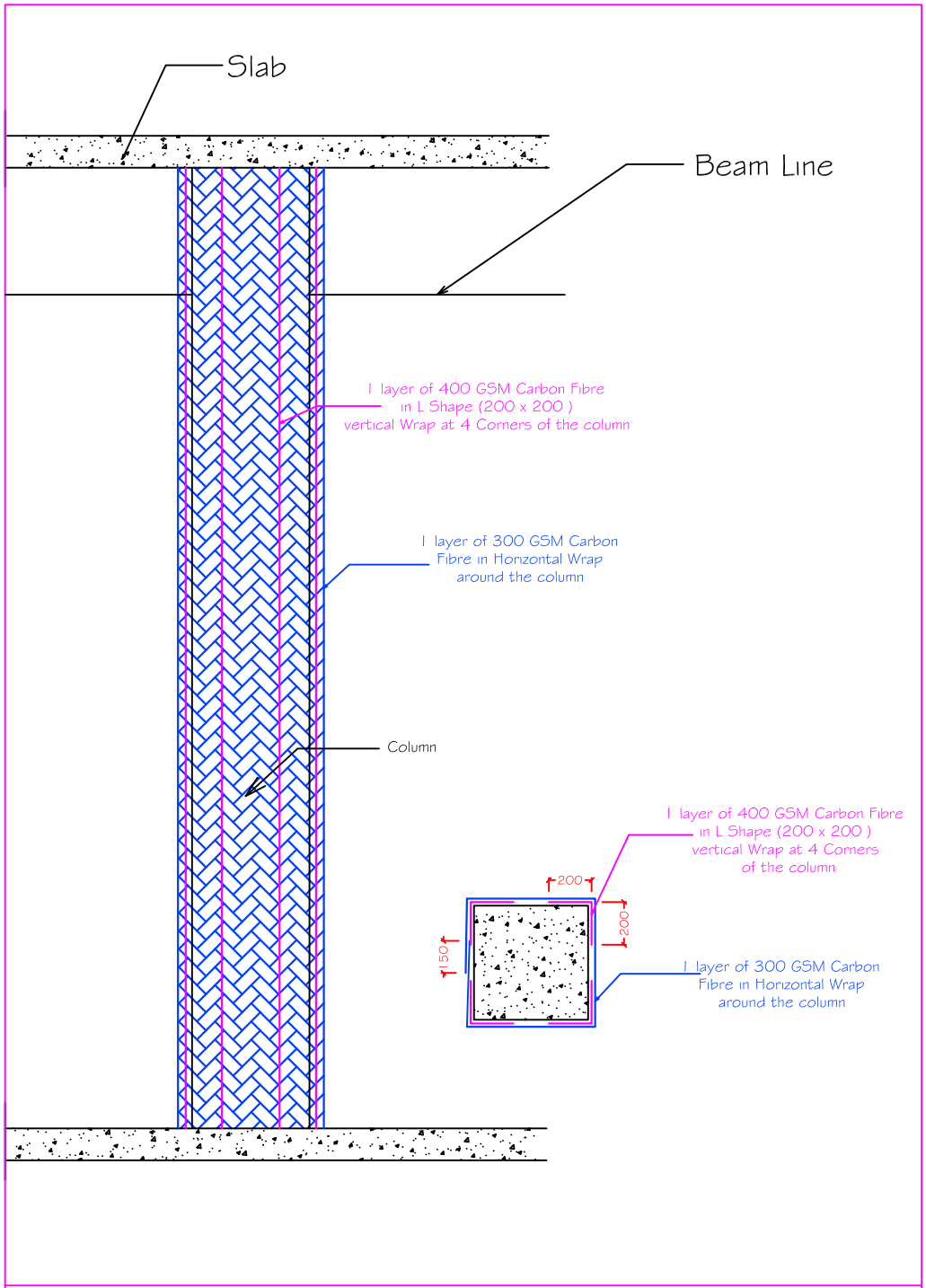
SECTIONAL PLAN

COLUMN JACKETING BY MICRO CONCRETE



FRP Details for Beam

Drawing not to scale
Only Reference Drawings



FRP Details for Column

Drawing not to scale

Only Reference Drawings

Nepal Electricity Authority

Baneshwor Distribution Centre

Kathmandu, Nepal

Programme Title :- Civil Maintenance
Scheme Title:- Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu
Location:- Chabahil, Kathmandu.

Bill of Quantity

S. No	DESCRIPTION	QUANTITY	UNIT	RATE (Rs.)	RATE IN WORDS	AMOUNT (Rs.)	Remarks
A	**Civil Works**						
1	**Preliminary Works:**						
	Providing & erection suitable scaffolding, staging and working platforms etc.	**2700.00**	**Sq.ft**				
2	**Surface Preparation:**						
	Removing loose concrete material from Column & beams etc. with power/hand driven chisel	**932.95**	**Sq.ft**				
3	**Surface Repairing:**						
	Providing & fixing of Reinforcement Steel including straightening cutting, bending, binding and placing in position.	**589.00**	**Kg**				
	Providing & fixing Shear Connectors	**324.00**	**Nos.**				

Contractor :
Signature:
Stamp:

	Providing and injection pressure grouting treatment to voids and gaps in concrete surfaces in pre-drilled holes in concrete with low viscous, non-sink, cement grout as per manufacturer's specification.	**138.00**	**Nos.**				
4	**Strengthening:**						
	Cleaning the all the faces of column and applying polymer bond coat as bonding agent prior to Micro Concrete	**782.98**	**Sq.ft**				
	Providing & Fixing Centering and shuttering including strutting etc. and removal of formworks from columns	**804.97**	**Sq.ft**				
	Providing and placing in position Micro-concrete up to 100mm depth for Column, which shall be cement based pre-packed single component, chloride free, non-shrink, free flow, self compacting, ready to use after mixing water in specified proportion obtained from approved manufacturer as per specification	**381.48**	**Cu.ft**				
5	**Plaster Scraping Work**						
	Scrapping of strong mortared plaster that cannot be easily remove by hand tools without additional hammering ,raking the joint up to 10mm ,surface dressing etc.	**896.39**	**Sq.ft**				
6	**Plastering Work**						
	12.5 mm outer coat plastering for leveling the surface,1:3 cement sand mortar	**896.39**	**Sq.ft**				

Contractor :
Signature:
Stamp:

7	**Tile Works at Bathroom**						
	Re-fitting of the Tiles as per specification as per the instruction of the site engineer all complete.	**355.89**	**Sq.ft**				
8	**Water supply and Sanitary Works**						
	Wash Basin with all fittings	**3.00**	**set.**				
	Urinal with all fittings	**3.00**	**set.**				
	Commode with all fittings	**3.00**	**set.**				
9	**Demolition woks**						
	Demolition of 9" Brick wall	**382.95**	**Cu.ft**				
	Column	**24.00**	**Cu.ft**				
10	**BRICKWORK**						
	Providing & laying local chimney made red brick masonry work in cement, sand mortar (1:4) in substructure finished in perfect line & level including wetting the bricks, packing the joints & curing the work complete in all thickness of walls as per drawings.	**191.48**	**Cu.ft**				
11	**RCC**						
	Column (M20)	**24.00**	**Cu.ft**				
12	**CENTERING AND SHUTTERING WORKS**						

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	75 mm cement ,sand and fine gravels(chips) Screening(1:3:6) mm thick and cement sand punning (1:1) on floor, skirting, dado etc, including mixing laying and rubbing with steel trowel to a hard, smooth and shining surface and curing all complete as per specification, drawing & instruction of site engineer.	**96.00**	**Sq.ft**				
13	**SCREENING AND PUNNING**						
	Centering and shuttering with steel or water proof plywood material for all kinds of work including all necessary propping, scaffolding, staging, supporting etc. all complete as per drawing, specification, and instruction of site engineer.	**695.83**	**Sqft**				
14	**FALSE CEILING WORKS**						
	Eco friendly Green certified minimum 12 mm thick gypsum false ceiling with water proof Aluminium foil on top of Armstrong, Boral or equivalent with necessary provisions for light fittings, light boxes with painting works, all completed as per technical drawings, specification and instructions of site engineer.	**758.53**	**Sq.ft**				
B	**METAL WORKS FOR TRUSS**						
15	**MS COLUMN POST**						

Contractor :
Signature:
Stamp:

	Providing, making, fixing and welding of approved medium quality of 2-ISNB100M welded on base plates on both top and bottom works with approved column to column connectors including lead oxide(red primer) paint before proper grinding and making smooth surface with rubbing by sand paper as per specification, drawing & instruction of site engineer.	**255.33**	**Kg**				
16	**RAFTER MEMBER,KING POST**						
	Providing, making, fixing and welding of approved medium quality of ISB72X72X3.2 as rafter member including lead oxide (red primer) paint before proper grinding and making smooth surface with rubbing by sand paper as per specification, drawing & instruction of site engineer.	**732.78**	**Kg**				
17	**PURLIN MEMBER**						
	Providing, making, fixing and welding of approved medium quality of ISB72X72X3.2 as purling member including lead oxide (red primer) paint before proper grinding and making smooth surface with rubbing by sand paper as per specification, drawing & instruction of site engineer.	**723.80**	**Kg**				
18	**VERTICAL AND DIAGONAL MEMBER**						

Contractor :
Signature:
Stamp:

	Providing, making, fixing and welding of approved medium quality of ISB749.5X49.5X2.9 as vertical and diagonal member and including lead oxide (red primer) paint before proper grinding and making smooth surface with rubbing by sand paper as per specification, drawing & instruction of site engineer.	**557.88**	**Kg**				
19	**ROOFING**						
	Providing, making, fixing and welding of approved medium quality 22SWG coloured CGI sheet in roof truss as per specification, drawing & instruction of site engineer.	**1104.08**	**Sqft**				
20	**RIDGE SHEETING**						
	Providing, making, fixing and welding of approved medium quality 22SWG coloured plane ridge sheet in apex of roof truss as per specification, drawing & instruction of site engineer.	**39.39**	**Sqft**				
21	**GABLE SHEETING**						
	Providing, making, fixing and welding of approved medium quality 22SWG coloured gable sheet cover as per specification, drawing & instruction of site engineer.	**338.59**	**Sq.ft**				
22	**TOP AND BASE PLATE**						
	10 mm MS plate of 1'-0"X1'-0"	**105.06**	**Kg**				

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23	**MS STIFFENERS PLATE**						
	10 mm MS plate (4"X3"X2")	**28.89**	**Kg**				
24	**NUTS BOLTS,WASHERS,GUSSET PLATE**						
	16MM INSIDE DIAMETER	**24.00**	**Nos**				
	Sub-Total Amount Rs.						
	13% VAT Amount Rs.						
	Total Amount including VAT						

In Words:- ……

Contractor :
Signature:
Stamp:

Contractor :
Signature:
Stamp:

NEPAL ELECTRICITY AUTHORITY

CAPITAL EXPENDITURE AUTHORIZATION FORM

BANESHWOR DISTRIBUTION CENTRE

Tender No. : NEA/BDC/074/075/Civil-01

Job:- Retrofitting and Rehabilitation of Office Building at Chabahil, Kathmandu

Location:- Chabahil, Kathmandu

Work Schedule

S.N.	Description	Month 1	Month 2	Month 3
1	Retrofitting Works			
2	Bricks Works			
3	Water Supply and Sanitary Works			
4	Truss Works			
5	RCC Works			
6	Plastering Scraping and Re-plastering Works			

Note: Contractor have to fill this sheet.

Contractor:
Signature:
Stamp: