

MP AUDYOGIK KENDRA VIKAS NIGAM BHOPAL

Tawa Complex, First Floor, Bittan Market, E-5, Arera Colony, Bhopal-462016

Tender Notice Text Display

Tender No	: /2017-18	N.I.T. Date	: 18.10.2017
N.I.T. No	: 28 of 2017-18, 18.10.2017		
Contractor Class	: "C" Class PWD Registration/Firm	Contractor Level	: C
Tender Category	: Work-Percentage Rate, Open (on B.O.Q.)	Currency	: INR
Description	: Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)		
Report title	: Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)		
No. of Work	: 1	Splitting Rule	: No Restrictions
Tender Type	: Open		
Basin / Project	: Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)	Circle / Division	: MADHYA PRADESH M.P.A.K.V.N. Bhopal.
Officer	: A.K.S.Sengar	Designation	: Executive Engineer
Remark	: 1 st Call		
Tender Notice Text Contents		निविदा सूचना हिन्दी	
OFFICE OF THE MANAGING DIRECTOR			
MP AUDYOGIK KENDRA VIKAS NIGAM BHOPAL			
DETAILED NOTICE INVITTING TENDER			
N.I.T. No.	: 28 of 2017-18 dt. 18.10.2017		

Online tenders are invited for the following Work on Percentage Rates. The Bid Seals (Hashes) will be received online on the portal mpeproc.gov.in on or before 07.11.2017 upto 5:30 p.m. The Tenders will be opened in the office of the undersigned as mention tender time schedule (key date) If desired, the contractors or their duly authorized representatives may remain present at the time of opening of tender

S.No.	Name of District	Name of Work	PAC (In Rs.)	EMD (In Rs.)	Contractor Class	Time allowed for Construction (including / excluding Rainy Season)
1.	I/A Mandideep, Distt. Raisen (M.P.)	Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)	7,69,230/-	16,000/-	"C" Class PWD Registration/Firm	Two (02) months including rainy season.

EMD Amount In Rs.: 16,000/-

Fee Structure

Sr.No.	Stage	Amount (Rs.)
1.	Tender Purchase - Online	2,000.00 (Non Refundable)

Key Dates

S.No.	MP AKVN Bhopal Stage	Start Date & Time	Expiry Date & Time	Envelopes
1.	Release of Tender	18.10.2017 17:30	-	-
2.	Purchase of Tender Start & End Date	18.10.2017 17:30	06.11.2017 17:30	-
3.	Bid Submission End Date (online)	18.10.2017 17:30	07.11.2017 17:30	-
4.	Bid Submission End Date (Physically) i.e. EMD & other documents.	-	08.11.2017 17:30	Envelopes A, B
5.	Open EMD & Technical / PQ Bid	10.11.2017 10:30	-	Envelopes A, B
6.	Open Financial Bid	16.11.2017 up to 10:30	-	Envelopes C

1. The bidders shall have to submit their online (Decrypt the bids and re-encrypt the bids) and upload the relevant documents from as per key dates. Original EMD instruments & Technical documents, Technical staff should reach the office of the Managing Director, Madhya Pradesh audyogik Kendra vikas nigam Bhopal First Floor, Bittan Market, E-5, Arera Colony, Bhopal-462016 M.P. by **08-11-2017 up to 5.30 p.m.** through speed post A.D. or hand delivery Nigam will not be responsible for any postal delays.
2. The successful contractor/Firm must get registered in appropriate class in M.P. P.W.D. under centralized registration system within 21 (Twenty one) days from issuance of letter of acceptance. Failure in compliance of which will lead to the forfeiture of the Earnest Money Deposit.
3. Tender form can be purchased online only from e-portal <http://mpeproc.gov.in> by making online payment. The last date of purchase of tender **06-11-2017 up to 5:30 P.M.**
4. The Bid Data should be filled and the Bid Seals (Hashes) of all the envelopes and the documents which are to be uploaded by the Bidders should be submitted online upto as per time schedule (key Dates)
5. The Bidders shall have to submit their Bids online (decrypt the bids and re-encrypt the bids) and upload the relevant documents from as per time schedule (key Dates).
6. Bidding documents can also be viewed on Website <http://www.mpakvnbhopal.nic.in> however for bidding purpose online purchase procedure has to be followed as already mentioned in Note No. 3 above.
7. GST as per applicable.
8. Other details can be seen in the tender documents.

Executive Engineer

M.P. AUDYOGIK KENDRA VIKAS NIGAM (BHOPAL).

(A Government of M.P. Under Taking-Subsidiary of MPTRIFAC)

Appendix 2.10 Tender Document

For Percentage Rate only in Works Departments and other
Departments similar to Works Departments
Office of the MPAKVN (BHOPAL).

Reg. Office: 1st Floor, Tawa Complex, Bittan Market, E-5, Arera Colony, Bhopal, (M.P)

NIT Number and Date : 26 2017-18

Agreement Number and Date : _____

Name of Work :
Supply of Different types of material for repairing works of the
water supply at Industrial area, Mandideep Distt. Raisen (M.P.)

Name of the Contractor : _____

Probable Amount of Contract

(Rs. In Figure) : **Rs. 7,69,230/-**

(Rs. In Words) : Seven Lakh Sixty Nine Thousand
Two Hundred Thirty only.

Contract Amount

(Rs. In Figure) : **Rs. 7,69,230/-**

Seven Lakh Sixty Nine Thousand
(Rs. In Words) : Two Hundred Thirty only.

Stipulated of Completion: _____
Two (02) months including rainy season.

Notice Inviting e-Tenders

M.P. AUDYOGIK KENDRA VIKAS NIGAM (BHOPAL) .
(A Government of M.P. Under Taking-Subsidiary of MPTRIFAC)

N.I.T. No 26-2017-18/e-tendering

dated 18-10-2017

Online percentage rate bids for the following works are invited from registered contractors and firms of repute fulfilling registration criteria:

S. No	Work	District(s)	Probable Amount	Completion Period (months)
1	Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)	Raisen	Rs. 7,69,230/-	Two (02) months including rainy season.

1. Interested bidders can view the NIT on website <http://akvnBHOPAL.mpeprocurement.gov.in>

2. The Bid Document can be purchased only online from 18.10.2017 (time) 17:31 (date) to 06.11.2017 (time) 17:30 (date).

3. Amendments to NIT, if any, would be published on website only, and not in newspaper.

4. Bidders are requested not to submit instruments belongs to ICICI Bank in tender proceedings.

Managing Director,
MPAKVN (BHOPAL)

Notice Inviting Tender

M.P. AUDYOGIK KENDRA VIKAS NIGAM (BHOPAL)
(A Government of M.P. Under Taking-Subsidiary of MPTRIFAC)

OFFICE OF THE MANAGING DIRECTOR, MPAKVN (BHOPAL)

N.I.T. No 26-2017-18 /e-tender

dated 18.10.2017

Online percentage rate bids for the following works are invited from registered contractors and firms of repute fulfilling registration criteria:

S. No.	Name of Work	District(s)	Probable Amount of Contract	Earnest Money Deposit (EMD)	Cost of Bid Document (In Rupees)	Category of Contractor	Period of Completion (in Months)
1	Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)	Raisen	Rs. 7,69,230/-	16000/-	2,000.00	"C" Class PWD Registration/ Firm	Two (02) months including rainy season.

- All details relating to the Bid Document(s) can be viewed and downloaded free of cost on the website.
- Bid Document can be purchased after making online payment of portal fees through Credit/Debit/Cash Card/internet banking.
- At the time of submission of the Bid the eligible bidder shall be required to:
 - pay the cost of Bid Document;
 - deposit the Earnest Money;
 - Submit a check list; and
 - Submit an affidavit.

Details can be seen in the Bid Data Sheet.

4. ELIGIBILITY FOR BIDDERS:

- At the time of submission of the Bid the bidder should have valid registration with the Government of Madhya Pradesh, PWD in appropriate class. However, such bidders who are not registered with the Government of Madhya Pradesh and are eligible for registration can also submit their bids after having applied for registration with appropriate authority.
- The bidder would be required to have valid registration at the time of signing of the Contract.
- Failure to sign the contract by the selected bidder, for whatsoever reason, shall result in forfeiture of the earnest money deposit.

5. **Pre-qualification** – Prequalification conditions, wherever applicable, are given in the Bid Data Sheet.
6. **Special Eligibility** - Special Eligibility Conditions, if any, are given in the Bid Data Sheet.
7. The Bid Document can be purchased only online from 18.10.2017 (time) 17:30 (date) to 06.11.2017 (time) 17:30 (date). Other key dates may be seen in bid data sheet.
8. Amendments to NIT, if any, would be published on website only, and not in newspaper.
9. Schedule of Rates applicable are MPPWD for Road & Bridge works enforce from 06.06.2016, MPPWD for Building works enforce from 01-08-2014 and MPPWD/MPSEB SOR for Electrical works enforce from 01-08-2014 amended up to the date of issue of NIT.

**Managing Director,
MPAKVN (BHOPAL)**

SECTION 2
INSTRUCTIONS TO BIDDERS (ITB)
A. GENERAL

1. SCOPE OF BID

The detailed description of work, hereinafter referred as 'work', is given in the Bid Data Sheet.

2. General Quality of Work:

The work shall have to be executed in accordance with the technical specifications specified in the Bid Data sheet/ Contract Data, and shall have to meet high standards of workmanship, safety and security of workmen and works.

3. PROCEDURE FOR PARTICIPATION IN E-TENDERING

The procedure for participation in e-tendering is given in the Bid Data Sheet.

4. ONE BID PER BIDDER

4.1 The bidder can be an individual entity or a Joint Venture (if permitted as per bid Data Sheet) In case the J.V. is permitted, the requirement of joint venture shall be as per the Bid Data Sheet.

4.2 No bidder shall be entitled to submit more than one bid whether jointly or severally. If he does so, all bids wherein the bidder has participated shall stand disqualified.

5. Cost of Bidding

The bidder shall bear all costs associated with the preparation and submission of his bid, and no claim whatsoever for the same shall lie on the Government.

6. Site Visit and examination of works

The bidder is advised to visit and inspect the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the work. All costs in this respect shall have to be borne by the bidder.

B. Bid Documents

7. CONTENT OF BID DOCUMENTS

The Bid Document comprises of the following documents:

1. NIT with all amendments.

2. Instructions to Bidders, Bid Data Sheet with all Annexure
 3. Conditions of Contract:
 - i. Part I General Conditions of Contract and the Contract Data with all Annexure; and
 - ii. Part II Special Conditions of Contract.
 4. Specifications
 5. Drawings
 6. Priced Bill of Quantities
 7. Technical and Financial Bid
 8. Letter of Acceptance
 9. Agreement, and
 10. Any other document(s), as specified.
- 8.** The bidder is expected to examine carefully all instructions, conditions of contract, the **contract data**, forms, terms and specifications, bill of quantities, forms and drawings in the Bid Document. Bidder shall be solely responsible for his failure to do so.
- 9. Pre-Bid Meeting (where applicable)**
- Wherever the Bid Data Sheet provides for pre-bid meeting:
- 9.1** Details of venue, date and time would be mentioned in the Bid Data Sheet. Any change in the schedule of pre-bid meeting would be communicated on the website only, and intimation to bidders would not be given separately.
 - 9.2** Any prospective bidder may raise his queries and/or seek clarifications in writing before or during the pre-bid meeting. The purpose of such meeting is to clarify issues and answer questions on any matter that may be raised at that stage. The Employer may, at his option, give such clarifications as are felt necessary.
 - 9.3** Minutes of the pre-bid meeting including the gist of the questions raised and the responses given together with any response prepared after the meeting will be hosted on the website.
 - 9.4** Pursuant to the pre-bid meeting if the Employer deems it necessary to amend the Bid Document, it shall be done by issuing amendment to the online NIT.
- 10. Amendment of Bid Documents**
- 10.1** Before the deadline for submission of bids, the Employer may amend or modify the Bid Documents by publication of the same on the website.
 - 10.2** All amendments shall form part of the Bid Document.
 - 10.3** The Employer may, at its discretion, extend the last date for submission of bids by

publication of the same on the website.

C. Preparation of Bid

11. The bidders have to prepare their bids online, encrypt their Bid Data in the Bid Forms and submit Bid Seals (Hashes) of all the envelopes and documents related to the Bid required to be uploaded as per the time schedule mentioned in the key dates of the Notice Inviting e-Tenders after signing of the same by the Digital Signature of their authorized representative.

12. DOCUMENTS COMPRISING THE BID

The bid submitted online by the bidder shall be in the following parts:

Part 1 – This shall be known as Online **Envelope A** and would apply for all bids. Online **Envelope A** shall contain the following as per details given in the Bid Data Sheet:

- i) Registration number or proof of application for registration and organizational details in format given in the Bid Data Sheet.
- ii) Payment of the cost of Bid Document;
- iii) Earnest Money; and
- iv) An affidavit duly notarized.

Part 2 – This shall be known as Online **Envelope B** and required to be submitted only in works where pre-qualification conditions and/or special eligibility conditions are stipulated in the Bid Data Sheet. Online **Envelope B** shall contain a self-certified sheet duly supported by documents to demonstrate fulfillment of pre-qualification conditions.

Part 3 – This shall be known as Online **Envelope C** and would apply to all bids. **Envelope C** shall contain financial offer in the prescribed format enclosed with the Bid Data Sheet.

13. Language

The bid as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer shall be in English or Hindi. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages in English. In such case, for the purposes of interpretation of the bid, such translation shall govern.

14. TECHNICAL PROPOSAL

14.1 Only, in case of bids with pre-qualification conditions defined in the Bid Data Sheet, the Technical Proposal shall comprise of formats and requirements given in the Bid Data Sheet.

14.2 All the documents/ information enclosed with the Technical Proposal should be self-attested and certified by the bidder. The Bidder shall be liable for forfeiture of his earnest money deposit, if any document / information are found false/ fake/ untrue before acceptance of bid. If it is found after acceptance of the bid, the bid sanctioning authority may at his discretion forfeit his performance security/ guarantee, security deposit, enlistment **deposit** and take any other suitable action.

15. FINANCIAL BID

- i. The bidder shall have to quote rates in format referred in Bid Data Sheet, in **overall percentage**, and not item wise. If the bid is in absolute amount, overall percentage would be arrived at in relation to the probable amount of contract given in NIT. The overall percentage rate would apply for all items of work.
- ii. Percentage shall be quoted in figures as well as in words. If any difference in figures and words is found, lower of the two shall be taken as valid and correct.
- iii. The bidder shall have to quote rates inclusive of all duties, taxes, royalties and other levies; and the Employer shall not be liable for the same.
- iv. GST shall be paid by department as per Government order dated 31.07.2017
- v. The material along with the units and rates, which shall be issued, if any, by the department to the contractor, is mentioned in the Bid Data Sheet.

16. PERIOD OF VALIDITY OF BIDS

The bids shall remain valid for a period specified in the Bid Data Sheet after the date of “close for bidding” as prescribed by the Employer. The validity of the bid can be extended by mutual consent in writing.

17. EARNEST MONEY DEPOSIT (EMD)

- 17.1** The Bidder shall furnish, as part of the Bid, Earnest Money Deposit (EMD), in the amount specified in the Bid Data Sheet.
- 17.2** The EMD shall be in the form of Fixed Deposit Receipt of a scheduled commercial bank/**Bank Guarantee**, issued in favour of the name given in the Bid Data Sheet. The Fixed Deposit Receipt/**Bank Guarantee** shall be valid for six months or more after the last date of receipt of bids. However, other form(s) of EMD may be allowed by the Employer by mentioning it in the Bid Data Sheet.
- 17.3** Bid not accompanied by EMD shall be liable for rejection as non-responsive.
- 17.4** EMD of bidders whose bids are not accepted will be returned within ten working days of the decision on the bid.
- 17.5** EMD of the successful Bidder will be discharged when the Bidder has signed the Agreement after furnishing the required Performance Security.
- 17.6** Failure to sign the contract by the selected bidder, within the specified period, for whatsoever reason, shall result in forfeiture of the earnest money deposit.

D. Submission of Bid

- 18.** The bidder is required to submit online bid duly signed digitally, and Envelop ‘A’ in physical form also at the place prescribed in the Bid Data Sheet.

E. Opening and Evaluation of Bid

19 PROCEDURE

- 19.1** Envelope 'A' shall be opened first online at the time and date notified and its contents shall be checked. In cases where Envelop 'A' does not contain all requisite documents, such bid shall be treated as non-responsive, and Envelop B and/or C of such bid shall not be opened.
- 19.2** Wherever Envelop 'B' (Technical Bid) is required to be submitted, the same shall be opened online at the time and date notified. The bidder shall have freedom to witness opening of the Envelop 'B'. Envelop 'C' (Financial Bid) of bidders who are not qualified in Technical Bid (Envelop 'B') shall not be opened.
- 19.3** Envelope 'C' (Financial Bid) shall be opened online at the time and date notified. The bidder shall have freedom to witness opening of the Envelop 'C'.
- 19.4** After opening Envelop 'C' all responsive bids shall be compared to determine the lowest evaluated bid.
- 19.5** The Employer reserves the right to accept or reject any bid, and to annul the bidding process and reject all the bids at any time prior to contract award, without incurring any liability. In all such cases reasons shall be recorded.
- 19.6** The Employer reserves the right of accepting the bid for the whole work or for a distinct part of it.

20. Confidentiality

- 20.1** Information relating to examination, evaluation, comparison and recommendation of contract award shall not be disclosed to bidders or any other person not officially concerned with such process until final decision on the bid.
- 20.2** Any attempt by a bidder to influence the Employer in the evaluation of the bids or contract award decisions may result in the rejection of his bid.

F. Award of Contract

21. Award of Contract

The Employer shall notify the successful bidder by issuing a 'Letter of Acceptance' (LOA) that his bid has been accepted.

22. Performance Security

- 22.1** Prior to signing of the Contract the bidder to whom LOA has been issued shall have to furnish performance security of the amount in the form and for the duration, etc. as

specified in the Bid Data Sheet.

- 22.2** Additional performance security, if applicable, is mentioned in the Bid Data Sheet and shall be in the form and for the duration, etc. similar to Performance Security.

23. Signing of Contract Agreement

- 23.1** The successful bidder shall have to furnish Performance Security and Additional Performance Security, if any, and sign the contract agreement within 15 days of issue of LOA.
- 23.2** The signing of contract agreement shall be reckoned as intimation to commencement of work. No separate work order shall be issued by the Employer to the contractor for commencement of work.
- 23.3** In the event of failure of the successful bidder to submit Performance Security and Additional Performance Security, if any or sign the Contract Agreement, his EMD shall stand forfeited without prejudice to the right of the employer for taking any other action against the bidder.

24. CORRUPT PRACTICES

The Employer requires that bidders observe the highest standard of ethics during the procurement and execution of contracts. In pursuance of this policy, the Employer:

- i. may reject the bid for award if it determines that the bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract; and
- ii. may debar the bidder declaring ineligible, either indefinitely or for a stated period of time, to participate in bids, if it at any time determines that the bidder has, directly or through an agent, engaged in corrupt, fraudulent, collusive, or coercive practices in competing for, or in executing, a contract.

For the purposes of this provision, the terms set forth above are defined as follows:

- a. "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
- b. "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- c. "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;

- d. “collusive practice” means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

Bid Data Sheet		
GENERAL		
SR.No.	PARTICULARS	DATA
1	Office inviting tender	MPAKVN, BHOPAL Reg. Office: 1st Floor, Tawa Complex, Bittan Market, E-5, Arera Colony, Bhopal,(M.P) Phone: 0755-2420278, 2420301-3 Fax No. : 0755-2420277 Email : mpakvnbhopal@gmail.com mpakvnbhopal@yahoo.co.in
2	NIT No	28
3	Date of NIT	18.10.2017
4	Bid document download available from date & time	18.10.2017 17:31
5	Websitelink	http://akvn.mpeprocurement.gov.in
SECTION1–NIT		
CLAUSEREFERENCE	PARTICULARS	DATA
2	Portal fees	Rs. -----
3	Cost of bid document	Rs.2,000/-
	Cost of bid document Payable at	Online
	Cost of bid document In favor of	Online
4	Affidavit format	Annexure B
5	Pre-qualifications required	YES
	If Yes, details	Annexure C
6	Special Eligibility	NO
	If Yes, details	Annexure D
	Key dates	Annexure A
SECTION2-ITB		
CLAUSEREFERENCE	PARTICULARS	DATA
1	Name of 'work'	CONSTRUCTION OF LOGISTIC HUB AT
2	Specifications	Annexure–E
4	Whether Joint Venture is allowed	NO
9	Prebid meeting to be held	YES

	If Yes, Date, Time & Place	Date: Time from: Place: Office of Managing Director MPAKVN (BHOPAL) . Bhopal
Bid Data Sheet		
CLAUSE/REFERENCE	PARTICULARS	DATA
12	Envelope-A containing: i.Registration number or proof of application for registration and organizational details as per Annexure H ii.Cost of Bid Document iii.EMD iv.An affidavit duly notarized as per Annexure-B should reach in physical form	At the Office of the Managing Director, MPAKVN (BHOPAL). Reg. Office: 1st Floor, Tawa Complex, Bittan Market, E-5, Arera Colony, Bhopal,(M.P) Name of work ; CONSTRUCTION OF LOGISTIC HUB AT INDUSTRIAL AREA MANDIDEEP, BHOPAL Phone: 0755-2420278, 2420301-3 Fax No. : 0755-2420277
14	Envelope-B technical Proposal	Annexure-I and Annexure – I (Format/-1to1-5)
15	Envelope-C financial Bid	Annexure-J
	Materials to be issued by the department	Not Applicable
16	Period of Validity of Bid	120 Days
17	Earnest Money Deposit	Rs. 16,000/-
	Forms of Earnest Money Deposit	i. FDR/e-FDR/Bank Guarantee ii. Demand draft of scheduled commercial bank iii. Interest bearing securities of post office.
	EMD valid for a period of	Six Months after the last date of receipt of bids
	FDR must be drawn in favour of	Managing Director, MPAKVN (BHOPAL).

21	Letter of Acceptance(LoA)	Annexure L
22	Amount of Performance Security	5% of contract amount
	Additional Performance Security, if any	Yes, Equal to an amount arrived at, by multiplying the contract amount with difference of percentage between percent rates (below/minus) of successful bid and fifteen percent (below/minus). Considering bid rates less than fifteen percent below PAC to be unworkable and shall required additional performance security (guarantee)
	Performance security in the format	Annexure M
	Performance security in favour of	Managing Director, MPAKVN (BHOPAL).
	Performance security valid up to	Valid Contract period plus3 months

(See clause 1, 7 of Section 1 -NIT)

KEY DATES

S.No.	MP AKVN Bhopal Stage	Start Date & Time	Expiry Date & Time	Envelopes
1.	Release of Tender	18.10.2017 17:30	-	-
2.	Purchase of Tender Start & End Date	18.10.2017 17:30	06.11.2017 17:30	-
3.	Bid Submission End Date (online)	18.10.2017 17:30	07.11.2017 17:30	
4.	Bid Submission End Date (Physically) i.e. EMD & other documents.	-	08.11.2017 17:30	Envelopes A, B
5.	Open EMD & Technical / PQ Bid	10.11.2017 10:30	-	Envelopes A, B
6.	Open Financial Bid	16.11.2017 up to 10:30	-	Envelopes C

Original term deposit receipt of earnest money deposit, demand draft for the cost of bid document and affidavit shall be submitted by the bidder so as to reach the office as prescribed in Bid Data Sheet, at least one calendar day before specified start time and date in key dates for opening of technical proposal as per Key dates in Bid Data Sheet.

|| AFFIDAVIT ||
(To be contained in Envelope A)

(On Non Judicial Stamp of Rs. 50/-)

I/we _____ who is/ are
_____ (status in the firm/ company) and competent for submission of the
affidavit on behalf of M/S _____ (contractor) do solemnly affirm an oath and
state that:

I/we am/are fully satisfied for the correctness of the certificates/records submitted in support
of the following information in bid documents which are being submitted in response to notice
inviting e-tender No. _____ for _____
_____ (name of work) dated _____ issued by the
_____ (name of the department).

I/we am/ are fully responsible for the correctness of following self-certified information/
documents and certificates:

1. That the self-certified information given in the bid document is fully true and authentic.
2. That:
 - a. Term deposit receipt / **Bank Guarantee** deposited as earnest money, demand draft for cost
of bid document and other relevant documents provided by the Bank are authentic.
 - b. Information regarding financial qualification and annual turnover is correct.
 - c. Information regarding various technical qualifications is correct.
3. No close relative of the undersigned and our firm/company is working in the department.

OR

Following close relatives are working in the department:

Name _____ Post _____ Present Posting _____

Signature with Seal of the Deponent (bidder)

I/ We, _____ above deponent do hereby certify that the facts mentioned
in above paras 1 to 4 are correct to the best of my knowledge and belief.

Verified today _____ (dated) at _____ (place).

Signature with Seal of the Deponent (bidder)

*Note: Affidavit duly notarized in original shall reach at least one calendar day before opening of the
bid.*

PRE-QUALIFICATIONS CRITERIA

The bidder should have:

A. Financial

i. Experience of having successfully executed:

- a) Three similar/Electrical works each costing not less than the amount equal to 20% of the probable amount of contract during the last 3 financial years (2013-14,2014-15,2015-16); or
- b) Two similar/Electrical works each costing not less than the amount equal to 30% of the probable amount of contract during the last 3 financial years (2013-14,2014-15,2015-16); or
- c) One similar/Electrical works of aggregate cost not less than the amount equal to 50% of the probable amount of contract in any one financial year during the last 3 financial years (2013-14,2014-15,2015-16);

Note: Certificate issued by the Principal Employer (Not below Executive Engineer rank) should be submitted for each executed similar work.

- ii. Average annual construction turnover on the construction works not less than 50% of the probable amount of contract during the last 3 financial years.
- iii. Executed similar items of work in any one financial year during the last 3 financial years, which should not be less than the minimum, physical requirement, if any, fixed for the work.
- iv. **Bid Capacity** – Bidder shall be allotted work up to his available Bid Capacity, which shall be worked out as given in format I-2 of Annexure I.

B. Physical

Physical qualifications for the work shall be as below

S.NO.	Particulars	Quantity	Period

The Employer shall specify all physical qualifications required).

SPECIAL ELIGIBILITY CRITERIA

The bidders should have experience of:

NIL

Specifications

Following specifications should be followed:-

1. **For road, pavement, culvert work** :-Works shall be carried out as per 5th revision of "Specifications for Road and Bridge works" (Ministry of Road Transport & Highway) - subject to such changes as are incorporated in the wording of the items and notes below. The work will be governed by the design considerations and specifications contained in I.R.C. codes of practice for Road/Bridges issued up to the date of receipt of tender.
2. **For building work:** Central Public Works Department (CPWD) specification as applicable as on date along with up to date amendments & addendums issued up to the date of receipt of tender.
3. **For Electrical work:-** As per attached technical specifications as per annexure Z and as per MPPWD SOR 2014 Electrical issued on 01.08.2014 amendments & addendums issued upto the date of receipt of tender.
4. **Weigh bridge work:** Attached as annexure Y,

The provisions of general / special conditions of contract, those specified elsewhere in the bid document, as well as execution drawings and notes, or other specifications issued in writing by the Employer shall form part of the technical specifications of this work.

Procedure for Participation in e-Tendering

1. Registration of Bidders on e-Tendering System:

All the PWD registered bidders are already registered on the new e-procurement portal <https://www.mpeproc.gov.in>. The user id will be the contractor ID provided to them from MP Online. The password for the new portal has been sent to the bidders registered email ID. For more details may contact M/s. _Tata Consultancy Services Corporate Block, 5th floor, DB City BHOPAL-462011 email id: eproc_helpdesk@mpsdc.gov.in. Helpdesk phone numbers are available on website.

2. Digital Certificate:

The bids submitted online should be signed electronically with a Class III Digital Certificate to establish the identity of the bidder submitting the bid online. The bidders may obtain Class III Digital Certificate issued by an approved Certifying Authority authorized by the Controller of Certifying Authorities, Government of India. A Class III Digital Certificate is issued upon receipt of mandatory identity proofs along with an application. Only upon the receipt of the required documents, a Digital Certificate can be issued. For details please visit cca.gov.in.

Note:

- i. It may take up to 7 working days for issuance of Class III Digital Certificate; hence the bidders are advised to obtain the certificate at the earliest. Those bidders who already have valid Class III Digital Certificate need not obtain another Digital Certificate for the same.*

The bidders may obtain more information and the Application Form required to be submitted for the issuance of Digital Certificate from

CCA.GOV.IN

- ii. Bids can be submitted till bid submission end date. Bidder will require digital signature while bid submission.*

The digital certificate issued to the Authorized User of a Partnership firm / Private Limited Company / Public Limited Company and used for online bidding will be considered as equivalent to a no-objection certificate / power of attorney to that user.

In case of Partnership firm, majority of the partners have to authorize a specific individual through Authority Letter signed by majority of the partners of the firm.

In case of Private Limited Company, Public Limited Company, the Managing Director has to authorize a specific individual through Authority Letter. Unless the certificate is revoked, it will be assumed to represent adequate authority of the specific individual to bid on behalf of the organization for online bids as per information Technology Act 2000. This Authorized User will be required to obtain a Digital Certificate. The Digital Signature executed through the use of Digital Certificate of this Authorized User will be binding on the firm. It shall be the responsibility of Management / Partners of the concerned firm to inform the Certifying Authority, if the Authorized User changes, and apply for a fresh Digital Certificate for the new Authorized User.

3. Set Up of Bidder's Computer System:

In order for a bidder to operate on the e-tendering System, the Computer System of the bidder is required to be set up for Operating System, Internet Connectivity, Utilities, Fonts, etc. The details are available at <https://www.mpeproc.gov.in>

4. Key Dates:

The bidders are strictly advised to follow the time schedule (Key Dates) of the bid on their side for tasks and responsibilities to participate in the bid, as all the stages of each bid are locked before the start time and date and after the end time and date for the relevant stage of the bid as set by the Department.

5. Preparation and Submission of Bids

The bidders have to prepare their bids online, encrypt their bid Data in the Bid forms and submit Bid of all the envelopes and documents related to the Bid required to be uploaded as per the time schedule mentioned in the key dates of the Notice inviting e-Tenders after signing of the same by the Digital Signature of their authorized representative.

5. Purchase of Bid Document

For purchasing of the bid document bidders have to pay Service Charge online ONLY which is Rs. [as per Bid Date Sheet]. Cost of bid document is separately mentioned in the Detailed NIT. The Bid Document shall be available for purchase to concerned eligible bidders immediately after online release of the bids and up to scheduled time and date as set in the key dates.

The payment for the cost of bid document shall be made online through Debit/Credit card ,Net banking or NeFT Challan through the payment gateway provided on the portal.

7. Withdrawal, Substitution and Modification Of Bids

Bidder can withdraw and modify the bid till Bid submission end date.

(See clause 4 of Section 2-ITB)

JOINT VENTURE (J.V.)

If J.V. is allowed following conditions and requirements must be fulfilled

1. Bid submitted by a joint venture of two or more firms as partners shall comply with the following requirements:
 - a. one of the partners shall be nominated as being **Lead Partner**, and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the partners;
 - b. the bid and, in case of a successful bid, the Agreement, shall be signed so as to be legally binding on all partners;
 - c. The partner in charge shall be authorized to incur liabilities and receive instructions for and on behalf of any and all partner soft he joint venture and the entire execution of the contract, including payment, shall be done exclusively with the partner in charge;
 - d. All partners of the joint venture shall be liable jointly and severally for the execution of the contract in accordance with the contract terms, and a statement to this effect shall be included in the authorization mentioned under [c] above, as well as in the bid and in the Agreement [in case of a successful bid];
 - e. The joint venture agreement should indicate precisely the roles of all members of J V in respect of planning, design, construction equipment, key personnel / work execution, and financing of the project. All member sof JV should have active participation in execution during the currency of the contract. This should not be varied / modified subsequently without prior approval of the employer;
 - f. The joint venture agreement should be registered, so as to be leg all valid and binding on all partners; and
 - g. a copy of the Joint Venture Agreement entered into by the partners shall be submitted with the bid.
2. The figures for each of the partner so fa joint venture shall be added together to determine the Bidder's compliance with the minimum quality in g criteria required for the bid. All the partner scollectively must meet the criteri a specified in full. Failure to comply with this requirement will result in rejection of the joint venture' sbid.
3. The perform ance security of a Joint Venture shall be in the name of the partner **Lead Partner** /joint venture.
4. Attach the power of attorney of the partners authorizing the Bid signatory (ies) on behalf of the joint venture
5. Attach the agreement among all partners of the joint venture [and which is legally binding on all partners], which shows the requirements as indicated in the Instructions to Bidders'.
6. Furnish details of participation proposed in the joint ventures as below:

NOT A CONTRACT

DETAILS OF PARTICIPATION IN THE JOINT VENTURE

PARTICIPATIONDETAILS	FIRM'A'(LeadPartner)	FIRM'B'	FIRM'C'
Financial			
Name of the Banker(s)			
Planning			
Construction Equipment			
Key Personnel			
Execution of Work (Give details on contribution of each)			

NOT APPLICABLE

Annexure-H

(See clause 12 of Section 2-ITB & clause 4 of GCC)

ORGANIZATIONAL DETAILS**(To be Contained in Envelope-A)**

S.No.	Particulars	Details
1.	Registration number issued by Centralized Registration System of Government of M.P. or Proof of application for registration.	(If applicable, scanned copy of proof of application for registration to be uploaded)
2.	Valid Registration of bidder in appropriate class through Centralized Registration of Government of MP	Registration No. _____ Date _____ (Scanned copy of Registration)
3.	Name of Organization /Individual /Proprietary Firm /Partnership Firm	
4.	Entity of Organization Individual/ Proprietary Firm/ Partnership Firm (Registered under Partnership Act) /Limited Company (Registered under the Companies Act 1956)/Corporation/Joint Venture	
5.	Address of Communication	
6.	Telephone Number with STD Code	
7.	Fax Number with STD Code	
8.	Mobile Number	
9.	E-mail Address for all communications	
	Details of Authorized Representative	
10.	Name	
11.	Designation	
12.	Postal Address	
13.	Telephone Number with STD Code	
14.	Fax Number with STD Code	
15.	Mobile Number	
16.	E-mail Address	

Note: *In case of partnership firm and limited company certified copy of partnership deed/ Articles of Association and Memorandum of Association along with registration certificate of the company shall have to be enclosed.*

Signature of Bidder with Seal

Date: _____

Envelope-B, Technical Proposal

Technical Proposal shall comprise the following documents:

S.No.	Particulars	Details to be submitted
1	Experience-Financial & Physical	Annexure-I(Format:I-1)
2	Annual Turnover	Annexure-I(Format:I-2)
3	List of technical personnel for the key positions	Annexure-I(Format:I-3)
4	List of Key equipments/machines for Quality control labs	Annexure-I(Format:I-4)
5	List of Key equipments/machines for Construction work	Annexure-I(Format:I-5)

Note:

1. *Technical Proposal should be uploaded duly page numbered and indexed.*
2. *Technical Proposal uploaded otherwise will not be considered.*

FINANCIAL & PHYSICAL EXPERIENCE DETAILS

A. Financial Requirement:

The bidder should have completed either of the below:

- d) three similar works each costing not less than the amount equal to 20% Rs. 384.70 lacs of the probable amount of contract during the last 3 financial years (2013-14,2014-15,2015-16); or
- e) two similar works each costing not less than the amount equal to 30% Rs. 577.04 lacs of the probable amount of contract during the last 3 financial years(2013-14,2014-15,2015-16); or
- c) one similar work of aggregate cost not less than the amount equal to 50% rs. 961.74 lacs of the probable amount of contract in any one financial year during the last 3 financial years(2013-14,2014-15,2015-16);

Note: Certificate issued by the Principal Employer (not below Executive Engineer rank) should be submitted for each executed similar work.

Similar Work means any Concrete works for any Central Government, State Government, Semi Government Organization or any other Autonomous body.

To be filled in by the contractor:

- i. Details of successfully completed similar works shall be furnished in the following format.
- ii. Certificate duly signed by the Principal employer shall also be enclosed for each completed similar work.

Agreement Number & Year	Name of Work	Date of Work Order	Date of Completion	Amount of Contract	Employer's Name and Address

Existing commitments – (Value of 'C' for Bid Capacity formula)

Agreement Number & Year	Name of Work	Date of Work Order	Date of Completion	Amount of Contract	Amount of balance work	Employer's Name and Address

B. Physical Requirement:

Execution of similar items of work in any one financial year during the last 3 financial years

should not be less than the minimum physical requirement fixed for the work.

S.No.	Particulars	Actual Quantity Executed (To be filled in by the contractor)		
		Year – 1	Year – 2	Year – 3
	Physical qualification required			
1	Total PQC			

- Note: 1. Certificate duly signed by the employer shall be enclosed for the actual quantity executed in any one year during the last 3 financial years.
2. Similar works: The similarity shall be based on the physical size, complexity, methods technology or other characteristics of main items of work viz. earth work, cement concrete, Reinforced cement concrete, brick masonry, stone masonry etc.

NOT APPLICABLE

ANNUAL TURN OVER

Requirement:

Average annual turnover on the construction works not less than 50% of the probable amount of contract during the last 3 financial years;

To be filled in by the contractor:

Financial Year	Payments received for contracts in progress or completed
1	
2	
3	

Note:

- i. Annual turnover of construction should be certified by the Chartered Accountant.*
- ii. Audited balance sheet including all related notes, and income statements for the above financial years to be enclosed.*

Bid Capacity

Applicants who meet the minimum qualifying criteria in the evaluation as stated above are to be evaluated further for bid capacity as under:

$$\text{Bid Capacity} = (1.5 A \times B) - C$$

Where

- A = Maximum value of civil engineering works executed in any one year during the last three years (10% weightage per year shall be given to bring the value of work executed at present price level)
- B = Proposed contract period in years.
- C = Amount of work in hand at present.

List of Technical Personnel for the Key Positions

Minimum requirement						Available with the bidder					
S.No.	Key Position	Minimum requirement	Qualification	Similar work experience (years)	Total Work Experience (y ears)	S.No.	Name of Personnel	Key Position	Qualification	Similar work experience	Total Work Experience
1	Project Manager	01	Graduate in civil Engineering	10	15						
2	Site Engineer/Billing Engineer	02	Diploma in civil Engineering	5	7						
3	Electrical Engineer	01	Diploma in Elect. Engineering	3	5						
4	Lab Technician	01	Diploma in Civil Engineering	3	5						
5	Supervisor	02	Diploma in Civil Engineering	3	5						

NOT APPLICABLE

List of Key Equipments / Machines for Quality Control Labs

Minimum requirement			Available with the bidder	
S.No.	Name of Equipment/Machinery	Quantity	Name of Equipment / Machinery	Quantity
	As per annexure – Q.			

FIELD TESTING INSTRUMENTS

Minimum Requirement		Available with the Bidder		
	Name of Instrument	Quantity	Name of Instrument	Quantity
	<p>REQUIRED AS PER MORTH, IRC, IS AND OTHER RELAVANT CODES</p>			

Annexure-I(Format:I-5)

(See clause 14 of Section 2-ITB)

List of Key Equipments/Machines for Construction Work

Minimum requirement			Available with the bidder	
S. No.	Name of Equipment/Machinery	Quantity	Name of Equipment/Machinery	Quantity
1	Excavator cum loader with sufficient number of	02 Nos.		
2	Mechanical Grader	01 Nos.		
3	RMC plant of capacity 30cum	01 Nos		
4	Slip/Fix Form paver	01 Nos		
5	Electronic Sensor Paver	01 Nos.		
6	Dumpers	06 Nos.		
7	Miller/Transit Mixer	03		
8	Diesel Generator	01 No.		
9	Needle Vibrators	04 Nos.		
10	Vibratory / Tandem Roller (8-10 Tonnes)	01 Nos.		

NOT APPLICABLE

**FINANCIAL BID
(To Be Contained in Envelope-C)**

NAME OF WORK: CONSTRUCTION OF LOGISTIC HUB AT INDUSTRIAL AREA MANDIDEEP, BHOPAL

I/We hereby bid for the execution of the above work within the time specified at the rate (in figures) _____ (in words) _____ percent below/ above or at par based on the Bill of Quantities and item wise rates given therein in all respects and in accordance with the specifications, designs, drawings and instructions in writing in all respects in accordance with such conditions so far as applicable. I/We have visited the site of work and am/ are fully aware of all the difficulties and conditions likely to affect carrying out the work. I/We have fully acquainted myself/ourselves about the conditions in regard to accessibility of site and quarries/kilns, nature and the extent of ground, working conditions including stacking of materials, installation of tools and plant conditions effecting accommodation and movement of labour etc. required for the satisfactory execution of contract.

Should this bid be accepted, I/We hereby agree to abide by and fulfill all the terms and provisions of the said conditions of contract annexed hereto so far as applicable, or in default thereof to forfeit and pay to the Governor of Madhya Pradesh or his successors in office the sums of money mentioned in the said conditions.

Note:

- i. Only one rate of percentage above or below or at par based on the Bill of Quantities and item wise rates given therein shall be quoted.*
- ii. Percentage shall be quoted in figures as well as in words. If any difference in figures and words is found lower of the two shall be taken as valid and correct rate. If the bidder is not ready to accept such valid and correct rate and declines to furnish performance security and sign the agreement his earnest money deposit shall be forfeited.*
- iii. In case the percentage "above" or "below" is not given by a bidder, his bid shall be treated as non-responsive.*
- iv. All duties, taxes, and other levies payable by the bidder shall be included in the percentage quoted by the bidder.*

Signature of Bidder

Name of Bidder

The above bid is hereby accepted by me on behalf of the Governor of Madhya Pradesh dated the _____ day of _____ 2016 _____

Signature of Officer by whom accepted

MATERIALS TO BE ISSUED BY THE DEPARTMENT

S.no.	Name of material	Rate (Issue rate)	Unit	Remarks

NOT APPLICABLE

LETTER OF ACCEPTANCE (LOA)

No. _____ Dated: _____

To,

M/s. _____

(Name and address of the contractor)

Subject: _____

(Name of the work as appearing in the bid for the work)

Dear Sir (s),

Your bid for the work mentioned above has been accepted on behalf of the Governor of Madhya Pradesh at your bided percentage _____ below/ above or at par the Bill of Quantities and item wise rates given therein.

You are requested to submit within 15 (Fifteen) days from the date of issue of this letter:

- a. The performance security/ performance guarantee of Rs. _____ (in figures) (Rupees _____ in words only). The performance security shall be in the shape of term deposit receipt/ bank guarantee of any nationalized / schedule commercial bank valid up to three months after the expiry of defects liability period.
- b. Sign the contract agreement.

Please note that the time allowed for carrying out the work as entered in the bid is _____ months including/ excluding rainy season, shall be reckoned from the date of signing the contract agreement.

Signing the contract agreement shall be reckoned as intimation to commencement of work and no separate letter for commencement of work is required. Therefore, after signing of the agreement, you are directed to contact the Engineer-in-charge for taking the possession of site and necessary instructions to start the work.

Yours Faithfully

Executive Engineer

PERFORMANCE SECURITY

To

_____ [name of Employer]

_____ [address of Employer]

WHEREAS _____ [name and address of Contractor]

(Hereinafter called "the Contractor") has undertaken, in pursuance of Letter of Acceptance No. _____ dated _____ to execute _____ [name of Contract and brief description of Works] (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 obligation 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]* _____ (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 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.

Our liability under this Bank Guarantee shall not exceed Rs. (Rs only) & we further declare that this Bank Guarantee will be valid from to

This guarantee shall be valid until **3 (three) months** from the date of expiry of the Defect Liability Period.

Signature, Name and Seal of the guarantor _____

Name of Bank _____

Address _____

Phone No., Fax No., E-mail Address, of Signing Authority _____

Date _____

* An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

SECTION 3
Conditions of Contract
Part-I general Conditions of Contract [GCC]

Table of Clauses of GCC

Clause No	Particulars	Clause No	Particulars
	A.General	21	Payments for Variations and/or Extra Quantities
1	Definitions	22	No compensation for alterations in or restriction of work to be carried out.
2	Interpretations and Documents	23	No Interest Payable
3	Language and Law	24	Recovery from Contractors
4	Communications	25	Tax
5	Sub-contracting	26	Check Measurements
6	Personnel	27	Termination by Engineer in Charge
7	Force Majeure	28	Payment upon Termination
8	Contractor's Risks	29	Performance Security
9	Liability For Accidents To Person	30	Security Deposit
10	Contractor to Construct the Works	31	Price Adjustment
11	Discoveries	32	Mobilization and Construction Machinery Advance
12	Dispute Resolution System	33	Secured Advance
	B.TimeControl	34	Payments Certificates
13	Programme		E.FinishingtheContract
14	Extension of Time	35	Completion Certificate
15	Compensation for Delay	36	Final Account
16	Contractor's quoted percentage		F.Other Conditions of Contract
	C.QualityControl	37	Currencies
17	Tests	38	Labour
18	Correction of Defects noticed during the Defect Liability Period	39	Compliance with Labour Regulations
	D.CostControl	40	Audit and Technical Examination
19	Variations-Change in original Specifications, Designs, Drawings etc.	41	Death or Permanent In validity of Contractor
20	Extra Items	42	Jurisdiction

A. General

1. DEFINITIONS

- 1.1. **Bill of Quantities:** means the priced and completed Bill of Quantities forming part of the Bid.
- 1.2. **Chief Engineer:** means Chief Engineer of the zone/ basin concerned.
- 1.3. **Completion:** means completion of the work as certified by the Engineer-in-Charge, in accordance with provisions of agreement.
- 1.4. **Contract:** means the Contract between the Employer and the Contractor to execute, complete and/or maintain the work. Agreement is synonym of Contract and carries the same meaning wherever used.
- 1.5. **Contract Data:** means the documents and other information which comprise of the Contract.
- 1.6. **Contractor:** means a person or legal entity whose bid to carry out the work has been accepted by the Employer.
- 1.7. **Contractor's bid:** means the completed bid document submitted by the Contractor to the Employer.
- 1.8. **Contract amount:** means the amount of contract worked out on the basis of accepted bid.
- 1.9. **Completion of work:** means completion of the entire contracted work. Exhaustion of quantity of any particular item mentioned in the bid document shall not imply completion of work or any component thereof.
- 1.10. **Consultant:** means consultant **M/s. Mehta and Associates**, Indore who are appointed by MPAKVN (BHOPAL) LTD. for Preparation of DPR, Bid Process Management and Supervision and Quality Control of the works.
- 1.11. **Day:** means the calendar day.
- 1.12. **Defect:** means any part of the work not completed in accordance with the specifications included in the contract.
- 1.13. **Department:** means MPAKVN (BHOPAL) LTD., BHOPAL.
- 1.14. **Drawings:** means drawings including calculations and other information provided or approved by the Engineer-in-Charge.
- 1.15. **Employer:** means the party as defined in the **Contract Data**, who employs the Contractor to carry out the work. The Employer may delegate any or all functions to a person or body nominated by him for specified functions. The word Employer / Government / Department wherever used denote the Employer.
- 1.16. **Engineer in charge:** means the Engineer who shall supervise and be in-charge of the work as authorized by MPAKVN (BHOPAL) Ltd, BHOPAL.
- 1.17. **Equipment:** means the Contractor's machinery and vehicles brought temporarily to the Site for execution of work.
- 1.18. **Government:** means Government of Madhya Pradesh.
- 1.19. **In Writing:** means communicated in written form and delivered against receipt.
- 1.20. **Material:** means all supplies, including consumables, used by the Contractor for incorporation in the work.

- 1.21. **Stipulated period of completion:** means the period in which the Contractor is required to complete the work. The stipulated period is specified in the **Contract Data**.
- 1.22. **SOR of the department :** MPPWD for Road & Bridge works enforce from 06.06.2016, MPPWD for Building works enforce from 01-08-2014 and MPPWD for Electrical works enforce from 01-08-2014 amended up to the date of issue of NIT
- 1.23. **Specification:** means the specification of the work included in the Contract and any modification or addition made or approved by the Engineer-in-Charge.
- 1.24. **Start Date:** means the date of signing of agreement for the work.
- 1.25. **Sub-Contractor:** means a person or corporate body who has a Contract with the Contractor, duly authorized to carry out a part of the construction work under the Contract.
- 1.26. **Temporary Work:** means work designed, constructed, installed, and removed by the contractor that are needed for construction or installation of the work.
- 1.27. **Tender/Bid, Tenderer/Bidder:** are the synonyms and carry the same meaning where ever used.
- 1.28. **Variation:** means any change in the work which is instructed or approved as variation under this contract.
- 1.29. **Work:** The expression "work" or "works" where used in these conditions shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the work by virtue of contract, contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.

2. INTERPRETATIONS AND DOCUMENTS

2.1 Interpretations

In the contract, except where the context requires otherwise:

- a. words indicating one gender include all genders;
- b. Words indicating the singular also include the plural and vice versa.
- c. provisions including the word "agree", "agreed" or "agreement" require the agreement to be recorded in writing;
- d. "written" or "in writing" means hand-written, type-written, printed or electronically made, and resulting in a permanent record;

2.2 Documents Forming Part of Contract:

1. NIT with all amendments.
2. Instructions to Bidders (ITB, Bid Data Sheet with all Annexure)
3. Conditions of Contract:
 - i. Part I General Conditions of Contract and the Contract Data; with all Annexure
 - ii. Part II Special Conditions of Contract.
4. Specifications
5. Drawings
6. Bill of Quantities
7. Technical and Financial Bid
8. Agreement, and
9. Any other document(s), as specified.

3. Language and Law

The language of the Contract and the law governing the Contract are stated in the Contract

Data.

4. Communications

All certificates, notice or instruction to be given to the Contractor by Employer/Engineer shall be sent to the address or contact details given by the Contractor in [Annexure H of ITB]. The address and contact details for communication with the Employer/Engineer shall be as per the details given in the Contract Data. Communication between parties that are referred to in the conditions shall be in writing. The notice sent by facsimile (fax) or other electronic means (email) shall also be effective on confirmation of the transmission. The notice sent by registered post or speed post shall be effective on delivery or at the expiry of the normal delivery period as undertaken by the postal service. In case of any change in address for communication, the same shall be immediately notified to Engineer-in-Charge.

5. Subcontracting

Subcontracting shall be permitted for contracts of value more than amount specified in the Contract Data with following conditions.

- a. The Contractor may subcontract up to 25 percent of the contract price with the approval of the Employer in writing, but will not assign the Contract. Subcontracting shall not alter the Contractor's obligations.
- b. Following shall not form part of subcontracting:
 - i. Hiring of labour through a labour contractor.
 - ii. The purchase of Materials to be incorporated in the works.
 - iii. Hiring of plant & machinery
- c. The sub-contractor will have to be registered in the **appropriate category** in the centralized registration system for contractors of the GoMP.

6. Personnel

- 6.1** The Contractor shall employ for the construction work and routine maintenance the technical personnel as provided in the Annexure I-3 of Bid Data Sheet, if applicable. If the Contractor fails to deploy required number of technical staff, recovery as specified in the Contract Data will be made from the Contractor.
- 6.2** If the Engineer 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 three days and has no further connection with the Works in the Contract.

7. Force Majeure

- 7.1** The term "Force Majeure" means an exceptional event or circumstance:
 - (a) Which is beyond a Party's control,
 - (b) Which such Party could not reasonably have provided against before entering into the Contract,
 - (c) Which, having arisen, such Party could not reasonably have avoided or overcome, and

(d) Which is not substantially attributable to the other Party.

Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) War, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (ii) Rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war,
- (iii) Riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel,
- (iv) Munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and
- (v) Natural catastrophes such as earthquake, hurricane, typhoon or volcanic activity.

7.2. In the event of either party being rendered unable by force majeure to perform any duty or discharge any responsibility arising out of the contract, the relative obligation of the party affected by such force majeure shall upon notification to the other party be suspended for the period during which force majeure event lasts. The cost and loss sustained by either party shall be borne by respective parties.

7.3 For the period of extension granted to the Contractor due to Force Majeure the price adjustment clause shall apply but the penalty clause shall not apply. It is clarified that this sub clause shall not give eligibility for price adjustment to contracts which are otherwise not subject to the benefit of price adjustment clause.

7.4 The time for performance of the relative obligation suspended by the force majeure shall stand extended by the period for which such cause lasts. Should the delay caused by force majeure exceed **twelve** months, the parties to the contract shall be at liberty to foreclose the contract after holding mutual discussions.

8. Contractor's Risks

8.1 All risks of loss or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the Contract are the responsibility of the Contractor.

8.2 All risks and consequences arising from the inaccuracies or falseness of the documents, drawing, designs, other documents and/or information submitted by the contractor shall be the responsibility of the Contractor alone, notwithstanding the fact that the designs/ drawings or other documents have been approved by the department.

9. Liability for Accidents to Person

The contractor shall be deemed to have indemnified and saved harmless the Government against all action, suits, claims, demands, costs etc. arising in connection with injuries suffered by any persons employed by the contractor or his subcontractor for the works whether under the General law or under workman's compensation Act, or any other statute in force at the time of dealing with the question of the liability of employees for the injuries suffered by employees and to have taken steps properly to ensure against any claim there

under.

10. Contractor to Construct the Works

- 10.1** The Contractor shall construct, install and maintain the Works in accordance with the Specifications and Drawings as specified in the **Contract Data**.
- 10.2** In the case of any class of work for which there is no such specification as is mentioned in Contract Data, such work shall be carried out in accordance with the instructions and requirement of the Engineer-in-charge.
- 10.3** The contractor shall supply and take upon himself the entire responsibility of the sufficiency of the scaffolding, timbering, machinery, tools and implements, and generally of all means used for the fulfillment of this contract whether such means may or may not be approved or recommended by the Engineer.

11. Discoveries

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 Engineer of such discoveries and carry out the Engineer's instructions for dealing with them.

12. Dispute Resolution System

- 12.1** No dispute can be raised except before the Competent Authority as defined in Contract Data in writing giving full description and grounds of dispute. It is clarified that merely recording protest while accepting measurement and/or payment shall not be taken as raising a dispute.
- 12.2** No dispute can be raised after 45 days of its first occurrence. Any dispute raised after expiry of 45 days of its first occurrence shall not be entertained and the Employer shall not be liable for claims arising out of such dispute.
- 12.3** The **Competent Authority** shall decide the matter within 45 days.
- 12.4** Appeal against the order of the Competent Authority can be preferred within 30 days to the **Appellate Authority** as defined in **the Contract Data**. The Appellate Authority shall decide the dispute within 45 days.
- 12.5** Appeal against the order of the Appellate Authority can be preferred before the Madhya Pradesh Arbitration Tribunal constituted under Madhya Pradesh *MadhyasthamAdhikaranAdhiniyam*, 1983.
- 12.6** The Contractor shall have to continue execution of the Works with due diligence notwithstanding pendency of a dispute before any authority or forum.

B. Time Control

13. Programme

- 13.1** Within the time stated in the Contract Data, the Contractor shall submit to the Engineer for approval a Programme showing the general methods, arrangements, order and timing for all the activities for the construction of works.
- 13.2** **The program shall be supported with all the details regarding key personnel, equipment and machinery proposed to be deployed on the works for its execution.** The contractor shall submit the list of equipment and machinery being brought to site, the list of key personnel being deployed, the list of machinery/equipment being placed in field laboratory and the location of field laboratory along with the Programme.

13.3 An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining Works, including any changes to the sequence of the activities.

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

13.5 The Engineer's approval of the Programme shall not alter the Contractor's obligations.

14. Extension of Time

14.1. If the Contractor desires an extension of time for completion of the work on the ground of his having been unavoidably hindered in its execution or on any other grounds, he shall apply, in writing, to the Engineer-in-charge, on account of which he desires such extension. **Engineer-in-Charge shall forward the aforesaid application to the Competent Authority as prescribed.**

14.2 The competent authority shall grant such extension at each such occasion within a period of 30 days of receipt of application from contractor and shall not wait for finality of work. Such extensions shall be granted in accordance with provisions under **clause- 15** of this agreement.

14.3 In case the work is already in progress, the Contractor shall proceed with the execution of the works, including maintenance thereof, pending receipt of the decision of the competent authority as aforesaid with all due diligence.

15. Compensation for delay

15.1 The time allowed for carrying out the work, as entered in the agreement, shall be strictly observed by the Contractor.

15.2 The time allowed for execution of the contract shall commence from the date of signing of the agreement. It is clarified that the need for issue of work order is dispensed with.

15.3 In the event milestones are laid down in the Contract Data for execution of the works, the contractor shall have to ensure strict adherence to the same.

15.4 Failure of the Contractor to adhere to the timelines and/or milestones shall attract such liquidated damages as is laid down in the Contract Data.

15.5 In the event of delay in execution of the Works as per the timelines mentioned in the Contract Data the Engineer-in-charge shall retain from the bills of the Contractor amount equal to the liquidated damages livable until the Contractor makes such delays good. However, the Engineer-in-charge shall accept bankable security in lieu of retaining such amount.

15.6 If the Contractor is given extension of time after liquidated damages have been paid, the Engineer in Charge shall correct any over payment of liquidated damages by the Contractor in the next payment certificate.

15.7 In the event the Contractor fails to make good the delay until completion of the

stipulated contract period (including extension of time) the sum so retained shall be adjusted against the liquidated damages levied.

16. Contractor's quoted percentage

The Contractor's quoted percentage rate referred to in the "Bid for works" will be deducted/ added from/to the net amount of the bill after deducting the cost of material supplied by the department.

C. Quality Control

17. Tests

17.1 The Contractor shall be responsible for:

- a. Carrying out the tests prescribed in specifications, and
- b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.

17.2 The contractor shall have to establish field laboratory within the time specified and having such equipments as are specified in the **Contract Data**.

17.3 Failure of the Contractor to establish laboratory shall attract such penalty as is specified in the **Contract Data**.

18. Correction of Defects noticed during the Defect Liability Period

18.1 The Defect Liability Period of work in the contract shall be as per the **Contract Data**.

18.2 The Contractor shall promptly rectify all defects pointed out by the Engineer well before the end of the Defect Liability Period. The Defect Liability Period shall automatically stand extended until the defect is rectified.

18.3 If the Contractor has not corrected a Defect pertaining to the Defect Liability Period to the satisfaction of the Engineer, within the time specified by the Engineer, the Engineer will assess the cost of having the Defect corrected, and the cost of correction of the Defect shall be recovered from the Performance Security or any amount due or that may become due to the contractor and other available securities.

D. Cost Control

19. Variations - Change in original Specifications, Designs, and Drawings etc.

19.1 The Engineer-in-charge shall have power to make any alterations, omissions or additions to or substitutions in the original specifications, drawings, designs and instructions, that may appear to him to be necessary during the progress of the work and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-charge, and such alterations, omission, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work, which the contractor may be directed to do in the manner above specified, as part of the work, shall be carried out by the contractor on the same conditions in all respects on which he agrees to do the main work.

19.2 The time for the completion of the work shall be adjusted in the proportion that the

altered, additional or substituted work bears to the original contract work and the certificate of the Engineer-in-charge shall be conclusive as to such proportion.

20. Extra items

20.1 All such items which are not included in the priced BOQ shall be treated as extra items.

21. Payments for Variations and / or Extra Quantities

21.1 The rates for such additional (Extra quantity), altered or substituted work / extra items under this clause shall be worked out in accordance with the following provisions in their respective order:-

- a. The contractor is bound to carry out the additional (Extra quantity), work at **the same rates** as are specified in the contract for the work.
- b. If the item is not in the priced BOQ and is included in the SOR of the department, i.e. MPPWD for Road & Bridge works enforce from 06.06.2016, MPPWD for Building works enforce from 01-08-2014 and MPPWD for Electrical works enforce from 01-08-2014 amended **up to the date of issue of NIT**, the rate shall be arrived at by applying the quoted tender percentage on the SOR BOQ.
- c. **If the rates for the altered or substituted work are not provided in applicable SOR** - such rates will be derived from the rates for a similar class(type) of work as is provided in the contract (priced BOQ) for the work.
- d. **If the rates for the altered, substituted work cannot be determined in the manner specified in the sub clause (c) above** - then the rates for such composite work item shall be worked out on the basis of the concerned Schedule of Rates minus/plus or at par as per the percentage quoted by the contractor.
- e. If the rates for a particular part or parts of the item is not in the Schedule of Rates and the rates for the altered, or substituted work item cannot be determined in the manner specified in sub clause (b) to (d) above, the rate for such part or parts will be determined by the Competent Authority as defined in the Contract Data on the basis of the rate analysis derived out of prevailing market rates when the work was done.
- f. But under no circumstances, the contractor shall suspend the work on the plea of non-acceptability of rates on items falling under sub clause (a) to (d). In case the contractor does not accept the rate approved by the Engineer in Charge for a particular item, the contractor shall continue to carry out the item at the rates determined by the Competent Authority. The decision on the final rates payable shall be arrived at through the dispute settlement procedure.

22. No compensation for alterations in or restriction of work to be carried out.

22.1 If at any time after the commencement of the work, the Engineer-in-charge, for any reason whatsoever, not require the whole or any part of the work as specified in the bid to be carried out; the Engineer-in-charge shall give notice in writing of the fact to the Contractor and withdraw that whole or any part of the work.

22.2 The Contractor shall have no claim to any payments or compensation whatsoever, on account of any profit or advantage which he might have derived from the execution of work in full or on account of any loss incurred for idle men and machinery due to any alteration or restriction of work for whatsoever reason.

22.3 The Engineer-in-charge may supplement the work by engaging another agency to

execute such portion of the work, without prejudice to his rights.

23. No Interest Payable

No interest shall be payable to the Contractor on any payment due or awarded by any authority.

24. Recovery from Contractors

Whenever any claim against the Contractor for the payment arises under the contract, the Department may be entitled to recover such sum by:

- (a) Appropriating, in part or whole of the Performance Security and Additional Performance Security, if any; and/or Security Deposit and / or any sums payable under the contract to the contractor.
- (b) If the amount recovered in accordance with (a) above is not sufficient, the balance sum may be recovered from any payment due to the contractor under any other contract of the department, including the securities which become due for release.
- (c) The department shall, further have an additional right to effect recoveries as arrears of land revenue under the *M.P. Land Revenue Code*.

25. Tax

- 25.1** The rates quoted by the Contractor shall be deemed to be inclusive of the commercial tax and other levies, duties, cess, toll, taxes of Central and State Governments, local bodies and authorities.
- 25.2** The liability, if any, on account of quarry fees, royalties, octroi and any other taxes and duties in respect of materials actually consumed on public work, shall be borne by the Contractor.
- 25.3** Any changes in the taxes due to change in legislation or for any other reason shall not be payable to the contractor.

26. Check Measurements

- 26.1** The department reserves to itself the right to prescribe a scale of check measurement of work in general or specific scale for specific works or by other special orders.
- 26.2** Checking of measurement by superior officer shall supersede measurements by subordinate officer(s), and the former will become the basis of the payment.
- 26.3** Any over/excess payments detected, as a result of such check measurement or otherwise at any stage up to the date of completion of the defect liability period specified in this contract, shall be recoverable from the Contractor, as per **clause 24** above.

27. Termination by Engineer in Charge

- 27.1** If the Contractor fails to carry out any obligation under the Contract, the Engineer in Charge may by notice require the Contractor to make good the failure and to remedy it within a specified reasonable time.
- 27.2** The Engineer in Charge shall be entitled to terminate the Contract if the Contractor
 - a) abandons the Works or otherwise plainly demonstrates the intention not to continue performance of his obligations under the Contract;
 - b) the Contractor is declared as bankrupt or goes into liquidation other than for approved reconstruction or amalgamation;

- c) without reasonable excuse fails to comply with the notice to correct a particular defect within a reasonable period of time;
- d) the Contractor does not maintain a valid instrument of financial security as prescribed;
- e) the Contractor has delayed the completion of the Works by such duration for which the maximum amount of liquidated damages is recoverable;
- f) If the Contractor fails to deploy machinery and equipment or personnel or set up a field laboratory as specified in the **Contract Data**;
- g) If the contractor, in the judgment of the Engineer in charge has engaged in corrupt or fraudulent practices in competing for or in executing the contract;
- h) Any other fundamental breaches as specified in the **Contract Data**.

27.3 In any of these events or circumstances, the Engineer in Charge may, upon giving 14 days' notice to the Contractor, terminate the Contract and expel the Contractor from the Site. However, in the case of sub-paragraph (b) or (g) of **clause 27.2**, the Engineer in Charge may terminate the Contract immediately.

27.4 Notwithstanding the above, the Engineer-in-Charge may terminate the Contract for convenience by giving notice to the Contractor.

28. Payment upon Termination

28.1 If the contract is terminated under **clause 27.3**, the Engineer shall issue a certificate for value of the work accepted on final measurements, less Advance Payments and Penalty as indicated in the **Contract Data**. The amount so arrived at shall be determined by the **Engineer-in-Charge** and shall be final and binding on both the parties.

28.2 Payment on termination under **clause 27. 4** above -

If the Contract is terminated under **clause 27.4** above, the Engineer shall issue a certificate for the value of the work done, 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, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

28.3 If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be recovered as per **clause 24** above.

29. Performance Security

The Contractor shall have to submit performance security and additional performance security, if any, as specified in the **Bid Data Sheet** at the time of signing of the contract. The contractor shall have to ensure that such performance security and additional performance security, if any, remains valid for the period as specified in the Contract Data.

30. Security Deposit-

30.1 Security Deposit shall be deducted from each running bill at the rate as specified in the **Contract Data**. The total amount of Security Deposit so deducted shall not exceed the percentage of Contract Price specified in the **Contract Data**.

30.2 The security deposit may be replaced by equivalent amount of bank guarantee or fixed deposit receipt assigned to the Employer, with validity up to 3 (three) months beyond

the completion of Defect Liability Period/ extended Defect Liability Period.

30.3 The Security Deposit shall be refunded as mentioned in contract data.

31. Price Adjustment

31.1 Applicability

1. Price adjustment shall be applicable only if provided for in the **Contract Data**.
2. The price adjustment clause shall apply only for the works executed from the date of signing of the agreement until the end of the initial intended completion date or extensions granted for reasons attributed to the Employer by the Engineer.
3. The Contractor shall not be entitled to any benefit arising from the price adjustment clause for extension in the contract period for reasons attributed to the Contractor.
4. In the Force Majeure event the price escalation clause shall apply.

31.2 Procedure

1. Contract price shall be adjusted for increase or decrease in rates and price of labour, materials, fuels and lubricants in accordance with following principles and procedures and as per formula given in the **contract data**.
2. The price adjustable shall be determined during each **quarter** from the formula given in the **contract data**.
3. Following expression and meaning are assigned to the work done during each **quarter**:

R = Total value of work during the **quarter**. It would include the amount of secured advance granted, if any, during the quarter, less the amount of secured advance recovered, if any during the **quarter, less value of material issued by the department, if any, during the quarter**.

4. Weightage of various components of the work shall be as per the **Contract Data**.

31.3 To the extent that full compensation for any rise or fall in costs to the contractor is not covered by the provisions of this or other clauses in the contract, the unit rates and prices included in the contract shall be deemed to include amounts to cover the contingency of such other rise or fall in costs.

31.4 The index relevant to any quarter, for which such compensation is paid, shall be the arithmetical average of the indices relevant of the calendar month.

31.5 For the purpose of clarity it is pointed out that the price adjustment may be either positive or negative, i.e. if the price adjustment is in favour of the Employer, the same shall be recovered from the sums payable to the Contractor.

32. Mobilization and Construction Machinery Advance

32.1 Payment of advances shall be applicable if provided in the **Contract Data**.

32.2 If applicable, the Engineer in Charge shall make interest bearing advance payment to the contractor of the amounts stated in the **Contract Data**, against provision by the contractor of an unconditional Bank Guarantee in a form and by a nationalized/

scheduled banks, in the name as stated in the **Contract Data**, in amounts 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.

- 32.3** The rate of interest chargeable shall be as per **Contract Data**.
- 32.4** The construction machinery advance, if applicable, shall be limited to 80% of the cost of construction machinery and admissible only for new construction machinery.
- 32.5** The advance payment shall be recovered as stated in the **Contract Data** by deducting proportionate amounts from payment otherwise due to the Contractor. No account shall be taken of the advance payment or its recovery in assessing valuations of work done, variations, price adjustments, compensation events, or liquidated damages.

33. Secured Advance

- 33.1** Payment of Secured Advance shall be applicable if provided in the **Contract Data**.
- 33.2** If applicable, the Engineer shall make advance payment against materials intended for but not yet incorporated in the Works and against provision by the contractor of an unconditional Bank Guarantee in a form and by a nationalized/ scheduled bank, in the name as stated in the **Contract Data**, in amounts equal to the advance payment. The guarantee shall remain effective until the advance payment has been adjusted, but the amount of the guarantee shall be progressively reduced by the amounts adjusted by the contractor.
- 33.3** The amount of secured advance and conditions to be fulfilled shall be as stipulated in the **Contract Data**.
- 33.4** The Secured Advance paid shall be recovered as stated in the **Contract Data**.

34. Payment Certificates

The payment to the contractor will be as follows for construction work:

- (a)** The Contractor shall submit to the Engineer/ consultant monthly statements of the value of the work executed less the cumulative amount certified previously, supported with detailed measurement of the items of work executed.
- (b)** The Engineer/ consultant shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- (c)** The value of work executed shall be determined, based on the measurements approved by the Engineer/ consultant.
- (d)** The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.
- (e)** The value of work executed shall also include the valuation of Variations and Compensation Events.
- (f)** All payments shall be adjusted for deductions for advance payment, security deposit, other recoveries in terms of contract and taxes at source as applicable under the law.
- (g)** The Engineer/ consultant 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.

- (h) Payment of intermediate certificate shall be regarded as payments by way of advance against the final payment and not as payments for work actually done and completed.
- (i) Intermediate payment shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or be considered as an admission of the due performance of the contractor any part thereof, in any respect or the occurring of any claim.
- (j) The payment of final bill shall be governed by the provisions of **clause 36 of GCC**.

E. Finishing the Contract

35. Completion Certificate

- 35.1** A Completion Certificate in the prescribed format in **Contract Data** shall be issued by the Engineer-in-Charge after physical completion of the Work.
- 35.2** After final payment to the Contractor, a Final Completion Certificate in the prescribed format in the **Contract Data** shall be issued by the Engineer-in-Charge.

36. Final Account

- 36.1** The Contractor shall supply the Engineer with a detailed account of the total amount that the Contractor considers payable for works under the Contract within 21 days of issue of certificate of physical completion of works. The Engineer shall issue a Defects Liability Certificate and certify any payment that is due to the Contractor within 45 days of receiving the Contractor's account if it is correct and complete. If the account is not correct or complete, the Engineer shall issue within 45 days a schedule that states the scope of the corrections or additions that are necessary. If the Account is still unsatisfactory after it has been resubmitted, the matter shall be referred to the Competent Authority as defined in the Contract Data, who shall decide on the amount payable to the Contractor after hearing the Contractor and the Engineer in Charge.
- 36.2** In case the account is not received within 21 days of issue of Certificate of Completion as provided in clause 32.1 above, the Engineer shall proceed to finalize the account and issue a payment certificate within 28 days.

F. Other Conditions of Contract

39. Currencies

All payments will be made in Indian Rupees.

40. Labour

- a. The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their

payment, housing, feeding and transport.

- b. The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

41. Compliance with Labour Regulations

- a. During continuance of the Contract, the Contractor and his sub-Contractors shall abide at all times by all existing labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given in the **Contract Data**. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made their under, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications/byelaws/Acts/Rules/ regulations including amendments, if any, on the part of the Contractor, the Engineer/Employer shall have the right to deduct from any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer. The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of the Employer at any point of time.

42. Audit and Technical Examination

Government shall have the right to cause an audit and technical examination of the works and the final bill of the contract including all supporting vouchers, abstract etc. to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed by him to have been done under the contract and found not to, have been executed, the Contractor shall be liable to refund the amount of overpayment and it shall be lawful for Government to recover the same from him in the manner prescribed in **clause 24** above and if it is found that the Contractor was paid less than what was due to him, under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by Government to the Contractor.

43. Death or Permanent Invalidity of Contractor

If the Contractor is an individual or a proprietary concern, partnership concern, dies during the currency of the contract or becomes permanently incapacitated, where the surviving partners are only minors, the contract shall be closed without levying any damages/ compensation as

provided for in **clause 28.2** of the contract agreement. However, if the competent authority is satisfied about the competence of the survivors, then the competent authority shall enter into a fresh agreement for the remaining work strictly on the same terms and conditions under which the contract was awarded.

44. Jurisdiction

This contract has been entered into the State of Madhya Pradesh and its validity, construction, interpretation and legal effect shall be subjected to the courts at the place where this agreement is entered into. No other jurisdiction shall be applicable.

[End of GCC]

Contract Data

Clause Ref.	Particulars	Data
1.14	Employer	MPAKVN (BHOPAL)
1.15	Engineer	Person as designated by the Engineer-in- Charge
1.16	Engineer in Charge	Executive Engineer or the person designated by the department.
1.22	Stipulated period of completion	Two (02) Months (including Rainy Season).
3	Language & Law of Contract	English & Indian Contract Act, 1872
4	Address & contact details of the Contractor	As per Annexure H
	Address & contact details of the Employer/Engineer -phone, Fax, e-mail	Madhya Pradesh Audyogik Kendra Vikas Nigam (Bhopal) Reg. Office: 1st Floor, Tawa Complex, Bittan Market, E-5, Arera Colony, Bhopal,(M.P) - 462 016 Phone :0755-2420278, 2420301-3 Fax No. : 0755-2420277
5	Sub contracting permitted for the Contract Value	Not Allowed except specialized work.
6	Technical Personnel to be provided by the contractor–requirement	As per Annexure I (FormatI-3)
	Penalty, if required Technical Personnel not employed	
10	Specifications	As per Annexure E
	Drawings	As per Annexure M
12	Competent Authority for deciding dispute under Dispute Resolution System	Managing Director, MPAKVN, BHOPAL
	Appellate Authority for deciding dispute under Dispute Resolution System	Chairman, MPAKVN, BHOPAL

Clause Ref.	Particulars	Data
13	Period of submission of work programme.	10 days from the date of signing the agreement
	Period for submission of updated construction program	Three months
	Amount to be withheld for not submitting construction program in prescribed period.	
	Competent Authority for granting Time Extension	1. Executive Engineer, MPAKVN, BHOPAL up to 30 days
15	Milestones laid down for the contract	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
	If Yes details of Milestones	As per Annexure D
	Liquidated damage	As per Annexure D
	List of equipment for lab	As per Annexure D
	Time to establish lab	20 days after signing of agreement
	Penalty for not establishing field Laboratory	
18	Defect Liability Period	36 Months after physical completion of work
	Competent Authority for determining the rate	Chief Engineer, MPAKVN, BHOPAL
	Schedule of rate	Market Rates.
27	Any other condition for breach of contract	NIL
28	Penalty	Penalty Shall include (a) Security Deposit as per clause 30 of General Conditions of Contract, and (b) Liquidated Damages imposed as per clause 15 or Performance Security (Guarantee) including Additional Performance Security (Guarantee), if any, as per clause 29 of General Conditions of Contract, whichever is higher
29	Performance guarantee (Security) shall be valid up to	This guarantee shall be valid until 3 (three) months from the date of expiry of the Defect Liability Period.

Clause Ref.	Particulars	Data
30	Security Deposit to be deducted from each running bill	At the rate of 5%.
	Maximum limit of deduction of Security Deposit	Upto 5% of Final Contract Amount.
	Release of Security Deposit & Performance security	25% shall be released after successful completion of 1 st year from the day of completion of work. 25% shall be released after successful completion of 2 nd year from the day of completion of work. 50% shall be released after successful completion of defect liability period.
31	Price Adjustment formula and procedure to calculate	
31.1(1)	Price adjustment shall be applicable	As per Annexure R.
32	32.1 Mobilization and Construction Machinery Advance Applicable	Not applicable
	32.2 If yes, Unconditional Bank Guarantee	-
	32.3 If yes, Rate of interest chargeable on advances	-
	32.4 If yes, Type & Amount of Advance payment that can be paid	-
	32.5 If yes, Recovery of advance payment	-
33	33.2 If yes, Unconditional Bank Guarantee	-
	33.2 If yes, Amount of Secured Advance	-

Clause Ref.	Particulars	Data
	33.3 if yes, Conditions for secured advance	-
	33.4 if yes, Recovery of Secured advance	-
35	Completion Certificate—after physical completion of the Work	As per Annexure-U
	Final Completion Certificate—after final payment on completion of the Work	As per Annexure-V
36	Competent Authority	MD, AKVN, BHOPAL
39	Salient features of some of the major labour laws that are applicable	As per Annexure-W
41	Competent Authority	MD, AKVN, BHOPAL

Drawings

S.NO.	DRAWING NAME	DRAWING NO
1	LOCATION IMAGE OF LOGISTIC HUB	G-286/AKVN/MAND./BHOPAL/LH/S-01
2	SITE LAYOUT PLAN	G-286/AKVN/MAND./BHOPAL/LH/A-01
3	DETAILS OF BOUNDARY WALL	G-286/AKVN/MAND./BHOPAL/LH/BW-01
4	FRONT ELEVATION AND ENTRANCE GATE	G-286/AKVN/MAND./BHOPAL/LH/A-06
5	SECURITY CABIN DETAILS	G-286/AKVN/MAND./BHOPAL/LH/SRC/A-01
6	PLAN OF SECURITY CABIN	G-286/AKVN/MAND./BHOPAL/LH/SC/A-01
7	CHANNELIZED NALLAH DETAILS	G-286/AKVN/MAND./BHOPAL/LH/RD-04
8	TYPICAL ROAD CROSS SECTION	G-286/AKVN/MAND./BHOPAL/LH/RD-01
9	PLAN OF JOINT IN CONCRETE PAVEMENT	G-286/AKVN/MAND./BHOPAL/LH/RD-02
10	DETAILS OF BOX CULVERT	G-286/AKVN/MAND./BHOPAL/LH/RD-03
11	STORM WATER DRAIN LAYOUT PLAN	G-286/AKVN/MAND./BHOPAL/LH/AR/OD-03
12	FIRE FIGHTING LAYOUT	AKVN/MAND./BHOPAL/LH/F-01
13	SEPTIC TANK DETAILS	G-286/AKVN/MAND./BHOPAL/LH/AR/TD-01
14	STREET LIGHT LAYOUT PLAN	E-01

Note:-All drawings are for Tender Purpose only & attached separately.

Details of Milestones
Construction of Logistic Hub at Industrial Area Mandideep, Bhopal

S.No.	Milestone	Duration	Achievement
1.	1 st	Upto 1 months from commencement of work	50% of the contract amount
2.	2 nd	Upto 2 months from commencement of work	100% of the contract amount

Compensation for Delay

If the contractor fails to achieve the milestones, and the delay in execution of work is attributable to the contractor, the Employer shall retain an amount from the sums payable and due to the contractor as per following scale -

- i. Slippage up to 25% in financial target during the milestone under consideration
— 2.5% of the work remained unexecuted in the related time span.
- ii. Slippage exceeding 25% but Up to 50% in financial target during the milestone under consideration
- 5% of the work remained unexecuted in the related time span..
- iii. Slippage exceeding 50% but Up to 75% in financial target during the milestone under consideration
-7.5% of the work remained unexecuted in the related time span..
- iv. Slippage exceeding 75% in financial target during the milestone under consideration
-10% of the work remained unexecuted in the related time span.

Note: For arriving at the dates of completion of time span related to different milestones, delays which are not attributable to the Contractor shall be considered. The slippage on any milestone is if made good in subsequent milestones or at the time of stipulated period of completion, the amount retained as above shall be refunded. In case the work is not completed within the stipulated period of completion along with all such extensions which are granted to the Contractor for either Employer's default or Force Majeure, the compensation shall be levied on the contractor at the rate of 0.05% per day of delay limited to a maximum of 10% of contract price.

The decision of **Managing Director** shall be final and binding upon both the parties.

List of Equipment for Quality Control Lab

Minimum requirement		
S.No.	Name of Equipment/Machinery	Quantity
1.	Balances:	01 Nos.
	i) 7-10Kg Cap. (Semi-Self Indicating type – Accuracy 10 gm.)	
	ii) 500 gm Cap. (Semi-Self Indicating type – Accuracy 10 gm.)	01 Nos.
	iii) Pan Balance-5Kg (Accuracy 10 gm.)	
2.	Ovens : Electrically Operated, Thermostatically Controlled up to 100°C– Sensitivity 1°C	01 Nos.
3.	Sieves - As per IS:460	01 Set
	*IS Sieves : 450 mm internal dia of size 100 mm, 80 mm, 63mm, 50mm, 40mm, 25mm, 20mm, 12.5mm, 10mm, 6.3mm, 4.75 mm, complete with lid and plan. * IS Sieves: 200 mm internal Dia (brass frame) consisting of 2.36 mm, 1.18mm, 500 microns, 425 microns, 300 microns, 212 microns, 150 microns, 90 microns, 75 microns with lid and pan.	
4.	Sieve shaker capable of 200 mm and 300 mm dia sieves, manually operated with riming switch assembly.	01 Nos.
5.	Equipment for slump test - Slump Cone, Steel plate, tamping rod, steel scale, scoop.	02 Set
6.	Dial gauges 25mm travel - 0.01 mm/ division least count	02 Nos.
7.	Compression testing machine (100T), electrically operated	01 Nos.
8.	Graduated measuring cylinders 200 ml capacity	03 Nos.
9.	15 cm moulds for concrete cubes& moulds for Beam	12 Nos. each
10.	Micrometer Screw 25mm gauge	02 Nos.
11.	Rapid Moisture meter	01 No.
12.	Vicat's Apparatus	01 No.

NOT APPLICABLE

Price Adjustment

The formulas for adjustment of price are as follow:

R = Value of work as defined in Clause 31.2(3) of General Conditions of Contract

Weightages* of component in the work

S.No	Component	Percentage of component in the work
1	Cement - P _c	
2	Steel - P _s	
3	POL - P _f	

* Weightages of various components of the work shall be as determined by the competent technical sanction authority.

Adjustment for cement component

(ii) Price adjustment for increase or decrease in the cost of cement procured by the contractor shall be paid in accordance with the following formula:

$$V_c = 0.85 \times P_c / 100 \times R \times (C_1 - C_0) / C_0$$

V_c = increase or decrease in the cost of work during the month under Consideration due to changes in rates for cement.

C₀ = The all India wholesale price index for **Grey** cement on the date of opening of Bids as published by the Ministry of Industrial Development, Government of India, New Delhi. (www.eaindustry.nic.in)

C₁ = The all India average wholesale price index for **Grey** cement for the month under consideration as published by Ministry of Industrial Development, Government of India, New Delhi. (www.eaindustry.nic.in)

P_c = Percentage of cement component of the work

Note : For the application of this clause, index of Grey Cement has been chosen to represent Cement group.

Adjustment of steel component

(iii) Price adjustment for increase or decrease in the cost of steel procured by the Contractor shall be paid in accordance with the following formula:

$$V_s = 0.85 \times P_s \times /100 \times R \times (S_1 - S_0) / S_0$$

V_s = Increase or decrease in the cost of work during the month under consideration due to changes in the rates for steel.

S_0 = The all India wholesale price index for steel (**Bars and Rods**) on the date of opening of Bids as published by the *Ministry of Industrial Development, Government of India, New Delhi. (www.eaindustry.nic.in)*

S_i = The all India average wholesale price index for steel (Bars and Rods) for the month under consideration as *published by Ministry of Industrial Development, New Delhi. (www.eaindustry.nic.in)*

P_s = Percentage of steel component of the work.

Note : For the application of this clause, index of Bars and Rods has been chosen to represent steel group.

Adjustment of bitumen component (Deleted)

(iv) Price adjustment for increase or decrease in the cost of bitumen shall be paid in accordance with the following formula:

$$V_b = 0.85 \times P_b / 100 \times R \times (B_i - B_o) / B_o$$

V_b = Increase or decrease in the cost of work during the month under consideration due to changes in rates for bitumen.

B_o = The official retail price of bitumen at the IOC depot at nearest center on the date of opening of Bids.

B_i = The official retail price of bitumen of IOC depot at nearest center for the 15th day of the month under consideration.

P_b = Percentage of bitumen component of the work.

Adjustment of POL (fuel and lubricant) component

(V) Price adjustment for increase or decrease in cost of POL (fuel and lubricant) shall be paid in accordance with the following formula:

$$V_f = 0.85 \times P_f / 100 \times R \times (F_i - F_o) / F_o$$

V_f = Increase or decrease in the cost of work during the month under consideration due to changes in rates for fuel and lubricants.

F_o = The official retail price of High Speed Diesel (HSD) at the existing consumer pumps of IOC at nearest center on the date of opening of Bids.

F_i = The official retail price of HSD at the existing consumer pumps of IOC at nearest center for the 15th day of month of the under consideration.

P_f = Percentage of fuel and lubricants component of the work.

Note : For the application of this clause, the price of High Speed Diesel has been chosen to represent fuel and lubricants group.

Bank Guarantee Form for Mobilization and Construction Machinery Advance

To

_____ [name of Employer]
_____ [address of Employer]
_____ [name of Contractor]

In accordance with the provisions of the General Conditions of Contract clause 31 ("Mobilization and Construction Machinery Advance") of the above-mentioned Contract

_____ [name and address of Contractor] (hereinafter called "the Contractor") shall deposit with _____ [name of Employer] a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of _____ [amount of Guarantee]* _____ [in words].

We, the _____ [bank of financial institution], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to _____ [name of Employer] on his first demand without whatsoever right of obligation on our part and without his first claim to the Contractor, in the amount not exceeding _____ [amount of guarantee]* _____ [in words].

We further agree that no change or addition to or other modification of the terms of the Contractor or Works to be performed there under or of any of the Contract documents which may be made between _____ [name of Employer] 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 remain valid and in full effect from the date of the advance payment under the Contract until _____ [name of Employer] receives full repayment of the same amount from the Contractor.

Yours truly, Signature and Seal

: _____
Name of Bank/Financial Institution _____
Address : _____
Date : _____

* An amount shall be inserted by the Bank or Financial Institution representing the amount of the Advance Payment, and denominated in Indian Rupees.

Bank Guarantee Form for Secured Advance

INDENTURE FOR SECURED ADVANCES

This indenture made the _____ day of _____ 20____ BETWEEN _____ (hereinafter called the contractor which expression shall where the context so admits or implies be deemed to include his executors, administrators and assigns) or the one part and the Employer of the other part.

Whereas by an agreement dated _____ (hereinafter called the said agreement) the contractor has agreed.

AND WHEREAS the contractor has applied to the Employer that he may be allowed advanced on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to executive at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges)

AND WHEREAS the Employer has agreed to advance to the Contractor the sum of Rupees _____ on the security of materials the quantities and other particulars of which are detailed in Accounts of Secured Advance attached to the Running Account Bill for the said works signed by the Contractor on _____ and the Employer has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said works.

Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees _____ on or before the execution of these presents paid to the Contractor by the Employer (the receipt where of the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as a for said the Contractor doth hereby covenant and agree with the President and declare as follows:

That the said sum of Rupees _____ so advanced by the Employer to

(1) The Contractor as aforesaid and all or any further sum of sums advanced as aforesaid shall

be employed by the Contractor in or towards expending the execution of the said works and for no other purpose whatsoever.

- (2) That the materials details in the said Account of Secured Advances which have been offered to and accepted by the Employer as security are absolutely the Contractor's own propriety and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnified the Employer against all claims to any materials in respect of which an advance has be made to him as aforesaid.
- (3) That the materials detailed in the said account of Secured Advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the directions of the Engineer.
- (4) That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protection against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the Contractor's custody and on his own responsibility and shall at all times be open to inspection by the Engineer or any officer authorized by him. In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the Contractor will forthwith replace the same with other materials of like quality or repair and make good the same required by the Engineer.
- (5) That the said materials shall not be removed from the site of the said works except with the written permission of the Engineer or an officer authorized by him on that behalf.
- (6) That the advances shall be repayable in full when or before the Contract receives payment from the Employer of the price payable to him for the said works under the terms and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done than on the occasion of each such payment the Employer will be at liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials than actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.
- (7) That if the Contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing of the Employer shall immediately on the happening of such default be re-payable by the Contractor to be the

Employer together with interest thereon at twelve percent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs, charges, damages and expenses incurred by the Employer in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractor and the Contractor hereby covenants and agrees with the Employer to repay and pay the same respectively to him accordingly.

- (8) That the Contractor hereby charges all the said materials with the repayment to the Employer of the said sum of Rupees _____ and any further sum of sums advanced as aforesaid and all costs, charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the power contained therein if and whenever the covenant for payment and repayment here-in-before contained shall become enforceable and the money owing shall not be paid in accordance there with the Employer may at any time thereafter adopt all or any of the following courses as he may deem best:
- (a) Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the contractor in accordance with the provision in that behalf contained in the said agreement debiting the contractor with the actual cost of effecting such completion and the amount due to the contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the contractor, he is to pay same to the Employer on demand.
 - (b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the Employer under these presents and pay over the surplus (if any) to the Contractor.
 - (c) Deduct all or any part of the moneys owing out of the security deposit or any sum due to the Contractor under the said agreement.
- (9) That except in the event of such default on the part of the contractor as aforesaid interest on the said advance shall not be payable.
- (10) That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been here-in-before expressly provided for the same shall be referred to the

Employer whose decision shall be final and the provision of the Indian Arbitration Act for the time being in force shall apply to any such reference.

NOT APPLICABLE

Physical Completion Certificate

Name of Work:

.....
.....
.....

Agreement No:..... Date

Amount of Contract Rs

Name of Agency:

Used MB No: -----

Last measurement recorded

- a. Page No. & MB No. _____
- b. Date _____

Certified that the above mentioned work was physically completed on (date) and taken over on (date) and that I have satisfied myself to best of my ability that the work has been done properly.

Date of issue

Executive Engineer
.....
.....

Final Completion Certificate

Name of Work:

.....
.....
.....

Agreement no. Date

Name of Agency:

Used MB No. -----

Last measurement recorded

- a. Page No. & MB No. _____
- b. Date _____

Certified that the above mentioned work was physically completed on (date) and taken over on (date).

Agreement amount Rs.

Final Amount paid to contractor Rs. -----

Incumbency of officers for the work

I have satisfied myself to best of my ability that the work has been done properly.

Date of issue

Executive Engineer
.....
.....

Salient Features of Some Major Labour Laws Applicable

- a) **Workmen Compensation Act 1923:** - The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed the prescribed minimum years (say, five years) of service or more or on death the rate of prescribed minimum days' (say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). The benefits payable under the Act are:
 - i. Pension or family pension on retirement or death as the case may be.
 - ii. Deposit linked insurance on the death in harness of the worker.
 - iii. Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ prescribed minimum (say 20) or more contract labour.
- f) **Minimum Wages Act 1948:** - The Employer is to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads, runways is scheduled employment.
- g) **Payment of Wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.
- h) **Equal Remuneration Act 1979:** - The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfers, training and promotions etc.
- i) **Payment of Bonus Act 1965:** - The Act is applicable to all establishments employing prescribed minimum (say, 20) or more workmen. The Act provides for payments of annual bonus within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. States may have different number of employment size.
- j) **Industrial Disputes Act 1947:** - The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
- k) **Industrial Employment (Standing Orders) Act 1946:** - It is applicable to all establishments employing prescribed minimum (say, 100, or 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act

- and gets these certified by the designated Authority.
- l) **Trade Unions Act 1926:** - The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
 - m) **Child Labour (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of employment of children in all other occupations and processes. Employment of child labour is prohibited in building and construction industry.
 - n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:** - The Act is applicable to an establishment which employs prescribed minimum (say, five) or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to the establishment and back etc.
 - o) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishments who carry on any building or other construction work and employs the prescribed minimum (say, 10) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-aid facilities, ambulance, housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.
 - p) **Factories Act 1948:** - The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing the prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

FORM OF EARNEST MONEY (BANK GUARANTEE)

WHEREAS, _____ [Name of Bidder] (hereinafter called "the Bidder") has submitted his bid dated _____ [Date] for the construction of _____ [Name of Contract] (hereinafter called "the Bid").

KNOW ALL MEN by these presents that We, _____ [Name of Bank] of _____ [Name of Country] having our registered office at _____ (hereinafter called "the Bank") are bound unto _____ [Name of Employer] (here in after called "the Employer") in the sum of _____ (_____

_____)⁵ for which payment well and truly to be made to the said Employer the Bank binds himself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this _____ day of _____ 2016 .

THE CONDITIONS of this obligation are:

- (1) If the Bidder withdraws his Bid during the period of bid validity specified in the Form of Bid; or
- (2) If the Bidder does not accept the correction of arithmetical errors of his Bid Price in accordance with the Instructions to Bidder; or
- (3) 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 Instructions to Bidders,
 - (c) Fails or refuses to furnish the Domestic Preference Security, where required.

We undertake to pay to the Employer up to the above amount upon receipt of his first written demand, without the Employer 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 conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 180 (one hundred and eighty) 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 the above date.

DATE _____

SIGNATURE OF THE BANK _____

SEAL OF THE BANK _____

SIGNATURE OF THE WITNESS _____

NAME AND ADDRESS OF THE WITNESS _____

SECTION 3

Conditions of Contract

Part – II Special Conditions of Contract [SCC]

1. **Submission of Work Plan and Schedule**

Submission of Work Plan and schedule – Contractor shall submit the detailed Work Plan, showing the various tasks to be performed in the order of their occurrence with in maximum 10 days from the issue date of letter of acceptance for approval.

Contractor during the construction resubmit the Work Plan and Schedule keeping track of the actual site progress for ease of monitoring the progress on regular basis on every 60 Days (SIXTY) to the Engineer-In-Charge & Consultant. Non submission of the updated program will cause withheld of amount specified in contract data

2. **Approval by the Consultant**

M/s Mehta & Associates are the consultant appointed by MPAKVN (BHOPAL) for project. The work will be executed on the design and drawings approved by consultants. M/s Mehta & Associates as Consultant shall also be supervising the work and the contractor(s) shall make available to the consultant full access to the site of work and the site-testing laboratory and Contractor and their representative will have to be present during such inspections. All views and opinion given by the consultant shall be followed in full.

Contractor shall ensure adherence to the different conditions during execution regarding approval from Consultant. The Consultants approval shall not alter the Contractor's responsibility for correct design of the both Temporary and Permanent Works.

3. **Other Conditions**

- a) The Contractor(s) will have to keep on site complete survey instruments like **Total Station** / Auto Level and Computers, Plotter, Printer, photo copier, Scanner, High speed broad band Internet connection, Digital Camera with Data Transfer capabilities, Software shall be as required, consumables and other office accessories along with technical personal to operate those instruments to facilitated and obtain the information required as instructed by Engineer-In-Charge/Consultant, for which no extra payment will be made.
- b) The Contractor shall conduct Total Station Survey of the site, all complete, including, Bench Marking Pillars, DTM, GTS Bench Triangulation, 3d-Polylines, etc., as per IRC-SP-19, IRC-5 and MORT&H specifications. The contractor shall get the methodology and output model approved by the Consultant. The survey shall include validation wherever required. The

contractor shall use Digital, GPS; Total Station based Method for layout of Proposed Design, Services and Features at site and as per approved Design and Drawings. The methodology of the same shall be approved by the Consultant. The contractor shall mark alignment of the road at site in coordination with MPAKVN & consultant.

- c) The contractor shall periodically take photographs / videos of site prior to commencement of work, during construction and after completion of work as suggested and shall submit the photographs / videos in soft and hard copies to MPAKVN. and Consultant for which no extra payment will be made. The contractor shall, apart from the above, take photographs or digital videos of critical elements as instructed by Engineer-in-Charge and submit the same for which no extra shall be payable.
- d) The schedule of quantities annexed with the tender, generally represents the work. However, MPAKVN (BHOPAL). reserves the right to completely omit any item, add any item and the variance in the quantity of different items can be to any extent. No claim of contractor(s) will be entertained on this account.
- e) The drawings of certain items as specified by consultant shall serve as G.A. drawings for general layout. The contractor shall prepare and submit for approval, detailed shop / fabrication / setting out drawings, Working Sections at every 20m. etc. (including Road Profile, Drain Profile, Culvert Design etc.), for all Civil and Engineering Works, with all levels taken by Total Station / Auto Level of existing and proposed work and other details not detailed in the GAD drawings, for proper coordination and all changes required as per the site condition and contractor shall submit these drawings for approval to the EIC/Consultant. It shall be the contractor's responsibility to see that all deviations if any from GAD drawings and specifications, noted on the drawings are brought to the attention of the consultant, otherwise approval shall be automatically voided. No extra cost shall be paid for preparing these shops / Setting out drawings.
- f) The Contractor shall submit Design Calculations, Specifications and Working Drawings showing the Proposed Works (both Temporary and Permanent) to the EIC/Design Consultant, who has to approve them if they comply with the desired specifications and drawings.
- g) The Engineer-In-Charge's/Consultants approval shall not alter the Contractor's responsibility for correct design of the Works (both Temporary and Permanent).
- h) The contractor shall make available samples of all Materials etc. of all makes intended to be used at site, for the approval of EIC/Consultant.
- i) Contractor at his own cost (no extra payment shall be made by MPAKVN (BHOPAL) for setting the laboratory) shall have to install and maintained at work site a well – equipped, with calibrated instruments done as required in codes, field laboratory(of minimum 20 sq.m.) for day to day testing of materials and quality of work along with experienced & technically qualified

testing staff. The structures and equipments shall be removed on the completion of works at contractor's own cost.

- j) The cost of materials consumed on testing either at field or in different laboratory and the cost of testing will not be paid.
- k) Frequencies of the prescribed tests to be carried out must not be less than the prescribed frequencies in MORT & H 5Th revision, relevant IS codes and as specified in MPPWD SOR. Copies of Registers containing record of such tests shall have to be presented along with running bill. Test shall have to be conducted by the contractor's Engineer under the supervision of the Engineer-In-Charge or his authorized representatives.
- l) Contractor shall conduct at least 10% of material testing from Govt. Engineering College/ Govt. agency/ National Accreditation Board for Testing and Calibrating Laboratories (NABL) accredited testing laboratory as approved by EIC/consultant to check the quality of materials procured by the contractor at site and to check the quality of the work executed. All charges for testing shall be paid by the contractor, failing which the same shall be got done by Engineer-In-Charge and charges shall be recovered from the contractor's bill at double the rates charged by the testing agency.
- m) If required and directed by Engineer In-charge or Consultant, contractor shall arrange visit of his personnel comprising of Engineer In-charge's, Consultant's representative to various places/plants in or outside of BHOPAL to check and verify quality of material at manufacturers place. No extra cost shall be payable for this to contractor.
- n) Contractor has to appoint sufficient number of technical staff (as per Schedule- I) I/C senior experienced supervision Engineers & technically trained staff as per the instruction and approval of Engineer-In-Charge / Consultant. Contractor should submit CV's of key personnel to consultant for approval. If contractor fails to deploy the technical staff as per schedule "I", an amount as shown in Contract Data shall be deducted from his running bill.
- o) Execution of Agreement: The tenderer whose tender has been accepted herein after referred to as the contractor, will execute the agreement in the prescribed form within 15 days of the date of communication of the acceptance of his tender by competent authority. Failure to do so will result in the earnest money being forfeited to Authority and tender being cancelled.
- p) The Employer shall give possession of the Site to the Contractor. The Contractor shall be responsible to co-ordinate with the Service Provider/Concerned Authorities for cutting of trees, shifting of utilities, Removal of Encroachments Etc. and making the site unencumbered from the project construction area required for completion of the Work. This would include initial and frequent follow up meetings/actions/discussions with each involved service provider/concerned authorities. The Contractor will not be entitled for any additional compensation for delay in cutting of Trees, Shifting of utilities and removal of Encroachments by the service provider/concerned authorities. The Engineer-in-charge shall consider extension of time to such

delays. Statutory Charges if any; for cutting of trees and shifting of utilities as required by concerned department shall be made by Employer.

- q) All statutory approvals for Permanent Water, drainage, fire fighting, Municipal and other services are to be obtained by contractor at no extra cost. Only the official payment made in the Government treasury or to the local bodies for deposit etc. will be reimbursed against the treasury slip.
- r) The Contractor shall construct and maintain such store houses, yards etc. as considered sufficient by the Engineer-In-Charge for proper up keep of the Material, Plant and Machinery and records for due discharge of contractors Obligations towards the Contract. Space for these works will have to be made available by contractor himself as per his own convenience at his own costs. Engineer-In-Charge/Consultants will be provided free access to these premises. The site handed over to the contractor will have to be vacated in the same condition within 3 (three) months of the completion of the contract.
- s) It will be the responsibility of the contractor to make necessary temporary arrangements for sufficient illumination of road being used by the road users during the period of the work at his cost. Contractor will also make adequate arrangements for illumination of work sites at his cost.
- t) All charges for temporary Water & Electrical connection and Consumption charges required to execute the total work are to be borne by contractor at no extra cost.
- u) Either the Engineer-In-Charge/Consultants may require the Contractor to attend a management meeting, which shall be held once every month or whenever specifically required. 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.
- v) No Claims whatsoever on grounds of delay in getting the temporary connections shall be admissible towards any extra payment.
- w) The contractor shall procure minimum 43 grade (conforming to IS:8112) Ordinary Portland Cement only as required for the work from the reputed manufacturers of cement, i.e. from A.C.C., J.P., J.K., Lafarge, L&T only as specified. Supply of cement shall be taken in 50 kg bags bearing manufacturers name and ISI marking. Samples of cement arranged by the contractor shall be taken by the Engineer-in-charge and got tested in accordance with provisions of relevant IS codes. In case test results indicate that the cement arranged by the contractor does not conform to the relevant IS codes, the same shall stand rejected and shall be removed from the site by the contractor at his cost within a week's time of the written order from the Engineer-in-charge to do so.

(BHOPAL) The cement shall be brought at site in not less than 25 tons lots or as decided by the Engineer-in-charge/Consultant.

(ii) The cement store room shall have a capacity of minimum of 2000 bags of cement. The store should be constructed by the contractor at site of work for which no extra payment shall be

made. The contractor shall be responsible for the watch and ward and safety of the cement store room. The contractor shall facilitate the inspection of the cement store room by the Engineer-in-charge at any time.

(iii) The contractor shall supply free of charge the cement/other material required for testing. The cost of tests shall be borne by the contractor.

(iv) The actual issue and consumption of cement on work shall be regulated and proper accounts should be maintained. The theoretical consumption of cement shall be worked out as per procedure prescribed in the contract and shall be governed by conditions laid therein.

(v) Cement brought to site and remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-charge at any time.

- x) The contractor shall procure steel reinforcement bars TMT-FE-500 only (Thermo-Mechanically Treated bars) conforming to relevant IS codes from SAIL, TISCO, VAIZAG, RINL & JINDAL and other ISI made only. Structural steel of main Producer TATA, SAIL & JINDAL only shall be permitted for use. The contractor shall have to obtain and furnish test certificates to the Engineer-in-charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the Engineer-in-charge as per the provision in this regard in relevant IS codes. In case the test results indicate that the steel arranged by the contractor does not conform to BIS codes the same shall stand rejected and shall be removed from the site of work by the contractor at his cost within a week's time from the written orders from the Engineer-in-charge to do so. The cost of steel, testing charges and to & fro cartage shall be borne by the contractor.

The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking at any time as and when desired by the Engineer-in-charge / Consultant.

(ii) The contractor shall supply free of charge the steel required for testing.

(iii) The actual issue and consumption of steel on work site shall be calculated and proper accounts shall be maintained. The theoretical consumption of steel shall be worked out as per the standard procedure and shall be governed by conditions laid therein.

(iv) Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

- y) Sub grade should be compacted up to at least 97% of maximum dry density. The compaction would be done by soil compactor Vibratory rollers.
- z) Mix design - The contractor shall conduct & submit the mix design for RCC, PQC and DLC for approval before execution of work as per relevant specifications and approved by an institution or laboratory approved by Engineer-In-Charge / Consultant at his own cost.
- aa) The excavated materials will have to be disposed, spread and dressed anywhere on either side of road as per direction of Engineer-In-Charge.

- bb) DLC work shall be done with Sensor paver only as per MORT & H specification and shall be compacted with Double drum tandem roller to achieve required compaction.
- cc) PQC shall be done by paver i.e. Slip form or Fixed form paver. If contractor fails to use the paver for PQC, the rates of PQC will be deducted as mentioned in the MPPWD SOR 2016 (plus or minus or at par) as per the quoted tender percentage.
- dd) The use of vibratory roller is essential for all items where ever compaction / consolidation are to be done with rollers.
- ee) The tenderer must obtain for himself, at his own responsibility and at his own expenses all the information, which must be necessary for purpose of submitting the tender and for entering into a contract. He is presumed to have examined the drawing and inspected the site of work, access to the work, and nature of the work, availability and quality of the materials pertaining there to the work. No claim for extra on account of non-availability of materials or otherwise shall be entertained.
- ff) In Case of any discrepancies in specifications in any item of SOR, decision of Managing Director, MPAKVN (BHOPAL) shall be final and binding on the Contractor.
- gg) Batching plant & equipment should be self owned and installed at suitable location for this specific work only as per the direction of Engineer-In-Charge, for preparing mixes for PQC & DLC. The batching plant should be automatic& computerize with printer facility.
- hh) All RCC pipe shall be as per the latest IS code no 458 & ISI marked pipe shall be of Socket & spigot type only. Contractor should produce the certificate in support of the same.
- ii) The contractor shall submit proof of royalty payment along with each running bills. The contractor shall also have to submit Royalty clearance certificate for the materials consumed from the concerned authority along with the final bills.
- jj) The Contractor shall carry out all instructions of the Engineer-In-Charge / Consultant, which comply with the applicable laws where the Site is located.
- kk) The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Bank, if so required by the Employer.
- ll) The contractor shall maintain a SITE ORDER BOOK (issued by Employer) at the site of work. As far as possible all orders regarding the works are to be entered in the book. The following officials during inspection, shall record their observations in it.
 - i. Chief Engineer/ Executive Engineer of MPAKVN (BHOPAL).
 - ii. Engineer-In-Charge of MPAKVN (BHOPAL)
 - iii. Consultant and their Authorized Representative.

iv. Any other Senior Official.

The departmental officials in direct charge of the work & the contractor or his representative shall sign all entries there in.

- mm) The Site Order Book shall not be removed from site. The contractor or his representative shall be bound to take note of all instructions meant for the contractor as entered in the Site Order Book, without having to be called for separately to note them. The Contractor will ensure compliance of the observations noted in the site order book and shall submit compliance report along with remarks of Site Order Book to the Engineer-In-Charge & Consultant.
- nn) The Works are liable for inspection/checking by CTE (Chief Technical Examiner or any other Authority from concerned State Government Departments. Any defects pointed out by CTE or any other Authority mentioned above shall have to be made good by the contractor at his cost.
- oo) If the contractor fails to execute the agreement within the time prescribed in the N.I.T. or abandons the work after executing the agreement, he shall not be issued any tender form in this NIGAM for a period of 2 (Two) years and action for deregistration, degradation, suspension of registration, black listing etc. as per prevalent government norms shall be initiated.
- pp) If the contractor fails to execute the agreement within the time prescribed in the N.I.T., the contractor shall be liable to make payments of Fee/Charges due to the SQC/PMC consultant for the extended time period beyond stipulated time period prescribed in NIT.
- qq) SQC/PMC consultant will convene a monthly meeting to monitor the progress of above works. The meeting shall be presided by the Engineer-in-Charge. The proceedings & minutes etc. shall be maintained by the SQC/PMC Consultant month wise.
- rr) All serviceable material obtained from excavation shall be the property of MPAKVN (BHOPAL). Contractor should deposit the same in MPAKVN (BHOPAL) Store at his own cost.
- ss) Contractor has to prepare detailed working drawings, shop drawings, fabrication drawings based on the basic of General Arrangement drawings / guidelines as per the relevant Standards, specifications site / situations rules and laws and he will get prior approval for these drawing from Competent Authorities / departments and Engineer-in-charge before starting the work. After approval, contractor shall make the requisite changes as suggested and submit the final execution drawing in six copies will be returned to him for execution duly signed by EIC & Consultant. No. extra cost shall be given for this to the contractor.
- tt) On the completion of the work the contractor shall supply completion drawing in 3 copies with original tracing. A soft copy of completion drawings (on AutoCAD) shall also be provided by the contractor. All test reports of the internal and external electrification installation in three copies shall be handed over to engineer in-charge in good condition by the contractor before finalization of his final bill. The contractor shall supply all above items free of cost.

- uu) After completion of the entire work, test report should be submitted to the Competent Authorities of MPAKVN (BHOPAL).
- vv) The contractor has to get the entire electrical work charged and the entire external electrification work including the lighting installation should be handed over to MPAKVN (BHOPAL) Ltd or any other authority as applicable in this matter as per the instructions of the Engineer in Charge.
- ww) The contractor shall prepare and produce instruction, operation and maintenance manuals with warranties and guarantees in English for the use, operation and maintenance of the supplied equipments and installations, and submit to the Engineer-in-charge in (8) copies at the time of handing over. Generally these consist of the following:
 - a. Description of the project
 - b. Operating instructions
 - c. Maintenance instructions including procedures for preventive maintenance
 - d. Manufacturer's catalogues
 - e. Spare parts list
 - f. Trouble shooting charts
 - g. Drawings
 - h. Type and routine test certificates for major items
 - i. One (1) set of reproducible 'as built' drawings on appropriate material as directed by Engineer-in- Charge
 - j. Warranties and guarantees of Installed Plant and Equipment, any Electrical items if applicable, weigh bridge and other works like waterproofing, Anti-termite treatment, work.
- xx) The Contractor shall employ competent fully licensed/ qualified plumber for the work of PLUMBING/ SANITARY installations in accordance with the drawings and specifications. The licensed plumber shall be available at all times at site to receive instructions from the Engineer-in-Charge in the day to day activities throughout the duration of execution of plumbing/ sanitary work.
- yy) On completion of the PLUMBING/ SANITARY installation a certificate shall be furnished by the contractor, countersigned by the licensed plumber under whose direct supervision the installation was carried out. This certificate shall be in the form as required by the Engineer-in-charge.
- zz) The contractor shall not be provided storage/ office space for his use. The space has to be constructed/ maintained by the contractor as per his usage requirements. The contractor shall arrange to provide site office accommodation of minimum 40 M² at an appropriate location for MPAKVN and Consultants Staff, along with all required good quality office furniture, computer, printer, High speed broad band Internet connection, lockable storage shelf, display board etc as directed by Engineer-in-Charge/ Architect for which no extra payment will be made. All spaces allotted to the contractor as described above shall be vacated and all structures shall be removed from site at any time as and when required and directed by the Engineer-in-charge unconditionally and without any reservation. The Engineer-in-charge will not be obliged to give any reason for such removal. Upon receiving instructions to vacate the space, the

contractor shall immediately remove all his structures, materials, etc. from the sources and clear and clean-up the site to the satisfaction of the Engineer-in-charge. It shall be the responsibility of the Contractor to safeguard the site and ensure that no illegal encroachments are made by outside elements within the area allotted to the contractor. Upon completion of the work or earlier as required by Engineer-in-Charge, the contractor shall vacate the land totally without any reservation.

aaa) Rubble available from excavation of hard rock/ordinary rock shall be the property of the contractor subject to recovery of Rs. 250/- per cum. of the quantity of the rock excavated.

4. **Traffic Management and Safety**

- a) The Contractor shall prepare and revise the Work Plan regularly to ensure the Traffic on the busy arterial Road flows safely and efficiently. The Traffic Management Plan shall be evolved in close co-ordination with Engineer-In-Charge, Employer and Traffic Police Authorities. Suitable precautions shall be taken to ensure safety of Road Users and work Personnel.
- b) The contractor shall prepare traffic diversion plan and provisions for smooth flow of traffic during execution at site. The contractor shall be responsible for getting these plans approved by the Traffic Police if required.
- c) Adequate provision shall be made for prompt first aid treatment or injuries likely to be sustained during the course of the work.
- d) The contractor shall, unless otherwise specified, be responsible for providing proper barricading, fencing, fire fighting and taking of the necessary safety measures for all works comprised in the contract and for the proper provision and construction of temporary road, way, foot way, guards, fences, caution notices (like work in progress, drive slow) etc., as far as the same may be rendered necessary by reasons of the work for the accommodation of workmen, foot passengers or other traffic and of owners and occupiers of adjacent property and the public and shall remain responsible for any accidents that may occur on account of his failure to take proper & timely precautions.
- e) All the arrangements made for barricading; fencing and lighting shall be maintained by the contractor through the currency of the contract till the physical taking over of the work by department.
- f) Contractor shall appoint Security Personnel to look after the Traffic Conditions at the site. The Security Personnel shall maintain proper precautions to ensure that no problems are created to the traffic flow due to ongoing work and no problems are created by the traffic to ongoing work.
- g) The Contractor has to arrange for complete safety of the persons working for the project, users of the Road, i.e. Public and vehicles. The security Personnel shall ensure the safety by provision of

Traffic Diversion where ever necessary by using diversion signs, traffic drums traffic cones, blinkers, safety tapes, and thermoplastic paint markings etc. securing the area of work from traffic flow. No extra payment shall be given for the same.

- h) For night working necessary florescent Marking on Traffic Signs/barricading to be provided that it should be visible at night. The safety in charge Personnel shall be provided with florescent jackets. Proper illumination of the work site shall be ensured by the contractor during night working.

5. Payment on Intermediate Certificate to be regarded as Advances

No payment shall ordinarily be made for works estimated to cost less than Rs. 1000 till after the whole of the works shall have been completed and a certificate and a certificate of completion given, but if intermediate payment during the course of execution of works is considered desirable in the interest of works the contractor may be paid at the discretion of the Engineer-in –charge. But in the case of works estimated to cost more than rupees one thousand the contractor shall on submitting the bills therefore be entitled to receive, a monthly payment proportionate to the part thereof then approved and passed by the Engineer-in –charge/Consultant, whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the contractor. But all such intermediate payments shall be regarded as payments by way of advance against the final payment for works actually done and completed, and shall not preclude the requiring of bad, unsound and imperfect or un-skilled work to be removed and taken away and reconstructed, or erected, or be considered as an admission of the due performance of the contract, or any such part thereof ,in any respect or the accruing of any claim nor shall it conclude, determine, or affect in any way the powers of the Engineer-in –charge/ Consultant under these condition or any of them as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary of affect the contract. The final bill shall be submitted by the contractor within One month of the date fixed for completion of the work, otherwise the Engineer-in –charge/ Consultant’s certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

6. Addition, alteration in specifications and designs.

The Managing Director on recommendation of EIC/consultant shall have power to make any alterations/omissions from ,additions to or substitution for, the original specifications, drawings, designs and instructions, that may appear to him to be necessary or advisable during the progress

of the work and the contractor shall be bound carry out the work in accordance with any instruction which may be given to him in writing and such alterations, omissions, additions or substitution shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects he agreed to do the main work and at the same rates as per specified in the tender for the main work. The total quantum of work shall not vary by more than plus/minus 25% of the contract values. If such values exceed 25% it shall be open to the contractor either to determine the contract or apply for extension.

Executive Engineer
BHOPAL

TECHNICAL SPECIFICATIONS

Specifications for Weigh Bridge

Annexure-Y

The specifications of the weigh bridge are as follows:-

1. Capacity 100 MT
2. Platform size 16 x 3m.
3. Should be of Modular design. Surface mounted design with top and bottom plates fully welded sandwich design which Increases the strength. No bending as span is less with 8 load cell arrangement and internally 9 Longitudinal H beams are proposed for each module
4. H beams of Jindal steel or equivalent ISI with top and bottom plates. 8mm thick chequered top plates, 2 mm thick bottom plate. (9 x Parallel-Flanged Beam Type – H Type (UB 254*146*31) of British Standard (BS-4, PART-1-1993.))
5. Copper shot blasted for anti rusting, fully welded with no bolts. Epoxy painted, with chequered plates. Maintenance free structure, guide rails on either side for protection.
6. Load cells to be enclosed in box type arrangement.
7. Fully SS Display unit no eye strain, protected IP 67. Stainless Steel Body Dust & Water Proof.
8. Should be included of PC, printer, UPS and standard software with an additional jumbo display.

TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS

ELECTRIFICATION WORK GENERAL INSTRUCTION: -

- 1.1.1 An electrical contractor having A class license from the office of chief electrical inspector Bhopal (M.P.) shall carry out all the electrical work. The contractor shall appoint licensed electrical supervisors and wiremen to carry out the complete HT and LT electrification work.
- 1.1.2 If the main contractor appoints sub-contractors for the execution of work he should submit credentials of the sub-contractors to the consultant and should take prior written permission from consultant before allotting work to the sub contractor. The sub-contractor executing the work shall have sufficient experience and capacity of executing the similar type of work.
- 1.1.3 All material supplied by the contractor shall be of approved make, new and of good quality. The samples of the materials shall be got approved by Engineer-in-charge / Consultant before installation and the contractor shall use the materials as per the approved sample and make. If required by client / consultant the contractor shall arrange testing for any parameter of material / equipments at site or at approved laboratories. No extra cost shall be paid for any expenses occurred in such testing. To assure that all the material installed by the contractor is genuine, the contractors should purchase the materials directly from the manufactures of approved make or through authorized agent or representative of the manufacturers of approved makes. If required by consultant / client the contractor shall show the original purchase bills and submit photo copies of original purchase bills. If required by consultant / client the contractor shall submit original certificate from the manufacturers showing that the material installed is genuine.
- 1.1.4 The contractor shall have to bring all the necessary and proper tools and tackles for carrying out the work.

- 1.1.5 The work should be immediately started and to be carried out, when the building, road or other civil structure or parts of these are ready for installation.
- 1.1.6 The material to be supplied by the employer will have to be received by the contractor from the client's godown free of cost.
- 1.1.7 The contractor shall ensure safety of his labour and supervisors. The contractor shall provide all the necessary safety equipment and gadgets to all the labours and contractor shall ensure that these are properly used by all the workers and supervisors during the execution of work. There shall be no compromise with the safety of workers and supervisors in any case.
- 1.1.8 The contractor shall follow all rules and regulations like factory act, workmen compensation act and others laws related to labours and safety, and shall be responsible for any injury or accident to persons working at site.
- 1.1.9 The work is to be carried out as per the Indian electricity rules and standard code of practice and other relevant specifications. The workmanship shall be up to the satisfaction of the client / Engineer in charge/ consultant.
- 1.1.10 Preference to the execution of work item shall be as per the requirement of client & site situations.
- 1.1.11 Contractor shall arrange all the permission, sanction, approval, testing or inspection by electrical Inspector, Electricity Board, Electricity Distribution Company or any other local authorities which may be required for executing the work or charging the installation / any part of installation. Any drawings / documents required for such permission, sanction, approval, testing or inspection shall be prepared by contractor and submitted to the relevant officer. Any alternations additions suggested by them in drawings / documents / material / work shall have to be incorporated / corrected by the contractor at his cost. The contractor shall submit original copies and four set of photocopies of all the approved drawings, documents, permissions, sanctions etc. to the client.

It will be the duty of the contractor to do all the follow up for the above work including the follow up for getting permission of charging from electrical inspector's office, calibration and testing of meters / CTs from state electricity board / distribution company, installing energy meter and getting load sanctioned and line charged from Electricity Board, Electricity Distribution Company etc. All the fees, duties, taxes, charges, expenses etc occurred in the above works shall be included in the tender cost. No extra cost shall be given for this to contractor.

- 1.1.12** The contractor shall have to appoint qualified representatives, supervisors and workers at site as per the requirement of site for giving satisfactory progress and quality of work. One authorized person who will report to the client shall head the whole team of contractor at site. This authorized representative shall receive instruction from client / consultant / client's authorized representative and follow them accordingly.
- 1.1.13** If any part or whole of the work or any item is not executed to the entire satisfaction of the engineer in charge/consultant the contractor shall have to demolish and do the same work again without any extra cost if so ordered by the engineer in charge / consultant.
- 1.1.14** Any material supplied by the client shall not be allowed to be removed from the site of the work without permission of the client / engineer in charge / consultant. The contractor shall ensure the safety of these materials from date of receipts from the employer store till actual installation at the works and handed over to client after correction and testing. The contractor shall maintain a proper site order book at the site, which will remain in the custody of the officer in charge.
- 1.1.15** Any material supplied by the contractor shall not be allowed to be removed from the site of the work without permission of the client / engineer in charge / consultant. The contractor shall ensure the safety of all of his material / work at site and the client will not be responsible for loss or damage of any material / work in any case before handing over the site by the contractor.

- 1.1.16** After the completion of any work, the contractor should clean the place of work at his own cost. Breaking of walls, slabs, roads, digging of land etc. necessary for earthing, cable laying, conduit work in walls, drawing of cables / wires etc. and making them good to original position with proper materials and tools will have to be done by the contractor through skilled workers and no extra cost shall be paid to the contractor for this.
- 1.1.17** The measurement will be taken in the presence of the engineer in charge/consultant / owner at sight.
- 1.1.18** Whatever material / equipment like lightning arrester, A.B. switch, D.O. fuse, control panels, sub distribution boards, ACB, OCB, MCB, MCCB, E/F relay / Earth leakage relay, ELCB, and other switchgear, control gear, generator, transformer, wires, cables, light fittings etc. are supplied by the contractor, he has to supply test certificates from the manufactures for all the materials in 4 copies.
- 1.1.19** The quantities as shown in the tender are approximate and may change or delete according to site situation / conditions. If the quantity of any item exceeds the quantity mentioned in the bill of quantity the contractor shall get prior approval for this additional quantity from client before execution. However, the payment will be made on the actual supply and work carried out at site and duly certified by the engineer in charge / consultant.
- 1.1.20** On the completion of the work the contractor shall supply completion plan in triplicate, in blue prints and also in original drawing on tracing cloth. A soft copy of all the as build drawings shall also be provided by the contractor. Insulation and Earth test reports of the internal and external electrification installation in three copies shall be handed over to engineer in charge in good condition by the contractor before the finalization of his final bill. The contractor shall supply all the above items free of cost..
- 1.1.21** The minimum guarantee period for all the work / materials shall be one year or as per the manufacturer guarantee whichever is more from date of completion of complete work.

- 1.1.22 All the civil work shall be governed by the specification given for the civil works.
- 1.1.23 Complete cleaning of the installation and general repair work in the work place should be done before handing over the installation to the client.
- 1.1.24 If the situation arise contractor has to dig/cable trench, street light pole pit, earthing pit etc. in hard strata or rock/hence contractor should submit the tender only after site visit. Contractor should quote the rates accordingly. No blasting shall be allowed for such digging and no extra payment shall be made in such situations.
- 1.1.25 Contractor has to prepare detailed working drawings based on the basic drawings / guidelines provided by consultant as per the relevant standards, specifications, site situations, rules and laws and shall get prior approval for these drawings from consultant before starting the work. Contractor shall also submit four copies of these drawings to client / consultant. No extra cost shall be given for this to contractor.
- 1.1.26 The contractor shall extend full cooperation to other contractors working at site. If required he shall issue soft copies or hard prints of his drawings to other contractor well in advance to complete the coordinated work / services in accordance with schedule prepared by owner / his representative. No extra cost shall be given for this to contractor.
- 1.1.27 In case of any discrepancy between bill of quantity (BOQ) and these specifications BOQ will supersede the specifications.
- 1.1.28 The drawings which may be issued with the tender are diagrammatic only and indicate the arrangement of various systems and extent of work. But the actual work to be carried out as per the approved working drawings as per the clearances and situations at site.
- 1.1.29 All the work shall be executed as per relevant Indian standards (TABLE 1) revised up to date.

1.2 LIST OF INDIAN STANDARDS (IS)

TABLE-1	
IS: 374 - 1979	Ceiling fans and regulators (3 rd rev.)
IS: 694 - 1990	PVC insulated electric cable for working voltage up to and including 1100V
IS: 732 – 1989	Code of practice for electrical wiring and installation
IS: 1255-1983	Code of practice for installation and maintenance of power cables up to and including 33KV rating (second revision)
IS: 1258-1987	Bayonet lamp holders (third revision)
IS: 1293-1988	Three pin plugs and sockets outlets rated voltage up to And including 250 volts and rated current up to and including 160 lamps
IS: 1554-1988 (Part-I)	PVC insulated (heavy duty) electric cables for working voltage Up to and including 1100 volts
IS: 1646-1982	Electrical installation fire safety of buildings (general) code of Practice
IS: 1885-1971	Glossary of items for electrical cables and conductors
IS: 1913-1978	General and safety requirements for fluorescents lamps luminaries tubular
IS: 2026-1977 to	Power transformers

81 (Parts I to IV)	
IS: 2071- 1974-76	Method of high voltage testing
IS: 2309-1989	Protection of building and allied structure against lightning
IS: 2551-1982	Danger notice plate
IS: 3043-1987	Code of practice for ear thing
IS: 3427- 1997	AC metal enclosed switch gear and control gear for rated voltage above 1 KV and up to and including 52 KV.
IS: 3480-1986	Flexible steel conduits for electrical wiring
IS: 3837-1976	Accessories for rigid steel conduits for electrical wiring
IS: 4146-1983	Application guide for voltage transformers
IS: 4615-1968	Switch socket outlets
IS: 5133-1969(Part-I)	Boxes for the enclosures of electrical accessories
IS: 5216-1982(Part-I)	Guide for safety procedures and practices in electrical work
IS: 5424-1969	Rubber mats for electrical purpose
IS 5578 – 11353-1985	Making and arrangement of bus bars
IS: 7098-1985(Part-I)	Cross-linked polyethylene insulated PVC sheathed cables. For Working voltages from 3.3 KV up to and including

	33 KV
IS: 8130 - 1984	Conductors for insulated electric cables and flexible cords.
IS 8623 – 1977 (Part-1)	Factory build assemblies of switchgears and control gear for voltages up to and including 1100 V AC and 1200 V DC
IS: 1823 – 1980 (part II)	Bus bar trucking system
IS: 8828-1996	Miniature circuit breakers
IS: 10810 - 1988	Methods of test for cables
IS: 12640-1988	Earth leakage circuit breakers
IS: 13947-1989 (part II)	Air circuit breakers
IS: 13947-1989	Molded case circuit breaker
IS: 13947-1993	Degree of protection provided by enclosures for LV switchgear and control gear
IS: 13947 - 1993	General requirement for switchgear and control gear for voltage not exceeding 1000V
IS: 1651 & 1652 – 1991	Stationary cells and batteries lead acid type
IS: 2147-1962	Enclosure for low voltage switchgear.
IS: 2675 - 1966	Distribution boards
IS: 375 - 1963	Switch gear bus bars
IS: 2410 - 1963	Tubular filament lamp
IS: 415 - 1963	Tungsten filament lamp

IS: 3553 - 1966	Water tight electric light fittings
IS: 1771-1961	Industrial light fittings
IS: 2667 - 1964	Fittings for rigid conduits
IS: 9537 - 1984	Rigid steel conduits for electrical wiring
IS: 3854 - 1966	Switches for domestic and other similar purpose
IS: 2268 - 1966	Call bells and buzzers
IS: 3072 - 1965	Switchgears
IS: 4047 - 1967	Switch fuse unit on cubical switch boards

1.3 CONDUIT LAYING / POINT WIRING / CIRCUIT WIRING: -

1.3.1 GENERAL: -

The wiring system shall be concealed or surface as per the direction of consultant / engineer in charge / owners representative / as specified in bill of quantity (BOQ). Before starting the work the contractor shall prepare the working drawing which should indicate the route, number and sizes of conduits, location of junction boxes, fan boxes, bends, location and sizes of switch boxes and other necessary details. The contractor shall get approved these drawings by the consultant / Engineer in charge before starting the work. Any modification in the drawings shall be gotten approved before starting the work.

In conduit lying as far as possible not more than two right angle bends shall be provided between two openings like Junction boxes, fan boxes, switch boards, distribution boards, cable pull boxes etc. Junction boxes shall be provided at the location of points only. Although where the length between any two accessible points is more than 6 meter, pull boxes of approved sizes can be provided at intermediate location. As far as possible location of these pull boxes shall be at some hidden but easily accessible place so as to maintain good aesthetics.

While laying the conduits in the slab before casting the slab, all drops shall be laid accurately to fall in position of switchboard, junction boxes shall be properly filled with easily removable material and all joints shall be air-tight. Conduits shall be fastened to the re-reinforcement properly so that the conduits do not get dislocated while casting the slab all conduits shall have 18swg fish wires.

Maximum permissible number of 1100 volt grade PVC insulated wires that may be drawn into rigid non metallic or MS or GI conduits are as given below in **TABLE 2**.

TABLE 2					
Size of wires (Nominal cross section area in sq. mm)	Maximum number of wires within conduit (size in mm)				
	20	25	32	40	50
1.0	5	7	12	18	27
1.5	4	6	11	15	22
2.5	3	5	8	11	16
4	2	4	6	9	13
6	1	3	5	7	10
10	-	1	3	4	6
16	-	-	2	3	4
25	-	-	1	2	3
35	-	-	-	1	3
50					2

Point wiring, power circuit and lighting circuit shall be in separate conduit. Contractor before commencement of supply shall do balancing of circuit in three phases. All wires shall have ferrules for identification.

Separate conduits shall be laid for Low voltage lines like Telephone, Data, TV etc. and as far as possible minimum 300 mm distance shall be maintained between these low voltage line and conduits for electric point and circuit wiring and if it is unavoidable both type of lines shall be isolated by providing proper insulation.

All tools and consumables like hacksaw blades, chisels, cutter machine blades, spring and wires for cable pulling, PVC insulation tapes, etc. to be arranged by Contractor. All the wall chiseling, groove cutting shall be done with mechanical cutter.

All cable ends shall be terminated using copper end sleeves. Termination should be done with proper tools. Unless specified all wiring shall be done using approved make wires of proper colour code for phases, neutral and earth as described in **TABLE 3** below.

TABLE 3	
COLOUR CODE FOR WIRING	
Description	Colour of INSULATION
Circuit wires Phase 1	Red
Circuit wires Phase 2	Yellow
Circuit wires Phase 3	Blue

All neutral wires	Black
All earth wires	Green
Wire for point	Same as that of phase wire used to give supply to that point

Complete work has to be executed strictly as per drawings, specification to ensure good aesthetics, line & level. Note:-In case of concealed wiring, for the places where it is not possible to conceal the conduit, surface metal / PVC conduits / casing capping / flexible metal conduits and its accessories of approved make as directed by client / engineer in-charge / consultant shall be used by contractor and no extra payment shall be made to the contractor for the same. Conduit shall protect wiring at all places and loose wiring shall not be done in any case.

1.3.2 WIRING IN PVC CONDUITS

All the wires shall be laid in medium gauge ISI PVC conduit pipes shall confirm to latest IS. The PVC conduits shall have diameter 20mm or above as the case may be depending upon the number of wire permitted by **TABLE 2**. The conduits shall be fixed to wall / ceiling / in slab at a maximum interval of 450 mm and on either side of bends / junction boxes / cable pull boxes. All conduits accessories shall be heavy duty made up of PVC and shall confirm relevant IS & all the bends in surface wiring shall be of inspection type. All the joints for conduits and accessories shall be fully tightened together by using PVC adhesive. In no case pin type accessories or fixing by any other means shall be used. For concealed wiring junction boxes shall have a depth of 25 mm for surface and 62mm in ceiling.

1.3.3 POINT WIRING

The point wiring shall mean wiring from switchboards or distribution boards to points / 2-3 pin combined 6A socket outlets on separate boards in Metal Conduit / PVC Conduits / PVC Casing Capping as specified in bill of quantity (BOQ) and as described in above section **2.1 and 2.2, 2.3 and 2.4** for Metal Conduit / PVC Conduits / PVC Casing Capping respectively. The point shall be controlled by 5 A / 6A / 16A switch or directly from MCB, the switchboards shall be made up of 16 /

18 gauge GI (MS) and either be flush mounted in furniture partitions or surface mounted or concealed mounted as per site requirement and specified in BOQ or otherwise as directed by client / consultant. Work is inclusive of supply of approved make wires, switches, sockets, switch plates, concealed or surface boxes for switch boards and other accessories, conduits and accessories, ceiling rose, bulb holders, 5 SWG HS fan boxes of size (12.5 Cm dia and 7.5 Cm height), white colour round hylum plate, 16 G duly painted MS pull boxes with MS / white bakelite cover, fan hooks, hardware etc required for the job. All surface mounted switch boxes shall be PVC boxes of approved make. Switches and switch boxes for the modular type range shall be of same make and of approved make only. The earth wire 1.1 KV grade FR PVC insulated cu stranded is to be run in conduit along with phase and neutral wires. The neutral for more than six light / fan points shall not be looped in any case. Unless specified not more than eight number of light / fan points shall be on one circuit. Where plate type switches are not specified the switchboard shall have 3mm thick white colour Bakelite sheet on which switches shall be mounted.

The wiring shall be carried out with multi stranded 1.1 KV grade FR PVC insulated copper flexible wires of required rating as described in schedule of quantities.

3 plate ceiling rose shall be used for tube light and fan points termination. All the wires shall be properly terminated at switchboards, distribution boards and points. Termination of neutral and earth wires at switchboards and distribution boards shall be on terminal strips only and no twisted joints shall be done in any case.

In case of group control directly from distribution board / from the switch board the primary point shall be from DB / Switch board to the first point and secondary point shall be looped from first point

No joints in phase wire shall be allowed between switchboard / distribution board and points / primary points in case of group control and between primary and secondary points. No joints in neutral and earth wire shall be allowed except at the location of point or switchboards.

A three-core cord of suitable rating (minimum conductor size 3 x 1.5sq. mm) and length minimum 600 mm shall be provided from 3 point ceiling rose to light and

fan points. For Plate type / Modular type switches 2 module step fan regulator of the same make as of switches shall be provided on the switch board for all fan points.

1.3.4 CIRCUIT WIRING

The circuit wiring shall mean wiring in three phase, three phase four wire or single phase two wire from any location from main panels, distribution panels, to distribution panels, switch boards, 6 / 16 amp combined power points, metal clad plug socket DBs, MCB boxes in Metal Conduit / PVC Conduits / PVC Casing Capping as specified in bill of quantity (BOQ) and as described in above section **2.1 and 2.2, 2.3 and 2.4** for Metal Conduit / PVC Conduits / PVC Casing Capping respectively. Wiring for looping switchboards from another switch boards except 2-3 pin combined 6A socket outlets on separate board shall be included in circuit wiring. Work is inclusive of supply of approved make wires, conduits and accessories, 16 G duly painted MS pull boxes with MS / white bakelite cover, hardware etc required for the job. Earth wire 1.1 KV grade FR PVC insulated cu stranded is to be run in conduit along with phase and neutral wires as specified in BOQ. Unless specified not more than eight number of light / fan points shall be on one light circuit. The wiring shall be carried out with multi stranded 1.1 KV grade FR PVC insulated copper flexible wires of required rating as described in schedule of quantities.

The wiring shall be carried out with multi stranded 1.1 KV grade FR PVC insulated copper flexible wires of required rating as described in schedule of quantities.

All the wires shall be properly terminated at switchboards, distribution boards and points. Termination of neutral and earth wires at switchboards and distribution boards shall be on terminal strips or bus bars only and no twisted joints shall be done in any case.

No joints shall be allowed in any circuit.

1.3.5 LT DISTRIBUTION BOARDS: -

These shall be of sheet metal and of standard design and approved make with copper bus bars. The board shall be fixed at accessible height. The board shall be

sadly fixed to walls / fabricated frames and brackets / partitions, concealed or open as directed. All connection inside the distribution board shall be neatly arranged and tied with PVC strings. The MCB shall be of 10 KA for fair level. The distribution boards shall be suitably earthed as per the relevant IS. Legend shall be written on DB white paint for identification of DB & circuits. All terminations shall be with proper lugs. All incoming and outgoing conduits shall be through readymade knock out inlet outlet provisions available in the original DB with proper check nut provisions. No alteration and modification in original form of DBs without approval from consultant shall be allowed. All the terminations for neutral and earth shall be at proper terminal available in the distribution boards. MCBs and Distribution boards shall be of same make and of approved make.

1.4 LT CABLES LAYING AND END TERMINATION: -

1.4.1 GENERAL

All Cable shall conform to relevant latest Indian standard.

1.4.2 UNDER GROUND CABLE LAYING

The cable trench in ground has to be prepared by excavating soft murrum / black soil / hard murrum as per details given in trench drawing with specifically maintaining clear dimensions of trench i.e. (width / depth/ length). The rates for excavation shall be quoted after visiting site.

After complete excavation of length of trench, the sand bed of minimum 50 mm thickness / as specified in the drawings provided by the consultant at the time of execution of the work has to be created in bottom of trench. Fine river sand has to be used for this purpose and it is to be ensured that this sand does not contain stone / gravel etc.

The sand bed has to be even and a pre inspection of this shall be arranged with consultant / Engineer-in-charge. The cables are than to be laid in these trenches. Cable-drums have to be shifted from stores to site of laying by the Contractor and hydraulic jack shall be arranged for lifting of drums. Sufficient manpower shall be

arranged for uncoiling / laying of cables in order to avoid damage to cable. The work includes supply of cables.

Length of cable piece has to be properly measured and cut from the drum. The trenches shall be at least 30 cm wide. The cables are to be laid in the trenches maintaining minimum spacing of 100 mm (or as specified in the drawing). After laying of all cables in trenches, if required by client, cable identification tags are to be installed at every 5 Mtr. distance. These tags are of Aluminum flat (minimum size 25 x 3 mm) and shall bear punch mark of cable number. The cable number shall match to that of given in cable schedule and in case of any alterations prior to permission of Consultant has to be obtained. After this, another sand bed of minimum 100 mm thickness / as specified in the drawings has to be prepared over cable. The bricks of proper strength are then to be kept on the top of the sand bed so as to completely cover cables and edges of cable as per drawing and details. The backfilling of soil and proper leveling, length compacting shall be done. After completion of complete work if required by the client, the cable route markers at interval of 20 meters and at all change in direction on cable trench has to be installed along the trench. The size of route marker shall be minimum dia 100 mm x 3 mm bolted on MS angle of size 40mm x 40mm x 5mm. These markers are to be grouted in ground.

For every road crossing, entry in building etc. cable sleeves RCC / GI / PVC in specified sizes are to be provided as per drawing and details. Complete work shall be done to ensure reliability of system.

Cables laid under ground shall be to a minimum depth of 750 mm for LT cables, 1000 mm for HT cables. If cables are to be laid in tier formation there should be a minimum gap of 250 mm between two tiers however the drawings provided by consultant will supersede these specifications. Contractor shall ensured that cables laid underground are free of water lines etc

1.4.3 CABLE ON WALLS / TRAYS

The cable trays are to be fabricated out of MS angle of given sizes. The trays has to be fabricated in two parts i.e. cable trays and its supports.

Complete fabrication work of tray/support has to be done by straightening of angles, fabricating specified sizes, removal of sharp edge and installation of trays on supports. The tray has to be installed in such a way that same level is maintained on one runner (unless specified otherwise). The 'T' section, bend has to be long radius type and shall be minimum 15 times outside dia of biggest size cable. The supports at such sections have to be provided in addition to that shown in the drawing. Complete cable trays are to be painted with one coat of red oxide/ two coats of synthetic enamel paint.

After completion of above work cable laying has to be started from LT panels to machines / power outlets. The pre measurement of cable length has to be carried out and only after ensuring correct required length, cable has to be cut. The cables are to be laid on trays with minimum spacing of 75 mm (or as specified in the drawing). After laying of all cables, 'AL' tags are to be installed along with 'AL' clamps (made from 'AL' strip of minimum 25mm x 3mm). The maximum spacing between such clamps shall be 450mm and between tags is 5 mtr.

For installation of cables in walls, MS/GI spacers shall be used. Spacers shall be MS/GI flat of 25mm x 3mm up to 16mm² cable and 40mm x 6mm above 16mm² cables. The spacing shall be maximum 300 mm and it shall be fixed with GI machine screws. Complete work has to be executed ensuring safe installation.

1.4.4 CABLE END TERMINATION

The cable and termination of all cables has to be done by a skilled cable jointer (to be arranged by Contractor) using proper size cable glands, lugs and ferrules of approved make. The contractor should supply all the required material. The cable glands shall be installed by punching appropriate size hole on gland plate. No extra hole shall be punched unless specified otherwise. The gland plate has to be refitted properly to ensure vermin proofness of panels.

The lugs shall be of Copper / Aluminum as specified in BOQ and shall be crimped using crimping tool compression type. Above 50 mm², hydraulic crimping tools are to be arranged by the Contractor. Before crimping lugs contact enhancement paste has to be provided of approved make. The termination is then to be carried

out ensuring tightness / proper contact at the point of termination. After crimping varnished cotton tape (empire tape) and insulation tapes of proper colour codes shall be used for insulation of crimped live parts after.

1.5 SWITCH FUSE UNITS

Switch fuse units shall be of sheets metal or iron clad with HRC fuses as described in schedule of quantities. The unit shall be of robust construction, specified make and design to withstand adverse working condition. It shall have quick break type mechanism with ON and OFF position indicators of the operating handle. The switch shall be door-interlocked so that the units could not be opened in ON condition. The interior shall be so arrange that clearances from all live-parts are adequate and shrouded. Manufacture's instructions shall be followed for switch fuse units. The switch shall be solidly earthed. The switch shall be mounted on angle iron support grouted to wall. The support's shall be treated for rust treatment & painted with coats of synthetics enamel paint. The height of the switchboard shall be such that it is accessible for operation & maintenance.

1.6 LT DISTRIBUTION AND METERING PANELS

1.6.1 INSPECTION, TESTING AND GENERAL INSTRUCTIONS

The panel shall be suitable for 500 Volt, 50 Hz, and 3-phase supply.

Before fabrication of panel Contractor / Panel manufacturer shall get approval for GA diagram and all other drawings related to panel work.

Panel shall be fabricated where facility of Hydraulic / power press and equipments for testing inclusive of equipments for the following tests are available. If required by the consultant, the panel manufacturer should have CPRI and TAC Approvals.

1. Temperature rise test for Bus-bar
2. Mili Volt drop test for Bus bar jointing.
3. Insulation test by 2.5 KV H.V. Tester

Contractor shall take approval for appointment of panel manufacturer from consultant before starting the fabrication work.

The panel shall be dispatched only after complete inspection and satisfactory testing for all functioning in presence of Engineer in charge / Consultant. Compliance for all the points / changes instructed during the testing and inspection shall be done before dispatch. Before dispatch panel shall be properly packed to avoid damage during transportation. Offer for the panel shall be inclusive of loading, unloading and transportation of panel to the specified location at site.

The panel shall be tested at site before commissioning.

All the material used in the panel shall be strictly as per the specification and of approved make and quality.

The panel shall comply all the relevant IS as mentioned in the following **TABLE 5**

TABLE 5

- a) IS-4237 General requirements of switchgear & control gear for voltage not exceeding 1000V.
- b) IS-375 Arrangement of bus bars, main connection, auxiliaries & wiring.
- c) IS-2516 Requirement of the circuit breakers not exceeding 1000V, selection & testing.
- d) IS-4047 Specification for heavy-duty air break switches & fuses for voltage not exceeding 1000V.
- e) IS-2208 Specification for HRC cartridge fuse links up to 650V,
- f) IS-2507 Indian standards for current transformers (Part – I/II/III/IV)
- g) IS-4201 Application guide for current transformers.
- h) IS-2959 Specification for AC contractors of voltage not exceeding 1000V
- i) IS-1822 Specification for motor starters of voltages not exceeding 1000V
- j) IS-5569 Electrical power connectors.
- k) IS-1336 Colour code recommendations for push buttons.

- l) IS-1248 Electrical indicating buttons.
- m) IS-4483 Preferred panel cutout dimensions.
- n) IS-2147 Degree of protection provided by enclosures for LV switchgears.
- o) IS-3072 Code of practice for installations & maintenance of switchgears for system voltages not exceeding 1000V.
- p) IES-439 Low voltage switchgear & control gear assemblies.
- q) IS-2032 Graphic symbols.
- r) IS-8623 Factory built assemblies.

1.7 FABRICATION AND BASIC STRUCTURE

Panels shall be fabricated from MS sheet steel 14 / 16 gauge as specified in BOQ and shall be of compartmental design. The main supporting framework shall be of angle iron or of heavier gauge sheet metal as specified. The panel shall be self-standing type / wall mounted as specified, dust and vermin proof and shall be suitable for front operation. Panel doors shall be provided with concealed type hinges and all joints and shutters shall be provided with Neoprene rubber gaskets as per requirements and direction of consultant / Architect. All hinged doors shall be earthed with flexible braided copper earth strips by connecting them to structure of main panel. Partition plates shall be provided between the feeder boxes and Bus bar chambers as per direction of Architect / Consultant. The panel shall have separate cable ally and a bus bar chamber. Slotted channel in every cable ally for fixing incoming and outgoing cables shall be provided. The panel shall have 75 x 40 x 6 mm M.S. base channel with horizontal support at every one meter approximately. Base channel shall have ϕ 16mm hole for mounting on foundation with ϕ 12mm, 75mm long G.I. bolts. Adequate ventilation for the panel shall be provided. The backside of the wall mounted panels shall be supported by 2 no. Horizontal 50 x 6 mm MS flats along the width of the panel and the extended parts of these flats should have ϕ 19 mm holes to mount the panels on walls. All the hardware used in panels like nut bolts and spring washers used for tightening of

bus bar etc. shall be of heavy duty. All the hardware used in panel shall be got first approved from consultants before taking up for fabrication.

After fabrication and before painting / powder coating panel shall be inspected by Engineer in-charge / Consultant. Compliance for all the points / changes instructed during the inspection shall be done before powder coating.

1.8 PAINTING, POWDER COATING AND NAME PLATES

The panel shall be duly pretreated by 7-tank process etc and powder coated (pure polyester powder coated 60 micron thickness) / stove-enameled painted as specified in BOQ by using Siemens gray colour shade number RAL-7032 or with other approved colour.

In case of stove enameled painting 2 coats of anticorrosive paint, surface and putty shall be applied. 2 coats of synthetic enameled paint of approved quality and shade shall be applied for finish. All sheet metal portions shall have stove enameled (oven baked) painted at 110 deg. Cent.

Single line diagram and Logic diagram for operation of switchgears and control circuits etc. shall be painted or pasted after printing and laminations on the panel.

The nameplates for each feeder shall be of engraved design and pasted to the respective switchgear. The size of incoming / outgoing cables shall also be written on the nameplates. The letter in the nameplate shall not be less than 10 mm size for individual feeders and not less 18 mm for the main feeders. All switchgear to be mounted in the panel shall be as per schedules of quantities.

Danger boards of required sizes shall be provided on the panels.

1.9 SPACE AND CLEARANCES

The panel shall be designed so/as to facilitate inspection, cleaning, repairs and maintenance. The clearance between phase to phase and phase to earth / metal parts shall be as per relevant IS standards. Minimum clearance between any two

phase shall be 40 mm and phase to Earth shall be 32 mm This clearance shall be measured from the head of bolts etc used for tightening bus bars, switchgears etc.

1.10 METERING

The metering instruments like voltmeter, ammeter etc. shall be flush mounted and shall be of class 1.0 accuracy or as specified and of standard design Size of meters shall be minimum 96 X 96 mm. All indication lamps shall be of LED type.

1.11 BUS BARS AND CONNECTION BETWEEN BUS BARS AND SWITCH GEARS

The bus bars shall be rigid hard drawn tinned electrolyte copper / Aluminum as specified and sleeved with heat shrinkable sleeves. The current density shall not exceed 1.5 amp per sq mm for Cu bus bars and 1.0 amp per sq mm for Al bus bars and the neutral bus shall be rated for capacity of phase bus unless otherwise stated in schedule of quantities / drawings. However, the minimum size of bus bars shall be 25 mm x 3 mm. Bus bar shall be supported by epoxy based cast resin / DMC supports tested for 3KV. If Bakelite sheets are used for support of Bus bar than it should to confirm to IS standard with proper dielectric strength. Spacing of supports should be at maximum distance of 450mm. Supports shall also be provided at both ends of bus bar, to prevent Bus-bars sag and to withstand Electromagnetic stresses in the event of short circuit.

All connections between bus bars and switchgears inside the panel shall be done with insulated solid copper conductors / cables or with copper / Al links as specified of proper current ratings. For switchgears having current rating 63A or below, flexible wire of proper current ratings shall be allowed for connecting them to bus bars.

1.12 WIRING FOR METERING AND CONTROL

All wiring for meters and control shall be provided with numbering ferrules. Size of flexible wire shall not be less than 1.5 sq. mm. of 1.1 KV grade ISI mark. Suitable HRC control fuses shall be provided in control circuits. All the wiring in panel shall be properly arranged to provide good aesthetics and tightened with PVC

stringed to avoid any loose wiring. Wiring at the doors shall be such that, doors can be fully opened and closed without damaging the wires. Wherever necessary slotted PVC channels with covers of proper size shall be used for these wiring.

1.13 EARTH BUS AND STUDS

The panel shall have two no of earthing studs of $\phi 12\text{mm}$ dia & 50mm long G.I. nut bolt at both right and left sides of panel for connecting earthing strips coming from earthing stations. These earthing studs shall be interconnected by one number earth bus of GI / Copper / AL as specified which shall be horizontally run inside and along the sides throughout the width of the panel. This earth bus should be connected to the main structure of the panel at various places.

2.0 TESTING AND COMMISSIONING OF ELECTRICAL INSTALLATION

Before the lighting / power installation is made alive the contractor shall carry out tests enumerated below in presence of engineer in charge or his authorized representative. All testing equipment necessary, to carry out the test shall be arranged by contractor and the tests results recorded on approved pro forma. Nothing extra shall be payable for testing. The testing of whole installation shall be done as per the relevant Indian Standards. Contractor shall have to submit reports of all the following types of testing and manufacturers test certificates in required copies whenever required and before producing final bills and handing over the site. The following tests shall be carried out after completion of the electrical installation work.

2.1 Insulation Resistance Test

Insulation resistance to earth

The insulation resistance shall be measured by a 500 V insulation resistance testers, between earth and whole system or any section of conductors (except earthed concentric wiring) keeping all fuses / switchgear in places and all switches on (except earthed concentric wiring) and all lamps in position.

The insulation resistance measured in mega ohm shall not be less than 50 mega ohm divided by the number of outlets or when PVC insulated cables are used for wiring. 12.5 mega ohm divided by the outlet subject to a minimum value of 1 mega ohm.

A preliminary and similar test shall be made before lamps etc. are installed and in this event the insulation resistance to earth shall not less than 100 mega ohm divided by the number of outlets or when PVC insulated cables are use 25 mega ohm divided by the number of outlet subject to a minimum of 1 mega ohm.

2.2 Insulation resistance between conductors

The insulation resistance shall be measured by 500 V insulation resistance tester between all the conductors connected to one phase and all the conductor connected to neutral with all fuses in places with all switches on and all lamps should be removed.

The insulation resistance measured in mega ohm shall not be less than 50 mega ohm divided by the number of outlets or when PVC insulated cables are used for wiring. 12.5 mega ohm divided by the outlet subject to a minimum value of 1 mega ohm.

This test shall be repeated for remaining two phases.

2.3 Polarity Test of Switches

A test shall be made to verify that all non-linked single pole switches are fitted on outer of phase conductor or not and after this test such conductors shall be labeled or marked for connection to the phase conductor or to the non-earthed conductor of supply.

2.4 Earth Continuity Test

The earth continuity conductor including metal conduit and metallic envelopes of cables in all cases shall be tested for electric continuity. Electrical resistance between main earth point and any point on the earth continuity conductor in completed insulation shall not exceed 1 ohm.

2.5 OTHER TESTS

Before energizing in case of power and control cables insulation resistance between phases, each phase to neutral and each phase to armor to be measured with 500 volt insulation resistance tester and it should comply latest IS.

Current and voltage of all phase shall be measured at the panel bus bars with all circuit on with fixture and also in all switchboards.

The earth electrode shall be tested for earth resistance by means of standard earth tester. The resistance between the earthing system and general mass of the earth shall not be greater than one Ohm.

Check for conduits at expansion joints. At expansion joints in building flexible conduits shall be provided. Extra length of wires in flexible conduits pipe shall be provided and this extra length shall not be less than 50 mm. At both the ends of conduit proper flexible couplings shall be provided and earth wire shall be properly connected to earthing terminal of coupling.

All the terminations, joints and connections in panels, DBs, switch boards etc. shall be tightened. There shall not be any loose connection.

Check for continuity of supply in all the sockets shall be done. It should be checked that all the termination in sockets are as approved manner. It is to be checked that earthing points of all the sockets is properly earthed. For all socket outlets voltage between phase and neutral shall be recorded it should be less than 1 volt.

All the elements of the installation like switch yards, transformers, generators, motor, relays etc. shall be tested as per the relevant IS codes and in an approved manner.

It is to be checked that the complete installation is properly cleaned and duly repaired and painted wherever necessary.

It is to be checked that complete installation is free from any loose wirings and all wires and cables are protected with required sleeves or coverings.

It is to be checked that maintenance is easily possible for complete installation.

It is to be checked that proper balancing in three-phase is done.

In case of power and control cables insulation resistance between phases, each phase to neutral and each phase to armor to be measured with 500 volt insulation resistance tester and it should comply latest IS.

If any other tests before energizing the installation is required as per the relevant Indian standard or by electricity distribution company / safety officer / inspector / consultant then these tests has to be carried out by the contractor free of cost.

NOT APPLICABLE

LIST OF APPROVED MAKE/MATERIALS IN ORDER OF PREFERENCES FOR CIVIL WORKS

S. NO.	ITEM	MAKE
01.	Grey Cement	Ultratech, ACC, JK, L&T, Lafarge etc or equivalent make as approved by EIC and Consultant.
02.	White Cement	JK, Birla or equivalent make as approved by EIC and Consultant.
03.	HRC-TMT Reinforcement Bars – High Corrosion Resistant, Thermo Mechanically Tested (TMT) Hot Rolled Deformed Bars	Conforming to IS and TISCO, SAIL, RINL make or equivalent make as approved by EIC and Consultant.
04.	Concrete Additive	FOSROC, CICO-TL, SIKA or equivalent make as approved by EIC and Consultant.
05.	Flush Doors	GREEN, DURO, CENTURY or equivalent make as approved by EIC and Consultant.
06.	Plywood / Block Board	ANCHOR, GREEN, CENTURY, DURO or equivalent make as approved by EIC and Consultant.
07.	Pre-laminated Particle Board	NOVAPAN, ARCHIDLAM or equivalent make as approved by EIC and Consultant.
08.	Laminates	CENTURY, GREENLAM, FORMICA or equivalent make as approved by EIC and Consultant.
09.	Vitrified Tiles	KAJARIA, ASIAN, SOMANY or equivalent make as approved by EIC and Consultant.
10.	Ceramic Tiles	KAJARIA, ASIAN, SOMANY or equivalent make as approved by EIC and Consultant.

11.	Anti-skid tiles	KAJARIA, ULTRA, ASIAN or equivalent make as approved by EIC and Consultant.
12.	Tiles & Stone fixing Adhesive	BAL, KARKQUALL or equivalent make as approved by EIC and Consultant.
13.	All Paint, primer, oil bound distemper & synthetic enamel	Jotun, ICI, Nerolac or equivalent make as approved by EIC and Consultant.
14.	Water proof exterior paint	Jotun, ICI, Nerolac or equivalent make as approved by EIC and Consultant.
15.	Float Glass	MODI GUARD, SAINT GOBAIN, ASAHI or equivalent make as approved by EIC and Consultant
16.	Water proofing compound Agency	As Approved by EIC and Consultant
17.	Anti-termite Treatment Agency	As Approved by EIC and Consultant
18.	Anodized Aluminum fittings	ZINDAL, INDAL, HINDALCO or equivalent make as approved by EIC and Consultant.
19.	Hinges	EBCO, Flora or equivalent make as approved by EIC and Consultant.
20.	Bricks	Best Quality Open Bhatta Bricks as approved by EIC.
21.	Sand	Narmada Sand as approved by EIC.
22.	Aggregate	Best quality locally available obtained from cone crusher as approved by EIC.
23.	Lock	Godrej Make or or equivalent make as approved by EIC and Consultant.
24.	Automatic Door / Hydraulic Door Closer / Floor Spring	DORMA, GEZE or equivalent make as approved by EIC and Consultant.
25.	Stone Texture Finish	UNITILE, ASIAN or equivalent make as approved by EIC and Consultant.
26.	Door Fittings	DORMA, GEZE, EBCO or equivalent make as approved by EIC and Consultant.

27.	Sanitary Ware	KOHLER, DURAVIT or equivalent make as approved by EIC and Consultant.
28.	Bath Fittings	KOHLER, HANSGROHE or equivalent make as approved by EIC and Consultant.
29.	ACP Sheet	ALSTRONG, ALCOBOND or equivalent make as approved by EIC and Consultant.
30.	Gypsum board	As approved by EIC and Consultant
31.	Polycarbonate sheet	As approved by EIC and Consultant
32.	Colour coated sheet	As approved by EIC and Consultant
33.	GI Pipes	TATA, JINDAL or Approved Equivalent
34.	CPVC Pipes / Fittings	ASTRAL or equivalent make as approved by EIC and Consultant.
35.	PVC Pipes / Fittings	Finolex, Prince, Suprime or equivalent make as approved by EIC and Consultant.
36.	CI Pipes	As approved by EIC and Consultant.
37.	Nahai Trap PVC	Finolex or equivalent make as approved by EIC and Consultant.
38.	SS Pipe 304 grade	As approved by EIC and Consultant.
39.	Aluminium Panel Sun Louvres	Hunter Douglas India Pvt. Ltd. or equivalent make as approved by EIC and Consultant.

NOTE:

This is a general indicative list of the materials for the brand and make of the material to be used by the contractor. The specification mentioned in the Schedule of Quantities shall take precedence. However, the contractor shall take approval of Architect and EIC regarding the make and type of each material before execution. The Architect and EIC's decision regarding the use of material mentioned above or mentioned in Schedule of Quantities or equivalent will be final and binding on the contractor. In case contractor wishes an alternative other than suggested by Architect, equivalent to those listed above or mentioned in Schedule of Quantities for economy and better quality, the name shall be submitted to Architect and EIC giving detailed specification, catalogue, price list along with the samples for approval

from the Architect. All the necessary test shall be carried out at no extra cost and report be submitted to EIC and Architect. The Architect and EIC reserve the right to permit or not permit the contractor for use of other alternate without any reasons and contractor is bound to follow the decision of the EIC and Architect in this regard.

NOT APPLICABLE

LIST OF APPROVED MAKES FOR ELECTRICAL WORKS

S. NO.	ITEM DESCRIPTION	MAKES
01	Distribution Transformer, Star Rating	ABB, Tesla Transformer, Schneider
02	Power Transformer	BHEL, ABB, Schneider
03	Vacuum Circuit Breaker, SF-6/Gas filled Circuit Breaker	ABB, Schneider, Siemens,
04	ACB	ABB, Schneider, Siemens
05	PSS/CSS with HT/LT Switch Gear, Transformer and connected accessories	ABB, Schneider, Siemens, L&T
06	MCCB, MCB, ELCB, RCCB, DB, ICTPN, TP, HRC Fuse, Change over Switch, Switch Fuse Unit	ABB, Schneider, Siemens, L&T
07	XLPE Cable 11/33kV grade	CCI, Gloster, Finolex, Ravin cable
08	PVC/XLPE Power Cables up to 1.1kV grade	CCI, Gloster, Universal, Ravin cable
09	Instrument Voltmeter, Ammeter, PF meter	Schneider, Automatic Electric, Siemens, HPL
10	33/11kV Cable End Termination & Jointing Kits	Raychem, 3M, Mahendra
11	Relays	Siemens, Schneider, C&S
12	Lighting Fixtures	Phillips, Schreder, Wipro CleanRay, GE
13	PVC insulated Elect. Wires Sheathed/ unsheathed, PVC flexible LT cable, multicore, single core, Flat cable for submersible pumps	Finolex, RR cable, HPL
14	Current Transformer	Schneider, Automatic Electric, Siemens, HPL
15	On line UPS, Servo Stabilizer, Inverter, CVT	APC, TATA Libert
16	Rotary Switches, Selector Switches	Kaycee, Siemens, Schneider
17	Exhaust fan/ Air Circulator/ Bracket & Pedestal fans/ Ceiling fan	Crompton Greaves, Polar
18	Electronic Energy Meter	Secure, ABB, Schneider
19	Capacitors- PF correction for Electrical General Services	BHEL, ABB, Schneider, EPCOS
20	DG Sets - Portable	Birla Yamaha, CGL, Shriram Honda,
21	DG Engine	Cummins, Kirloskar, Caterpillar, Ashok Leyland, Penta-Volvo

22	Alternator for DG set	KEC, CGL, Stampford, Leroy-Somer, Kirloskar-Green
23	LT Switchgear & control gears- Contactors & motor starters, Energy Efficient Soft Starter panel/ Earthing Switch, Single phase preventer	ABB, Siemens, Schneider, Q&S
24	Timers - Electronic Solid State	ABB, Siemens, Schneider
25	Water Coolers	Blue Star, Fedders, Kelvinator, Shriram, Sidwal, Voltas
26	Electrical Accessories (Piano Switch, Plugs & Sockets, Ceiling Rose, Angle Holder, Holders)	Legrand, Schneider, Havells
27	Bell Buzzer	Schneider
28	Electronic Fan Regulator	Crompton Greaves
29	GI/MS Pipe	TATA, Jindal, TT Swastik, Prakash Surya
30	Geysers	Crompton Greaves, Recold
31	Lifts & Escalators	OTIS, ThyssenKrupp, Shindler, KONE, Mitsubhisi.
32	Solar Water Heaters	As per MNES approved sources.
33	Solar Distilled Water Plants	Makes can be approved on the recommendation of divisions.
34	Battery Charger for battery room	Amar Raja, Exide, RS Power
35	PVC Conduit pipe & Casing capping for electrical wiring	A.K.G., Polycab, BEC
36	Aluminum Ladders	Sumer, Beatfire
37	LT Panels	From CPRI tested firms.
38	Air Curtain	Aircon, ALMONARD, CGL
39	Early Streamer Emission Lightening Conductor Air Terminal (ESELCA)	Ingesco (Spain)
40	33 KV Air break switch	Atlas (Bomay)
41	33 KV LA	Elpro, CGL
42	33 KV Drop out fuse	Atlas (Bomay)
43	Control and Relay Panel	ABB, AREVA, Schneider, Siemens
44	Batteries	Exide, Amco, Amar Raja, HBL Nife
45	Battery Charger	Chhabi, HBL, Caldine, Masstech, DUBAS, Statcon

46	Fire Protection System	Vijay, Unitech, Technofab, Mather & Platt, Steelage.
47	Wires - Copper Type	Finolex, RR
48	Telephone Wire	Finolex, Indoplast, RR, Delton
49	Telephone Cable	Finolex, Delton, Nicco, Indoplast, RR
50	Wall Brackets, Ceiling Light, Bollard	Philips, Wipro, Schredder
51	Coaxial TV Cable	Finolex, Havells, American North Star, RR
52	Octagonal Pole	Philips, Wipro, Schredder
53	Pump	KSB, Kirloskar, Grundfos
54	Advance Lightening System	Indelec, LPI, Ingesco

NOTE:

This is a general indicative list of the materials for the brand and make of the material to be used by the contractor. The specification mentioned in the Schedule of Quantities shall take precedence. However, the contractor shall take approval of Architect and EIC regarding the make and type of each material before execution. The Architect and EIC's decision regarding the use of material mentioned above or mentioned in Schedule of Quantities or equivalent will be final and binding on the contractor. In case contractor wishes an alternative other than suggested by Architect, equivalent to those listed above or mentioned in Schedule of Quantities for economy and better quality, the name shall be submitted to Architect and EIC giving detailed specification, catalogue, price list along with the samples for approval from the Architect. All the necessary test shall be carried out at no extra cost and report be submitted to EIC and Architect. The Architect and EIC reserve the right to permit or nor permit the contractor for use of other alternate without any reasons and contractor is bound to follow the decision of the EIC and Architect in this regard.

NOT A

SECTION 4

BILL OF QUANTITIES (BOQ)

General Description of work:- Supply of Different types of material for repairing works of the water supply at Industrial area, Mandideep Distt. Raisen (M.P.)

Probable Amount of Contract Rs. 7,69,230/-

S.No.	Particulars of Items	Qty	Unit	Rate	Amount
1.	Supply of Ductile iron mechanical joint collar with followers gland conforming to IS 9523/2000 in the following nominal dia motor size with external bitumen and internal cement motor living.				
	A. 500 mm dia size	2 Nos	Each	21900.00	43800.00
	B. 350 mm dia size	2 Nos	Each	12500.00	25100.00
	C. 300 mm dia size	3 Nos	Each	9200.00	27600.00
	D. 200 mm dia size	10 Nos	Each	4700.00	47000.00
	E. 250 mm dia size	3 Nos	Each	6900.00	20700.00
	F. 1500 mm dia size	8 Nos	Each	3850.00	30800.00
2.	Supply of different kind of material and different size for repairing work.				
	A. Bearing Grease (Castrol or ISI mark)	250.00	Kg.	300.00	75000.00
	B. Cotton Jute	150.00	Kg.	160.00	24000.00
	C. Bearing 6308 (SKF on NBC make)	20 Nos	Each	750.00	15000.00
	D. Gland rope different size				
	(i) 12 mm thick	40.00	Kg.	350.00	14000.00
	(ii) 10 mm thick	30.00	Kg.	350.00	10500.00
	(iii) 8 mm thick	30.00	Kg.	350.00	10500.00
	E. Rubber gas kit different size				
	(i) 500 mm dia size	15 Nos	Each	480.00	7200.00
	(ii) 350 mm dia size	15 Nos	Each	350.00	5250.00
	(iii) 300 mm dia size	20 Nos	Each	275.00	5500.00
	(iv) 250 mm dia size	20 Nos	Each	225.00	4500.00
	(v) 200 mm dia size	30 Nos	Each	150.00	4500.00
	(vi) 150 mm dia size	30 Nos	Each	120.00	3600.00
3.	Making and supply of spandle/ Gutka for sluice valve.				
	(A) 100 mm dia Sluice valve	5 Nos	Each	2150.00	10750.00
	(B) 150 mm dia Sluice valve	5 Nos	Each	2600.00	13000.00
	(C) 200 mm dia Sluice valve	5 Nos	Each	3100.00	15500.00
	(D) 250 mm dia Sluice valve	4 Nos	Each	3800.00	15200.00
	(E) 300 mm dia Sluice valve	4 Nos	Each	3950.00	15800.00
	(F) 350 mm dia Sluice valve	4 Nos	Each	4100.00	16400.00
	(G) 500 mm dia Sluice valve	2 Nos	Each	5250.00	10500.00
4.	Making and supply of sluice Valve Gate ring (Brouze)				
	(A) 100 mm dia Sluice valve	3 Nos	Each	900.00	2700.00

S.No.	Particulars of Items	Qty	Unit	Rate	Amount
	(B) 150 mm dia Sluice valve	5 Nos	Each	1200.00	6000.00
	(C) 200 mm dia Sluice valve	5 Nos	Each	1600.00	8000.00
	(D) 250 mm dia Sluice valve	4 Nos	Each	2100.00	8400.00
	(E) 300 mm dia Sluice valve	3 Nos	Each	2800.00	8400.00
	(F) 350 mm dia Sluice valve	2 Nos	Each	3200.00	6400.00
	(G) 500 mm dia Sluice valve	2 Nos	Each	4200.00	8400.00
5.	Making and supply of Gland Flange for sluice valve				
	(A) 100 mm dia Sluice valve	5 Nos	Each	115.00	575.00
	(B) 150 mm dia Sluice valve	5 Nos	Each	130.00	650.00
	(C) 200 mm dia Sluice valve	5 Nos	Each	150.00	750.00
	(D) 250 mm dia Sluice valve	5 Nos	Each	175.00	875.00
	(E) 300 mm dia Sluice valve	5 Nos	Each	200.00	1000.00
	(F) 350 mm dia Sluice valve	5 Nos	Each	250.00	1250.00
	(G) 500 mm dia Sluice valve	2 Nos	Each	340.00	680.00
6.	Making and supply different size of M.S., Clamp with Nut Bolt				
	(A) 100mm dia x 200mm x 6mm thick	5 Nos	Each	400.00	2000.00
	(B) 150mm dia x 200mm x 6mm thick	5 Nos	Each	550.00	2750.00
	(C) 200mm dia x 300mm x 6mm thick	5 Nos	Each	1050.00	5250.00
	(D) 250mm dia x 300mm x 6mm thick	4 Nos	Each	1400.00	5600.00
	(E) 300mm dia x 300mm x 6mm thick	4 Nos	Each	1550.00	6200.00
	(F) 350mm dia x 300mm x 6mm thick	3 Nos	Each	1800.00	5400.00
	(G) 500mm dia x 300mm x 6mm thick	2 Nos	Each	2750.00	5500.00
7.	Chain block pulley 50 Tonne (ISI Mark)	1 No	Each	15500.00	15500.00
8.	Supply of Different kind of material for repairing work.				
	(A) Pig lead	225.00	Kg.	350.00	78750.00
	(B) Lead wool	100.00	Kg.	400.00	40000.00
	(C) Spun Yarn	100.00	Kg.	140.00	14000.00
	(D) Nut Bolt different size				
	(i) 1/2" thick x 4" long	50.00	Kg.	110.00	5500.00
	(ii) 1/2" thick x 6" long	50.00	Kg.	110.00	5500.00
	(iii) 2/3" thick x 4" long	50.00	Kg.	110.00	5500.00
	(iv) 2/3" thick x 6" long	50.00	Kg.	110.00	5500.00
	(v) 3/4" thick x 4" long	50.00	Kg.	110.00	5500.00
	(E) Rubber sheet different thick				
	(i) 12mm thick	100.00	Kg.	175.00	17500.00
	(ii) 5mm thick	100.00	Kg.	175.00	17500.00
				Total	769230.00

The agency has to quote above/below/at par of Total amount of BOQ and percentage above/below or at par will be applicable on each item of BOQ

Note : Agency is not required to quote separate above/below/at par of each item of BOQ separately.

SECTION 5
AGREEMENT FORM
AGREEMENT

This agreement, made on the _____ day of _____
between _____ (name and address of Employer) (hereinafter called " the Employer)
and _____ (name and address of contractor) hereinafter called "the
Contractor" of the other part.

Whereas the Employer is desirous that the Contractor execute
_____ (name and identification
number of Contract) (hereinafter called "the Works") and the Employer has accepted the Bid by the
Contractor for the execution and completion of such Works and the remedying of any defects therein, at a
cost of Rs. _____

NOW THIS AGREEMENT WITNESSED as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
2. 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 aspects with the provisions of the contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein 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.
4. The following documents shall be deemed to form and be ready and construed as part of this Agreement viz.
 - i. Letter of Acceptance
 - ii. Contractor's Bid
 - iii. Condition of Contract: General and Special
 - iv. Contract Data
 - v. Bid Data
 - vi. Drawings
 - vii. Bill of Quantities and
 - viii. s other documents listed in the Contract Data as forming part of the Contract.

In witnessed where of the parties there to 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 _____