JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

BID DOCUMENTS

TECHNICAL BID

(PRE QUALIFICATION)

Envelope – 2

FOR THE WORK OF

Construction of Fourlane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur

Period of Download	:	From **22.08.2016** at 9:30AM to **26.09.2016** at 3:00 PM.
Period of Upload	:	From **22.08.2016** at 9:30AM to **26.09.2016** at 3:00 PM.
Date of Pre Bid Meeting	:	07.09.2016at 4.00 PM
Date of opening of technical bid	:	29.09.2016 at 11:00AM In Room No. CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur-302004 (Rajasthan)
Cost of Bid	:	Rs.25000.00 payable on line only
Bid processing Fee	:	Rs. 1000.00 payable online only.
Completion period	:	24 Months

Executive Engineer
ROB/RUB-III,JDA, Jaipur

Annexure-1

Template of NIB for Publication in News Paper

JAIPUR DEVELOPMENT AUTHORITY

Office of Executive Engineer (ROB/RUB-III),Room No. 305, Citizen Care Centre Building, JDA Campus, Indira Circle, JawaharLal Nehru Marg, Jaipur- 302004

Telephone : + 91-141-2569696 e.mail :

No : JDA/EE-ROB/RUB-III /2016-17/D-92 **Dated: 05.08.2016**

NOTICE INVITING BID

NIB NO:EE ROB/RUB-III/ 02/2016-17

Bids are invited up-to 3.00 PM of 26.09.2016 for the work of "Construction of fourlane Road Over Bridge with Limited height subway (L.H.S.) in lieu of L.C.-200, Bassi Town, Jaipur.

Details may be seen in the Bidding Document available at our office during working hours or State Public Procurement Portal website www.sppp.rajasthan.gov.in , www.eproc.rajasthan.gov.in and www.jda.urban.rajasthan.gov.in

To participate in the bid, the bidder shouldbe :

1. Registered on JDA website www.jda.urban.rajasthan.gov.in
   For participating in the Bid, the Bidder has to apply for the Bid and pay the Bidding Document Fee, RISL Processing Fee online only and Bid Security Deposit either online or in the form of Bank Guarantee.
2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.
3. Registered in "AA" class contractor category in JDA or any Central Government Department /State Government Department/local body/ Railways or Corporations.

Executive Engineer(ROB/RUB-III)
JDA, Jaipur

Annexure: 2

Template of Detail NIB for uploading on SPP Portal, e-Procurement, JDA Portal & as part of NIB Document

JAIPUR DEVELOPMENT AUTHORITY

Office of Executive Engineer (ROB/RUB-III), Room No. 305, Citizen Care Centre Building, JDA Campus, Indira Circle, JawaharLal Nehru Marg, Jaipur- 302004

Telephone : + 91-141-2569696 e.mail :

No : JDA/EE-ROB/RUB-III /2016-17/D-92 **Dated :05.08.2016**

NOTICE INVITING BID

NIB No. : EE-(ROB/RUB-III)/02/2016-17

Name & Address of the Procuring Entity	➢ **Name : Executive Engineer(ROB/RUB-III), Jaipur Development Authority** ➢ **Address : Room No. 305, 3rd floor, Citizen Care Centre Building, JDA Campus, Indira Circle, JawaharLal Nehru Marg, Jaipur- 302004 (Rajasthan)** ➢ **Email :**
Subject Matter of Procurement	**Construction of Fourlane Road Over Bridge with Limited height subway (L.H.S.) in lieu of L.C. 200 Bassi Town, Jaipur.**
Bid Procedure	➢ **Post qualification open competitive bidding as per e-Bid procedure at http ://eproc.rajastha.gov.in**
Bid evaluation Criteria (Selection Method)	➢ **L1 (eg. Least Cost based Selection (LCBS)-L1)**
Websites for downloading Bidding Document, Corrigendum's, Addendums, etc.	➢ **Websites : www.sppp.rajasthan.gov.in,** ➢ **www.eproc.rajasthan.gov.in,** ➢ **www.jda.urban.rajasthan.gov.in**
Estimated Procurement Cost	**INR 4000.00 Lacs (Rupees Forty hundred Lacs only)¬**
Website for online Bid application and payment	**Website : www.jda.urban.rajasthan.gov.in (for online payments)** **The Bidder if apply for this Bid, has to pay the following Fees.** **Online only :-** **(i)Bidding Document fee : Rs 25000.00/-Rupees (Twenty Five Thousands only)** **(ii)RISL Processing Fee : Rs 1000.00 (Rupees One Thousand only)** **Online/Bank Guarantee:-** **(iii)Bid Security Deposit (BSD) :- As detailed below**

Bid Security Deposit	➢ **Amount (INR) : 2 % (Rs80.00 Lacs.) (For AA class contractor registered in other department),** ➢ **0.5 % (Rs20.00 Lacs.) for Bidder registered as contractor in JDA.** ➢ **BSD can be deposited either Online or in the form of Bank Guarantee.The bidder will provide details of BG viz No., Issue date, Expiring date etc. on Online tendering system of JDA.** ➢ **The original BG will be physically handed over in JDA as detailed below.** ➢ **A copy of this BG is to be attached with the document during uploading.**
Bank details for Online/RTGS/NEFT	➢ **ICICI Bank Ltd.** **A/C No 675401700586** **IFSC Code ICIC0006754**
Publishing date on SPP Portal	**22.08.2016**
Start Date :- On JDA Portal Document sale/Download/Bid participation amount deposit	**22.08.2016**
Start Date :- On eProc Portal of GoR for Bid submission	**22.08.2016 at 5:00 PM**
End date :- on JDA Portal Document sale/Download/Bid participation amount deposit	**26.09.2016 at 3:00 PM**
End Date :- On eProc Portal of GoR for Bid submission	**26.09.2016 at 3:00 PM**
Pre-Bid	➢ **07.09.2016 at 04.00 PM in "Manthan Hall", Third Floor, Main Building, JDA Campus, Jaipur.**
Physical BG submission Start date	**27.09.2016 at 10:00 AM**
Physical BG submission End date	**28.09.2016upto 5:00 PM**
Place of submission of Physical BG	➢ **Nodal officer (Tendering)/ SrAccounts Officer, Room No MB-SF-225A of main building JDA, Jaipur**
Date/Time Place of Technical Bid Opening	➢ **29.09.2016 at 11.00 AM in Room No CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur- 302004 (Rajasthan)**
Date/Time/Place of Financial Bid Opening	➢ **Date will be informed on E Proc portal after evaluation of Technical Bids.** ➢ **Room No CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur- 302004 (Rajasthan)**

Bid Validity	➢ **120 days from the bid submission deadline**
Time period of completion of work	➢ **24 months**
Job No.	➢ **JDA/EE-ROB/RUB-III/A&F/2016-17/Jun./NR-028 dated 13.06.2016**

- **The amount is to be deposited online by bidder. In case the amount exceeds the online Payment limit the payment may be made through RTGS/NEFT in ICICI Bank Account Number 675401700586 IFSC Code ICIC0006754. After Successful payment, update the UTR/Instrument number on JDA tender portal against the tender you want to participate. The amount deposited will be confirmed by JDA and will be updated online.**
- **The bidder has a choice for depositing total amount (100%) of the Bid Security either through "On Line Payment" mode or total amount (100%)in the form of Bank Guarantee from any nationalized / Scheduled Bank, valid up to period of 6 (six) months from the date / extended date of opening of bid whichever is later.**
- **The BG should be in standard format available in bid documents which should be cashable at respective branch of the bank in the Jaipur City.**
- **The bidder has to submit the original BG physically as detailed in NIB toNodal officer (Tendering)/ Sr Accounts Officer, Room No MB-SF-225A of main building JDA, Jaipur, failing which bid will be rejected.**
- **In case BG is submitted by post or courier, JDA will not own responsibility of delay or lost of instrument and in such a case the bid will be rejected.**
- **The bidders should also note that the tender fee Rs. 25000/- and RISL fee Rs. 1000/- will be accepted through "on-line payment" mode only as already mentioned in the bid documents.**

Note :-

1. **Bidder (authorized Signatory) shall submit their offer on-line in Electronic formats both for technical and financial proposal.**
2. **In case, any of the bidders fails to pay tender Fee, RISL Processing Fee through Online mode onlyand Bid Security Deposit either On Line or in the form of BG (Subject to Confirmation) his Bid shall not be accepted.**
3. **To participate in online bidding process, bidders must procure a digital signature Certificate (Type III) as per information Technology Act-2000 using which they can digitally sign their electronic bids. Bidders can procure the same from any CCA approved certifying agency, i.e. TCs safecrypt, Ncode etc. Bidders who already have a valid Digital signature Certificate (DSC) need not procure a new DSC. Also bidders must register on http://eproc.rajasthan.gov.in (Bidders already registered on http:// eproc.rajasthan.gov.in before 30.09.2011 must register again).**
4. **JDA will not be responsible for delay in online submission due to any reason. For this, bidders are in their own interestrequested to upload the complete bid well in advance in time so as to avoid 11th hour issues like slow speed: chocking of web site due to heavy load or any other unforeseen problems.**
5. **Bidders are also advised to refer "Bidders Manual Kit" available at eproc website for further details about the e-tendering process.**
6. **Training for the bidders on the usage of e-tendering system (e-procurement) is also being arranged by DoIT&C, GoR on a regular basis. Bidders interested for training may contact e-procurement Cell, DoIT& C for booking the training slot.**
   Contact No. : 0141-4022688 (Help desk 10 am to 6 pm on all working days) e-mail: eproc@ rajasthan.gov.in .
   Address : E-Procurement Cell, JDA YojanaBhawan, TilakMarg, C-Scheme, Jaipur.

7. **The procuring entity reserves the complete right to cancel the bid process and reject any or all of the bids.**
8. **No contractual obligation whatsoever shall arise from the bidding document/ bidding process unless and until a formal contract is signed and executed between the procuring entity and the successful bidder.**
9. **Procurement entity disclaims any factual/ or other errors in the bidding documents (the onus is purely on the individual bidders to verify such information) and the information provided therein are intended only to help the bidders to prepare a logical bid-proposal.**
10. **The provisions of RTPP Act 2012 and Rules thereto shall be applicable for this procurement. Furthermore, in case of any inconsistency in any of the provisions of this bidding document with the RTPP Act 2012 and Rules thereto, the later shall prevail.**

Executive Engineer (ROB/RUB-III),
JDA, Jaipur.

Part of NIB Document

Process for participation & Depositing Payment Online

Jaipur Development Authority, has decided to receive Bidding document fee, RISL Processing Fee through online mode only and Bid Security Deposit (BSD) either through online mode or in the form of Bank Guarantee. The bidder has to get registered himself on JDA portal www.jda.urban.rajasthan.gov.in

To participate in the bid, bidder has to be:

1. Registered on JDA website www.jda.urban.rajasthan.gov.in(by depositing Rs 500.00 online, the validity of which remains 3 (three) years.
   For participating in the Bid, the Bidder has to apply for this Bid and pay the bid Document Fee, RISL Processing Fee online only and Bid Security Deposit either online only or in the form of Bank Guarantee.
2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.

Methods for depositing online amount

- Online through internet Banking, Debit card or Credit Card.
- In case the amount exceeds the online payment limit, the payment may be made through RTGS/NEFT/Transfer in Bank Account Number 675401700586 IFSC Code ICIC0006754 of ICICI Bank limited, JDA Campus Jaipur.

In Case of RTGS/NEFT/Transfer the bidder is required to deposit the requisite amount in the dedicated bank account number as mentioned above and has to get the UTR/ Reference number from the bank. This number is to be updated while applying the bid on JDA portal.

While participation in the bid a receipt will be generated through the system showing the submission details as per Annexure-4. The bidder is required to fill the instrument numbers for various heads on e-procurement portal www.eproc.rajasthan.gov.in as mentioned in the receipt.

More details about Registration Process, Terms and Conditions and FAQ along with contact details is available on JDA website www.jda.urban.rajasthan.gov.inunder e-Services>>JDA tender.

Template of Online Receipt as part of NIB Document

JIPUR DEVELOPMENT AUTHORITY

Bid Participation Receipt

Date &Time: …….

Bid Detail

Bid ID : EE-ROB-RUB-III/02/2016-17	**Procurement Entity**	**Executive Engineer-ROB-RUB-III, JDA, Jaipur.**
Bid Title :	**Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur**	
Bid Value-4000.00Lacs	**Tech Bid Opening Place :**	**Room No CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur- 302004 (Rajasthan)**

Bidder Detail

Name of Entity	**……**	**Mobile :**
Registration Type :		**Instrument Amount : ……**
Payment Mode :	**Online / UTR**	**Payment Channel : Payment Gateway/ ICICI Branch - JDA**
Instrument No.		**Instrument date :…….**

Dates Detail

Sr. No.	Event Name	Event Date
1	Publishing date/On line start date for bid applying	22.08.2016 at 9.30 AM
2	Bid Opening Date	29.09.2016 at 11.00 PM

Specific Instrument detail for e Proc Rajasthan

Instrument Type : DD			
Instrument Number	**Head Name**	**Amount**	**Date**
10000	Tender Fee	25000.00	……..
10001	RISL Processing Fee	1000.00	……..
10002	Bid Security Deposit	Rs. 80.00 Lacs(for other bidders) & Rs. 20.00 Lacs(for bidders registered in JDA)	……..

Issuer Detail: Jaipur Development Authority ChallanNumber: ……

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

SCHEDULE AND SPECIFICATIONS

Name of Work: - Construction of four lane Road Over Bridge with Limited height subway (L.H.S.) in lieu of L.C.-200, Bassi Town, Jaipur.

1.	NIB No.	:	EE -ROB-RUB/III/NIB No. 02/2016-17 Dated
2.	Approximate cost	:	₹ 4000.00 Lacs
3.	Cost of the Bid document	:	₹ 25000.00, Through On Line Payment Only.
4.	Bid Processing Fees	:	₹ 1000.00 , Through On Line Payment Only.
5.	Bid Security (In favour of Secretary, JDA, Jaipur.)	:	₹ 20.00Lacs(@0.5% for AA Class Contractor enlisted in JDA) through on line payment only. or ₹ 80.00Lacs (@ 2.0% for AA class Contractor enlisted in other Govt. Departments.) through On Line Payment only.
6.	Download Start of Bid document	:	22.08.2016 at 9.30 AM
7.	Upload last date of Bid Document	:	26.09.2016 at at6:00 PM
8.	Date of Pre Bid Meeting	:	07.09.2016at04:00 PM
9.	Last Date of submission of Bid cost, Bid Process cost & Bid Security.	:	26.09.2016 at6.00PM
10.	Date of opening of Bid	:	29.09.2016 at11.00 AM in the chamber of Room No CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur- 302004 (Rajasthan)
11.	Completion period of work	:	24 Months

***SCHEDULE – A*: INFORMATION USEFUL FOR THE BIDDERS:**

The Bidder should see the site and fully understand the conditions of the site before bidding and include all lead, lift etc for the material in his item rate/percentage to be quoted on the rates give in the Schedule 'G'. The work shall be carried out in accordance with

theMoRTHspecification/IRC specification and to the entire satisfaction of the Engineer–In–Charge of the work.

SCHEDULE – B: LIST OF THE DRAWING:

1. General Arrangement Drawing (GAD) for Tendering purpose only.

The other drawings may be seen in office of the undersigned.

***SCHEDULE – C:*LIST OF THE DRAWING TO BE SUPPLIED BY THE BIDDER:**

List of the drawing to be supplied by the bidder- NIL.

The bidder shall have to arrange the drawings required for the work after deposition necessary cost with JDA.

***SCHEDULE - D:*TESTING OF THE MATERIALS:**

The testing of the materials and workmanship shall be conducted by the JDA staff as necessary. The result of such tests should confirm to the standard laid down in the Indian standard MORTH/IRC/PWD detailed specification. Qualified personnel as required duly approved by JDA shall have to be engaged at site by the contractor at his cost. The JDA reserves the right to engage such staff and recover the expenses from the contractor on such account in case of his failure to do so.

***SCHEDULE –E:*SAMPLES OF THE MATERIALS:**

The sample of the materials to be used by the bidder shall be deposited 15 days in advance with the Engineer In charge and be got approval by him before use.

***SCHEDULE - F:*TIME OF COMPLETION:**

The work should start within 15 days of issue of work order and complete within time limit.

SCHEDULE –G: Attached separately based on RUIDP BSR-2013, PWD Road BSR- 2013, NH BSR-2013, PWD Electrical BSR-2013 and Non BSR items, JDA BSR items.

***SCHEDULE – H:*SPECIAL CONDITION:**

Attached Separately

***SCHEDULE – I:*LIST OF MATERIAL TO BE SUPPLIED BY THE DEPARTMENT:**

NIL

***SCHEDULE – J*: BID DOCUMENT FEE, BID PROCESSING FEES& BIDSECURITY.**

The Bid processing fees payable to Managing Director R.I.S.L. & Bid documents fees&Bid Security is payable to Secretary, JDA, Jaipur will be accepted on line only. Kindly refer clause 1.2.1 of chapter "Instructions to Bidders" of the bid documents for process of online payment.

Signature of the Bidder **Executive Engineer**

ROB-RUB-III, JDA, Jaipur

With full Address

SPECIAL CONDITIONS

Schedule -H

01. If there is any typographical error or otherwise in the 'G' Schedule the rates given in the relevant BSR on which schedule 'G' has been prepared, shall prevail.
02. The bidder shall follow the bidder labour regulation and abolition Act 1970 & Rule 1971.
03. The JDA shall have right to cause on audit and technical examination of the work and the final bills of the bidder including all supporting vouchers, abstract etc. to be made within two years after payment of the final bills and if as a result such audit any amount is found to have been over paid/excess in respect of any work done by the bidder under the contract or any work claimed by him to have been done under this contract and found not to have been executed the bidder shall be liable to refund such amount and it shall be lawful for the JDA to recover such sum from him in ;the manner prescribed in special condition no. 8 or any other manner legally permissible and if it is found that the bidder was paid less then that 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 paid by the JDA to the bidder.
04. The bidder shall not work after the sunset and before sunrise without specific permission of the EIC.
05. Whenever any claim against the bidder for the payment of a sum of money arises out or under the contracts, the JDA shall be entered to recover the sum by appropriating in part or whole of the security deposit of the bidder. In the event of the security being insufficient or if no security has been taken from the bidder then the balance of the total sum recoverable as the case may shall be deducted from any sum then due or which a any time there contract with the JDA should this sum be sufficient to recover the full amount recoverable, the bidder shall pay to JDA on demand the balance remaining due. The JDA shall further have the right to affect such recoveries under P.D.R. Act.
06. The rate quoted by the bidder shall remain valid for a period of 4(four) months from the date of opening of the bids.
07. By submission of this bid the bidder agree to abide with all printed conditions provided in the PWD manual form 64 (Chapter 3-para 36) and subsequent modification.
08. No conditions are to be added by the bidder and conditional bid is liable to be rejected.
09. All transaction in the execution of this work and this bid will be liable to sale-tax vide section 2(B) read with sub clause (4) Sale-tax Rule, 1954.
10. If any bidder withdraws his bid prior to expiry of said validity period given at S.No.7 or mutually extended prior or makes modifications in the rates, terms and conditions of the bid

within the said period which are not acceptable to the department or fails to commence the work in the specified period, fails to execute the agreement the department shall without prejudice to any, other right or remedy, be at liberty to forfeit the amount of earnest money given in any form absolutely. If any bidder, who having submitted a bid does not execute the agreement or start the work or dose not complete the work and the work has to be put to rebidding, he shall stand debarred for six months from participating of biding in JDA in addition to forfeiture of Earnest Money / Security Deposit and other action under agreement

11. Rules regarding enlistment of bidders provide that work up to five times limit for which they are qualified for biding can be allotted to them Therefore, before bid the bidders will keep this in mind, and submit the details of work. Bids with incomplete or incorrect information are liable to be rejected.
12. Any material not conforming to the specifications collected at site shall have to be removed by the bidder within a period of 3 days of the instructions, issued by the Engineer-In-charge in writing. Failing which, such material shall be removed by the Engineer-In-charge at risk and the bidder after expiry of 3 days period.
13. The material collected at site and paid provisionally shall remain under the watch and ward of the bidder till it is consumed, fully on the work.
14. The rates provided in bid documents are inclusive of all Taxes royalty.
15. For paver work at least 3 road rollers shall be simultaneously deployed.
16. Bitumen for tack coat or any other purposes, shall be applied only be a bitumen sprayer of a mechanical pressure.
17. No extra lead of earth/material shall be paid over and above as specified in 'G' schedule/BOQ. Source/borrow pit area for earth shall have to be arranged by the Bidder at his own cost.
18. Undersigned has full right to reject any or all bids without given any reasons.
19. Mortar of Masonry work and lean concrete will be permitted using mixer with hopper only.
20. As per Supreme Court decision "All contracts with Governments shall require registration of workers under the building and other construction workers (Regulation of Employment and Conditions of Service) Act, 1996 and extension of benefits to such workers under the act."
21. **Defect Liability Period (DLP) shall be 5 (five) years.**
22. The bidders are required to submit copy of their enlistment as bidder.
23. Conditions of RPWA-100 will be mandatory & acceptable to the bidder.
24. Any bid received with unattested cutting/overwriting in rates shall be rejected and such bidder will be debarred from bidding for three months in JDA.
25. All the provisions of THE RAJASTHAN TRANPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 will be applicable. If there is any contradiction in existing special conditions and provisions of THE RAJASTHAN TRANPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 provisions of THE RAJASTHAN

TRANPARENCY IN PUBLIC PROCUREMENT ACT, 2012 and Rules, 2013 shall be applicable.

26. The contractor will have to install display boards at site of work as directed by Engineer in charge. Failing which penalty of Rs. 5000.00 per day will be imposed.

Signature of Bidder

Executive Engineer
ROB-RUB-III, JDA, Jaipur

RTPP Annexure A: **Compliance with the Code of Integrity and No Conflict of Interest**

Any person participating in a procurement process shall-

(a) Not offer any bribe, reward or gift or any material benefit either directly or indirectly in exchange for an unfair advantage in procurement process or to otherwise influence the procurement process;

(b) Not misrepresent or omit that misleads or attempts to mislead so as to obtain a financial or other benefit or avoid an obligation;

(c) Not indulge in any collusion, Bid rigging or anticompetitive behavior to impair the transparency, fairness and progress of the procurement process;

(d) Not misuse any information shared between the procuring entity and the bidders with an intent to gain unfair advantage in the procurement process;

(e) Not indulge in any coercion including impairing or harming or threatening to do the same, directly or indirectly, to any party or to its property to influence the procurement process;

(f) Not obstruct any investigation or audit of a procurement process;

(g) Disclose conflict of interest, if any; and

(h) Disclose any previous transgressions with any entity in India or any other country during the last three years or any debarment by any other procuring entity.

Conflict of interest:-

The Bidder participating in a bidding process must not have a Conflict of Interest.

A Conflict of interest is considered to be a situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations.

(i) A bidder may be considered to be in conflict of interest with one or more parties in the bidding process if, including but not limited to:

(a) Have controlling partners/shareholders in common; or

(b) Receive or have received any direct or indirect subsidy from any of them; or

(c) Have the same legal representative for purposes of the bid; or

(d) Have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the procuring Entity regarding the bidding process; or

(e) The bidder participates in more than one bid in a bidding process. Participation by a bidder in more than one bid will result in the disqualification of all bids in which the bidder is involved. However, this does not limit the inclusion of the same sub bidder, not otherwise participating as a bidder, in more than one bid; or

(f) The bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the goods, works or services that are the subject of the Bid; or

(g) Bidder or any of its affiliates has been hired (or proposed to be hired) by the procuring entity as engineer-in-charge/consultant for the contract.

Date :

Place :

Signature of Bidder

Name:-.....

Designation:-.....

Address:- .....

RTPP Annexure B: Declaration by the Bidder regarding Qualifications

Declaration by the Bidder

In relation to my/our Bid submitted to .....for procurement of .....in response to their Notice inviting Bids No.....Dated..... I/we .....hereby declare under Section 7 of Rajasthan Transparency in Public Procurement Act, 2012 that :

1. I/we possess the necessary professional, technical, financial and managerial resources and competence required by the Bidding Document issued by the Procuring Entry;
2. I/we have fulfilled my/our obligation to pay such of the taxes payable to the union and the state government or any local authority as specified in the Bidding Document.
3. I/we are not insolvent, in receivership, bankrupt or being wound up, not have my/our affairs administered by a court or a judicial officer, not have my/our business activities suspended and not the subject of legal proceedings for any of the foregoing reasons.
4. I/we do not have, and our directors and officers not have, been convicted of any criminal offence related to my/our professional conduct or the making of false statements or misrepresentations as to my/our qualifications to enter into a procurement contract within a period of three years preceding the commencement of this procurement process, or not have been otherwise disqualified pursuant to debarment proceedings;
5. I/we do not have a conflict of interest as specified in the Act, Rules and the Bidding Document, which materially affects fair competition;

Date :

Place :

Signature of Bidder

Name:-.....

Designation:-.....

Address:- .....

RTPP Annexure C: **Grievance Redress during Procurement Process**

The designation and address of the First Appellate Authority is Executive Committee of JDA.

The designation and address of the Second Appellate Authority is **ACS/Principal Secretary UDH.Govt. of Rajasthan.**

(1) ***Filing an appeal:-***

a) if any bidder or prospective bidder is aggrieved that any decision, action or omission of the procuring entity is in contravention to the provisions of the Act or the rules or the guidelines issued there under, he may file an appeal to First Appellate authority, as specified in the Bidding document within a period of **ten days** from the date of such decision or action, omission, as the case may be, clearly giving the specific ground or grounds on which he feels aggrieved:

Provided that after the declaration of a bidder as successful the appeal may be filed only by a bidder who has participated in procurement proceedings:

Provided further that in case a procuring entity evaluates the technical bids before the Opening of the financial bids, an appeal related to the matter of financial bids may be filed only by a bidder whose technical bid is found to be acceptable.

b) The officer to whom an appeal is filed under Para (1) shall deal with the appeal as expeditiously as possible and shall endeavor to dispose it of within **thirty days** from the date of the appeal.

c) If the officer designated under Para (1) fails to dispose of the appeal filed within the period specified in Para (2), or if the bidder or prospective bidder or the procuring entity is aggrieved by the order passed by the first appellate authority, the bidder or prospective bidder or the procuring entity, as the case may be, may file a second appeal to second appellate authority specified in the bidding document in this behalf within fifteen days from the expiry of the period specified in Para (2) or of the date of receipt of the order passed by the first appellate authority, as the case may be.

(2) ***Appeals not to lie in certain cases:-***

No appeal shall lie against any decision of the procuring entity relating to the following matters, namely:-

(a) Determination of need of procurement

(b) Provisions limiting participation of bidders in the bid process

(c) The decision of whether or not to enter into negotiations

(d) Cancellation of a procurement process

(e) Applicability of the provisions of confidentiality

(3) ***Form of Appeals:-***

(a) An appeal under Para (1) or (3) above shall be in the annexed form along with as many copies as there are respondents in the appeal.

(b) Every appeal shall be accompanied by an order appealed against, if any, affidavit verifying the facts stated in the appeal and proof of payment of fee.

(c) Every appeal may be presented to first appellate authority or second appellate authority, as the case may be, in person or though registered post or authorized representative.

(4) ***Fee for filing Appeal:-***

(a) Fee for first appeal shall be rupees two thousand five hundred and for second appeal shall be rupees ten thousand, which shall be non-refundable.

(b) The fee shall be paid in the form of bank demand draft or banker's cheque of a scheduled bank in India payable in the name of appellate authority concerned.

(5) ***Procedure for disposal of Appeal:-***

(a) The first appellate authority or second appellate authority as the case may be, upon filing of appeal, shall issue notice accompanied by copy of appeal, affidavit and documents, if any, to the respondents and fix date of hearing

(b) On the date fixed for hearing, the first appellate authority of second appellate authority, as the case may be shall-

(i) Hear all the parties to appeal present before him; and

(ii) Peruse or inspect documents, relevant records or copies thereof relating to the matter.

(c) After hearing the parties, perusal or inspection of documents and relevant records or copies thereof relating to the matter, the appellate authority concerned shall pass an order in writing and provide the copy of order to the parties to appeal free of cost.

(d) The order passed under sub-clause (c) above shall also be placed on the state public procurement portal.

Date :

Place :

Signature of Bidder

Name:-.....

Designation:-.....

Address:- .....

FORM No. 1

[see rule 83]

Memorandum of Appeal under the Rajasthan

Transparency in Public procurement Act, 2012

Appeal No……..…… of ……..……

Before the……..……...……(First/Second Appellate authority)

1- Particulars of appellant :

(i) Name of the appellant:

(ii) Official address, if any:

(iii) Residential address:

2- Name and address of the respondent(s):

(i)

(ii)

(iii)

3- Number and date of the order appealed against and name and designation of the Office/authority who passed the order (enclose copy), or a statement of a decision, action or omission of the procuring Entity in contravention to the provisions of the Act by which the appellant is aggrieved:

4- If the Appellant propose to be represented by a representative the name and postal address of the representative:

5- Number of affidavits and documents enclosed With the appeal:

6- Grounds of appeal: .....

(Supported by an affidavit)

7- Prayer: .....

Place:.....

Date: .....

Appellant's Signature

RTPPAnnexure D: Additional Conditions of Contract

1. Correction of arithmetical errors:-

Provided that a financial bid is substantially responsive, the procuring entity will correct arithmetical errors during evaluation of financial Bids on the following basis:

(i) If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected, unless in the opinion of the procuring entity there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price shall be corrected;

(ii) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

(iii) If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (i) and (ii) above.

If the Bidder that submitted the lowest evaluated bid does not accept the correction of errors, its bid shall be disqualified and its bid security shall be forfeited or its bid securing declaration shall be executed.

2. *Procuring Entity's Right to Vary Quantities:-*

(i) At the time of award of contract, the quantity of goods, works or services originally specified in the bidding documents may be increased or decreased, by a specified percentage, but such increase or decrease shall not exceed twenty percent, of the quantity specified in the bidding documents. It shall be without any change in the unit prices or other terms and conditions of the bid and the conditions of contract.

(ii) If the Procuring entity does not procure any subject matter of procurement or procures less than the quantity specified in the biding document due to change circumstances, the bidder shall not be entitled to any claim or compensation except otherwise provide in the conditions of contract.

(iii) In case of procurement of goods or services, additional quantity may be procured by placing a repeat order on the rates and conditions of the original order. However, the additional quantity shall not be more than 50% of the value of goods of the original contract and shall be within one month from the date of expiry of last supply. It the supplier fails to do so, the procuring entity shall be free to arrange for the balance supply

by limited bidding or otherwise and the extra cost incurred shall be recovered from the supplier.

3. ***Dividing quantities among more than one bidder at the time of award (In case of procurement of Goods):-***

As a general rule all the quantities of the subject matter of procurement shall be procured from the Bidder, whose Bid accepted. However, when it is considered that the quantity of the subject matter of procurement to be procured is very large and it may not be in the capacity of the Bidder, whose Bid is accepted, to deliver the entire quantity or when it is considered that the subject matter of procurement to be procured is of critical and vital nature, then in such cases, the quantity may be divided between the Bidder, whose Bid is accepted and the second lowest Bidder or even more Bidder in that order, in a fair, transparent and equitable manner at the rates of the Bidder, whose Bid is accepted.

Date :

Place :

Signature of Bidder

Name:-.....

Designation:-.....

Address:- .....

SPECIAL CONDITION OF THE CONTRACT

FOR

PRE QUALIFICATON OF CONTRACTORS

Name of work: **Construction of four lane Road Over Bridge with Limited height subway (L.H.S.) in lieu of L.C.-200, Bassi Town, Jaipur.**

Special conditions of contract for **PRE-QUALIFICATON** as detailed here under, shall be applicable in addition to all other terms and condition already prescribed under standard agreement forms/rules and regulations to contract. These conditions are over and above all the conditions.

1. Procedure for Pre Qualification:-

(a) Bid document shall be submitted on line through E-procurement website **http:// www.eproc.rajasthan.gov.in** with Digital Signature Certificate (DSC). The bid is to be submitted in **3 envelops** which shall comprise of-

Envelop-1:- Being for Registration, Bid fee, Bid Processing Fee, Bid Security, Tax/VAT Clearance Certificates.

Envelop-2:- Being for Technical Bid.

Envelope-3:- Being for Financial Bid.

(b) The technical bid will be opened only of those bidders who deposit Cost of Bid, Bid processing fee and Bid Security, VAT clearance certificate (Valid up to Six months back from the opening of Technical Bid) and copy of registration of contractor in required category are found to be in order. All the payments will be accepted through on line process only.

(c) The Technical Bid envelope would be opened on the date **29.09.2016 at 11.00 AM** in the Room No CCC-TF-309, third floor, CCC Building, Ram Kishore VyasBhavan, Indira Circle, JawaharLalNegruMarg, Jaipur- 302004 (Rajasthan).

(d) The Financial Bid envelope would be opened only of those bidders who fulfill all the PRE QUALIFICATION criteria:--

(e) The bidder should be registered in "AA" class in JDA/ Any Central Government Department/State Government Department/local body/railways or Corporations, If VAT clearance certificate is not applicable in any State then appropriate proof is to be enclosed by bidder with certificate which is applicable in place of VAT.

2. **Criteria for Pre-Qualification**:-

(a) The bidder should have executed following quantities of work in last five financial year of the last FIVE financial years.I.e. from 2011-12 to 2015-16, however he may include the work done of year 2016-17 also.

S. No.	Item	Quantity
1	RCC/ PSC/ Design Mix concrete M 25/30/35/40/45/50 and above grade.	**11480.00Cum**
2	Steel Reinforcement/Steel Strands/Structural Steel	**1442.00 MT**

Note: These quantities are either in isolation on in totality of above.

Note:-

(i) The Bidder should enclose the certificate having quantities financial year wise if the part work is executed beyond last five financial years otherwise the certificate will not be considered.

(ii) Certificate issued by Govt. of India, State Govt., Union Territory and Govt. Undertakings, Autonomous Bodies shall only be considered.

(b) (i) The bidder should have completed/executed at least ONE single civil engineering work of similar nature(ROB/RUB/Flyover/Bridge with PSC Girders/segments)in last **FIVE** financial years (including current year, if opted by the bidder) of value not less than 60%(₹ 2400.00lacs) of the estimated cost of the work (updated to present price level).

OR

(ii) The bidder should have completed/executed at least two civil engineering work of similar nature (ROB/RUB/Flyover/Bridge with PSC Girders/segments) in last FIVE financial years (including current year, if opted by the bidder) of value not less than Rs 1500.00 Lacs each(updated to present price level).

Note:-

(i) The starting & completion date of the work is to be in between above said financial years. If no, then maximum work (not less than 70%) is to be completed/ executed in above said financial year.

(ii) If bidder submits certificate having different components / nature of work then proper completion certificate of required similar nature component is to be enclosed.

(iii) "Civil Engineering work of Similar Nature" would mean Construction of ROB/Grade Separator/High Level Bridge/Elevated Road involving Pre stress and / or segmental technique.

(c) The bidder should have achieved an annual financial turnover of at least 60% (₹ 2400.00lacs.) of the estimated cost of the work in any one of last **FIVE** financial years (including current year, if opted by the bidder)

Note:-

(i) The bidder should enclose certificate of Turn over from Chartered Accountant for last five financial years & audited balance sheet of the year which is considered by the bidder in criteria 2 (c).

(ii) If current year or last year has been opted by bidder whose balance sheet is not submitted till the submission of bid then certificate from Chartered Accountant should be enclosed.

(d) The bidder should give Affidavit to deploy the machinery and equipment as specified in Schedule– III, for the execution of this work.

(e) **Bid Capacity:** Bidders who meet the minimum qualification criteria will be qualified only if available bid capacity is equal to or more than the total Bid value.

The available bid capacity will be calculated as under:

Bid Capacity= (A x N x 3 – B)

Where

A = Maximum value of civil engineering work executed in any one year during the last 5 financial years (updated to present Price level) taking in to account the completed as well as works in progress. However, the bidder may opt current year in the five year assessment period

N = Number of year prescribed for completion of the work for which bids are invited. In present case value of N shall be 2.0

B = Value, at present price level of existing commitments and ongoing works to be executed during 'N' period (period prescribed for completion of the works for which the bids are invited)

Note:-

(i) Certificate from Chartered Accountant should be enclosed by bidder clearly indicated maximum value of Civil Engineering Work in one Financial Year.

(f) **Litigation History:-** Bidder should provide an accurate information on any litigation or arbitration resulting from contracts completed or under execution by him over the last FIVE years. The maximum value (updated at the present price level) of disputed amount claimed in the litigation/arbitration resulting from contracts executed in last FIVE years

shall be deducted from the calculated Bid Capacity of the bidder. The details shall be furnished in Schedule VI.

Note:-

(i) The present price level for turnover, cost of completed work & disputed amount of similar nature, the previous year's value shall be given weightage of 10% per year as follows :-

(a)	**For Current Year- 2016-17**	**1.00**
(b)	**For last year - 2015-16**	**1.00**
(c)	**For one year before – 2014-15**	**1.10**
(d)	**For two years before – 2013-14**	**1.21**
(e)	**For three years before –2012-13**	**1.33**
(f)	**For four years before – 2011-12**	**1.46**

3.) Documentation :

The bidder should furnish the following documents along with the technical bid:

(a) Information regarding financial resources and capability in Schedule –I.

(b) Information regarding works executed in the last FIVE years in Schedule–II

(c) Certificates from the concerned Engineer–In–Charge in support and verification of the information furnished in Schedule–II

(d) Affidavit regarding machinery and equipment required for deployment, as detailed in scheduled – III.

(e) Information regarding details of maximum value of civil engineering works executed during the last five years taking into account the completed as well as works in progress in schedule – IV.

(f) Information regarding existing commitments and ongoing works to be completed in schedule – V.

(g) Information regarding details of litigation or arbitration contracts to be furnished in schedule – VI.

(h) Calculation of Bid capacity in schedule – VII.

(i) Affidavit as per Annexure I.

(j) Information regarding technical staff to be furnished in Schedule-VIII

(k) RTPP Annexure A, B, C, D duly signed and uploaded by bidder.

4 Important Notes:

(a) The bidder must ensure that all the information required in the Documents is furnished by him complete in all respects. He would not be allowed to withdraw any document, or to rectify any information furnished therein, after submitting the bid.

(b) The bidder should give an affidavit that the information furnished in schedule I, to VII is correct. If any information is found incorrect, the offer of the bidder shall be rejected and action be taken as per rules.

(c) Bidders must do paging of all enclosure of bid documents.

5. Rejection of bids

The department reserves the rights to reject any bid or to disqualify any or all the bidders, without assigning any reasons at any stage.

(a) If Bid is not accompanied with the requisite documents mentioned in clauses 3 (a) to 3 (j) or is not in accordance with procedure specified in clause 1, or is not accompanied with earnest money & VAT clearance Certificate and registration of bidder in required category it would be liable for rejection. If VAT clearance certificate is not applicable in any State then appropriate proof is to be enclosed by bidder with certificate which is applicable in place of VAT.

(b) Furnishing of incorrect or incomplete or concealment of any information required in the bid documents would render the bid liable for rejection.

(c)If RTPP Annexure A, B, C, D not duly signed and uploaded by bidder.

6. Eligibility

a) The bid for this contract will be consideredonly from those bidders (proprietorship firms, partnership firms, companies, corporations,) who meet requisite qualification criteria prescribed.

b) Bidders shall not have conflict of interest. All bidders to have a conflict of interest in this bid shall be disqualified. Bidders shall be considered to have a conflict of interest if:

(i) One firm applies for bid both as an individual firm and in a group.

(ii) If bidders in two different applications have controlling shareholders in common.

(iii) Submit more than one application in this bid process.

(iv) If the bidder has participated as a consultant or it has more than 50% stake in consultant engaged in the preparation of the design or technical specification of the works that are subject to this bid.

(v) Bidders must not have been black listed or de registered by any Central/ State Government department or Public Sector Undertaking during last 10 years. The bidder should submit undertaking on Non Judicial stamp of Rs.50/- to this effect in the Performa of **Annexure 2.**

c) A firm shall submit only one bid either by himself. If a firm submits more than one bid byhimself, all the bids in which he has participated shall be considered invalid.

d) All bids submitted shall include the following information.

1. All the bidders shall submit with his bid, general information about the bidder in prescribed Performa of **(Annexure 3, page 1 of 2)** with full details of his ownership and control and, if the bidder is joint venture or consortium , full details of ownership and control of each member thereof **(Annexure 3, page 2 of 2)**

2. In case the bidder comprises a joint venture or consortium,following requirements shall also be complied with:

i) The JV will have to be formed before submission of the tender and total number of JV partners shall not exceed 2 (Two).

ii) They must designate lead partner duly authorised by all the members who will represent the J.V. Any of the two partners can be a lead partner. The lead partner shall be nominated as being partner-in-charge and this authorization shall be evidenced by submitting power of attorney signed by the legally authorized signatories of all the partners.

iii) The partner-in- charge (or, the lead partner) shall be authorized to incur liabilities and to receive instructions on the behalf of the partners of the Joint Venture, whether jointly or severely, and entire execution of the contract (including payment) shall be carried out exclusively through the partner- in- charge.

iv) The share of one of the two partners shall not be less than 26% and rest of the share shall be held by other partner (For example if share of one partner is 26% then for other partner it will be 74%.) The JDA will only send communication to the lead partner, which will be deemed to have been sent to all the J.V. partners. Similarly, any negotiation and / or agreement with the lead partner shall be deemed to have been concluded with all the J.V. partners. All the members of J.V. shall be bound by the said communication and all acts/ deeds of the lead member.

v) Any one of the two partners, alone, should fulfill the Technical Criteria laid down in clause 2a & 2b of Special Conditions. Similarly, any one of the two partners , alone, should fulfill the Financial Criteria laid down in clause 2c of Special Conditions. For rest of the eligibility criteria, qualifications of the two partners may be clubbed together.

vi) The individual partner of J.V. alone or with other partners can not participate in the same bid.

vii) Bid capacity is to be calculated by clubbing turn over and work in hand of all the firms of joint venture.

viii) Attested copy of the MoU / Agreement/ Power of attorney entered into by the joint venture / consortium members duly notarized, shall be submitted along with the

Technical Bid with intended percentage participation nomination of lead member and division of responsibility to clearly define the work of each member etc.

ix) All the members of the joint venture/ consortium shall be jointly and severally liable for the execution of the Contract.

x) In the event of default by any member of the joint venture/ consortium in the execution of his part of the contract, the partner-in-charge will have the authority to assign the work to any other party acceptable to the employer to ensure the execution of the part of contract.

xi) In case J.V. bidder is given the work order, the bidder will submit details of JV bank account to which payment is to be deposited by JDA.

xii) The experience certificate will be issued as per percentage of the share holders defined in JV agreement of the two partners.

e) To qualify for award of contract, the bidders shall submit a written power of attorney authorizing the signatory (ies) of the bid to commit the bidder or each member of the joint venture/ consortium. In case of foreign members, power of attorney(s) and board resolution confirming authority on the persons issuing the power of attorney for such actions, shall be submitted duly notarized by the notary public in the country of origin and stamped by the Indian Embassy/ High Commission.

f) Cancellation, modification or creation of a document such as power of attorney, partnership deed, constitution of firm etc., which may have bearing on the bid / contract, shall be communicated forthwith in writing by the bidder to the Engineer-in-charge or Employer.

g) The bidder should confirm and declare that in the bid submitted that they, or any associate have not engaged in any fraudulent and corrupt practice and that no agent, middleman, or any intermediary has been, or will be, engaged to provide any services, or any other items of work related to the award of this contract.

7. *Bid Evaluation Sheet :--*

The contractor has to submit on line, duly filled Bid Evaluation Sheet in the prescribed form given as **Annexure 4**. For this purpose the bidder should mark page numbers on all the documents being uploaded by him in support of the bid and mention carefully the relevant page number in the Bid Evaluation Sheet. Any unwanted pages should not be uploaded. Only the page number mentioned by the bidder in the respective column No 5 of the Bid Evaluation sheet will be considered for evaluation of the bid.

8. *Important Information :-*

i. In case of Joint Venture if one partner is registered in JDA then the Bid Security will be @ 2%.

ii. The steel strands are to be procured from TATA-Mumbai plant and reinforcement steel is to be procured from primary manufacturers only as approved by EIC.

iii. Expansion Joints are to be procured from MoRTH Empanelled venders which are to be got approved from EIC before procurement.

iv. The bidder will have to get fabrication of composite girder for Railway Span as per RDSO design and drawing and approved vendor by RDSO. All tests will for works under Railway span will have to conduct as per satisfaction of the NWR. No extra cost will be paid on this account.

v. The design of RE wall and its fascia panels will have to be got approved by JDA prior to execution of work.

vi. The bidders are requested to fill properly the RTPP annexure A, B, C, and D failing which Bid may be rejected.

vii. The bidders are requested to pay special attention towards Section-7. Special condition of contract for safety, health and environment (SHE) and the related penalty clause.

viii. The bidders are requested to pay special attention towards the liquidated damages clause 3.12.2 of OCC at page No.130 wherein mile stones have been defined and liquidated damages have been proposed for not achieving key dates, not mobilizing required machinery and for not installing requisite number of casting beds for PSC girders.

ix. The bidders are requested to pay proper attention towards clause No. 3.7.4h at page No.127 for Corporate Social Responsibilities CSR. However, the DLP shall not be applicable for this part of work.

x. The design of staging shall gave to be got proof checked by MNIT or any other MORTH empanelled consultant before execution of work for which no extra payment will be made.

xi. Pile Load Test and Routine Test shall be executed by doing anchor piles only, for which no extra payment will be made.No payment for anchor piles shall be made.

xii. No extra payment will be made for overlap, couplers, chairs and spacers in the steel reinforcement. If the couplers are used in replacement of overlap the design of the same will have to be got approved from JDA before execution of work, no extra cost on this account shall be payable.

xiii. Admixture shall be used as approved by EIC.

xiv. The PMB grade of bitumen shall be procured from HINCOL, ESSAR, TOTAL or equivalent as approved by EIC.

xv. All the applicable permits/NOC's/Traffic diversion permission shall have to be arrange and borne by the bidder at their own cost. However JDA may assist in obtaining such permissions/NOC. Any delay in obtaining such permits/NOC shall not be considered for delay in works as per agreement.

xvi. Any damages of the utilities and underground services, during execution of work caused by contractor/machinery/labour will have to be restored by the bidder at his own cost for which no extra payment shall be made.

xvii. Job Mix design for bridge work and road work shall have to be got done by NABL accredited lab or MNIT and got approved by JDA before execution of work. No extra payment shall be made on this account.

xviii. Bidder should submit on the date of downloading of the bid documents, the documentary proof of Tax Registration Certificate. Works Executed photocopies of completion / execution certificate issued by an officer not below the rank of Executive Engineer giving detail of contract including date of start, date of completion, amount of work done, nature of work etc.) and turnover of above pre-qualification requirement. Please note that copies of award letters will not be accepted / taken as proof for meeting the pre-qualification criterion.

xix. Special attention of bidders is drawn towards Clause 7 of SCC - Bid Evaluation Sheet given at Annexure 4, which is to be filled properly by the bidder quoting page number of the respective documents given in column No.5 of Annexure-4.

xx. The rates quoted by the bidder should be inclusive of all the taxes.

xxi. One Vehicle (Jeep/Car) to be reserved for Q.C. works i.e. for taking samples and their testing under the control of Engineer-in-charge, for which no extra payment will be made.

xxii. Secured advance may be given as per PW F&R against the material received at site.

xxiii. Land required for casting yard/site office have to arrange by the contractor at his own cost, however JDA may assist in this matter.

xxiv. Span load test will have to be carried out by the agency from MNIT. The fees of MNIT shall be paid by JDA but all other arrangements like providing loaded vehicles etc as per requirement of MNIT shall have to be provided by agency.

Executive Engineer
ROB/RUB-III, JDA, Jaipur

Schedule – I

FINANCIAL RESOURCES AND CAPABILITY

[Reference clause 3 (a)]

1. Name of Bidder: - M/s.....

2. Total financial turnover achieved by the bidder in the last fivefinancial years:

S.No.	Year	Turnover
(1)	2015-16	
(2)	2014-15	
(3)	2013-14	
(4)	2012-13	
(5)	2011-12	

Note: Balance Sheets and Profit & Loss Accounts is to be enclosed by the bidder which is considered by him as per criteria 2 (a).

3. Total financial Turnover projected in the current financial year

4. Has the bidder ever been debarred from bidding for Central Government/State Government/any Government undertaking?

   Yes / No, if yes give details.

5. Has bidder ever been declared insolvent?

   Yes/No, if yes give details.

6. Name(s) and Address of Branch/(s) for bidder's Bankers.

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Signature of Bidder

Date:

(With Seal wherever applicable)

SCHEDULE – II

[Reference clause 3(b)]

Details of Quantities of work executed during last Five financial years

S.No.	**Name of Works (With agreement No. & Date)**	**Client**	**Place (district**	**Fnancial Year**	**RCC/Design Mix CC M25 grade or above**	**Steel Reinforcement**	Page No.

Signature of Bidder

Note : Certificate from concerned Engineer-in-Charge should be enclosed in support and verification of the above statement.

To be given on Non-Judicial stamp Paper of Rs. 50/- only.

SCHEDULE – III [Reference Clause 3(d)]

AFFIDAVIT

I/We .....Proprietor/Partner/Authorized signatory of M/s..... ..... under take the oath that I/We will deploy the machinery and equipment listed below as and when required in the execution of this work.

S. No.	Name of Machinery	Minimum Requirement	Availability		
			Owned	Leased	Hired
1	Piling and drilling rig machine.(Owned/Leased Hired)	1			
2	Computerized Batch Mix Concrete plant minimum 30 Cum/Hr capacity (Owned/Lease)	1			NA
3	Transit Mixers (TM) (Owned/Lease)	6			
4	Hydra 20 T (Owned/Leased/Hired)	1			
5	JCB (Owned/Lease)	2			NA
6	Dumper (Owned/Lease)	6			NA
7	Vibrator (Shutter/Needle, Plate & screed)	10			NA
8	Grader (Owned/Lease)	1			NA
9	Earth Compactor (Owned/Lease)	1			NA
10	Water Tanker	2			
11	(i) No. of Casting beds for PSC Girders	6			NA
	(ii) No of Bottom Shutters for PSC Girders	6			NA
	(iii) No. of Side Shutters for PSC Girders	3			NA
12	Cranes of minimum capacity 100 T.(Crawler) (Owned/Leased/Hired)	2			
13	Pre stressing Jacks	8			NA
14	Concrete pumps with Boom Placer	1			NA
15	Concrete Pump	2			NA

Note: 50% ofQty required only in item No. 3 may be hired.

I/We hereby certify that the above information is correct to the best of my/our knowledge and belief.

Date: **Signature of Bidder**

With seal

SCHEDULE - IV

[Reference Clause 3(e)]

DETAILS OF MAXIMUM VALUE CIVIL ENGINEERING WORKS OF SIMILAR NATURE (ROB/RUB/FLY OVER/BRIDGE) EXECUTED IN ANY ONE YEAR DURING THE LAST FIVE YEARS TAKING INTO ACCOUNT THE COMPLETED AS WELL AS WORKS IN PROGRESS

S. No.	Name of Works (with agreement No. & Date)	Client	Place (district / state)	Financial Year	Cost of Work as per Work Order	Stipulated date of commencement	Stipulated date of completion	Value of work done during the year

Signature of Bidder

SCHEDULE - V

[Reference Clause 3(f)]

DETAILS OF EXISTING COMMITMENTS & ON GOING WORKS TO BE COMPLETED

S. No.	Name of Works (with agreement No. & Date)	Client	Cost of Work as per Work Order	Stipulated date of commencement	Stipulated date of completion	Value of balance work on date of bid	Likely date of completion of balance work

Signature of Bidder

SCHEDULE - VI

[Reference Clause 3(g)]

DETAILS OF LITIGATION OR ARBITRATION CONTRACTS

S. No.	Name of Works (with agreement No. & Date)	Client	Work Order Amount	Disputed Amount Claimed in Litigation / Arbitration	Date of Raising Disputed Amount	Actual Award Amount, if the case is Decided	Cause of Litigation & matter in Dispute

Signature of Bidder

SCHEDULE –VII

[Reference Clause 3(h)]

BID CAPACITY

Name of Bidder: - _____

1.	A = Maximum value of civil Engineering works of similar nature (ROB/RUB/Fly Over/Bridge) Executed in any one year during the last three Years (Updated to present price level)	_____Lacs	Certified details enclosed at Page No._____
2.	N = Number of years prescribed for completion of the Work for which bids are invited	2.0	
3.	B = Value, at present price level of existing Commitments and ongoing works to be Completed during the next N Period.	_____Lacs	Certified details enclosed at Page No. _____

Bid Capacity = A x N x 3 - B

= _____ Lacs

Signature of Bidder

SCHEDULE – VIII

[Reference Clause 3(j)]

INFORMATION REGARDING TECHNICAL STAFF ON PAYROLL OF THE CONTRACTOR SINCE LAST ONE YEAR

Name of bidder: - ……..

S. No.	Name	Designation	Technical Qualification	Month and year of Joining The contractor

Signature of bidder with Seal

ANNEXURE 1

Reference Clause 3

To be given on Non-Judicial stamp
Paper of Rs. 50/- only,

AFFIDAVIT

I/We…….....……Proprietor/Partner/Authorize signatory of M/s …….....…… under take the oath that the information furnished by me/us in schedule I to VIII of the assessment Bid for the work of Construction of Four lane ROB with LHS in lieu of L.C. 200,Bassi Town,Jaipur,is correct to the best of my/our knowledge**.** If any information is found to be incorrect JDA has right to reject the Bid and to take action against me/us as per rules.

.....

Proprietor/ Partner/ Authorized signatory
M/s …….....
...…….

ANNEXURE 2

(Refer clause 6(b)(v) of Special Conditions of Contract for Pre-Qualification)

UNDERTAKING FOR NOT BLACKLISTED

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

We do hereby undertake that we have not been Blacklisted or Deregistered by any Central/ State Government or Public Sector Undertaking, Autonomous Bodies etc. during last 10 years.

Stamp and Signature of Authorized Signatory

Note:

1. The undertaking shall be signed by authorized signatory of the bidder.

GENERAL INFORMATION OF TENDERER

ANNEXURE_3

page 1 of 2

Refer clause 6(d) (1) of Special Conditions of Contract for Pre-qualification of contractors.

A. BIDDER INFORMATION SHEET		
BIDDER s Legal Name	Sole Proprietorship Firm/Partnership Firm /Private Limited Company/Public Limited Company/ Joint Venture/Consortium	
In case of single entity, ownership & control of the Tenderer		
In case of JV/Consortium, Legal name of each partner with percentage participation (also Provide information of each member in separate sheet (page 2 of 2)	Legal Name of JV/Consortium member	% participation
Lead member of JV/Consortium,		
Bidder's actual or intended country of constitution		
Bidder's legal address, telephone numbers, fax numbers, e-mail address.		
Bidder's authorized representative or person-in-charge in case of JV/Consortium, (name, designation address)		

SIGNATURE OF AUTHORIZED
SIGNATORY
ON BEHALF OF BIDDER

ANNEXURE 3

B. JV/CONSORTIUM MEMBER INFORMATION	
JV/Consortium Member of Legal Name	
Legal status of the JV/Consortium Member	Sole Proprietorship Firm/Partnership Firm /Private Limited Company/Public Limited Company
Ownership & control of the JV/Consortium Member	
JV/Consortium Member country of constitution	
JV/Consortium Member of legal address, telephone numbers, fax numbers, e-mail address)	
JV/Consortium Member's authorized representative (name, designation address)	

ATTACH ATTESTED COPIES OF FOLLOWING ORIGINAL DOCUMENTS

- Document in support of legal status and ownership & control of the bidder or each member in case of JV/Consortium (undertaking for sole proprietorship/ partnership deed/ Memorandum & Articles of Association
- In case JV/Consortium, submit MoU/Agreement (duly notarized) entered into by the joint venture/consortium members, containing intended percentage participation, nomination of Lead Member and division of responsibility to clearly define the work of each member etc.
- Authorization/POA in favour of authorized representative of tenderer to represent the bidder and also in favour of authorized representative of each member in case of JV/Consortium

SIGNATURE OF AUTHORIZED
SIGNATORY
ON BEHALF OF BIDDER

ANNEXURE 4

(Refer Clause 7)

Bid Evaluation Sheet

Name of Work: -Construction of four lane ROB with LHS in lieu of L.C. 200, Bassi Town,Jaipur

S.No.	Criteria	Required Qualification	Bidders qualification	Bidders uploaded document Page No. in support of qualification.	Remark
1	2	3	4	5	6
1	Registration Certificate - As per Clause 1e of Special Conditions of Contract for Pre Qualification.	The bidder should have a valid Registration Certificate in AA Category as specified.			
2	VAT Clearance Certificate- As per Clause 1(b) of Special Conditions of Contract for Pre Qualification.	Should be Valid up to Six Months back from the opening of Technical Bid			
3	Fee Payment Details (Please enclose copy of electronic receipt)				
(i)	Bid Fee	Rs.			
(ii)	Bid Processing Fee	Rs.			
(iii)	Bid Security	Rs.			
4	The bidder should have executed following quantities of work as per Clause 2a of Special Conditions of Contract for Pre Qualification.				
i	RCC/ PSC/ Design Mix concrete M25/M30/M35/M40/M45/M50 or above grade.				
A	Year of execution				

B	Quantity executed				
ii	Reinforcement steel/Strands/Structural steel				
A	Year of execution				
B	Quantity executed				
5	The bidder should have completed/executed at least ONE single civil engineering work of similar nature(ROB/RUB/Flyover/Bridge with PSC Girders/segments) in last FIVE financial years (including current year, if opted by the bidder) of value not less than 60%(2400.00 lacs) of the estimated cost of the work (updated to present price level). asper Clause 2(b) (i) of Special Conditions for Pre-Qualification. OR The bidder should have completed/executed at least two civil engineering work of similarnature (ROB/RUB/Flyover/Bridge with PSC Girders/segments) in last FIVE financial years (including current year, if opted by the bidder) of value not less than Rs 1500.00 Lacs each (updated to present price level).as per Clause 2(b) (ii) of Special Conditions for Pre-Qualification.				
A	Value of work executed				
B	Financial year				
6	The bidder should have achieved an annual financial turnover of at least 60% (2400.00lacs.) of the estimated cost of the work in any one of last FIVE financial years (including current year, if opted by the bidder)as per Clause 2(c) of Special Conditions for Pre-Qualification.				

A	Annual Turn over				
B	Financial Year				
7	Affidavit to deploy machinery and equipment as specified in Schedule -III, As per Clause 2 (d) of Special Conditions for Pre-Qualification.				
8	Bid Capacity=(A x N x 3 - B) As per Clause 2e of Special Conditions for Pre-Qualification.				
(i)	A= Maximum value(at present price level) of Civil Engineering work executed in any one year during last five financial years.				
(ii)	N= 2 years				
(iii)	B=Value at present price level of existing commitments and on going works to be executed during "N" period.				
9	Litigation History- As per Clause 2f of Special Conditions for Pre-Qualification. (Schedule-VI)				
10	Affidavit for Correctness of documents. (Annexure-I)				
11	Declaration by bidder under RTTP Act. (Annexure A, B, C, D)				
12	Undertaking for not being blacklisted.(Annexure-II)				

Signature of Bidder with Seal

Jaipur Development Authority
Jaipur

FINANCIAL BID DOCUMENT

Name of Work :-" Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur."

GENERAL INFORMATION

Executive Engineer
(ROB, RUB-III)
Jaipur Development Authority,
Jaipur

INDEX

SECTION	DESCRIPTION	PAGE NO
SECTION-1	INSTRUCTIONS TO BIDDERS	
SECTION-2	GENERAL CONDITIONS OF CONTRACT	
SECTION-3	OTHER CONDITIONS OF CONTRACT	
SECTION-4	TECHNICAL SPECIFICATIONS	
SECTION-5	FORM OF AGREEMENT	
SECTION-6	BANK GAURANTEE	
SECTION-7	CONDITIONS OF CONTRACT ON SAFETY, HEALTH AND ENVIRONMENT (SHE)	
SECTION-8	BILL OF QUANTITIES	
SECTION-9	DRAWINGS	

SECTION – 1

(Instructions to Bidders)

SECTION – 1
INSTRUCTIONS TO BIDDERS

1.1 SCOPE OF WORK

1.1.1 **Percentage Rate Bids** are invited from eligible contractors for the

Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur

(Hereinafter referred to as the "Contract Work").

1.1.2 The Work shall include the Construction of Four Lane ROB with Limited Height Subway for pedestrians and light vehicles based on the departmental design on JP-DLI Railway Line and shall include:

1.1.3

a) Construction of Main Bridge

The structure for Bridge consists of Viaduct with Composite Girder over Railway span, RCC/PSC Girders on approaches followed by RE wall structure. The main activities in construction are as follows:

- Site clearance
- True and proper setting out and layout of the work, providing location marks, bench marks, preparation of reports and plans
- Construction of Bridge/RCC Box/Retaining Wall
- Pile foundation for Bridge.
- Construction of bored pile by using hydraulic rigs in al type of strata.
- RCC Pile Cap for Bridge
- RCC Piers for Bridge.
- RCC piers Cap for Bridge
- Pre stressed Superstructure for Bridge
- Construction of Approach Roads.
- Construction of RCC Retaining Walls for the Approaches.
- Providing Drainage Arrangement
- Casting of base slab
- Casting of RCC Crash Barrier with Railings.
- Providing and fixing of Pipe Railings.
- Thermoplastic lane marking on road surface and painting of railings and crash barrier pipe etc.
- Excavation up to the founding level of base slab & base slab construction.
- Construction of retaining walls/ Reinforced earth wall
- Construction/ Improvement of junction/ intersection as per design.

b) Miscellaneous

- Submission of monthly progress photograph prints 165 X 215 mm (2 sets) and soft copy as directed in external hard disks ;
- All aspects of quality assurance (including test loading) for various components of the work as specified or as directed;
- Clearing of Site and handing over of the works, as specified or as directed;
- Submission of detailed programme showing the sequence of activities, method of construction, details of constructional plant and equipments, with which the bidder proposes to carry out the entire work, as shown in the relevant drawings and as specified.,
- Detail project planning programme is to be given by using Prima Vera/ MS Project software on fortnightly basis.
- Furnishing of all requisite particulars as stated above in Para 1.1.3 (a) substantiated with detailed design calculation for each constructional stage and its effect on substructure and foundation on the basis of departmental design;
- Any other work required to be carried out to complete the works in all respects in accordance with the provisions of the contract and / or as directed by the Engineer in Charge ensuring structural stability and safety during and after construction even though not specifically mentioned in the contract but reasonably implied as necessary for successful implementation of the contract.

1.2 COST OF BID DOCUMENTS, BID PROCESSING FEE AND BID SECURITY

The bidder shall bear all costs associated with the preparation and submission of the bids for the works and Director (Engineering-I), Jaipur Development Authority will, in no case, be responsible or liable for any such costs, regardless of the conduct or outcome of the bid process.

1.2.1 Process for participation & Depositing Payment Online

Jaipur Development Authority, has decided to receive Bidding document fee, RISL Processing Fee through online mode only and Bid Security Deposit (BSD) either through online mode or in the form of Bank Guarantee. For On Line mode the bidder has to get registered himself on JDA portal www.jda.urban.rajasthan.gov.in

To participate in the bid, bidder has to be:

1. Registered on JDA website www.jda.urban.rajasthan.gov.in (by depositing Rs.500.00 online, the validity of which remains 3 (three) years.
   For participating in the Bid, the Bidder has to apply for this Bid and pay the bid Document Fee, RISL Processing Fee online only and Bid Security Deposit (BSD) either through online mode or in the form of Bank Guarantee.
2. Registered on e-Procurement Portal of Government of Rajasthan www.eproc.rajasthan.gov.in for online e-Bid submission.

Methods for depositing online amount.

- Online through internet Banking, Debit card or Credit Card.
- In case the amount exceeds the online payment limit, the payment may be made through RTGS/NEFT/Transfer in Bank Account Number **675401700586** IFSC Code **ICIC0006754** of ICICI Bank limited, JDA Campus Jaipur.

In Case of RTGS/NEFT/Transfer the bidder is required to deposit the requisite amount in the dedicated bank account number as mentioned above and has to get the UTR/ Reference number from the bank. This number requires to be uploaded while applying the bid on JDA portal.

While participation in the bid, a receipt will be generated through the system showing the submission details as per **Annexure-4.** The bidder is required to fill the instrument numbers for various heads on e-procurement portal **www.eproc.rajasthan.gov.in** as mentioned in the receipt.

More details about Registration Process, Terms and Conditions and FAQ along with contact details is available on JDA website www.jaipurjda.org under e-Services>>JDA tender.

NOTE :
JDA will not be responsible for delay in online submission due to any reason. To avoid this, bidders are requested to upload the complete bid well advance in time so as to avoid 11 th hour issues like slow speed, chocking of web site due to heavy load or any other unforeseen problems.

1.3 SITE VISIT

1.3.1 The bidder shall, prior to submitting his bid for the work, visit and examine the Site of works and its surroundings at his own expense and obtain and ascertain for himself on his own responsibility all information that may be necessary for preparing his bid and entering into a Contract - including, the actual conditions regarding the nature and conditions of site, availability of materials, labour, probable sites for Casting Yard, labour camps, stores, etc., and the extent of lead and lift required for the work in complete form over the entire duration of the Contract after taking into consideration local conditions, traffic restrictions, obstructions in work, if any, and allow for all expenses likely to be incurred due to any such conditions, restrictions, obstructions, etc., in the quoted Contract price for the work.

1.3.2 A bidder shall be deemed to have full knowledge of the site, whether he inspects it or not, and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

1.3.3 The bidder and any of his personnel or agents will be granted permission by the Director (Engineering-I) or his authorized nominee, on receipt of formal application in respect thereof a week in advance of the proposed date of inspection of site, to enter upon his premises and lands for purpose of such inspection, but only on the express condition that the Bidder, his personnel or agents, will release and indemnify, the Employer and his personnel and agents from and against all liability in respect thereof and will be responsible for personal injury (whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused which, but for the exercise of such permission, would not have arisen.

1.4 CONTENTS OF BID DOCUMENTS

1.4.1 The set of Bid Documents issued for the purpose of biding shall comprise the following :

SECTION	DESCRIPTION
SECTION-1	INSTRUCTIONS TO BIDDERS
SECTION-2	GENERAL CONDITIONS OF CONTRACT
SECTION-3	OTHER CONDITIONS OF CONTRACT
SECTION-4	TECHNICAL SPECIFICATIONS
SECTION-5	FORM OF AGREEMENT
SECTION-6	BANK GAURANTEE
SECTION-7	CONDITIONS OF CONTRACT FOR SAFETY, HEALTH AND ENVIRONMENT (SHE)
SECTION-8	BILL OF QUANTITIES
SECTION-9	DRAWINGS

1.4.2 The bidder is expected to examine carefully all instructions, conditions, forms, terms, and performance specification and drawings in the Bid Documents. Failure to with the requirements of Bid submission shall be at the Bidder's own risk. Pursuant to clause 1.18, bids which are not substantially responsive to the requirements of the Bid documents shall be summarily rejected.

1.4.3 At any time prior to the last date for submission of bids, the employer may, for any reason whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the Bid Documents by the issuance of an Addendum.

1.4.4 The Addendum will be prepared in writing and uploaded on E- Tendering portal for information of all prospective Bidder who wish to participate, and will be binding upon them, irrespective of whether the prospective bidder acknowledge receipt of the same or not.

1.4.5. The forms, Bill of Quantities, Performa and schedules provided in these Bid Documents shall be filled without exception (subject to extensions of the schedule in the same format).

1.4.6 The bid prepared by the bidder, and all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the English language only. Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied with an appropriate translation of pertinent passages in English language. For the purpose of interpretation of the Bid, the English language shall prevail.

1.5 BID PRICES

1.5.1 Unless explicitly stated otherwise in the Bid Documents, the contract shall be for the whole work based on the departmental design, Bill of quantities, rates and prices submitted by the Bidder.

1.5.2 The Bidder shall fill in **rates on percentage above/below for all items of Schedule G (For BSR items) and quoting rates for Non BSR Items** of works described in the Bill of Quantities in both figures and words. In case, there is any discrepancy in the rates quoted in figures and words, the rate quoted in words will be applicable**.**

If on check there are discrepancies the following procedure shall be followed:-

(i) Where there is a difference between the rates in figures and words, lower of the two rates shall be taken as valid and correct rate.

(ii) When the rate quoted by the contractor in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount worked out.

(iii) While quoting rates, if rate/rates against any item or items are found to be omitted, the rate given in the Schedule 'G' by the department for such items will be taken into account while preparing comparative statement and contractor shall be bound to execute such item on 'G' Schedule rates.

In case where percentage is given but the 'above' or 'below' not scored, the bid will be non-responsive.

The Contractor should quote his rates only in one language i.e. either in Hindi or English. Rates should be quoted in figures as well as in words. In case a Contractor has quoted rates in both the languages, and the rates so quoted differ, then the lower of the two shall be treated as the rate quoted by the Contractor.

1.5.3 All duties, taxes, fees and other levies (present and future) payable by the contractor under the Contract, or for any other cause, as on the date thirty days prior to the closing date for submission of bids, shall be included in the total Contract Price submitted by the Bidder and the evaluation and comparison of Bids by the Employer shall be made accordingly.

1.5.4 M/s THEME Engineering Services Pvt LTD, Jaipur. is engaged by the Employer for consultancy of the project preparation of this work. The said firm or any of its associates or employees shall not be engaged by the Bidder for any assistance in preparation of bid, drawings, Bill of Quantities and any other part of the Bid Documents for this work. The said firm or its associates or employees shall not be engaged or associated by the Contractor in any manner in the preparation of any contractual matters. Non-compliance with the above conditions shall render the bid / contract invalid.

1.6 BID SECURITY

1.6.1 Any bid not accompanied by an acceptable form of Bid Security will be summarily rejected by the Employer as non-responsive.

1.6.2 The Bid Security of the unsuccessful Bidder will be discharged/ returned without interest as promptly as possible but not later than sixty days after the expiry of the bid validity prescribed by the Employer.

1.6.3 The Bid Security of the successful Bidder will be discharged without interest upon the Bidder signing the Agreement and furnishing the Bank Guarantee / Security Bond for the performance of the Contract.

1.6.4 There will be no liability on the part of the JDA towards interest on the Bid Security paid by the Bidder.

1.6.5 The Bid Security shall be forfeited:

a) If a bidder withdraw his bid during the period of bid validity; or

b) In the case of a successful Bidder, if he fails or refuses within the specified time limit to :

i sign the agreement , or

ii furnish the required performance security.

1.6.6. Bid Security shall be accepted either through on line mode or in the form of Bank Guarantee.

1.7 VARIATIONS OR DEVIATIONS IN BID DOCUMENTS

1.7.1 The Bidder shall submit an offer which complies fully with the basic requirements of the Bid Documents as indicated in Drawings and Specifications.

1.7.2 All bidder are cautioned that no conditional offers, variations or deviations by the bidder in respect of any items proposed by the bidder shall be entertained or considered further in the process of bid evaluation. Furthermore, any deviation from contract conditions, specifications, or other requirements stipulated in these Bid Documents shall be summarily rejected as non-responsive.

1.8 VALIDITY OF BID

1.8.1 The Bid shall remain valid and open for acceptance for a period of four months after the date of opening of bid.

1.8.1 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request the Bidder for a specified extension in the period of validity. The request and the responses thereto shall be made in writing through post, fax etc. A bidder may refuse the request without forfeiting his Earnest Money. A bidder agreeing to the request will neither be required nor permitted to modify his bid, but will be required to extend the validity of his Earnest Money correspondingly. The provision of Clause 1.6 regarding discharge and forfeiture of earnest money shall continue to apply during the extended period of bid validity.

1.9 FORMAT AND SIGNING OF BIDS

1.9.1 If the Bid is made by a proprietary firm, it shall be signed by the proprietor with his full name and the full name of his firm with its current address.

1.9.2 If the bid is made by a firm in partnership, it shall be signed by a partner holding the power of Attorney for the firm. A certified copy of the power of Attorney shall accompany the Bid. The Certified copy of the partnership deed, current address of the firm and full name and current address of all the partners of the firm shall also accompany the Bid.

1.9.3 If the bid is made by a private limited company or a public limited corporation, it shall be signed by a duly authorised person holding the power of attorney for

such limited company or corporation. A certified copy of the Power of Attorney shall accompany the Bid. Such Limited company or corporation may be required to furnish satisfactory evidence of its existence before the contract is awarded.

1.9.4 The bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorised to sign the Bidder legally to the contract in all respects. Proof of such authorization shall be furnished in the form of a written Power of Attorney which shall accompany the Bid on stamp paper duly notarised. All pages of the Bid where entries or amendments have been made shall be initialed by the person or persons signing the Bid.

1.9.5 The complete bid shall be without alterations, interlineations or erasures, except those to accord with instructions issued by the Employer or as necessary to correct errors made by the Bidder, in which case such corrections shall be initiated by person and persons signing the Bid.

1.10 SEALING AND MARKING OF BIDS

1.10.1 **THE BIDDER SHALL SUBMIT THE BID THROUGH E-TENDRING ONLY.**

1.11 DEADLINE FOR BID SUBMISSION

1.11.1 Bids must be submitted by bidders on E-Tendering portal not later than 6:00 PM I.S.T on 26.09.2016 , and bid shall be opened at 11.00 AM I.S.T on 29.09.2016 in the presence of those bidders who may choose to be present. If such last date is declared as a public holiday by the Employer in the Receiving Office, the next official working day would be deemed as the last date for submission and opening of the bids.

1.11.2 Any Bid submitted by the bidder without depositing requisite fee on the due date and time will not be opened and shall be treated as non responsive and thus, rejected.

1.11.3 The bidder shall have to submit the original affidavits etc and other documents uploaded in the Technical Bid as and when demanded by JDA.

1.11.14 **JDA will not be responsible for delay in online submission due to any reason. For this, bidders are requested to upload the complete bid well advance in time so as to avoid 11 th hour issues like slow speed: chocking of web site due to heavy load or any other unforeseen problems.**

1.12 MODIFICATION AND WITHDRAWL OF BIDS

1.12.1 The Bidder may modify or withdraw his bid after bid submission, provided that the modification or notice of withdrawal is received in writing by the Employer in the office of the Director(Engineering-I), Jaipur Development authority, prior to the prescribed deadline for submission of Bids.

1.12.2 The Bidder's modification or notice of withdrawal shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause **1.11** for submission of Bids, with the inner envelopes additionally marked "MODIFICATION" or "WITHDRAWAL" as appropriate.

1.12.3 Modifications to Bid will be permitted only pursuant to Clause **1.13.1** below. Any subsequent set(s) of modifications will be summarily rejected.

1.12.4 No Bid shall be modified by the Bidder subsequent to the deadline for submission of the Bids, failing which the Earnest Money Deposit shall stand forfeited.

1.12.5 No Bid shall be withdrawn in the interval between the deadline for submission of bids and the expiry of the period of validity of bids specified in the Bid Documents. The withdrawal of bid in any form whatsoever during this interval shall entail the forfeiture of the Earnest Money Deposit pursuant to Clause **1.8,** without any further notice or opportunity to the bidder and without prejudice to any other legal rights and remedies open to the Employer.

1.13 BID OPENING & EVALUATION

1.13.1 Bids, including submissions made pursuant to Clause **1.14** shall be opened by the Superintending Engineer-V or his authorized representative on behalf of the Employer, in the presence of such of the Bidder representatives who choose to attend, at 11.00 AM I.S.T. On 29.09.2016 and at the following address.

CCC-TF-309, third floor, CCC Building, Ram Kishore Vyas Bhavan, Indira Circle, Jawahar Lal Negru Marg, Jaipur- 302004 (Rajasthan)

The Bidder's representatives who are present shall sign a register giving evidence to their attendance.

1.13.2 Bids for which an acceptable Notice of withdrawal had been submitted pursuant to Clause **1.13.1** shall not be opened. The Employer will examine bids to determine whether they are complete, whether the requisite bid securities have been furnished, whether the documents have been properly signed and whether the bids are generally in order.

1.13.6 At the Bid Opening the Employer will announce only the Bidders' names, the Bid Prices, written notification of Bid modifications and withdrawals (if any), the deposit of the requisite Earnest Money Deposit, and such other details as the Employer, at his discretion, may consider appropriate.

1.13.7 Minutes of the bid opening including the information disclosed to those present in accordance with sub-clause **1.14.1** shall be prepared by the Employer for his own records only and the process of bid opening shall be confidential.

1.13.8 After the public opening of bids, information relating to the examination, clarification, evaluation and comparison of bids and recommendations concerning the award of contract shall be as per RTPP Act 2012, Rules-2013.

1.13.9 Any efforts by a bidder to influence the Employer in the process of examination, clarification, evaluation and comparison of bids, and in decisions concerning award of contract, may result in the rejection of the Bidder's bid. Any proved act or attempt by any bidder in breach of the above may immediately entail delisting without prejudice to any other legal rights and remedies available to the Employer.

1.14 CLARIFICATION OF BIDS

1.14.1 To assist in the examination, evaluation and comparison of bids, the employer may ask the Bidders individually for clarifications of their bids as per order issued in JDA vide No.-169 dated 21.11.14

1.15 CORRECTION OF ERRORS

1.15.1 Tenders determined to be substantially responsive will be checked by the Employer for any arithmetical errors in computation and summation. The Employer will correct errors as follows:

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

b) In case of any discrepancy between the descriptions in the Scope of Work, Specifications, Drawings, Drawings of Contract and Bill of Quantities, the following order of preference in descending order of importance, shall prevail :

1. Description of Work
2. Specification
3. Drawings
4. Conditions of Contract
5. Bill of Quantities

1.15.2 The amount in the 'Form of Bid' will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the bidders, shall be considered as binding upon the bidders. If a bidder does not accept the corrected amount of bid, his bid shall be rejected and the tender Earnest Money shall be forfeited.

1.16 EVALUATION AND COMPARISON OF BIDS

1.16.1 The Employer will evaluate and compare only those bids determined to be substantially responsive to the requirements of the Bid Documents in accordance with Clauses **1.15** and **1.16** hereof.

1.16.2 In evaluating bids, the Employer will determine for each bid its Evaluated Bid Price by adjusting the Bid Price by making any corrections for errors in accordance with clause **1.15,** by making an appropriate adjustment for any other applicable or quantifiable variations not reflected in the priced bid in accordance with clause **1.15** and such other factors as the Employer deems necessary.

1.16.3 If the bid of the successful bidder is seriously unbalanced or 'front- loaded' in relation to the Engineer-in-Charge's estimate of the real cost of the work to be performed under the contract (as determined by the Engineer-in-charge) by more than the amount of the performance security, the Employer may require that the amount of the performance security be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of subsequent default of the successful bidder under the Contract.

1.16.4 Variations, deviations and other factors which are in excess of the requirements of the Tender Documents, or otherwise result in the accrual of unsolicited benefits to the Employer, shall not be taken into account in the tender evaluation.

1.17 AWARD OF CONTRACT CRITERIA

1.17.1 Subject to clause **1.19,** the Employer will award the contract to the bidder whose tender has been determined to be substantially responsive to the Tender Documents and who has offered the lowest Evaluated Tender Price PROVIDED FURTHER that, in the opinion of the Employer, the bidder has the capability and resources to carry out the Contract work effectively.

1.18 EMPLOYER'S RIGHT TO ACCEPT ANY TENDER AND TO REJECT ANY OR ALL TENDERS.

The Employer reserves the right to accept or reject any bid, and to annul the biding process and reject one or all bids, at any time prior to the award of contract, without thereby incurring any liability to the affected bidder or bidders or any obligation to inform the affected bidder or bidders of the grounds of the Employer's action.

1.19 NOTIFICATION OF AWARD OF CONTRACT

1.19.1 Prior to the expiry of the period of tender validity prescribed by the Employer, the Employer will notify the successful bidder by telegram / cable fax or E-mail (and subsequently confirm in writing by Registered Letter) that his tender has been accepted. This letter called "Letter of Acceptance" shall name the sum which the Employer will pay to the Contractor in consideration of the execution, completion and maintenance of the work by the Contractor as prescribed by the Contract (called the "Contract Price").

1.19.2 The Letter of Acceptance will form part of the Contract and agreement executed between the parties in accordance with the Form of Agreement provided in the Bid Documents.

1.19.3 Upon furnishing by the successful bidder of a Performance Security in accordance with the provisions of the special conditions of contract, the Employer

will promptly notify the unsuccessful bidders that their bids have been unsuccessful and will discharge / return without interest.

1.20 SIGNING OF AGREEMENT

1.20.1 At the same time as he notifies the successful Bidder that his Bid has been accepted, the Employer will instruct the successful bidder to sign and execute the agreement within fourteen (14) days of issue of the Letter of Acceptance.

1.21 **FAILURE TO EXECUTE AGREEMENT**

The contractor shall execute the agreement within fourteen (14) days of issue of Letter of Acceptance, failure to do so shall constitute sufficient grounds for the annulment of the award of contract and forfeiture of the Earnest Money Deposit.

SECTION – 2

(General Conditions of Contract)

SECTION - 2

GENERAL CONDITIONS OF CONTRACT

DEFINITIONS

1. The "Contract" means the documents forming the bid and acceptance thereof and the formal agreement executed between the Jaipur Development Authority and the Contractor, together with the documents referred to therein, including these conditions, Notice inviting Bids, Instructions to Bidders, Special Conditions of Contract, Specifications, Drawings and Designs, Tender and other information submitted by the Contractor and instructions issued from time to time by the Engineer-in-charge and all these documents taken together shall be deemed to form one contract and shall be complementary to another.

2. In the contract the following expressions shall, unless the context otherwise requires, have the meanings herein respectively assigned to them :-

   a) The "WORKS OR WORK" shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by, or by virtue of the contract contracted to be executed, whether temporary or permanent and whether original, altered, substituted or additional.

   b) The "SITE" shall mean the land an/or the other places on, into or through which work is to be executed under the contract, or any adjacent land, path or street, through which work is to be executed under the contract, or any adjacent land, path or street, which may be allotted or used for the purpose of carrying out the contract.

   c) The "CONTRACTOR" shall mean the individual or firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representatives of such individual or the persons composing such firm or company, the successor of such firm or company and the permitted assign of such individual or firm or company.

   d) The "ENGINEER-IN-CHARGE" shall mean the Executive Engineer In charge of Jaipur Development Authority who shall supervise and be in-charge of the work.

   e) The "GOVERNMENT","DEPARTMENT" shall mean the Jaipur Development Authority.

   f) The "Accepting Authority" shall mean Executive Committee of Jaipur Development Authority.

g) The "Director" or "Chief Engineer" shall mean The Director (Engineering-I) of Jaipur Development Authority.

h) The 'Superintending Engineer' shall mean the Superintending Engineer of Jaipur Development Authority.

i) "ESTIMATED COST" shall mean the cost of the work or works as estimated on the basis of the TENDERED rate or rates agreed to between the parties to the contract.

j) Where the context so requires, words importing the singular only also include the plural and vice-versa. Any reference to masculine gender shall wherever required include feminine gender and vice versa.

k) Headings and marginal notes to these General Conditions of Contract shall not be deemed to form a part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.

The clause 23 of contract agreement i.e. standing committee for settlement of disputes is read as:
If any question, difference or objection, whatsoever shall arise in any way, in connection with or arising out of this instrument, or the meaning of operation of any part thereof, of the rights, duties or liabilities of either party men, save in so far, as the decision of any such matter, as herein before provided for, and been so decided, every such matter/ constituting a total claim of Rs. 50,000/- or above, whether its decision has been otherwise provided for an whether it has been finally decided accordingly, or whether the rights or obligations of the parities, as the result of such termination, shall be referred for decision to the empowered standing committee, which would consist of the followings:

(i) Jaipur Development Commissioner, JDA, Jaipur -Chairman
(ii) Director (Engineering-I), JDA, Jaipur
(iii) Director (Finance), JDA, Jaipur
(iv) Director (Law), JDA, Jaipur
(v) Superintending Engineer, JDA, Jaipur - Member Secretary

The Engineer-in-Charge, on receipt of application along with non refundable prescribed fee, (the fee would be two percent of the amount in dispute, not exceeding Rs. One lac) from the contractor, shall refer the disputes to the committee within a period of three months from the date of receipt of application.
The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications. Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the Bid Documents. None of these documents shall be used for any purpose other than that of this contract.
Procedure and application form referring cases for settlement by the Standing Committee shall be, as given in form RPWA 90.

AGREEMENT No. .....

Year 20

..... Circle.

Division .....

Sub- Division .....

Name of Work .....

Name of Contractor .....

Sanction No. ..... Dt. ..... RS. .....

Technical Sanction No. .....

Job No. .....

(a) Stipulated Date of Start of work .....

(b) Stipulated Date of Completion of work .....

(c) Actual Date of Completion .....

Extension applied on & sanctioned .....

Vide: C.E./S.E./E.E. No..... Dt. 20

Details of Documents Page :

(a) Percentage Rate Tender R.P. W.A. 100
(See rule 322 & note 1 below rule 331)

(b) Schedule A to F

(c) Schedule H

(d) Schedule G

(e) Schedule

(f) General Specification and Conditions of Contract

(g) Contractor's Labour Regulations

(h) .....

(i) .....

No. Date :

Copy forwarded to:

1. Director Eng (I) / (Finance), JDA, Jaipur
2. Additional Chief Engineer, JDA, Jaipur
3. Additional Director (Revenue)/CAO, JDA, Jaipur
4. The Assistant Engineer / JEN
5. Auditor
6. Shri ..... Contractor
7. M/s .....

Amended up to _____ Effective from _____

CONTRACT FOR WORK

GENERAL RULES AND DIRECTIONS FOR THE GUIDANCE OF CONTRACTORS

1. All works, proposed for execution by Contract, will be notified in a form of invitation to tender pasted on public places and on a board hung up in the office of and signed by the JDA or other duly authorized Engineer.

   The form of invitation to bid will state the work to be carried out, as well as the date of submitting and opening of bids and the time allowed for arraying out the work, also the amount of Earnest Money to be deposited with the bid and the amount of the Performance Guarantee and/or Security Deposit to be deposited by the successful bidder and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and estimated rates/scheduled rates and any other documents required in connection with the work signed for the purpose of identification by the Executive Engineer shall be open for inspection by the Contractor at the office of the JDA or other duly authorized Engineer during office hours.

2. In the event of the bid being submitted by a firm, it must be signed separately by each partner, thereof, or in the event of the absence of any partner, it must be signed on his behalf, by a person holding a power of Attorney, authorizing to do so. Such power of Attorney will be submitted with the bid and it must disclose that the firm, is duly registered under the Indian Partnership Act, by submitting the copy or registration certificate.

3. Receipts for payments, made on account of a work when executed, by a firm must also be signed by the several partners, except where the contractors and described in their bid as a firm, in which case the receipts must be signed in the name of the firm by one of the partners or by some other person having authority to give effectual receipts for the firm.

4. Any person, who submits percentage rate bid, shall fill up the usual printed form stating at how much percent above or below the rates specified in Schedule G. he is willing to undertake the work. Only one rate of percentage, more or less, on all the estimated rates/scheduled rates shall be mentioned. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort will be liable to rejection. No single bid shall include more than one work, but Contractors, who wish to bid for two or more works, shall submit a separate bid for each work. Bids shall have the name and number of work, to which they refer, written outside the envelope.

5. The JDA or other duly authorized Engineer will open the bids in the presence of any contractor(s) or their authorized representatives who may be present at the time, and

will announce and enter the rates/amounts of all bids in the Register of Opening of Bids, (Form RPWA 20A). In the event of the bid being accepted, a receipt for the Earnest Money deposited shall be given to the Contractor, who shall sign copies of the specifications and other documents mentioned in Rule 1. In the event of a bid being rejected, the Earnest Money forwarded with such unaccepted bids shall, be returned to the Contractor making the same.

6. The JDA or other duly authorized Engineer shall have the right of rejecting all or any of the bids without assigning any reason.

7. The receipt of an Accountant, Cashier or any other official, not authorized to receive such amount, will not be considered as an acknowledgement of payment to the JDA or other duly authorized Engineer.

8. The memorandum of work tendered for, memorandum of materials and of tools and plant to be supplied by the Department and their rates, shall be filled in and completed in the office of the JDA or duly authorized Engineer before the tender form is issued.

9. If it is found that the bid is not submitted in proper manner, or contains too many corrections and or unreasonable rates or amounts, it would be open for the Engineer-in-charge not to consider the bid, forfeit the amount of earnest money and/ or de-list the contractor.

10. The bidder shall sign a declaration under the Official Secrets Act for maintaining secrecy of the bid documents, drawing or other records connected with the work given to him in form given below. The unsuccessful bidders shall return all the drawings given to them.

Declaration: -

"I / We hereby declare that I/We shall treat the tender documents, drawings and other records, connected with the work, as secret confidential documents, and shall not communicate information derived there form to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the same. "

11. Any percentage rate bid containing Item-wise rates, and any item rate bid containing percentage rate below or above estimated/scheduled rates, will be summarily rejected. However, if a bidder voluntarily offers a rebate for payment within a stipulated period, this may be considered.

12. On acceptance of the bid, the name of the accredited representative (s) of the Contractor (with a photograph and signature attested), who would be responsible for taking instruction from the Engineer in charge, shall be communicated to the Engineer-in-charge.

13. Sales tax or any other tax on materials, or Income Tax in respect of the contract shall be governed by Clause 36 A, B and C and B of the Conditions of Contract. Deduction of Income Tax at source will be made as per provisions of the Income Tax Act, in *** from time to time.

14. The bid to work shall not be witnessed by a Contractor of Contractors who himself/themselves has/have bided or who may and has/have bided for the same work. Failure to observe the secrecy of the bids will bid of the contractors, biding as well as witnessing the bid, liable to summary rejection.

15. If on check, there are differences between the rate quoted by the Contractor in words and figures, or in the amount worked out by him, the following procedure shall be followed :-

    (i) Where there is a difference between the rates in figures and words, the rate written in words shall prevail.

    (ii) When the rate quoted by the contractor in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount worked out.

    (iii) While quoting rates, if rate/rates against any item of items are found to be omitted, the rate given in the Schedule 'G' by the department for such items will be taken into account while preparing comparative statement and contractor shall be bound to execute such item on 'G' schedule rates.

    (iv) In case where percentage is given but the 'above' or 'below' not scored, the bid will be non-responsive.

16. The Contractor shall comply with the provisions of the Apprenticeship Act, 1961, and the rules and orders issued, there under, from time to time. If he fails to do so, his failure will be a breach of the contract and the original sanctioning authority in his discretion may cancel the contract. The Contractor shall also be liable for any pecuniary liability arising on account of relocations by him of the provisions of the Act.

17. The Contractor shall read the specifications and study the working drawings carefully before submitting the bid.

18. The site for execution of the work will be made available as soon as the work is awarded. In case, it is not possible for the Department to make the entire site available on the award of the work, the Contractor shall arrange his working programme accordingly. No claim, whatsoever, for not giving the site in full on award of the work or for giving the site gradually in parts will be tenable. The contractor may satisfy himself regarding site, acquisition of land, approach road etc.

19. The bid documents show already the specific terms and conditions on which bids are required by the Government. Hence, all bids should be in strict conformity with the bid documents and should be fulfilled in, wherever necessary, and initiated. Incomplete bids are liable to be rejected. The terms and conditions of the bid documents are firm; as such conditional bids are liable to the rejected.

20. The bidder, while submitting bid, must provide adequate information regarding his financial, technical and organizational capacity and working experience to execute the work of the nature and magnitude.

21. The JDA or other duly authorized Engineer reserves the right in ask for submission of samples as in respect of materials for which the bidder has quoted his rates before the bid can be considered for acceptance. If the bidder, who is called upon, to do so, does not submit within seven days of written order to do so, the Engineer-in Charge shall be at liberty to forfeit the said earnest money absolutely.

22. The Contractor shall submit the list of the works, which are in hand (progress). In the following form :

Name of work	Name and particular of the Sub Division/Division, Where work is being executed	Amount of work	Position of works in progress	Remarks
1	2	3	4	5

23. The Contractor should quote his rates only in one language i.e. either in Hindi or English. Rates should be quoted in figures as well as in words. In case a Contractor has quoted rates in both the languages, and the rates so quoted differ, then the lower of the two shall be treated as the rate quoted by the Contractor.

24. All additions, deletions, corrections and overwriting, must be serially numbered and attested by the Contractor at every page, so also by the officer opening the tenders, so as to make further disputes impossible on this score.

25. After acceptance of the bid, the Contractor or all partners (in the case of partnership firm) will append photograph and signatures duly attested, at the time of execution of Agreement.

26. If any contractor, who having submitted a bid does not execute the agreement or start the work or does not complete the work and the work has to be put to re-biding, he shall stand debarred from participating in such re-biding in addition to forfeiture of

Earnest Money/Security Deposit/Performance Guarantee and other action under agreement.

27. The bid documents shall be issued to those contractors only having valid enlistment as on the date of issue of documents.

28. (a) If a bidder reduces the rates voluntarily after opening of the tenders/negotiations, his offer shall stand cancelled automatically, his earnest money shall be forfeited and action for debarring him from business shall be taken as per enlistment rules.

(b) If a non-bidder offers lower rates after opening of tenders, action for debarring him from business shall be taken as per enlistment rules.

29. Contractors shall submit only unconditional tenders. Conditional bids are liable to be rejected summarily.

Bid for works

I/ We hereby tender for the execution for the Jaipur Development Commissioner of Jaipur Development Authority of the work specified in the underwritten memorandum within the time specified in such memorandum at the rates, (in figures) ..... % (As well as in words) ..... percent below/above the amount, entered in the schedule G in all respects in accordance with the specifications, designs, drawings and instructions in writing referred to in Rule 1 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 & plant, conditions effecting accommodation and movement of labour etc. required for the satisfactory execution of contract.

Memorandum

(a) General - description of work :-" Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur.."

(b) Estimated cost 4000.00 Lacs

(c) Earnest money 80.00 Lacs @2% for enlisted contractors outside the JDA and 20.00 Lacs @ 1/2% for contractors registered in JDA.

(d) Performance Guarantee & Security Deposit :

(i) "The security deposit @ 10% of the gross amount of the running bill shall be deducted from each running bill and shall be refunded as per rules on completions of the contract as per terms and condition. However the amount of security deposit deducted from running bills shall not be converted into any mode of

securities bank guarantee, FDR etc. The earnest money deposited shall however be adjusted while deducting security deposit from first running bill of the contractor. There will be no maximum limit of security deposit.

However, a contractor may elect to deposit of full amount of 10% security deposit in the shape of bank guarantee or any acceptable form of security before or at the time of executing agreement. In that case earnest money may be refunded only after deposition of full 10% as above. However, in case during execution, cost of works exceeds as shown at the time of depositing 10% as above, balance security deposit shall be deducted form the "Running Account Bills".

(ii) Bank Guarantee shall in all cases be payable at the head quarter of the Division or the nearest District Headquarters.

(e) Time allowed for the completion of work (to be reckoned from the 15th day after the date of written order to commence the work) is 24 Months. Should this bid be accepted in whole or In Part, I/We hereby agree to abide by and fulfill all the terms and provisions of the conditions of contract annexed hereto and of the Notice Inviting Bid, or in default thereof, to forfeit and pay to the Jaipur Development Commissioner of Jaipur Development Authority of Rajasthan or his successors in office, the sum of money mentioned in the said conditions.

(f) A sum of Rs. ..... is forwarded herewith in the form of Cash, Bank Draft, Bankers Cheque as Earnest Money. This amount of earnest money shall absolutely be forfeited to the Jaipur Development Commissioner of Jaipur Development Authority or his successor in office without prejudice to any other right or remedies of Jaipur Development Commissioner of Jaipur Development Authority or his successor in his office, should. I/ We fall to commence the work specified in the above memorandum.

Signature of Witness — Signature of Contractor
Witness's address & occupation — Address of Contractor

Date: The above bid is hereby accepted by me on behalf of the Jaipur Development Commissioner of Jaipur Development Authority.

Executive Engineer (ROB/RUB-III)

CONDITIONS OF CONTRACT

Clause 1: Security Deposit:

The security deposit @ 10% of the gross amount of the running bill shall deducted from each running bill and shall be refunded as per rules on completions of the contract as per terms and condition. However the amount of security deposit deducted from running bills shall not be converted into any mode of securities bank guarantee, FDR etc. The earnest money deposited shall however be adjusted while deducting security deposit from first running bill of the contractor. There will be no maximum limit of security deposit..

A contractor may however, elect to furnish bank guarantee or any acceptable form of security for an amount equal to the full amount of security deposit @ 10% of the work order before or at the time of executing the agreement. In that case, earnest money may be refunded only after furnishing of the bank guarantee as above. However during execution of the work if cost of work exceeds as shown at the time of furnishing bank guarantee, balance security deposit shall be deducted from the "Running Account Bills".

All compensation or other sums of money payable by the Contractor to Jaipur Development Authority under the terms of his contract may be deducted from or paid by the sale of a sufficient part of his Performance Guarantee and/or Security Deposit, or from interest arising there from, or from any sums, which may be due or may become due to the Contractor by the JDA on any account whatsoever, and in the event of this Security Deposit being reduced by reason of any such deduction or sale as aforesaid, the Contractor shall within ten days thereafter, make good in cash or Bank Guarantee of Nationalized/Scheduled Bank, as aforesaid, any sum or sums which may have been deducted from or raised by sale of his Performance Guarantee and / or Security Deposit or any part thereof.

In case of Bank Guarantee of any Nationalized/Scheduled Bank is furnished by the Contractor to the Jaipur Development Authority, as part of the Security Deposit/Performance Guarantee and the bank goes into liquidation or, for any reason, is unable to make payment against the said Bank Guarantee, the loss caused thereby shall fall on the Contractor and the Contractor shall forthwith, on demand, furnish additional security to the Jaipur Development Authority to make good the deficit.

The liability or obligation of the bank under the Guarantee Bond shall not be affected or suspended by any dispute between the Engineer-in-charge and the Contractor, and the payment, under the Guarantee Bond by the bank to the Jaipur Development Authority shall not wait till disputes are decided. The bank shall pay the amount under the Guarantee, without any demur, merely on a demand from the Jaipur Development Authority stating that the amount claimed is required to meet the recoveries due or likely to be due from the Contractor. The demand, so made, shall be conclusive as regards, to amount due and payable by the bank, under the

guarantee limited to the amount specified in the guarantee Bond. The guarantee will not discharge due to the change in the constitution of the Bank or the Contractor.

The Bank Guarantee shall remain valid up to the specified date unless extended on demand by the Engineer-in-charge, which shall include the period of completion of the contract and the defect removal period as per terms or the Agreement, Bank's liability shall, stand automatically discharged unless a claim in writing is lodged with the Bank within the period stated in the Bank Guarantee including the extended period. After satisfactory completion of the contract and clearance of all dues by the Contractor, the Director (Engineering)-I or duly authorized Engineer will discharge the Bank Guarantee after expiry of the original or the extended period, as the case may be. In case the date of expiry of the Bank Guarantee is a holiday, it will be deemed to expire on the close of the next working day.

Jaipur Development Authority is not concerned with any interest accruing to the Contractor. On any form of Security (primary or collateral) lodged by him with the bank or any sums payable to sureties obtained by the Bank as counter guarantee to secure its own position. These will be the matters between the Bank and the Contractor.

Clause 2: Compensation for delay:

The time allowed for carrying out the work, as entered in the tender, shall be strictly observed by the Contractor and shall be reckoned from the 15th day after the date of written order to commence the work given to the Contractor. If the contractor does not commence the work within the period specified in the work order, he shall stand liable for the forfeiture of the amount of Earnest Money, Performance Guarantee and Security Deposit. Besides, appropriate action may be taken by the Engineer-in-charge/competent authority to debar him from taking part in future bids for a specified period or black list him. The work shall, throughout the stipulated period of completion of the contract, be proceeded with all due diligence, time being essence of the contract, on the part of the Contractor. To ensure good progress during the execution of work, the contractor shall be bound, in all cases in which the time allowed for any work exceeds one month (save for special jobs), to complete 1/8th of the whole of the work before 1/4th of the whole time allowed under the contract has elapsed, 3/8th of the work before 1/2 of such time has elapsed and 3/4th of the work before 3/4 of such time *** elapsed. If the contractor fails to complete the work in accordance with this time schedule in terms of cost in money, and the delay in execution of work is attributable to the contractor, the contractor shall be liable to pay compensation to the Jaipur Development Authority at every time span as below: -

A.	Time Span of full stipulated period	1/4th	1/2th	3/4th	Full
B.	Work to be completed in terms or money.	(..... days) 1/8th	(..... days) 3/8th	(..... days) 3/4th	(..... days) Full

C.	Compensation payable by the contractor for delay at the stage of :	(Rs.....) 2.5% of Scheduled work remained unexecuted on the last day of (1/4) time span.	(Rs.....) 5% of Scheduled work remained unexecuted on the last day of (1/2) time span.	(Rs.....) 7.5% of Scheduled work remained unexecuted on the last day of (3/4) time span.	(Rs.....) 10% of Scheduled work remained unexecuted on the last day of contracted full period.

Note : In case delayed period over a particular span is stilt up and is jointly attributable to government and contractor, the competent authority may reduce the compensation in proportion of delay attributable to government over entire delayed over that span after clubbing up the split delays attributable to government and this reduced compensation would be application over the entire delayed period without paying any escalation. Following illustration is given.

First time span is of 6 months, delay is of 30 days which is split over as under 5 days [attributable to government] + 5 days [attributable to contractor] + 5 days [attributable to government] + 5 days clubbed to 15 days [attributable to government] and 15 days [attributable to contractor]. The normal compensation 30 days as per clause 2 of agreement is 2.5 which can be reduced as 2.5 15/30 1.25 over 30 days without any escalation by competent authority.

The contractor shall, further, be found to carry out the work in accordance with the date and quantity entered the progress statement attached to the bid.

In case the delay in execution of work is attributable to the contractor, then span wise compensation as laid down in this clause shall be mandatory. However, in case the slow progress in one time span is covered up within original stipulated period, then the amount of such compensation levied earlier shall be refunded. The Price escalation, if any, admissible under clause 45 of Conditions of Contract would be admissible only on such rates and cost of work, as would be admissible if work would have been carried out in that particular time span. The Engineer-in-charge shall review the progress achieved in every time span, and grant stage wise extension in case of slow progress with compensation, if the delay is attributable to contractor, otherwise without compensation.

However, if for any special job, a time schedule has been submitted by the Contractor before execution of the agreement and it is entered in agreement as well as same has been accepted by the Engineer-in charge, the Contractor shall complete the work within the said time schedule. In the event of the Contractor failing to comply with this condition, he shall be liable to pay compensation as prescribed in forgoing paragraph of this clause provided that the entire amount of compensation to be levied under the provisions of this Clause shall not exceed 10% of

the value of the contract. While granting extension in time attributable to the Jaipur Development Authority reasons shall be recorded for each delay.

Clause 3: Risk & Cost Clause:

The Engineer-in-charge or the Competent Authority defined under rules may, without prejudice to his rights against the Contractor, in respect of any delay or interior workmanship or otherwise, or to any claims for damages in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise, and whether the date for completion has or has not elapsed, by notice in writing, absolutely determine the contract in any of the following cases :-

(i) If Contractor having been given by the Engineer-in-charge, a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in any inefficient or otherwise improper of un-workman like manner, shall omit to comply with the requirements of such notice for a period of seven days, thereafter, or if the Contractor shall delay or suspend the execution of the work so that either in the judgment of the Engineer-in-charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion of he has already, failed to complete the work by that date.

(ii) If the Contractor, being a company, shall pass a resolution or the Court shall make an order that the company shall be wound up or if a receiver or a manager, on behalf of a creditor, shall be appointed or if circumstances shall arise, which entitle the Court or Creditor to appoint a receiver or a manager or which entitle the Court to make a winding up order.

(iii) If the Contractor commits breach of any of the terms and conditions of this contract.

(iv) If the contractor commits any acts mentioned in clause 19 hereof.

When the contractor has made himself liable for action under any of the cases aforesaid. The Engineer in-charge behalf of the Jaipur Development Commissioner of Jaipur Development Authority shall have powers.

(a) To determine or rescind the contract as aforesaid of which determination or rescission notice in witting to the contractor under the hand of the Engineer in charge shall be conclusive evidence upon such determination or rescission, the earnest money, full security deposit of the contract and performance guarantee of the contractor shall be liable to be forfeited and shall be absolutely at the disposals of Jaipur Development Authority.

(b) To employ labour paid by the department and to supply materials to carry our the work or any part of the work debiting the contractor with the cost of the labour and the price of the material (of the amount of which cost and price certified by the

Engineer in charge shall be final and conclusive against the contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of this contract. The certificate of the divisional officer as to the value of the work done, shall be final and conclusive evidence against the contractor provided always that action under the sub clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred the department are less than amount payable to the contractor at his agreement rates the difference shall not be paid to the contractor.

(c) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-charge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by Jaipur Development Authority under this contract or on any other account whatsover or from his earnest money, security deposit, performance guarantee, enlistment security or the proceeds of sales thereof or a sufficient part thereof as the case may be. In the event of any one or more of the above courses being adopted by the engineer in charge the contractor shall not claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of contract. And in case action is taken under any of provisions aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer in charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Clause 4: Contractor remains liable to pay compensation, if action not taken under clause 3:

(i) In any case in which any of the powers conferred by clause 3 hereof shall have become exercisable and the same shall have not been exercised the non exercise thereof shall not constitute waiver of any of the conditions thereof and such power shall not with starting be exercisable in the event of any future case of default by the contractor for which by any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit/performance guarantee/Easiest money/Enlistment security and the liability of the contractor for past and future compensation shall remain unaffected.

Powers to take possession of or require removal sale of contractor plant.

(ii) In the event of the Engineer in charge putting in force powers vested in him under the preceding clause 3, he may, if he so desires, take possession of all or any tools plants materials and stores in or upon the works or the site, thereof, or belonging to the contractor of procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in case of these not being applicable, at current market rates, to be certified by the JDA or duly authorized Engineer (whose certificate thereof shall be final and conclusive) otherwise the Engineer in charge may give notice in writing to the contractor or his clerk of the works foreman or other authorized agent require him to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice) and in the event of the contractor failing to comply with any requisition, the JDA or other duly authorized Engineer may remove them at the contractors expenses by auction or private sale on account of the contractor and at his risk in all respects, and the certificate of the JDA or other duly authorized Engineers, as to the expense of any such removal, and the amount of the proceeds and expense of any such sale shall be final and conclusive against the contractor.

Clause 5: Extension of Time:

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 within 30 days of the date of the hindrance on account of which he desires such extension as aforesaid and the authority competent to grant extension under the rule/delegation of powers or other duly authorized Engineer shall if in his opinion (which shall be final) reasonable grounds be shown therefore authorize such extension of time if any as may, in his opinion be necessary or proper, if the period of completion of contractor expires before the expiry of the period of one month provided in this clause the application for extension shall be made before the expiry of the period stipulated for completion of contract 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 finally of work. Such extensions shall be granted in accordance with provisions under clause (2) of this agreement.

Clause 5 A: Monthly returns of extra claims:

Contractor has to submit a return every month for any work claimed as extra. The contractor delivery the return in the office of the executive engineer and obtain receipt number of the receipt register of the day on or before 10th day of every month during the continuance of the work covered by this contract a return showing details of any work claimed as extra by the contractor which value shall be based upon the rates and prices mentioned in the contractor or in the schedule of rates in force in the district for the time being. The contractor shall be deemed to have waived all claims not included in such return and will have no right to enforce any such claims not included whatsoever be the circumstance.

Clause 6: Final certificate:

On completion of the work the contractor shall send a registered notice to the Engineer in charge giving the date of completion and sending a copy of it to the officer accepting the contractor on behalf of the J.D.C. and shall request Engineer In-Charge to give him a certificate of completion but no such certificate shall be given nor shall the work be considered to be complete unit the contractor shall have removed from the site on which the work shall be executed all scaffolding surplus materials and rubbish and cleared off the dirt from all wood work doors walls floors or other parts of any building in upon or about which the work is to be executed or of which he may have possession for the execution thereof he had filled up the pits. If the contractor shall fail to comply with the requirements of this clause as to removal of scaffolding surplus materials and rubbish and clearing off dirt and filling of pits on or before the date fixed for completion of the work, the Engineer-in-Charge may, at the expenses of the contractor, remove such scaffolding, surplus materials and the rubbish and dispose of the same, as he thinks fit, and clean off such dirt and fill the pit, as aforesaid and the contractor shall forthwith pay the amount of all expense so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof. On completion, the work shall be measured by the Engineer in charge himself or through his subordinates whose measurements shall be binding and conclusive against the contractor. Provided that if subsequent to the taking of measurements by the subordinate as aforesaid, the Engineer in charge had reason to believe that the measurements taken by his subordinates are not correct the engineer in charge shall have the power to cancel the measurements already taken by his subordinates and acknowledged by the contractor and to take measurements again after giving reasonable notice to the contractor and such pre-measurement shall be binding on the contractor.

Within ten/thirty days of the receipt of the notice Engineer in charge shall inspect the work and if there is no visible defects on the face of the work shall give the contractor, a certificate of completion. If the Engineer in charge finds that the work has been fully completed. It shall be mentioned in the certificate so granted. If on the other hand, it is found that there are certain visible defects to be removed the certificate to be granted by Engineer in charge shall specifically mention the details of the visible defects along with the estimate of the cost for removing these defects. The final certificate of work shall be given after the visible defects pointed out as above have been removed. Ten days will apply to works at the headquarters of Engineer-in-charge and thirty days for works at other place.

Clause: 7: Payment on intermediate certificate to be regarded as advance:

No Payment shall be made for works estimated to cost less than rupees twenty five thousand till after the whole of the works shall have been completed and a certificate of completion given. But in the case of works estimated to cost more than Rupees twenty five thousand the contractor for shall on submitting the bill therefore, be entitled to receive a monthly payment proportionate

to the part thereof then approved and passed by the engineer in charge, whose certificate of such approval and passing of sum so payable shall be final and conclusive. Running Account bill shall be paid within 15 days from presentation. But all such intermediate payment shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and shall not erected or considered as an admission of the due performance of the contract or any part thereof in any respect or the accruing of any claim nor shall it conclude determine or effect in any way the powers of the Engineer -in-charge under these conditions or any of them to final settlement and adjustment of the accounts or otherwise or in any other way vary of effect the contract. The final bill shall be made/submitted by the Contractor within one month of the date fixed for completion of the work otherwise the Engineer-in-charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

Clause 7 A: Time Limit for Payments of Final Bills:

The final bill shall be paid within 3 months on presentation by the contractor after issuance of final completion certificate in accordance with clause 6 of the conditions of contract. If, there shall be any dispute about any item(s) of the work, then the undisputed item(s) only, shall be paid within the said period of 3 months if a final bill (which contains no disputed item or disputed amount of any item) is not paid within the period of 3 months from presentation of final bill or 6 months from the date of receipt of registered notice regarding completion of work in accordance with clause 6 of the conditions of the contract, the defects, if any shall be brought to the notice of the higher authority. The period of 3 months shall commence from the date of rectification of the defects. The higher authority shall ensure that in no case final bill should be left unpaid after 9 months from the receipt of registered notice regarding completion of work. The contractor shall submit a memorandum of the disputed items along with justification in support within 30 days from the disallowance thereof, and if he fail, to do so, his claims shall be deemed to have been fully waived and absolutely extinguished.

Clause 8: Bills to be submitted monthly:

A bill shall be submitted by the Contractor each month on or before the date fixed by the Engineer-in-charge for all work executed in the previous month and the Engineer-in-charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified and the claim, as far as admissible, authorized or paid, if possible, before the expiry of ten days from the presentation of the bill. If the Contractor does not submit the bill within the time fixed, as aforesaid, the Engineer-in-charge may depute a subordinate to measure up to said work in the presence of the Contractor, whose signature in the Measurement Book will be sufficient warrant and the Engineer-in-charge may prepare a bill from such Measurement, Book, which shall be binding on the Contractor in all respects.

Clause 8 A: Contractor to be given time to file objection to the Measurements recorded by the Department: -

Before taking any measurement of any work, as have been referred to in preceding Clauses 6, 7 & 8, the Engineer-in-charge or a subordinate, deputed by him, shall given reasonable notice to the Contractor. If the Contractor fails to be present at the time of taking measurements after such notice or fails to sign or to record the difference within a week from the date of measurement in the manner required by the Engineer-in-charge, then in any such event, the measurements taken by the Engineer-in-charge or by the subordinates deputed by him, as the case may be, shall be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

Clause 8 B: Recovery of cost of preparation of the Bill :

In case of contractors of class "A" and "AA" do not submit the bill with time fixed, the Engineer-in-charge may prepare the bill as per provision of clause 8 of the conditions of contract but deduction @ 0.5% of amount of such a bill shall be made and credited to the general revenue on account of preparation of bill.

Clause 9: Bills to be on printed forms:

The Contractor shall submit all bills on the printed forms, to be had on application, at the office of the Engineer-in-charge and the charges in the bills shall always be entered at the rates specified in the bid or in the case of any extra work ordered in pursuance of these conditions, and not mentioned or provided for in the bid, at the rates hereinafter provided for such work.

Clause 9 A: Payments of Contractor's Bills to Banks:

Payments due to the Contractor may if so desired by him, be made to his Bank instead of direct to him, provided that the contractor has furnished to the Engineer-in-charge (i) an authorization in the form of a legally valid document, such as a Power of Attorney conferring authority on the Bank to receive payments, and (ii) his owe acceptance of the correctness of the account made out, as being due, to him, by Government, or his signature on the bill or other claim preferred against Jaipur Development Authority before settlement by the Engineer-in-charge of the account or claim, by payment to the Bank. While the receipt given by such bank shall constitute a full and sufficient discharge for the payment, the Contractor should, whenever possible, present his bill duly receipted and discharged through his Banker. Nothing, herein contained, shall operate to create in favour of the Bank any rights vis-à-vis the Jaipur Development Commissioner of Jaipur Development Authority.

Clause 10: Stores supplied by Jaipur Development Authority: -

If the specification of estimate of the work provides for the use of any special description of material, to be supplied from Engineer-in-charge's stores, or if, it is required that contractor shall use certain stores to be provided by the Engineer-in-charge specified in the schedule or memorandum hereto annexed, the Contractor shall be bound to procure and shall be supplied such materials and stores as are, for time to time, required to be used by him for the purpose of the contract only, and the value of the full quantity of materials and stores, so supplied; at the

rate specified in the said schedule or memorandum, may be set off or which may be deducted from any sum, them due or thereafter become due, to the contractor under the contract or otherwise or against or from the performance Guarantee and or Security Deposit or the proceeds of sale, if the same is held in Jaipur Development Authority securities, the same or a sufficient portion thereof being in this case, sold for this purpose. All materials supplied to the Contractor, either from departmental stores or with the assistance of Government, shall remain the absolute property of Government. The Contractor shall be the trustee of the Stores/Materials, so supplied/procured and these shall not, on any account, be removed from the site of work and shall be all times open to inspection by the Engineer-In-charge. Any such material unused and in perfectly good condition at the time of completion or determination or rescinding of the contract, shall be returned to the Divisional Officer's Stores. If by a notice in writing under his hand, he shall so require, and if on service of such notice, the contractor fails to return the materials so required he shall be liable to pay the price of such materials in accordance with the provision of Clause 10B in bid. But the Contractor shall not be entitled to return any such materials, unless with such consent, and shall have no claim for compensation on account of any such materials, so supplied to him as a foresaid being unused by him, or for any wastage in or damage to any such materials. For the stores returned by the Contractors, he shall be paid for at the price originally charged excluding storage charges, in case of material supplied from departmental stores and actual cost including freight, cartage, taxes etc. paid by the contractor, in case of supplies received with the assistance of Government, which, however, should in no case exceed market rate prevailing at the time the materials are taken back. The decision of the Engineer-in charge as to the price of the stores returned keeping in view its condition etc, shall be final and conclusive. In the event of breach of the aforesaid condition, the Contractor shall in addition to throwing himself open in account for contravention of the terms of the license or permit and/or for criminal breach of trust, pay to the Government, all advantages or profits resulting, or which in the usual course, would result to him by reason of such breach. Provided that the contractor shall, in no case be entitled to any compensation or damage on account of any delay in supply thereof, all or any such materials and stores.

Clause 10A: Rejection of materials procured by the contractor:

The Engineer-in charge shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and, in case of default, the Engineer-charge shall be at liberty to employ other person (s) to remove the same without being answerable or accountable for any loss of damage, that may happen or arise to such materials to substituted thereof, and in case of default, Engineer-in charge may cause the same to be supplied and all costs. Which may attend such removal and substitution, are to be born by the contractor.

Clause 10B: Penal rate in case of excess consumption:

The contractor shall also be charged for the materials consumed in excess of the requirements calculated on the basis of standard consumption approved by the department at

double of the issue rate including storage and supervision charge or market rate, whichever is higher. A Material supply and consumption statement in prescribed From RPWA 35A shall be submitted with every Running Account Bill, distinguishing material supplied by the Government and the material procured by the Contractor himself. The recovery for such material shall be made from Running Account Bill next after the consumption and shall not be referred certificate of such nature shall be given in each running Account Bill.

Clause 10 C: Hire of Plant and Machinery:

Special Plant and Machinery, required for execution of the work may be issued to the contractor, if available, on the rates of hire charges and other terms and condition as per departmental Rules, as schedule annexed to these conditions. Rates of such Plant & machinery shall be got revised periodically so as to bring them at per with market rate:

Clause 11: Works to be executed in accordance with specifications, Drawings, Orders, etc.

The Contractor shall execute the whole and every part of the work in the most substantial and satisfactory manner and both as regards materials and otherwise in every respect in strict accordance with the Specification. The Contractor shall also conform exactly fully and faithfully to the designs, drawings and instructions in writing relating to the work assigned by the Engineer-in-charge and lodged in his office and to which the contractor shall be entitled to have access at such office or on the site of the work for the purpose of inspection during office hours and contractor shall, if he so require, be entitled, at his own expense, to make or cause to be made copies of specifications and of all such designs, drawings and instructions, as aforesaid. A certificate of executing works as per approved design and specifications etc. shall be given on each Running Account.

These specifications of work, material, methodology of execution, drawings and designs shall be signed by the contractor and executive Engineer while executing agreement and shall from part of agreement.

Clause 12:

The Engineer-in-charge shall have power to make any alteration omission or additions to or substitutions for the original specification, 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 accordance with any instruction which may be given to him in writing signed by the Engineer-In-Charge and such alterations, omissions, 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 work shall be extended 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. The rates for such additional altered or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order.

(i) If the rate for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract for the work.

(ii) If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, such rates will be derived from the rates for a similar class of work as are specified in the contract for the work.

(iii) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in the sub-clause (i) to (ii) above, then the rates for such composite work items shall be worked out on the basis of the concerned Schedule of Rates of the Districts / Area specified above minus / plus the percentage which the total tendered amount bears to the estimated cost of the entire work put to bid. Provided always that if the rates for a particular part of parts of the item is not in the Schedule of Rates, the rate for such part or parts will be determined by the Engineer-in-Charge on the basis of the prevailing market rates when the work was done.

(iv) If the rate for the altered, additional or substituted work item cannot be determined in the manner specified in sub-clauses (i) to (iii) above, then the contractor shall within 7 days of the date of receipt of order to carry out the work, inform the Engineer-in-Charge of the rates which it is his intention to charge for which class of work supported by analysis of the rate or rates claimed and the Engineer-in-Charge shall determine the rates or rates on the basis of prevailing market rates, and pay the contractor accordingly. However, the Engineer-in-Charge by notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner, as he may consider advisable. But under no circumstances, the contractor shall suspend the work on the plea of non-settlement of rates on items failing under the clause.

(v) Except in case of items relating to foundations, provisions contained sub-clauses (i) to (iv) above shall not apply to contract or substituted items as individually exceed the percentage set out in the bid documents under Clause 12.A.

For the purpose of operation of Clause 12(v) the following works shall be treated as work relating to foundations:-

(a) For buildings, compound wall, plinth level or 1.2 meters (4 ft.) above ground level whichever is lower, excluding items above flooring and D.P.C. but including base concrete below floors.

(b) For abutments, pier, retaining wall of culverts and bridges, walls of water reservoir and the bed of floor level.

(c) For retaining walls, where floor levels is not determinate 1.2 meters above the average ground level or bed level.

(d) For roads, all items of excavation and filling including treatment of sub base and soling work.

(e) For water supply lines, sewer lines underground storm water drains and similar work all items of work below ground level except items of pipe work for proper masonry work.

(f) For open storm water drains, all items of work except lining of drains.

(g) Any other items of similar nature which Engineer-in-charge may decide relating to foundation.

The rate of any such work, except the items relating to foundations, which is in excess of the deviation limit, shall be determined in accordance with the provisions contained in Clause 12A.

Clause 12A:

The quantum of additional work for each item shall not exceed 50% of the original quantity given in the agreement and the total value of additional work shall not exceed 50% of the total contract value, unless otherwise mutually agreed by the Engineer-in-charge and the Contractor.

In case of contract substituted items or additional items, which results in exceeding the deviation limit laid down in this clause except items relating to foundation work. Which the contractor is required to do under Clause 12 above, the contractor shall within 7 days from the receipt of order, claim revision of the rate supported by proper analysis in respect of such items for quantities in excess of the deviation limit notwithstanding the fact that the rates for such items exist in the bid for the main work or can be derived in accordance with the provision of sub clause (ii) of Clause 12 and the Engineer-in-charge, may revise their rates having derived in according with the provision of sub-clause may revise their rates having regard to prevailing market rates and the contractor shall be paid in accordance with the rates so fixed. The Engineer-in-charge shall be at liberty to cancel his order to carry out such increased quantities of work by giving notice in writing to the contractor and arrange to carry out in such manner, as he may consider advisable. But under no circumstances, the contractor shall suspend the work on the plea of non-settlement of rates of items failing under this clause.

All the provisions of the preceding paragraph shall equally apply to decrease in rates of items for quantities in excess of the deviation limit notwithstanding the fact that the rates for such items exist in the bid for the main work or can be derived in accordance with the provisions of sub-clause (ii) of the preceding clause 12 and the Engineer-in-charge may revise such rates having regard to the prevailing market rates unless otherwise mutually agreed by the engineer-in-charge and the contractor.

Clause 13: No compensation for alteration in or restriction of work to be carried out:

If at any time after the commencement of the work the Jaipur Development Authority shall, for any reason, whatsoever, not require the whole work, thereof, as specified in the bid, to be carried out, the Engineer-in-charge shall give notice, in writing of the fact to the contractor, who 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 the work in full but which he did not derive in consequence of the full amount of the work not having been carried out. Neither, shall he have any claim for compensation by reason of alterations having been made in the original specifications, drawings and design and instructions, which shall involve any curtailment of the work as originally contemplated. Provided, that the contractor shall be paid the charges for the cartage only, of materials actually brought to the site of the work by him for bonafide use and rendered surplus as a result of the abandonment or curtailment of the work or any portion thereof, and taken them back by the contractor provided, however that the Engineer-in-charge shall have, in all such cases, the option of taking over all or any such materials at their purchase price or at local market rates whichever may be less. In the case the option of taking over all or any such materials at their purchase price or at local market rates whichever may be less. In the case of such stores, having been issued from Jaipur Development Authority stores, charges recovered, including storage charges, shall be refunded after taking into consideration any deduction for claim on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of the Engineer in Charge shall be final.

Clause 14: Action and compensation payable in case of bad work:

If, it shall appear to the JDA or any authorized authority or the Engineer-in-Charge or his subordinates in charge of the work, or to the committee of retired officers / officers appointed by the Jaipur Development Authority for the purpose that any work has been executed with unsound, imperfect or unskillful workmanship, prior with material of any interior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted, or otherwise not in accordance with contract, the contractor shall be demand in writing from the Engineer in charge, specifically the work / materials or articles complained of, notwithstanding that the same may have been inadvertently passed, certified and paid for, will rectify or remove and reconstruct the work, so specified, in whole or in part, has the case may be, remove the materials or articles, so specialties and provide other proper and suitable materials or articles at his own cost and in the event of his failing to do so, within a period to be specified by the Engineer-in-charge in his demand, as aforesaid, then the contractor shall be liable to pay compensation, at the rate of one percent on the bided amount of work for every week not exceeding ten percent, while his failure to do so shall continue, and in the case of any such failure, the Engineer - in - Charge may rectify or remove and re-execute the work or remove and replace within others, the materials or articles or articles complained of as the case may be, at the risk and expense, in all respects of the contractor.

Clause 15: Work to be open to inspection: Contractor or his responsible agent to be present.

All work, under or in course of execution or executed in pursuance of the contract, shall at all times, be open to inspection and supervisor of the Engineer-in-charge and his superior officers e.g. Superintending Engineer, Additional JDA, Chief Technical Engineer, JDA, and his subordinates and any other authorized agency of the Jaipur Development Authority and the contractor shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer in charge in or his subordinate and any other authorized agency of Jaipur Development Authority or committee of retired officers / officers appointed by the Jaipur Development Authority for the purpose to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions or have a reasonable agent, duly accredited in writing, present for the purpose. Orders given to the Contractor agent shall be considered to have the same force as if they had been given to the contractor himself.

Clause 16: Notice to be given before any work is covered up:

The Contractor shall given not less than 7 days notice, in writing, to the Engineer-in-Charge of the work, before covering up or otherwise placing beyond the reach of measurement, any work in order that they may be measured and correct dimensions thereof, be taken before the same is so covered up or placed beyond the reach of measurement and shall no cover up or place beyond the reach of measurement any work without the consent in writing of the Engineer-in-charge of the work and if, any work shall be covered up or placed beyond the reach of measurement without such notice having been given or consent obtained, the same shall be uncovered at the Contractor's expenses or in default, thereof, no payment or allowance shall be made for such work, or for the materials, with which the same was executed.

Clause 17: Contractor liable for damage done and for imperfections:

If the Contractor of his work people or servants shall break, deface, injure or destroy any part of a building in which they may be working or any building, road, fence, enclosure or cultivated ground continuous to the premises on which the work or any part of it is being executed, or if any damage shall happen to the work. While in progress, from any cause, whatsoever, or any imperfections become apparent in it, within a period specified in clause 37, after a certificate, final or otherwise of its completion, shall have been given by the Engineer-in-charge, may cause the same to be made good by other workmen and deduct the expense (of which the certificate of the Engineer-in-charge shall be final) from any sums that may be then, or at any time thereafter, may become due to the contractor, or from his security deposit, or the proceeds of sale thereof, or of a sufficient portion thereof.

Clause 18: Contractor to supply Plant, Ladders, Scaffolding etc.

The contractor shall arrange and supply, at his own cost, all material (except such special materials, if any, as may, in accordance with the contract, be supplied from the Engineer-in-charge's stores), plants, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works requisite or proper for the proper execution of the work, whether original,

altered, or substituted, and whether included in the specification or other documents, forming part of the contract, or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-charge, as to any matter as to which, under the conditions, he is entitled to be satisfied of which he is entitled to require, together with carriage thereof, to and from the work. The contractor shall also arrange and supply, without charge, the requisite number of persons with the means and material necessary of the purpose of setting out work and counting, weighing and assisting, in the measurement or examination at any time and from time to time of the work, or materials. Failing his so doing, the same may be provided by the Engineer-in-charge at the expenses of the Contractor, and the expenses maybe deducted from any money due to the Contractor under the contract, or from his performance Guarantee and / or security deposit or the proceeds of sale thereof, or a sufficient portion thereof. The contractor shall also provide all necessary fencing and lights required to protect the public from accident and shall be bound to bear the expenses of difference of every suit, action or other proceeding at law, that may be brought by any person for injury sustained owing to neglect of the above precautions, and to pay any damages and costs, which may be awarded in any such suit, action proceedings to any such person or which may, with the consent of the Contractor be paid to compromise any claim by any such person.

Clause 19: Work not to be sub-let contract may be rescinded and security deposit and performance forfeited for sub-letting, bribing or if contractor becomes insolvent.

The contract shall not be assigned or sublet without the written approval of the JDA, and if the contractor shall assign or sublet his contract or attempt so to do, or become insolvent, or commence any insolvency proceedings or mark any composition with his creditors, or attempt to so to do, or if any bride, gratuity, gift, loan, requisite reward or advantage, pecuniary or otherwise, shall either, directly or indirectly, be given promised or offered by the Contractor or any of his servants or agents, to any public officer or person, in the employ of Government, in any way relating to his office or employment, or if any such officer or person shall become, in any way, directly or indirectly interested in the contract, the JDA may thereupon, by notice, in writing resigned the contract and the performance guarantee and security deposit of the contractor shall, thereupon, stand forfeited and be absolutely at the disposal of Jaipur Development Authority and the same consequences shall ensure as, if the contract had been rescinded under clause 3 thereof, and in addition the contractor shall not be entitled to recover or be paid for any work therefore, actually performed under the contract.

Clause 20: Sums payable by way of compensation to be considered as reasonable compensation without reference to actual loss:

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Jaipur Development Authority

without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Clause 21: Changes in Constitution of firm:

Where the Contractor is partnership firm, the previous approval, in writing, of the Engineer-in-charge shall be obtained before business any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern, such approval, as aforesaid, shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the work thereby undertaken by the contractor. If, previous approval, as aforesaid, is not obtained, the contract shall be deemed to have been assigned in contravention of clause 19 thereof, and the same action may be taken and the same consequence shall ensure, as provided in the said clause 19.

Clause 22: Work to be under direction of Engineer-in-charge

All the works, to be executed under the contract, shall be executed under the direction and subject to the approval. In all respect, of the Engineer-in-charge of the Jaipur Development Authority for the time being, who shall be entitled to direct, of what point or points and in what manner, they are to be commenced and from time to time carried on.

Clause 23: Standing committee for Settlement of disputes:

If any question, difference or objection, whatsoever shall arise in any way, in connection with or arising out of this instrument, or the meaning of operation of any part thereof, or the rights, duties or liabilities of either party then, save in so far, as the decision of any such matter, as herein before provided for, and been so decided, every such matter constituting a total claim of Rs.50000/- or above, whether its decision has been otherwise provided for an whether it has been finally decided accordingly, or whether the contract should be terminated or has been rightly terminated and as regards the rights or obligations of the parties, as the result of such termination, shall be referred for decision to the Empowered Standing Committee, which would consist of the followings:-

1. Jaipur Development Commissioner, JDA, Jaipur -Chairman
2. Director (Engineering)-I, JDA, Jaipur
3. Director (Finance), JDA, Jaipur
4. Director (Law), JDA, Jaipur
5. Superintending Engineer, JDA, Jaipur - Member Secretary

The Engineer-in-charge, on receipt of application along with non refundable prescribed fee, (the fee would be two percent of the amount in dispute, not exceeding Rs. one lac) from the contractor, shall refer the disputes to the committee within a period of three months from the date of receipt of application.

The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications. Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the Bid Documents. None of these documents shall be used for any purpose other than that of this contract.

Procedure and application form referring cases for settlement by the Standing Committee shall be, as given in form RPWA 90.

Clause 23 A: Contractor to indemnify for infringement of Patent or design.

Contractor shall fully indemnify the Jaipur Development Authority against any action, claim or proceeding, relating to infringement or use of any patent or design or any alleged patent or design, rights, and shall pay any royalties, which may be payable in respect of any articles or part thereof included in the contract, in the event of any, claims made under or action brought against Government. In respect of any such matters, as aforesaid, the contractor shall be immediately, noticed thereof, and the contractor shall be at liberty at his own expense, to settle any dispute or to conduct any litigation, that may arise there from provided that the contractor shall not be liable to indemnify the Jaipur Development Authority, if the infringement of the patent or design or any alleged patent, or design, right is the direct result of an order passed by the Engineer-in-charge in his behalf.

Clause 24: Imported Store articles to be obtained from Government:

The contractor shall obtain form the stores of the Engineer-in-charge, all imported store articles, which may be required for the work or any part thereof, or in making up articles required thereof, or in connection therewith, unless he has obtained permission in writing, from the Engineer-in-charge, to obtain such stores an articles from elsewhere. The value of such stores and articles, as may be supplied to the contractor by the Engineer-in-charge, will be debited to the contractor, in his account, at the rates shown in the schedule attached to the contract, and if they are not entered in the schedule, they will be debited at cost price, which for the purposes of this contract, shall include the cost of carriage and all other expenses, whatsoever, which shall have been incurred in obtaining delivery of the same at the stores aforesaid plus storage charges.

Clause 25: Lump sums in estimates:

When the estimate on which a bid is made includes lump sums, in respect of parts of the work, the contractor shall be entitled to payment in respect of the item of work involved, or the part of the work in question at the same rates, as are payable under the contract for such items or if the part of the work in question is not, in the opinion of the Engineer-in-charge capable of measurement, in Engineer-in-charge may at his discretion pay the lump sum amount entered in the estimate and the certificate in writing of the Engineer-in-charge shall be final and conclusive with regard to any sum or sums payable to him under the provisions of this clause.

Clause 26: Action where no Specification:

In case of any class of work for which there is no such specification as is mentioned in rule 1, such work shall be carried out in accordance with the detailed specification of the department and also in accordance with the instructions and requirement of the Engineer-in-charge.

Clause 27: Definition of work;

The expression "Work" or "Works" where used in these conditions, shall unless there be something either in subject or context, repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed, whether temporary or permanent, and whether original, altered, substituted or additional.

Clause 27 A: Definition of Engineer-in-charge.

The term :Engineer-in-charge" means the Executive Engineer, who shall supervise, and be in charge of the work, and who shall sign the contract on behalf of the Jaipur Development Commissioner of Jaipur Development Authority.

Clause 28:

It cannot be guaranteed that the work will be started immediately after the bids have been received. No claims for increase of rate will be entered, if the bids for starting work are delayed.

Clause 29: Payments at reduced rates on account of items of work not accepted and not completed to be at the discretion of the Engineer-in-charge.

The rates for several items of works, estimated to cost more than Rs.1000/- agreed within, will be valid only when the item concerned is accepted, as having been completed fully in accordance with the sanctioned specifications. In cases, where the items of work are not accepted, as so completed, the Engineer-in-charge may make payment on account of such items, at such reduced rates as he considers reasonable, in the preparation of final or on account bills, and his decision in the matter shall be final and binding.

Clause 29A: Payments at part rates:

The rates for several items of works may be paid at his rates provisionally in running bills in proportion to the quantum of items executed at the discretion of Engineer-in-charge. In case of item rates, if the rate quoted for certain items are very high in comparison to the average / overall bid premium, then the payment at running stages shall not be made more than the average

sanctioned premium. The deferred payment, will however be released after successful completion of the work.

Clause 30: Contractor's percentage, whether applied to net or gross amount of bills:

The percentage referred to in the "Bid of Works" will be deducted / added from / to the gross amount of the bill before deducting the value of any stock issued.

Clause 31: Contractor to adhere to labour laws / regulation:

The contractor shall adhere to the requirements of the Workmen's Compensation Act and Labour Legislation in force from time to time and be responsible for and shall pay any compensation to his workmen which would be payable for injuries under the workmen Compensation Act, hereinafter called the said Act. If such compensation to his workmen which would be payable for injuries under the Workmen's Compensation Act, hereinafter called the said Act. If such compensation is paid by the State as Principal employer under sub Section (1) of section 12 of the said Act, on behalf of the contractor it shall be recoverable by the State from the Contractor under sub section (2) of the said section. Such compensation shall be recovered in the manner laid down in clause I of the conditions of contract.

Note: All Contractors with Government shall require registration of workers under the Building & other Construction Workers (Regulation of Employment & Conditions of Services) Act, 1996 and extension of benefit to such workers under the Act.

Clause 32: Withdrawal of work from the Contractor:

If the Engineer-in-charge shall at any time and for any reasons, whatsoever, including inability to maintain prorate progress, think any portion of the work should not be executed or should be withdrawn from the contractor, he may, by notice in writing to that effect require the contractor not to execute the portion of the work specified in the notice or may withdraw from the contractor for the portion of work, so specified, and the contractor shall not be entitled to any compensation, by reason of such portion of work having been withdraw from him. The Engineer-in-charge may supplement the work by engaging another agency to execute such portion of the work at the cost of the original contractor, without prejudice to his rights under Clause 2. He shall also be competent to levy compensation for delay in progress. The recovery of excess cost shall be made from next available running bill or any other claim and shall not be deferred.

Clause 33: The contractor includes clearance, leveling and dressing of site within a distance of 15 meters of the structure / building on all sides except where the building adjoins another building.

Clause 34: Project Works:

The contractor shall arrange to protect, at his own cost, in an adequate manner, all cut stone work and other work requiring protection and to maintain such protection, as long as work is in progress. He shall remove and replace this protection, as required by the Engineer-in-charge, from time to time. Any damage to the work, so protected, no matter how it may be caused, shall be made good by the contractor free of cost.

All templates, forms, moulds, centering, false works and models, which in the opinion of the Engineer-in-charge are necessary for the proper and workman like execution of the work, shall be provided by the Contractor free of cost.

Clause 35: Contractor liable for settlement of claims caused by his delays:

If the progress of the work has fallen so much in arrears as to prevent other contractors on the work, from carrying out their part of the work within the stipulated time, he will be liable for settlement of any claim, put in by any of these contractors for the expenses of keeping their labour unemployed, to the extent considered reasonable by the Engineer-in-charge.

Clause 36A: 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.

Clause 36B:

The cost of all water connections, necessary for execution of work, and the cost of water consumed and hire charges of meters and the cost of electricity consumed in connection the execution of work, shall be paid by the Contractor except where other specifically indicated.

Clause 36C: Payment of Sales Tax and any other Taxes:

Royalty or other tax on materials, issued in the process of fulfilling contract payable to the Jaipur Development Authority under rules in force will be paid by the Contractor himself.

Clause 36D:

In respect of goods and materials procured by the Contractor for use in works under the contract, sales tax will be paid by the contractor, himself. But in respect of all such goods manufactured and supplied by the Contractor and works executed under the contract, the responsibility of payment of Sales tax would be that of the Engineer-in-charge.

Clause 37: Refund of Performance Guarantee and Security Deposit:

The performance Guarantee and / or security deposit will be refunded after the expiry of the period, as prescribed below:-

(a) In case of contracts relating to hiring of trucks and other 'T'& P' transportation including loading, unloading of materials, the amount of performance guarantee / security deposit is refundable along with the final bill.

(b) Supplies of material: As per provision of the G.F. & A.R.

(c) Ordinary repair: 3 months after completion of the work provided the final bill has been paid.

(d) Original works / special repairs / renewal works: Six months after completion except in case of works, such as building works, bridge works, cross drainage work, Dams, canals water supply and sewerage schemes (except where provided otherwise in any specified case) etc., the Performance Guarantee / Security Deposit will be refunded 6 months after completion or expiry of one full rainy season, or after expiry of defect liability period as defined in the special condition of agreement whichever is later, provided the final bill has been paid.

(Regarding "refund of performance guarantee and security deposit").

"Defect Liability period (DLP) shall be for 5 (five) years after completion of works."

(e) The Security Deposit amount shall become due and shall be paid to the contractor after expiry of Defect Liability Period of work, except for expansion joints, for which the liability period shall be 10 years. The Security Deposit of Rs.15.00 Lacs shall be kept withheld against, guarantee period / DLP of expansion joints, bearings and RE wall and shall remain valid throughout the guarantee period, which shall be of 10 Years.

The Security Deposit will be released in the following stages after satisfactory performance certificate issued by Engineer-In-Charge :-

1. DLP period upto 1 Year= 10%
2. DLP period upto 2 Year= 10%
3. DLP period upto 3 Year= 10%
4. DLP period upto 4 Year= 20%
5. DLP period upto 5 Year= 50%

Clause 38: Fair Wage Clause:

(a) The Contractor shall pay not less than fair wages / minimum wages to laborious engaged by him on the work as revised from time to time by the Jaipur Development Authority but the Jaipur Development Authority shall not be liable to pay anything extra for it except as stipulated escalation clause (clause 45) of the agreement.

Explanation: Fair wage means minimum wages for time or piece work, fixed or revised, by the State Govt. the Minimum Wages Act. 1948.

(b) The Contractor shall, notwithstanding the provisions of any contract to the country, cause to be paid fair wages to labourers indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work as if the labourers have been immediately or directly employed by him.

(c) In respect of all labourers immediately or directly employed on the work, for the purpose of the contractor's part of this agreement, the (Contractor shall comply with or cause to be complied with the Public Works Department Contractors Labour Regulations made, or that may be made by the Government, from time to time. With regard to payment of wages, wages period, deductions from wages, recovery of wages not paid, and unauthorized deductions, maintenance of wages register, wages card, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and other matters of a like nature.

(d) The Engineer-in-charge shall have the right to deduct from the money due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers, by reasons of non-fulfillment of the conditions of the contract, for the benefit of the worker or workers, non-payment of wages or of deductions made there from, which are not justified by the terms of the contract, or as a result of non - observance of the aforesaid regulations.

(e) Vis-à-vis the Jaipur Development Authority of Rajasthan, the Contractor shall be primarily liable for all payments to be made and for the observance of the regulations aforesaid, without prejudice to his right to claim indemnify from his sub-contractors.

(f) The regulations, aforesaid, shall be deemed to be part of this contract and any breach, thereof, shall be deemed to be breach of the contract.

Clause 39: Contractor to engage technical staff:

The contractor shall engage the technical staff as follows, on the contract works at his own cost for which nothing extra will be payable.

(a) Project Manager/ Bridge Engineer:-- He should be a Graduate Engineer having overall experience of not less than 15 years out of which 10 years experience should be of Bridge works. If the contractor fails to appoint such Project Manager, Rs. 1,00,000.00 (Rupees One Lacs) per month will be deducted.

(b) Senior Site Engineer :- One Graduate engineer having experience of 10 years out of which 5 years experience should of bridge works. If the contractor fails to appoint such Senior Site Engineer Rs. 50,000.00 (Rupees Fifty Thousands) per month will be deducted.

(c) Site Engineer :- One Graduate/ Diploma engineer having experience of 5 years. If the contractor fails to appoint such Senior Site Engineer Rs.25,000.00 (Rupees Twenty Five Thousands) per month will be deducted.

(d) Quantity Surveyor :-- One Diploma engineer having experience of 2 years. If the contractor fails to appoint such Senior Site Engineer Rs.20,000.00 (Rupees Twenty Five Thousands) per month will be deducted.

(e) However, in the event of non appointment of such Technical personals, JDA may engage such technical personals and actual salary be deducted in addition to the deductable amount mentioned in clause 39,(a),(b),(c) & (d). The contractor, before appointing these Technical personals will have to got the CV approved by JDA. The technical staff should be available at site, whenever required by Engineer-in-charge to take instructions.

Clause 39A: The contractor shall comply with the provisions of the Apprenticeship Act, 1961, and the Rules and orders issued, there-under, from time to time. If he fails to do so, his failure will be a breach of contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of said Act.

Clause 40: Safety of Works: The Contractor shall follow the safety code. The contractor shall be fully responsible for safety of works at site taking note of all the necessary provisions as per Employer's conditions of contract for safety, Health and Environment Manual (SHE Manual) available at Section 7, which shall be binding on the contractor. The contractor's price shall be inclusive of all the necessary costs to meet the prescribed safety standards. In the case the contractor fails in the above, the Employer may provide necessary arrangements and recover the cost from contractor.

Clause 41: Near Relatives barred from tendering: The contractor shall not be permitted to bid for works, in same Circle, in which his near relative is posted as Accountant or as an officer in any capacity between the grades of the Superintending Engineer and Assistant Engineer (both inclusive). He shall also intimate the names of persons, who are working with him in any capacity or are subsequently employed by him and who are near relative to any gazetted officer in the organization / Department. Any breach of this condition by the contractor would render him liable to be removed from the approval list of contractors of the Department. If such facts is noticed (a) before sanction of bid, his offer shall be declared invalid and earnest money shall be forfeited, (b) after sanction of the bid then bid sanctioning authority may at his discretion forfeit his earnest money, performance guarantee, security deposit and enlistment deposit and the work / remaining work may allot to any registered contractor on the same rates as per rules.

Note : By the term 'near relative' is meant wife, husband, parents and grandparents, children and grand children, brothers and sisters, uncles and cousins and their corresponding in laws.

Clause 42: Retired Gazetted Officers barred for 2 years: No Engineer of Gazetted rank or other Gazetted officer, employed in Engineering or Administrative duties in an Engineering Department of the Jaipur Development Authority, is allowed to work as a contractor for a period of 2 years, of his retirement from Jaipur Development Authority Service without the previous permission of Jaipur Development Authority. The contract is liable to be cancelled, if either the contractor or any of his employees found, at any time, to be such a person, who had not obtained the permission from as aforesaid before submission of the bid or engagement in the contractors service as the case may be.

Clause 43: Quality Control

The Jaipur Development Authority shall have right to exercise proper quality Control measures.

Clause 43A:

The work whether fully constructed or not and all materials machinery tools and plant scaffolding temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer in charge and a certificate from him to effect obtained.

Clause 44: death of Contractor:

Without prejudice to any of the rights or remedies under the contract, if the contractor dies, the legal heirs of the contractor or the JDA or duly authorized Engineer shall have the option of terminating the contract without any compensation.

Clause 45: Price variations Clause:

If during the progress of the contract of value exceeding Rs. 50.00 lacs (accepted tendered amount minus cost of material supplied by the department) and where stipulated completion period is more than 3 months (both the conditions should be fulfilled). The price of any materials/ bitumen / diesel / petrol / cement and steel incorporated in the works (not being materials to be supplied by the department) and / or wages of labour increases or decreases, as compared to the price and / or wages prevailing at the date of opening of bid or date of negotiations for the work the amount payable to contractors for the work shall be adjusted for increase or decrease in the rates of materials (excepting those materials supplied by the department)/ labour / bitumen diesel / petrol / cement and steel. If negotiated rates have been accepted, prices as on the date of negotiations shall be considered for price adjustment. Similarly, if rates received on the date of opening of bids have been accepted, then prices on the date of opening of bid shall be considered for price adjustment.

Increase or decrease in the cost of labour / material / bitumen / cement / diesel and petrol shall be calculated and petrol shall be calculated quarterly in accordance with the following formula.

(A) Labour :

$$V_L = 0.75 \times \frac{P_L}{100} \times R \frac{(I_{L1} - I_{L.0})}{I_{L.0}}$$

V_L = Increase or decrease in the cost of work during the quarter under consideration due to change in rates for labour.

R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in the clause.

I_{i0} = The average consumer price index for industrial workers (whole-sale prices) for the quarter in which bids were opened / negotiated (as published in Reserve Bank of India Journal / labour Bureau Shimla, for the area).

L_{i1} = The average consumer price index for industrial workers (whole-sales-price) for the quarter of calendar year under consideration (as published in Reserve Bank of India Journal / labour Bureau Shimla, for the area).

P_L = Percent of Labour components.

Note: In case of revision of minimum wages by the Jaipur Development Authority or other competent authority, nothing extra would be payable except the price escalation permissible under this clause.

(B) Material (excluding material supplied by the department)

$$V_M = 0.75 \times \frac{PM}{100} \times R \frac{(L_{LMI} - L_{M0})}{L_{MO}}$$

V_M = Increase or decrease in the cost during the quarter under consideration due to change in the rates of material.

R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.

L_{MO} = The average wholesale price index (all commodities) for the quarter in which bid were opened / negotiated (as published in Reserve Bank of India Journal / Economic Advisor to Government of India, Ministry of Industries, for the area).

L_{M1} = The average wholesale price index (all commodities) for the quarter under consideration (as published in Reserve Bank of India Journal / Economic Adviser to Government of India. Ministry of Industries, for the area).

P_M = Percentage of material component (excluding materials supplied for the Department).

(c) Bitumen

$$V_b = 0.85 \times \frac{P_b}{100} \times \frac{R\,(B_1 - B_0)}{B_O}$$

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

R = The value of the work done in rupees during the quarter under consideration excluding the cost of material supplied by the department and excluding other items as mentioned in this clause.

B_o = The official retail price of bitumen at the IOC depot it nearest center on the day 28 days prior to date of opening of Bids.

B_1 = The official retail price of bitumen of IOC depot it nearest center for the 15 day of the month under consideration.

P_b = Percentage of bitumen component of the work.

(D) Petroleum

$$V_1 = 0.75 \times \frac{P_1}{100} \times R\,\frac{(F_1 - F_0)}{F_O}$$

V_1 = Increase or decrease in the cost of work during the month under consideration due to change in the rate for fuel and lubricants.

R = The value of the work done in rupees during the quarter under consideration excluding the cost of materials supplied by the department and excluding other items as mentioned in this clause.

F_0 = The average wholesale price index of high speed diesel (HSD) as published by the Economic Advisor to the Government of India, Ministry of Industry on the day of opening of bid / negotiation.

F_1 = The average wholesale price index HSD for the quarter under consideration as published weekly by the Economic Advisor to the Govt. of India, Ministry of Industry for the quarter under consideration.

P_1 = Percentage of fuel and lubricants component excluding fuel and lubricants supplied by the Department (Specified in the sanctioned estimate for the work).

P = Percentage of fuel and lubricants component excluding fuel and lubricants supplied by the Department (Specified in the sanctioned estimate for the work).

R = Total work done during the quarter as prescribed under this clause.

Note: For application of this clause price of HSD is chosen to indicate fuel and lubricant component.

(e) Cement (Grey)

$$Vc = 0.75 \times Pc \times R \frac{(L_{C1} - L_{CO})}{100 \quad L_{CO}}$$

Vc = Increase or decrease in the cost of the work during the quarter under consideration due to change in the rates of cement.

R = The value of the work done in rupees during the quarter under consideration excluding the cost of cement supplied by the department and excluding other items as mentioned in this clause.

L_{CO} = The average wholesale price index for the quarter in which bids were opened / negotiated (as published by the Economic Adviser to Government of India, Ministry of Industries).

L_{CI} = The average wholesale price index for the quarter under consideration (as published by the Economic Adviser to Government of India, Ministry of Industries).

P_C = Percentage of cement components (excluding cement supplied by the Department).

(F) Steel

$$V_S = 0.75 \times \frac{P_c}{100} \times R \frac{(L_{S1} - L_{SO})}{L_{SO}}$$

Vs = Increase or decrease in the cost of the work during the quarter under consideration due to change in the rates of steel.

R = The Value of the work done in rupees during the quarter under consideration excluding the cost of steel supplied by the department and excluding other items as mentioned in this clause.

L_{SO} = The average wholesale price index for the quarter in which bids were opened/negotiated (as published by the Economic Adviser to Government of India, Ministry of Industries).- For steel Rods

L_{S1} = The average wholesale price index for the quarter under consideration (as published by the Economic Adviser to Government of India, Ministry of Industries).- For steel Rods

Clause 45A: Price Variation in installation of elevators supply/installation of Centrally Air Conditioning and Central Evaporation Cooling Works.

In all cases of contracts for installation of elevators, supply/installation of Central Air Conditioning and Central Evaporation Cooling Works, the Price quoted shall be based on the Indian Electrical and Electronic Manufacturers Association (IEEMA) price variation clause based on the cost of raw materials/components and labour cost as on the date of quotation/bid and the same is deeded to be related to wholesale price index number of metal products and All India Average consumer price index number of industrial workers as specified below. In case of any variation in these index numbers the prices shall be adjustment up or down in accordance with following formula:

$$P = \frac{P_o}{100}\left\{15 + 55\,\frac{MP}{MP_o} + \frac{W_o(D)}{W_o} + 15\,\frac{W_o(I)}{W_o}\right\}$$

Where:

P = Price payable as adjusted in accordance with the price variation formula.

P_0 = Price quoted/confirmed

M_{P0} = Wholesale Price Index Number for metal products as published by the office of the Economic Adviser, Ministry of Industry, Government of India, in their weekly bulleting, Revised Index Number of Wholesale Price (Base 1981-82 =100 for the week ending first Saturday of the relevant calendar month). The relevant month shall be that in which price was offered or negotiated whichever is later.

W_0 = All India Average Consumer Price Index Number for Industrial Workers (Base : 1982 = 100), as published by Labour Bureau, Ministry of Labour, Government of India, for relevant calendar Month. The relevant Month shall be that in which price was offered or negotiated whichever is later.

M_P = Wholesale Price Index Number of Metal Products as published by the office of Economic Adviser, Ministry of Industry, Government of India, in their weekly bulletin Revised index Number of wholesale price (Base : 1981-82 = 100). The applicable wholesale Price Index Number for Metal Products as pre-availing on 1st Saturday of the Month covering the date FOUR months price to the date of delivery and would be as published by IEEMA.

$W_{O(1)}$ = All India Average Consumer Price Index Number for Industrial workers (Base : 1982 = 100) as published by Labour Bureau, Ministry of Labour, Government of India. The applicable All India Consumer Price Index Number of Industrial workers prevailing for the FOUR months prior to the date of completion of installation/Progress parts of installation and would be as published by IEEMA. The date of delivery shall be the date on which the manufactured material is actually supplied at site. The data of completion of installation (or progress part of installation shall be the date on which the work is notified as being completed and is available for inspection/duly tested). In the absence of such notification, the date of completion is not intimated, such completion shall be considered by the Engineer-in-charge which shall be final.

Note-1 The wholesale price index number for metal products is published weekly by the office of the Economic Adviser, but if there are any changes, the same are incorporated in the issue appearing in the following week. For the purpose of this price variation clause, the final index figures shall apply.

Note- 2 The sole purpose of the above stipulation is to arrive at the entire contract under the various situations. The above stipulation does not indicate any intentions to sell materials under this contact as movables.

Note- 3 The indices MP & Work are regularly published by IEEMA in monthly basic price circulars based on information bulletins from the authorities mentioned. These will be used for determining price variation and only IEEMA circulars will be shown as evidence, if required.

GENERAL CONDITIONS FOR ADMISSIBILITY OF ESCALATION

1. The exact percentage of labour/material (excluding materials to be supplied by the department /battements/diesel and petrol compensate and labour component for the work shall be approved by the authority while sanctioning the detailed estimates.

2. The breakup of components of labour/materials (excluding materials to be supplied by the department) bitumen/diesel and petrol as indicated in clause 45 have been pre-determined as bellows:

(a)	**Labour**	**-**	**18.33 %**
(b)	**Cement**	**-**	**13.77 %**
(c)	**Steel Reinforcement**	**-**	**35.27 %**
(d)	**Structural Steel**	**-**	**6.00 %**
(e)	**Bitumen**	**-**	**2.71 %**
(f)	**Petroleum (POL)**	**-**	**6.89 %**
(g)	**Other Material**	**-**	**17.03 %**
	Total	**-**	**100%**

3. While allowing price escalation the following shall be deducted from the value of the of work done ® (a) cost of material supplied by the department (b) cost of services rendered as per clause 34 (c) of secured Advance/any advance added earlier but deducted agreed rates. now after work is measured (d) cost of extra items, the rates for which have been worked out based on market rates/ mutually agreed rates.

4. The first statement escalation shall be prepared at the end of three months in which the work was awarded and the work done from the date of start to the end of this period shall be taken into account. For subsequent statement cost of work done during every quarter shall be taken into account. At the completion of work the work done during the last quarter of fraction there of shall be taken into account.

5. For the purpose of reckoning the work done during any period the bills prepared during the period shall be considered. The dates of recording measurements in the Measurement book by the Assistant Engineer shall be the guiding factor to decide the bills relevant to any period. The date of completion as finally recorded by the competent authority in the measurement Book shall be the criterion.

6. 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.

7. Price adjustment clause shall be applicable only the work that is carried out with the stipulated time or extension thereof as are not attributable to the contractor.

8. If during the progress in respect of contract works stipulated to cost Rs. 50 lac or less the value of work actually done excluding cost of Material supplied by the Department exceeds Rs. 50 lac and completion period is more than 6 months then escalation would be payable only in respect of value of work in excess over Rs. 50 lac from the date of satisfying both the conditions.

9. Where originally stipulated period is 6 months or less but actual period of extension exceeds beyond 6 months on account of reasons not attributable to contractor escalation amount would be payable only in respect of extended period if amount of work is more than Rs. 50 lac.

10. In case the contractor does not make prorate progress in the first or another time span and the short fall in progress is covered up by him during subsequent time span within original stipulated period then the price escalation of such work expected to be done in the previous time span shall be notionally given based upon the price index of that quarter in which such work was required to be done.

11. No claims for price adjustment other than those provided herein shall be entertained.

12. If the period of completion including extended period attributable to Jaipur Development Authority exceeds twelve months but cost does not exceeds more than Rs. 50 lacs no escalation is admissible.

13. Similarly if cost of works increases more than Rs. 50 lac but completion period including extended period attributable to Jaipur Development Authority is less than 6 months no escalation is admissible.

14. No provisional escalation is payable on the basis of indices of the previous quarter in absence of non pub location of indices in concede quarter by the RBI.

15. Escalation is always payable quarterly and no provisional escalation is payable monthly or fortnightly.

16. In case at the time of executing agreement both the conditions (completion period 6 months and amount of work Rs. 50 lac for admissibility of price escalation are not fulfilled and subsequently due to additional work and extension of time attributable to Jaipur Development Authority both the conditions become fulfilled in that case the escalation shall be payable from the date of satisfying both the conditions and only for work done beyond Rs. 50 lacs and in period of work beyond 6 months.

17. The contractor shall for the purpose of this conditions keep such books of account and other documents as are necessary to show the amount of any increase climbed or reduction available and shall allow inspection of the same by a duly authorised

representative of Jaipur Development Authority and further shall at the request of the Engineer in charge furnish verified in such a manner as the Engineer in charge may require any documents so kept and such other information as the Engineer in charge may require.

Clause 46 Force Majeure:

Neither party shall be liable to each other for any loss or damage occasioned by or arising out of acts of God such as unprecedented floods volcanic eruptions earthquake or other invasion of nature and other acts.

Clause 47: General discrepancies and errors:

In case of percentage rate bids if there is any typographical or clerical error in the rates shown by the Department in the "G" schedule the rates as given in the basic schedule of Rates of the Department of the area shall be taken as correct.

Clause 48: Post payment audit & technical examination:

The Jaipur Development Authority shall have right to cause an audit and technical examination of the works, and the final bills of the contractor, including all supporting vouches, abstracts etc., to be made within 2 years after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been over paid in respect of any work done by the contractor under the contract or any work claimed by him to have been done by him under the contract and found not to have been executed below specifications, the contractor shall be liable to refund the amount of over payment and it shall be lawful for Department in recover the same from him in the manner prescribed in clause 50 or in any other manner legally permissible and if it is found that the contract was paid less than what 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 the Jaipur Development Authority to the contractor.

Clause 48A: Pre check or post check of Bills:

The Jaipur Development Authority shall have right to provide a system of pre-check of contractor bills by specified organisation and payment by an Engineer or an accounts officer/Sr. Accounts Officer/Chief Accounts Officer/ Financial advisor as the Jaipur Development Authority may in its absolute discretion prescribe any overpayments/excess payments detected as a result of such pre-check or post check of contractor's bills can be recovered from the contractor's bills in the manner herein before provided and the contractor will refund such over/excess payments.

Clause 48 B: Check Measurements:

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 (about which the decision of the department shall be final) checking of measurement by superior officer shall

supersede measurements by the subordinate officer and the former will become the basis of the payment. Any over/excess payment detected as a result of such check measurement or otherwise at any stage upto the date completion and the defect removal period specified elsewhere in this contract shall be recoverable from the contractor as any other dues payable to the government.

Clause 49: Dismantled Materials:

The Contractor in course of the work should understand that all materials e.g. bricks still and other obtainable in the work by dismantling etc. will be considered as the property of the Jaipur Development Authority and will be disposed off to the best advantage of the Jaipur Development Authority as per directions of the Engineer in-charge.

Clause 50: Recovery from contractors:

Whenever any claim against the contractor for the payment of a sum of money arises out of or under the contract the Department shall be entitled to recover such sum by appropriating in part or whole of the performance guarantee and/or security deposit. Security Deposit at the time of enlistment of the contractor. In the event of the security being insufficient or if no security has been taken then the balance or the total sum recoverable, as the case may be shall be deducted from any sum then due or which at any time thereafter may become due to the contractor, under this or any other contract with the Jaipur Development Commissioner of Jaipur Development Authority of Rajasthan should this sum be not sufficient to cover the full amount recoverable the contractor shall pay to the department on demand the balance remaining dues.

The department shall further have the right to affect such recoveries under public Demands recovery Act.

Clause 51: Jurisdiction Court:

In the event of any dispute arising between the parties hereto in respect of any of the matters comprised in this agreement the same shall be settled by a competent court having jurisdiction over the place where agreement is executed and by no other court after completion of proceeding under clause 23 of this contract.

Schedule of Material to be supplied by the Department if available
(Referred is in Clause 10)

S.No.	**Particulars**	**Quantity**	**Rates**		**Place of Delivery**
			Unit	Rupees	
1	NIL	NIL		NIL	

Schedule of Machinery /T&P to be supplied by the Department:

The following Machinery/ T & P shall be supplied by the Department if available to the contractor on hire as per rules of the Department for supply for machinery /T& P to the contractors on hire charges (Referred to in Clause 10 C)

S.No.	Item	Rate (Rs.)	Place of Delivery Return
1	NIL	NIL	

Progress Statements referred to in clause 2 of conditions of contract.

Name of work	Date from which the work should be commenced	Date by which the work should be completed	Monthly rate of progress
1	2	3	4

The contractor has been informed that his bid has been accepted.

Dated …….Signature Dated……..Signature of Contractor

Notes: For Filling in the Progress Statement Form

1. Columns 2.3 and 4 must be initialed and dated by the contractor
2. Column 4 must be initialed and dated by the JDA or other duly authorized Engineer also.
3. The date in column 2 correspond to the date on which the order to commence work is given to the contractor read with clause 2 of the conditions of contract.
4. The date in column 3 must correspond to the period stated in sub clause (e) of the Memorandum below bid for works:
5. Column 4 this will ordinarily be worked out proportionately thus for example if ` 240000/- is the cost of whole or portion of work bided for and six months period of completion then the monthly rate of progress should be Rs. 4000. If necessary quantities may also be specified in this column at the discretion of the JDA.
6. The certificate as to intimation of acceptance of bid printed at the foot of the form must be signed and dated both by the Director (Engineering)-I or other duly authorized Engineer and the contractor.

ANNEXURE TO APPENDIX XI
RAJASTHAN PUBLIC WORKS DEPARTMENT CONTRACTORS LABOUR REGULATIONS

1. **Short Title**: These Regulations may be called "The Rajasthan Public Works Department Contractor's-Labour Regulations."

2. **Definition** : In these Regulations unless otherwise expressed or indicated, the following works and expressions shall have the meaning hereby assigned to them respectively, that is to say -**(i) "Labour"** means works employed by a Rajasthan P.W. Department contractor directly or indirectly through a sub-contractor or other person by an agent on his behalf.

   (ii) **"Fair Wage"** means minimum wages for time or piece work fixed or revised by the State Government under the Minimum Wages Act, 1948.

   (iii) **"Contractor"** shall include every person whether sub-contractor or headman or Agent employing labour on the work taken on contract.

   (iv) **"Wages"** shall have the same meaning as defined in the Payment of Wages Act and includes time and piece, rate wages.

3. **Display of Notice regarding wages etc.**: The contractor shall (a) before he commences his work on contract, display and inconspicuous place on the work notices in English and the correctly maintain in Hindi by the majority of the workers giving the rate of wages which have been certified by the Executive, Engineer, the Superintending Engineer, the Chief Engineer or Labour Commissioner as fair wages and the hours of works for which such wages are earned, and (b) such a copy of such notices to the Certifying Officers.

4. **Payment of Wages :**

   (i) Wages due to every worker shall be paid to him direct.

   (ii) All wages shall be paid in current coin or currency or in both.

5. **Fixation of wage periods** :

(i) The contractor shall fix the wage periods in respect of which the wages shall be payable.

(ii) No wage period shall exceed one month.

(iii) Wages of every workman employed on the contract shall be paid before the expiry of ten days after the last day of the wage period in respect of which the wages are payable.

(iv) When the employment of any worker is terminated by or on behalf or the contractor, the wages earned by him shall be paid before the expiry of the day succeeding the one on which his employment is terminated.

(v) All payments of the wages shall be made on a working day except when the work is completed before the expiry of the wage period, in which case, final payments shall be made within 48 hours of the last working day.

Note: The term "working day" means a day on which labour is employed in progress.

6. **Wage Book and Wage Slips etc.**

(i) The contractor shall maintain a Wage Book of each worker in such form as may be convenient but the same shall include the following particulars :-

(a) Rate of daily or monthly wages.

(b) Nature of work on which employed.

(c) Total number of days worked during each wage period.

(d) Total amount payable for the work during each wage period.

(e) All deductions made from the wages with an indication in each case of the ground for which the deduction in made.

(f) Wages actually paid for each wage period.

(ii) The contractor shall also maintain a wage slip for each worker employed on the work.

(iii) The Executive Engineer may grant an exemption from the maintenance of the wage books and wages slips to a contractor who, in his opinion, may not directly or indirectly employ more than 50 persons on the work.

7. Fines and deductions which may be made from wages:

(i) The wages of a worker shall be paid to him without any deductions of any kind except those authorized, namely the following:

(a) Fines

(b) Deductions for absence from duty i.e. from the place or places where, by the terms of his employment, he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

(c) Deductions for damages to or loss of goods expressly entrusted to the employed person for custody or for loss or any other deductions of money, which he is required to account where such damages or losses are directly attributable to his neglect or default.

(i) The Rajasthan Government may, from time to time, allow deductions other than those specified in clause I above.

(ii) No fines shall be imposed on a worker and on deduction for damage or loss shall be made until worker has been given an opportunity or showing cause against each fine or deductions.

(i) The total amount of fines, which may be imposed in any one wage period on a worker, shall not exceed an amount equal to three paise in rupee of the wage payable to him in respect of that wage period.

(ii) No fine imposed on any worker shall be recovered from him by installments or after expiry of 60 days from the date on which it was imposed.

8. **Register of fines etc.**: The contractor shall maintain a register of fines and of all deductions for damage or loss. Such register shall mention the reasons for which fine was imposed of deduction for damage or loss was made. The Contractor shall maintain both in English and local Indian Language a list approved by the labour Commissioner clearly stating the acts and omission for which penalty or fine may be imposed on a workman and display it in a good condition in conspicuous place on the work.

9. **Preservation of Register**: The wage register, the wage card and the register of fines deduction required to be maintained under these regulations, shall be preserved for 12 months after the date or the 1st entry made in them.

10. **Powers of Labour Welfare Officer to make investigation of enquiry**: The Labour Welfare Officer or any other person, authorized by the State Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and provisions of the regulations. He shall investigate into any complaint regarding default made by the Contractor of Sub-Contractor in regard to such provisions.

11. **Report of Labour Welfare Officer**: The Labour Welfare Officer or other person, authorized as a aforesaid, shall submit a report of the result of his investigation or enquiry to the Executive Engineer concerned indicating the extent, if any to which the defaults has been committed with a note that necessary deductions from the contractors bill be made and the wage and other dues be paid to the labour concerned in case an appeal is made by contractor under clause 12 of these regulations, actual payment to Labours will be made by the Executive Engineer after the Labour Commissioner had give decision on such appeal.

12. **Appeal against the decision of labour Welfare Officers**: Any person aggrieved by the decision and recommendation of the Labour Officer or other persons, so authorised, and may appeal against. Such decision to the Labour Commissioner within 30 days from the date do decision forwarding simultaneously a copy of his appeal to Executive Engineer concerned but subject to such appeal the decision of the Officer shall be final and binding upon the contractor.

12-A. No Party shall be allowed to be represented by a lawyer during any investigation enquiry appeal or any other proceedings

13. **Inspection of Wage Books and Slips** : The contractor shall allow inspection of the wage books and wage slips and register of fines and deductions to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Welfare Officer or any other person authorised by the State Government on his behalf.

14. **Submission of Returns**: The contractor shall submit periodical returns as may be specified from time to time.

15. **Amendments**: The Jaipur Development Authority may from time to time add to or amend these regulations and on any questions as to the application interpretation effect of these regulations the decision of the Labour commissioner to the Jaipur Development Authority or any other person authorised by the State Jaipur Development Authority in that behalf shall be final. Progress Statement referred to in Clause 3 of Conditions of Contract.

Name of works	**Date from which the work should be commenced**	**Date by which the work should be completed**	**Monthly rate of progress**
1	**2**	**3**	**4**

The contractor has been informed that this bid has been accepted.

Date: **Date:**

Sig. Engineer in charge **Sig. Contractor**

NOTES FOR FILLING IN THE PROGRESS STATEMENT FROM THE LAST PAGE

1. Columns 2,3 and 4 must be signed and dated by the contractor,
2. Column 4 must be signed and dated by the Director (Engineering) or other duly authorized Engineer also.
3. The date in column 2 should correspond to the date on which the order to commence works is given to the contractor specified in line 3 clause 2 page 3 of the conditions or contract.
4. The date in column 3 must correspond to the period stated in clause (f) page 2 of the bid.
5. Column 4. This will ordinarily be worked out proportionately thus, for example, if `. 240000/- is the cost of the whole or portion of work bided for and six months period of completion then the monthly rate of progress should be Rs. 4000. If necessary, quantities may also be specified in this column at the discretion of the JDA.
6. The certificate as to intimation acceptance of bid printed at the foot of the form must be signed and dated both by the JDA or other duly authorized Engineer and the Contractor.

SCHEDULE OF FAIR WAGE TO BE GIVEN BY EXECUTIVE ENGINEER LIST OF ACTS AND COMMISSION FOR WHICH FINE CAN BE IMPOSED

(1) Without insubordination or disobediences whether alone or combination with another.

(2) The fraud or dishonesty in connection with the contractors business or property of the Rajasthan P.W.D./JDA.

(3) Taking or giving bribes or any illegal gratification

(4) Labour late attendance

(5) Drunkenness fighting not or disorderly or indecent behavior

(6) Habitual negligence

(7) Smoking near or around the area where combustible or other materials are stocked

(8) Habitual indiscipline

(9) Causing damage work in progress or to property of the Rajasthan P.W.D./ JDA or the contractor

(10) Sleeping on duty

(11) Malingering or sowing down work.

(12) Giving of information regarding name age father's name

(13) Habitual loss of wage cards supplied by the employers

(14) Un-authorised use of employer's property or manufacturing or making of unauthorized articles at the work place.

(15)Bad workmanship in construction and maintenance by skilled workers is not approved by the department and for which contractors are compelled to undertake rectification.

(16) Making false complains and/or misleading statement

(17) Engaging in trade within the premises of the establishment

(18) Any delinquency of business affairs of the employers

(19) Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.

(20) Holding meeting inside the premises without previous sanction have the employer

(21) Threatening or intimidating any workman or employee during the working hours within the premises.

(Signature of contractor) (Signature of Engineer)

STATEMETN OF PAYMENT & RECOVERIES TO BE ATTACHED WITH THE AGREEMENT OF WORKS

			Recoveries									Net Amt.	C.B.Vr. No. & Date	Date rates of	
S.No.	Gross amt. of Bill	Progressive total amt. of Bills	Materials T&P	Quantity Hours	Amount	S.D.	Income tax deduction	Sales Tax	Royalty	Other Recoveries	Total Recoveries			D.A.O	E.E.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Signature of Bidder

SECTION – 3

(OTHER CONDITIONS OF CONTRACT)

SECTION - 3

OTHER CONDITIONS OF CONTRACT

3.1 GENERAL

3.1.1 THESE OTHER CONDITIONS OF CONTRACT' (OCC) SHALL BE APPLICABLE TO THIS BID IN AMPLIFICATION/MODIFICATION OF THE 'GENERAL CONDITIONS OF CONTRACT'(GCC).

3.1.2 In case any clause provided in GCC is modified/amplified in OCC, then provision in OCC will be binding and will prevail over the corresponding provisions in GCC.

3.1.3 The Contractor shall carry out the Works based on the following:

(i) Rajasthan PWD Standard Specifications (Civil works)

(ii) MORT&H/IRC Specifications (latest revision) wherever applicable

(iii) Indian Electric Rules 1956, Indian Electric Act 1910 and Rajasthan PWD specifications for electrical works or as specified in this document as directed by employer/engineer.

Any item not covered by the aforementioned documents shall be covered by CPWD specifications.

The attention of the contractor is drawn to those clauses of codes, which require supporting specification either by the engineer or by mutual agreement between the Contractor and Employer. In such cases, it is the responsibility of the Contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the Contractor without involving separately any additional payment.

The latest edition of all Specifications / Standards till 30 (Thirty) days before the final date of submission of the bid, shall be adopted.

3.2 SCOPE OF WORK AND DEVIATIONS

3.2.1 Scope of work would be as specified under Instructions to Bidders (Section- 1 of Bid Documents).

3.2.2 The Contractor is not to vary or deviate from the drawings/specifications/stipulations as submitted by contractor and finally approved by Jaipur Development Authority(JDA) for execution, conditions of bid documents or instructions to execute work of any kind, whatsoever, unless so authorised by the Engineer-in-charge (E.I.C.) in writing. If, compliance with the E.I.C's aforesaid order involves extra work and/or expense beyond that is involved in the execution of the contract work, then unless the same were issued in

consequence of some breach of this contract on part of the Contractor(s), the latter shall be entitled to be paid the price of the said work to be valued as provided in 'GCC'.

3.2.3 The several documents forming the contract are to be taken as mutually explanatory to one another, detailed drawings being followed in preference to small scale drawings and figured dimensions in preference to the measured ones.

3.2.4 The right to carry out the work either in conformity with or in a manner entirely different from the terms of these Bid Documents that may be considered the most suitable before or subsequent to the receipt of bids due to exigencies of work is reserved with the EIC.

3.2.5 It shall be the responsibility of the Contractor to promptly bring to the notice of E.I.C. any error or discrepancy in the Contract Documents and obtain his orders thereon. Only stated dimensions are to be taken and not those obtained by scaling drawings. In case any feature of the work is not fully described and set forth in the drawings and specifications, the Contractor shall forthwith apply to the EIC for further instructions, drawings and specifications.

3.2.6 In case of errors, omission and/or disagreement between written and scaled dimension in the drawings and between the drawings and specifications, the following principles shall be followed.

a) As between the written description or written dimension in the drawing and the corresponding one in the specification, the former shall apply.

b) The drawing on a large scale shall take precedence over that on a smaller scale, and

c) Drawing approved as construction drawing from time to time shall supersede corresponding drawing previously approved.

3.3 RATES AND OTHER FINANCIAL CONDITIONS

3.3.1 The rate quoted in the bid must be for the finished work as per the drawings and specifications and unless clearly specified otherwise, shall be inclusive of all expenses for the proper and entire completion of work and shall be inclusive of all labour, material and other inputs, taxes, duties and levies including sales tax, municipal taxes, local taxes, octroi, all royalties, patent rights, other incidental charges etc. The rate offered shall be final and no claim whatsoever on any account shall be entertained.

3.3.2 Sales Tax/ VAT Clearance Certificate

3.3.2.1 If the Contractor is a Sales Tax assessee, he should produce a valid sales tax/VAT clearance certificate before payment of final bill; otherwise final payment to the contractor may be withheld.

3.3.2.2 If the contractor is not liable to sales tax assessment, a certificate to this effect from a competent Sales Tax authority shall be produced before payment of final bill, otherwise final payment to the contractor may be withheld.

3.3.3 Insurance

3.3.3.1 Requirements

Before commencing execution of works, it shall be mandatory for the contractor to obtain at his own cost insurance cover to meet the cost of compensation to be paid by the contractor for any accidents/incidents pertaining to J.D.A staff, site execution staff, labour, materials, plant and third party damages etc., under the following requirements:

a. Contractor's all risk and Third Party Cover.

b. Liability under the Workmen's Compensation Act, 1923, Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act 1970.

c. Accidents to staff, Engineer, Supervisors and others who are not governed by Workmen's Compensation Act.

d. Damage to Material, Machinery and works due to fire, theft etc.

e. Any other risk may be specified in the Special Conditions of Contract.

3.3.3.2 Insurance policy in joint names of Contractor and Employer

The policy referred to under sub-clause 3.3.3.1 above shall be obtained in the joint names of the contractor and the employer and shall inter-alia provide coverage against the following, arising out or in connection with execution of works, their maintenance and performance of the contract.

- Loss of life or injury involving public, employee of the contractor, or that of Employer or Engineer, labour etc.
- Injury, loss or damages to works or property belonging to public, Government Bodies, Local Authorities, utility organizations, contractors, employers or others etc.

3.3.3.3 Currency of Insurance Policy

The policies shall remain in force throughout the period of execution of the works and till the expiry of the Defect Liability Period. The contractor shall, submit to the Engineer or his representative the copies of various insurance policies obtained by him as also the rates of premium and the receipts for premium paid by him to ensure that the policies indeed continue to be in force.

3.3.3.4 Deduction of Income Tax (TDS)

Deduction towards income tax and any other tax shall be made at source from each on account bill by the employer as per rules of Central Govt./ State Govt.

3.3.4 Release of Security Deposit

The Security Deposit will be release as per provisions of Clause 37 of GCC after Passing of Final Bill after satisfactory performance certificate issued by Engineer- In-Charge:- Provided always that, no 'Security Deposit' amount shall become due nor payable to the contractor unless all the stipulations of the contract have been fulfilled by the contractor and all claims and demands made by the employer for and in respect of damage or loss by, from or in consequence of the works have been finally satisfied.

3.4 SETTING OUT

3.4.1 The Contractor(s) is/are to set out the whole of the work in conjunction with an officer to be deputed by the EIC and during the progress of the work to amend on the requisition of the EIC any errors which may arise therein and provide all the necessary labour materials and equipments for so doing. The contractor(s) is/are to provide all tools, plant, machinery, labour and materials (with the exceptions noted in the relevant clauses for issue of departmental materials as per schedule attached) which may be necessary and required for the work. All materials and workmanship shall conform to the relevant specifications mentioned in the bid documents.

3.5 SITE AND CONTRACTOR'S OFFICE

3.5.1 The Contractor shall set up an office in Jaipur in case he does not have one already, for planning and co-ordination of the present bid/contract. He shall furnish to the Employer postal address of the same.

3.5.1.1 The Contractor shall also have an office at site and shall furnish to the Employer/E.I.C. the postal address of his site office.

3.5.1.2 The contractor shall provide and maintain at the work site, an air conditioned site office for Employer's engineering staff, of floor area not less than 35 Sq M with two rooms of adequate size reasonably furnished with furniture , computer with operating system software and latest (authenticated) working software like Auto Cad, Primavera / MS project MS word, MS Excel, etc, and coloured multi functional printer (MFP) A-3 size printer. The site office shall also be equipped with broadband connection (speed not less than 2.0 mpbs), with attached toilet and watch and ward and one attendant. The contractor shall also arrange all necessary IRC codes, IS codes MoRTH Specifications and other technical literature, etc as directed by EIC of latest version in soft copies as well as hard copies, in the site office. The contractor shall bear the monthly cost of electricity, water consumption, broadband, stationary and other consumables of the site office. Nothing extra shall be payable on this account and the bided cost of contract shall be deemed to include in the cost for the main works. In case of non satisfaction of the services being provided or maintained a maximum deduction of Rs. 25,000.00 per month will be made by the EIC.

3.5.1.3 Any notice or instructions to be given to the Contractor under the terms of the contract shall be deemed to have been served on him if it has been delivered to his

authorised agent or representative at site, or if it has been sent by registered post to the site office or to the address of the firm last provided by the Contractor.

3.5.2 Use and Care of Site

3.5.2.1 The Contractor shall not demolish, remove or alter structure or other facilities on the site without prior approval of the EIC.

3.5.2.2 All garbage shall be burnt or removed from the site as it accumulates. All surface and sub soil drains shall be maintained in clean, sound and satisfactory state of performance.

3.5.3 Materials, tools and plants.

3.5.3.1 The Contractor shall supply at his own cost all materials, plants, tools, appliances, implements, ladders, tackle, scaffolding and temporary works or any other item required for the proper execution of the work, whether original, altered or substituted and whether included in the specification or other documents forming part of the contract referred to in these conditions or not, which may be necessary for the purpose of satisfying or complying with the requirements of the EIC to any matter as to which under these conditions he is entitled to be satisfied or which he is entitled to require together with carriage thereof to and from the work. Materials so supplied shall have the approval of EIC before being used on the works. All the rejected materials shall be removed at once from the site of work at the Contractor's own cost.

3.5.4 Storage of Materials

3.5.4.1 Materials required for the work whether purchased by the contractor or supplied by the Employer shall be stored by the Contractor only at places, in standard profiles and in the manner approved by the EIC. The Contractor shall construct suitable go downs at the site of work for safety against damage due to sun, rain, dampness, fire, theft etc. Storage of cement at site of work shall be at Contractor's expense and risk. In the event of any damage occurring to cement due to faulty storage in Contractor's sheds, or on account of negligence on his part, such damage shall be the liability of the Contractor.

3.5.4.2 Safety of materials

Storage and safe custody of materials shall be the responsibility of the Contractor. He shall employ necessary watch and ward establishment for that purpose and no extra claim whatsoever shall be entertained on this account.

3.5.5 Supply of water and electric power

3.5.5.1 The contractor shall have to make his own arrangement for water supply and electric power necessary for the work. Any recommendatory letters to the concerned department shall be issued by the JDA for this purpose if requested by the contractor. However, JDA shall not be responsible for any delay in getting the required supply and no claim on this account will be acceptable by JDA.

3.5.5.2 Electric supply, charges and precautions

The electric connections shall be obtained by the contractor for use for the work under the contract subject to the following conditions:-

a) The charges pertaining to electric supply including installation of temporary connection including the cost of making electric sub-station if needed, laying cables wherever necessary upto the meter from the relevant electricity supply authority pole and from meter upto actual consumption point and the cost of electricity shall be borne by the Contractor. The Contractor shall also bear the entire cost of connection charges in case electric connection is discontinued by the electric supply authority.

b) It will be the responsibility of the Contractor to make necessary arrangements for the illumination to be provided on the main road in the work area. The Contractor shall make his own arrangement for any further requirements in respect of illumination at site of work. No claim whatsoever on this ground shall be entertained and the Contractor shall bear the full expenses in respect of the same.

c) The Contractor shall at all times observe the Indian Electricity Rules and any other rules/bye laws applicable at the time and any damage/penalty on account of violation of any of the rules/bye laws shall be responsibility of the Contractor.

d) The Employer shall in no way be responsible for any delay in getting the electric connection and no claim on this account whatsoever, shall be entertained. It should be clearly understood that the Contractor has to make his own arrangement for use before the electric connection is made available and also to be used as a stand-by arrangement in case of power failure etc. or in the case of disconnection of electric supply by electric supply authority for any reason.

e) It shall be mandatory for contractor to provide safety light during night for safe movement of traffic and provide follow safety instruction provided in IRC code for safety in construction zone.

3.6 ACCESS ROADS AND HAUL ROADS

3.6.1 Existing public roads may be used by the Contractor to carry out construction activities with prior approval of the competent authority. The Contractor shall pay all statutory vehicle licenses and permit fees for the use of public roads.

3.6.2 The Contractor shall indemnify the Employer against all claims for damage to any road or bridge caused by movement of his traffic, including such claims as may be made directly against the Employer and shall negotiate and pay all claims arising out of such damage.

3.6.3 No extra payment will be made for construction and maintenance of any temporary haul roads including any special protection or strengthening required and all cost of such works shall be deemed to have been included in the cost quoted by the Contractor.

3.7.1 SAFETY, LIGHTING AND FIRE PREVENTION

Safety of Workers

3.7.1 The Safety Code annexed to the General Conditions of Contract supplemented by the other instructions by the EIC and Conditions of Contract for Safety, Health and Environment (SHE) as per Section7,shall be strictly followed. All the safety procedures as per law of the land shall be binding on the Contractor.

3.7.2 Over and above the provisions made in Safety Code included in GCC and Conditions of Contract for Safety, Health and Environment (SHE), the following will also be applicable.

3.7.3 In respect of all workmen directly employed on the work for the performance of the Contractor's part of this agreement, the Contractor shall at his expense arrange for the safety provisions as per Indian Standard Safety Codes given below and shall at his own expense provide for all facilities in connection therewith. In case the Contractor fails to make arrangements, and provide necessary facilities as aforesaid, he shall be liable to pay penalty prescribed under relevant clauses of these bid documents for each default and in addition the EIC shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred on that account from the contractor and no claims whatsoever shall be entertained.

1. IS 3696 (Part I); Safety Code for Scaffolds and Ladders.
2. IS 3696 (Part II); Safety Code for Scaffolds and Ladders Part II.
3. IS 3764, Safety Code for excavation work.
4. IS 4081 , Safety Code for blasting and drilling operations
5. IS 4138, Safety Code for working in compressed air.
6. IS 5121; Safety Code for piling and other deep foundations.
7. IS 5121, Safety Code construction involving use of hot bituminous materials.
8. IS 7293, Safety Code for working with construction machinery.
9. IS 7969, Safety Code for storage and handling of building materials.

10. IRC safety code for construction zone IRC(SP) 55 2001
11. Any other code and/or as per directions of EIC.

12. The contractor shall be responsible for providing following services/ measures for which no extra payment shall be made as per directions of Engineer In charge.

(a) The contractor shall take all necessary precautions for excavation for construction and simultaneously to maintain the service road carriageway uninterrupted for all direction traffic throughout construction period. He should also give his methodology of carrying out the construction, list of equipment and procedure to be followed without delaying the project. The methodology shall only be adopted after approval from Engineer In charge. The contractor should cover all the expenses due to methodology adopted and construction difficulties in the quoted rates.

(b) Contractor has to divert and manage traffic by deploying marshals with reflective shirts, torch/reflective sticks. In the absence of marshals JDA shall deploy the marshals at market rate and recovery from the contractor will be done at double the rate paid from his running payments. The open excavation shall be done taking proper care for land sliding as per IS Code 3764 and other. Slope shall be limited to space available at site at least 2 lanes should be available for either side traffic such arrangement as approved by Engineer In charge shall be done by contractor at his own cost.

(c) In case of any lapse , if found in barricading the site of work then, agency will be liable for penalty @ Rs. 5000/-per day (Rs. Five Thousand per day) till the rectification of the same as per directions of Engineer In charge in construction area. The contractor shall enclose the area completely. The steel plates should have the Name of Agency, Name of Client and "Construction in Progress" duly written as approved by Engineer In charge.

(d) The contractor shall construct and maintain the 2 lane diversion road with bituminous surface road for bridge work for smooth movement of all traffic during construction period. No cost will be payable for this diversion work.

(e)The contractor shall be responsible for immediately removing the accident vehicle/ material by mobile crane for least hindrance to the traffic in construction area and to arrange the ambulance as per requirement immediately.

(f) The contractor shall take all necessary measures for the safety of traffic and the workers during construction and provide, erect and maintain such barricades including signs, markings, flags, lights and flagmen as necessary, all around the excavation/construction area and at such intermediate points, as directed by the EIC including the proper identification of the construction areas. He shall be responsible for all damages and accidents on account of

construction and other relevant activities. Nothing extra shall be paid on account of above.

The temporary warning signs/lamps, rope lights etc. shall be installed at all barricades during the hours of darkness and kept lit there at all times during these hours and nothing shall be paid extra on this account. However, traffic police signals shall not be the responsibility of the contractor.

(g)The contractor will be responsible for following all the norms, instructions mentioned in Safety Codes of IS/ BS or other for every construction activity, heavy machines including operator and technical staff. In case of any casualty JDA will not be responsible for negligence of contractor. He will appoint safety induction officer having minimum qualification, Diploma in such field with minimum 5 years experience in similar nature of works.

(h)Nothing extra will be paid on account of Dewatering.

3.7.4 a. NIGHT WORK

i. For completing the work in time, the Contractor might be required to work in two or more shifts (including night work) and no claim whatsoever shall be entertained on this account, notwithstanding the fact that the Contractor will have to pay to the labour and other staff engaged directly or indirectly on the work according to the provisions of the labour regulations and the agreement entered upon and/or extra amounts for any other reason.

ii. Night working shall be resorted to only with prior approval of the EIC. Sufficient lighting and safety arrangements shall be made by the Contractor at no extra cost.

iii. The Contractor shall provide and maintain adequate firefighting equipment and take adequate fire protection measures for the safety to all personnel and temporary and permanent workers and shall take action to prevent damage or destruction by fire of trees, shrubs and grass. All existing rules and laws of land in respect of fire prevention shall be binding on the Contractor.

iv. No extra payment shall be made for the provision of temporary lighting and ire prevention measures and entire cost of all such works shall be deemed to have been included in cost tendered by the Contractor as accepted by JDA.

b. SECURITY MEASURES

Security arrangement for the work shall be adequate conforming to IS Codes, applicable rules and laws of the land. The contractor shall be held responsible for the action or inaction on the part of his staff and employees and also those of any approved sub-contractor. The Contractor shall also provide and maintain adequate security personnel on continuous basis for ensuring security of the works for duration of contract.

The requirement of security measures to be taken by the Contractor shall include, but not be limited to maintenance of law and order at site, provision of all lighting,

guards, flagmen and all other measures necessary for protection of works within the colonies, camps and elsewhere at site, all materials delivered to the site and all persons employed in connection with the work continuously throughout working and non-working periods including nights, Sundays and holidays for the duration of the contract. In close proximity of traffic corridors where public are likely to come close to the work area, suitable barriers/fencing as directed by EIC shall be provided.

c. ANCILLARY AND TEMPORARY WORKS

i. The contractor's proposals for execution of all ancillary and temporary works shall be in conformity with the proposals submitted along with the Tender and modification thereto as approved by the EIC.

ii. The Contractor shall submit drawings, supporting design calculations when called for by the EIC and other relevant details of all such work to the EIC for approval well before he desires to commence such works. Approval by the EIC of any such proposal shall not relieve the Contractor of his responsibility.

iii. No extra payment shall be made for complying with the provisions of this clause. The cost of the same shall be deemed to be included in the Tendered Cost as accepted by the Employer.

d. ECOLOGICAL BALANCE

i. The Contractor shall maintain the ecological balance by preventing deforestation, water pollution and defacing of natural landscape. The Contractor shall so conduct his construction operations as to prevent any destruction, scarring or defacing of natural surroundings in the vicinity of work or damage to any tree, shrub or water course unless any of the same is specifically required to be cleared or removed for construction purposes. Such removal shall only be done with prior approval of EIC who may require the contractor to do compensatory plantation at his cost.

ii. No separate payment shall be made for complying with provisions of this clause and all costs shall be deemed to have been included in the Tendered Cost as accepted by the Employer.

iii. The Contractor shall make his own arrangement for the disposal of the spoils from the works to such place where the same shall not cause nuisance and shall be acceptable to the authorities concerned.

e. SERVICES

i. Underground and overhead services are likely to be met with during construction. These are to be protected against damage by the Contractor at his own cost.

ii. The contractor shall not have any claim in case of delay in shifting of services or removal of obstructions. However, suitable extension of time shall be granted by Engineer-in-charge for such delays proportionately. Shifting charges shall be met by the Employer.

iii. No extra payment will be made to the contractor for damage caused by rains, floods, earthquake, fire, accidents and other natural calamities during the execution of work.

f. PROGRESS & PROJECT MONITORING
(Amplification of clause 2 of GCC)

i. After the work order issued by JDA, the contractor shall submit within 7 days the complete detailed work programme mentioning Key Dates for the mile stones defined in section **3.12.2.2**. and got it approved by JDA, failing which JDA may fix key dates at its own which shall be binding to the contractor and shall be applicable for deduction of liquidated damages as mentioned in clause **3.12.2.2**. The contractor shall also submit monthly programme in the first week of every month to the EIC an up to date primavera / MS project hard copy detail showing changes and covering backlog of previous month, if any, in planning or scheduling and reflecting the project status as at the end of previous month. If the contractor fails to submit the proper work program within first week of the month, penal deduction of Rs. 5,000.00 (Rupees Five Thousand) per day will be made.

ii. Whenever the contractor proposes to change the construction programme he shall immediately advise the EIC in writing and, if the EIC considers the change a major one, the contractor shall submit a revised programme for approval.

iii. If the contractor falls behind the approved construction programme, he shall, within fourteen days of the date of such default, submit for approval a revision of the construction programme showing the proposed measures, including augmentation of plant, labour and material resources to complete the works on time.

iv. Whenever required by the Engineer, the contractor shall also prepare and submit system-wise network in a similar manner after award of the work. These networks will be computerized to generate the following reports :-

- System-wise Activity List for the next two months.
- Criticality report.
- Hold up and Slippage Report.

a) i) **Master Control Network**

Master Control Network shall give details of broad scheduling, major milestones, critical path and provide a control for the overall project implementation. This network plan shall be used for joint monitoring of the project schedule by the EIC and the Contractor.

Detailed Network Plan shall be prepared by the Contractor for each and every activity within the same time frame and in the same sequence as indicated in the master work plan.

b) If so required by the EIC, the Contractor shall select PC-based broad planning and control software on which the two networks shall be implemented. Software selected shall be such that it should be possible to monitor the project programme continuously and obtain periodical reports in the form of GANTT chart and/or PERT chart. The contractor shall supply one licensed copy of the software selected along with the Master Control Network and Detailed Network Plan free of cost and load it on the PC system of the EIC so that uniform monitoring of the project is done and any slippages are identified well in time and corrective action taken.

v. The following reports in agreed formats and frequency shall be submitted by the Contractor at his own cost.

- Progress Reports.
- Material Status Reports
- Equipment and Manpower Deployment Reports.
- Any other reports desired by the Employer or the Engineer

vi. The EIC's monitoring team will have access to all the data/information of the contractor, required for the assessment of the progress and monitoring. If necessary, the monitoring team will visit the Contractor's works in order to assess the details of critical activities.

vii. The Employer or the EIC will hold periodical Progress Status Review Meeting. The Contractor shall depute his Engineers/Managers at appropriate level as decided by the EIC to attend the Review Meeting.

viii. Progress photographs of the major events shall be submitted by the Contractor along with the Progress Reports. No extra payment will be made for supply of progress photographs. Video recording of the progress of works shall be maintained from beginning till completion of work as directly by the EIC and two copies of Video Cassettes shall be submitted at no extra cost to the Employer.

ix. Contractor shall provide additional inputs whenever the PERT-CPM diagram indicates a possible slippage in the completion schedule. Such additional inputs may require supplementing of equipment, personnel, work in excess of the normal work per day, work in excess of the normal work per week or other resources.

x. No separate payment shall be made for the requirement under this clause and the same shall be deemed to be included in the Tendered Cost as accepted by the Employer.

g. RIGHT OF WAY

i. Right of way to the work site will be provided to the contractor. The contractor shall prepare at his own cost approach road to the site of work. The Employer reserves the right to make use of the service road for themselves, all other connected agencies in the area as and when necessary

without any payment to the contractor. If the contractor wishes to use the existing roads, he may do so after taking permission from competent authority and after due strengthening of such roads to take any anticipated heaviest traffic at their own cost as may be required by the authority.

ii. The contractor shall plan transportation of construction materials, components and equipments over public roads in accordance with traffic regulations as applicable at the time and without causing any obstruction to other traffic or causing accident. No claim whatsoever will be entertained on this account.

iii. All arrangements for maintenance of traffic diversion including traffic signals/regulations during construction and maintenance period shall be considered as incidental to the work and contractor's responsibility and nothing extra shall be payable in this respect.

iv. The contractor shall take all necessary measures for the safety of traffic and the workers during construction and provide, erect and maintain such barricades including signs, markings, flags, lights and flagmen as necessary, all around the excavation/construction area and at such intermediate points, as directed by the EIC including the proper identification of the construction areas. He shall be responsible for all damages and accidents on account of construction and other relevant activities. Nothing extra shall be paid on account of above.

v. The temporary warning signs/lamps shall be installed at all barricades during the hours of darkness and kept lit there at all times during these hours and nothing shall be paid extra on this account. However, traffic police signals shall not be the responsibility of the contractor.

h. **CORPORATE SOCIAL RESPONSIBILITY (CSR)**

The contractor shall construct one toilet block including all civil, water supply, and sanitary works and electrical installation (covered area 15 SqM approx.) duly finished in all respect in the nearby Government School or any other location at his own cost as per direction of Engineer-in charge. Cost to be incurred on this account will be deemed to be included in the cost of main work and no extra payment on this account will be made. However in the event of non execution of this work proportionate amount as decided by Engineer in charge will be deducted. The cost of construction will be as per prevailing market according to facilities to be given to required standard.

3.8 TIME MANAGEMENT

3.8.1 Commencement of Work

The Contractor shall commence the Works on the date specified in the Letter of Acceptance or if no date is specified in the Letter of Acceptance, on the date specified in an instruction in writing to that effect from the Engineer. Thereafter the Contractor

shall proceed with due diligence, without delay, and in accordance with the programme or any revised or modified programme of the Works. Time will be the essence of Contract and time for Completion shall run from the date the Contractor is to commence the Works under this Clause.

3.8.2 Programme of Work

For this, Clause 3.7.4.f may be referred.

3.8.3 Handing over, Possession and Use of Site

3.8.3.1 No land belonging to or in the possession of the Employer shall be occupied by the Contractor without the permission of the Engineer or the Employer. The Contractor shall not use, or allow the Site to be used for any purpose other than that of executing the Works.

3.8.3.2 The Employer shall give the Contractor, right to or right of access to or possession of all or parts of Site as the case may be from time to time as stated to in the Contract and as conforming with the requirement of the programme of the Work.

3.8.3.3 If the Contractor suffers delay or incur extra cost due to failure by the Employer to give such possession within such time, then the Contractor shall be entitled to extension of time if Completion will be delayed due to this. No extra payment shall be payable to the Contractor in this regard.

3.8.4 Access To Site of Work

3.8.4.1 Access for Engineer

The Contractor shall allow the Engineer or the Engineer's Representative, at all times access to the Site, and to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where Materials or plant are being manufactured, fabricated and/or assembled for the Works. The Contractor shall ensure that sub Contracts if any shall contain provisions entitling the Engineer or any person authorised by him to have such access.

3.8.4.2 Access Road and Way Leaves

Providing access roads/ way leaves to the Site will be Contractor's responsibility.

3.9 Time for Completion

Time is the essence of Contract and will remain so at all times during the pendency of the Contract including the extended period of Contract. The Contractor shall ensure defect free completion of the whole of the Works and/or parts thereof before the same is taken over by the Employer.

3.10 Delay

3.10.1 Failure or delay by the Employer or the Engineer, to hand over to the Contractor the Site necessary for execution of Works, or any part of the Works, or to give necessary notice to commence the Works, or to provide necessary Drawings or instructions or clarifications or to supply any material, plant or machinery, which

under the Contract, is the responsibility of the Employer, shall in no way affect or vitiate the Contract or alter the character thereof; or entitle the Contractor to damages or compensation thereof but in any such case, the Engineer shall extend the time period for the completion of the Contract, as in his opinion is / are reasonable.

3.10.2 In case of delay on the part of the Contractor, the Contractor shall be liable to pay liquidated damages in addition to any other compensation for the damages suffered by the Employer. This is without prejudice to the right of the Employer to rescind the Contract.

3.11 Extension of Time for Completion not on Contractor's fault

The time within which, the Works or any phase or part of the work is to be completed, may be extended by the Engineer by such further period of time as may reasonably reflect delay in completion of Works notwithstanding due diligence and the taking of all reasonable steps by the Contractor to avoid or reduce such delay, caused by any of the following events

i. "Force Majeure" referred to in **Clause 46.0**
ii. The issue of any instruction or major Variation by the Engineer
iii. The Contractor not being given possession of or access to the Site or any part thereof in accordance with the Contract
iv. Instruction of the Engineer to suspend the Works and the Contractor not being in default as to reasons of suspension.
v. Acts or omissions of Other Contractors in executing work not forming part of this Contract and on whose performance, the performance of the Contractor necessarily depends.
vi. Any act of prevention or Breach of Contract by the Employer and not mentioned in this Clause
vii. Any order of Court restraining the performance of the Contract in full or in any part thereof
viii. Any other event or occurrence which, according to the Employer is not due to the Contractor's failure or fault, and is beyond his control

However, the Contractor shall not be entitled to any extension of time where the instructions or acts of the Employer or the Engineer are necessitated by or intended to cure any default of or breach of Contract by the Contractor. If the Contractor considers himself to be entitled to an extension of time for Completion, he shall give notice to the Engineer of such intention as soon as possible and in any event within 28 days of the start of the event giving rise to the delay, together with any notice required by the Contract and relevant to such Clause.

3.12 Extension of Time for Delay due to Contractor and Liquidated Damage

3.12.1 Extension of Time for Delays due to Contractor

If the delay in the completion of the whole Works or a portion of the Works, for which an earlier completion period is stipulated, is due to the Contractor's failure or fault, and the Engineer is of the view that the remaining Works or the portions of Works can be completed by the Contractor in a reasonable and acceptable short time, then, the Engineer may allow the Contractor extension or further extension of time at its discretion with or without liquidated damages, for completion, as he may decide.

3.12.2 Liquidated Damages

3.12.2.1 In case the Engineer decides to extend the Contract with liquidated damages for delays due to Contractor, in that case without prejudice to any other right or remedy available to the Employer, the liquidated damages shall be levied as per clause 3.12.2.2.

The decision of the Engineer as to the Liquidated Damages payable by the Contractor under this Clause shall be final and binding. For submission of detailed work programme, key dates etc, Clause 3.7.4.f. may be referred.

3.12.2.2 The intermediate mile stones are identified as below.

For Viaduct

1. Foundations
2. Substructure.
3. Casting of PSC Girders in Casting Yard with Gantry for lifting.
4. Casting of Precast Boxes for Railway Portion.
5. RE wall panel casting.
6. Placing of PSC Girders in position.

- Liquidated damages for not achieving key dates will be levied separately and it shall be Rs. 1,00,000.00 (Rupees One Lacs) per day for each key date.
- Liquidated damage for installing less number of casting beds for PSC Girders in the casing yard with complete set of shuttering as stipulated in Schedule -III, of chapter "Special Conditions for Pre qualifications of Contractors" @Rs.50,000.00 (Rupees Fifty Thousand) per bed mobilized less beyond the key date.
- These liquidated damages shall not relieve the contractor from his obligation to complete the works or from any other of his obligations and liabilities under this contract.
- These liquidated damages levied shall be in addition to all other penalties/ compensations/ liquidated damages. The contractor shall co ordinate his program to the extent feasible with other activities engaged at site so that project may be completed in time as per program. These liquidated damages levied shall be clubbed / included in liquidated damages as per

clause 2 of GCC. However the total liquidated damages will not exceed 10 % of the Contract Value.

3.13 Rate of Progress

If for any reason which does not entitle the Contractor to an extension of time, the rate of progress of the Works is at any time, in the opinion of the Engineer too slow to ensure timely completion of the Works or any part thereof, the Engineer may so notify the Contractor in writing. The Contractor shall thereupon take such steps as are necessary or in default of taking such steps, shall take such steps as the Engineer may reasonably instruct to expedite progress so as to complete the Works or any part thereof within date of Completion. The Contractor shall not be entitled to any additional payment for taking such steps.

If any step taken by the Contractor in meeting his obligations under this Sub clause cause the Employer to incur additional costs, such costs shall be recoverable from the Contractor and shall be deducted by the Employer from any monies due, or become to the Contractor.

3.14 Suspension

3.14 .1 Suspension of Work

The Engineer may at any time instruct the Contractor to suspend progress of part or all of the Works. During suspension, the Contractor will protect, store and secure such part or whole of the Works against any deterioration, loss or damage.

3.14.2 Consequences of Suspension

The Contractor shall not be entitled to extra cost (if any), incurred by him, during the period of suspension of work, if such suspension is

a. provided for in the Contract, or
b. necessary for proper execution of Woks or by reasons of weather condition or by some default on the part of the Contractor, or
c. necessary for the safety of Works or any part thereof or
d. necessary for the safety of adjoining public or other property or safety of the public or workmen or those who have to be at the Site or
e. to ensure safety and to avoid disruption of traffic and utilities, as also to permit fast repairs and restoration of any damaged utilities,

If suspension is ordered by the Engineer for reasons other than those mentioned in **sub-clause 3.14.2**, then the Contractor's entitlement are in the table below.

Suspension Period	Extension of Time	Compensation for the suspension period	Remarks
Upto 30 days	NO	NO	Engineer may at his sole discretion may give extension of time in exceptional circumstances
31 – 60 days	YES	NO	Extension of time as considered proper by the Engineer
Above 60 days	YES	• As per Daily rate of wages for idle labour/employees • 50% of the rate for hire charges for idle plant and machinery (excluding cost of fuel and lubricants) • 10% above all these items to cover overhead costs	Compensation as assessed by the Engineer on submission of documentary proof by the Contractor to Engineer's satisfaction
Above 120 days If Contractor asks for fore closure	NO	No compensation	No Compensation except as Clause 13.15.1.(iii)

The decision of the Engineer shall be final on the amount of compensation payable on account of any idle labour /employees and idle plant/machinery. Recovery of installments towards all advances shall remain suspended during the period the suspension of work lasts, and no interest on advance shall be charged for the said period of suspension.

Apart from this, the Contractor has no other remedies in connection with suspension.

3.15 TERMINATION OF CONTRACT

3.15.1 Termination for Employer's Convenience

(i) The Employer may terminate the Contract by giving notice to the Contractor with effect from the date stated in the notice, for its convenience and without need to give reasons.

(ii) The Contractor must comply with the instructions of the Employer to wind down and stop work and the Contractor must leave the Site by the date stated in the termination notice and remove all Temporary Works it has brought on to the Site except for those items identified in the termination notice as to be retained on the Site.

(iii) After termination under **Clause 3.15.1**, subject to its other rights under the Contract, the Employer must pay to the Contractor:

a. the value of approved Materials actually brought to the Site and reasonably required to execute the Works during next three months, as per approved programme, and
b. Value of Work completed up-to-date by the Contractor at rates specified in the Contract, after taking into account any deductions, retentions, setoff
c. In addition, a sum not exceeding 2% (two percent) of the value of the work remaining incomplete on the date of Termination notice taking effect

(iv) the payment as above are full compensation for termination under this clause and the Contractor has no claim for damages or other entitlements whether under the Contract or otherwise.

(v) Any remaining tools, plants, equipments and surplus Materials of Employer with Contractor will be returned to the Employer at Employer's depot at Contractor's cost. In case of failure of the Contractor to do so, the Employer will be entitled to recover their cost from the Contractor from the amount becoming due to the Contractor or from any other money due in any other Contracts. The decision of the Engineer of amount to be recovered will be final decision and full credit at rates initially charged to the Contractor shall be allowed for such Materials. Similarly the Employer shall be entitled to recover the cost of unreturned material, plant, equipment and tools from the Contractor where such Materials have been supplied free of cost and plant, equipment and tools free of cost or on lease basis to the Contractor as stipulated in the Special Conditions of Contract.

(vi) Provided further, that any diminution of quantities against individual items of the Contract, merely as a variation when the work is completed, shall not constitute foreclosure of Contract in terms of this clause, and no compensation or payment whatsoever as per this clause will be due or payable to the Contractor on that account.

3.15.2 Termination for Default of Employer

i. In the event of the Employer:

a) failing to pay to the Contractor the amount due without reasonable cause, under any certificate of the Engineer, within ninety days after the same shall have become due under the terms of the Contract, subject to any deduction that the Employer is entitled to make under the Contract, or

b) becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation

then, the Contractor may give notice requiring the Employer to remedy the default within 28 days after receipt of the notice. If the Employer fails to remedy the default or fails to propose steps reasonably acceptable to the Contractor to do so and in that case, the Contractor may terminate the Contract after issue of 14 days notice to the Employer with a copy to the Engineer. In this case, the Contractor shall be compensated as per Sub clause (iii) of 3.15.1.

The Engineer's decision on the amount payable on this account shall be final and binding.

3.15.3 Rescission Of Contract Due To Death of Contractor / Partner

If the Contractor is an individual or a sole proprietary concern, and the Contractor dies, or if the Contractor is a partnership concern and one of the partners dies, in that case unless the Employer is satisfied that the legal representative of the individual Contractor or of the sole proprietor, , or in the case of a partnership firm, all surviving partners, are capable of carrying out and completing the Contract, the Employer shall be entitled to rescind the Contract as to its incomplete part. The Engineer's decision in this regard will be final and binding on the parties. In that event, the Employer shall not be liable to pay any compensation to the legal heirs of the deceased Contractor and / or to the surviving partners of the Contractor's firm, on account of such cancellation of Contract. Provided further that the legal representatives of the Deceased Contractor the surviving partners, shall also not be liable to pay any damages, to the Employer, in respect of incomplete part of the Contract. Any liability incurred by the deceased Contractor, or by the deceased partner of the Contracting firm, shall be recovered from the legal representatives of the deceased Contractor or from the surviving partners of the said Contracting firm as the case may be

3.15.4 Termination of Contract Due To Contractor's Default

3.15.4.1 Notice to Correct

If the Contractor fails to carry out any obligation under the Contract, the Engineer may by notice require the Contractor to make good the failure and remedy it within a specified reasonable time as the Engineer may deem reasonable.

3.15.4.2 Conditions Leading To termination Of Contract

The Employer shall be entitled to terminate the Contract if the Contractor or any one of its constituents,

a) fails to comply with a notice under Sub clause 3.15.4.1
b) abandons or repudiates the Contract
c) without reasonable excuse fails to commence the Works in accordance with the Contract
d) sub Contracts the whole of the Works or assigns the Contract without Approval of the Employer
e) becomes bankrupt or insolvent or goes into liquidation except voluntary liquidation for the purpose of amalgamation or reconstruction
f) persistently disregards instructions of the Engineer or contravenes any provisions of the Contract, or
g) fails to adhere to the agreed programme of work by margin of 10% of the stipulated period or 21 days, whichever is earlier, or fails to complete the Works or parts of the Works within the stipulated or extended period of completion, or is unlikely to complete the whole Work or part thereof within time because of poor record of progress; or
h) fails to remove Materials from the Site, or pull down and replace work, after receiving notice from the Engineer to the effect that the said Materials or Works have been condemned or rejected, or
i) fails to take steps to employ competent and/or additional staff and labour, or

j) fails to afford the Engineer or his representative proper facilities for inspecting the Works or any part thereof, or

k) indulges in corrupt or fraudulent practices as explained in Clause 3.16.1 (a) (ii)

In any one these events or circumstances, the Employer may upon giving 14 days notice to the Contractor, terminate the Contract and expel the Contractor from the Site. The Employer shall give a 2 days notice to the Contractor towards the end of this 14 day period following which the Contractor shall remove all his plants and Machinery from the Site within these two days failing which Liquidated Damages shall be levied on the Contractor. However, in case of sub-paragraph (e) or (i), the Employer may by notice terminate the Contract immediately.

The Employer's election to terminate the Contract shall not prejudice any other rights of the Employer under the Contract.

After termination, the Employer may complete the Works and/ arrange for any other entities to do so at the risk and cost of the Contractor. The Employer and his entities may then use, the roads, the Contractor's documents and his design document made by or on behalf of the Contractor.

On termination of Contract due to Contractor's default, the Employer shall be entitled to

a. forfeit the whole or such portion of the Performance Security amount as he may consider fit, and

b. recover from the Contractor the cost of carrying out the balance work in excess of the sum which he would have been paid according to the certificate of the Engineer, if the Works had been carried out and completed by the Contractor under the terms of Contract. Such certificate shall be final and binding upon the Contractor. The amount to be recovered may be deducted by the Employer from any monies then due or which, at any time thereafter, may become due to the Contractor alone or jointly under this or any other Contract or otherwise.

3.15.4.3 Non-exercise of power not to constitute waiver

Provided always that in case any of the powers conferred upon the Employer by **Sub-clause 3.15.4.1** and **Sub-clause 3.15.4.2** above, shall have become exercisable, and the same may not have been exercised, the non-exercise thereof shall not constitute waiver of any of the conditions thereof.

3.16 CORRUPT OR FRAUDULENT PRACTICES

3.16.1 The Employer requires that the Bidders/Contractors observe the highest standards of ethics during
Tendering and execution of this Contract. In pursuance with this policy, the Employer:

a. defines, for the purpose of these provisions, the terms set forth below as follows:

(ii) "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to Employer, Engineer or any of their employees, influence in the procurement process or in Contract execution; and

(iii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a Contract to the detriment of the Employer, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices

at artificial non-competitive levels and to deprive the Employer of the benefits of free and open competition.

b. Will reject the Tender for the work or rescinds the Contract if the Employer determines that the Bidder/Contractor has engaged in corrupt or fraudulent practices.

c. Will declare a Contractor ineligible, either indefinitely or for a stated period of time, to be awarded a Contract/s if he at any time determines that the Contractor has engaged in corrupt or fraudulent practices in competing for, or in executing the Contract.

SECTION – 4

TECHNICAL SPECIFICATIONS

PREAMBLE

TECHNICAL SPECIFICATIONS.

PREAMBLE

The Technical Specification (Appendix-"A") shall be read with the other volumes of the Bid Document (Volumes I & II)

1.1.1 General

The Technical specifications covering the materials and the workmanship aspects as well as method of measurements and payments are included in this section. These specifications cover the items of civil and non-civil works coming under scope of this document. All work shall be carried out in conformity with the same. These specifications are not intended to cover the minute details. The works shall be executed in accordance with good practices followed for achieving high standards of workmanship, thus ensuring safety and durability of the construction. All codes and standards referred to in these specifications shall be the latest thereof, unless otherwise stated.

1.1.2 Inclusive Documents

The provisions of 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 Engineer shall form part of the technical specifications of this project.

The attention of the contractor is drawn to those clauses of codes which require supporting specification by the Engineer. In such cases, it is the responsibility of the bidder /contractor to seek clarification on any uncertainty and obtain prior approval of the Engineer before taking up the supply/construction. In absence of such prior clarification, the Engineer's choice/design will be final and binding on the contractor without involving separately any additional payment.

1.1.3 Measurement And Payment

The methods of measurement and payment shall be as described under various items and in the Bill of Quantities. Where specific definitions are not given, the methods described in B.I.S. Code/MoRTH/IRC will be followed. Should there be any detail of construction or materials which has not been referred to in the Specification or in the Bill of Quantities and Drawings but the necessity for which may be implied or inferred there from, or which is usual or essential to the completion of the work in the

trades, the same shall be deemed to be included in the rates and prices entered by the contractor in the Bill of Quantities.

1.1.4 Defective Works

All defective works are liable to be demolished, rebuilt and defective materials replaced by the contractor at his own cost. In the event of such works being accepted by carrying out repairs etc., as specified by the Engineer, the cost of repairs will be borne by the contractor.

In the event of the work being accepted by a given 'Design Concession' arising out of but not limited by a given under sizing, under strength, shift in location and alignment etc., and accepting design stress in members which are higher than those provided for in the original design or by accepting materials not fully meeting the specifications etc., the bidder will be paid for the works actually carried out by him at suitably reduced rate of the bid rates for the portion of the work thus accepted.

2 Summary of Work

The work under construction package involves, **"Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur"** including its approaches, service road, limited height subway and other ancillary works.

2.1 Scope of Work

The work under this contract shall be carried out in accordance with the document constituting the contract and shall consist of various salient items as generally described below.

2.1.1 Road Work

The roadwork to be carried out under the contract consists of the following:

- **Site Clearance**
- **True and proper setting out and layout of the works, providing location marks, benchmarks, preparation of report and plans.**
- **Construction of road including excavation, construction of embankment and sub-grade, construction of carriage way, service road, shoulders and medians, provision of drainage, turfing and retaining walls.**
- **Dismantling of existing flexible pavement up to sub-grade/ embankment level and construction of new pavements or constructing overlay over the existing pavements as shown in drawings.**

- **Improvements of existing junctions and construction of new junctions , if any, as per drawings.**
- **Provision of road signs, markings, delineators, kilometer stones, hectometer stones boundary stones, railings, etc. on road.**
- **Provision of road markings with Thermoplastic paint as shown in drawings.**
- **Maintenance of existing Works**
- **Any other item of work as may be required for completing the road works including all incidental works in all respects in accordance with the provisions of the contract.**
- **Providing suitable drainage in service roads .**
- **Electrification on service on service road as well as on new bridge and Limited Height Subways.**
- **Kerbs shall be casted cast in situ by using arrow/ equivalent machine**

2.1.2 Bridge works

- **Site clearance**
- **True and proper setting out and layout of the work, providing location marks, bench marks, preparation of reports and plans**
- **Providing bored cast-in-situ piles including test piles.**
- **Providing piers, abutments and RCC retaining walls or RE wall.**
- **Providing Kerbs, railings and drainage spouts.**
- **Providing expansion joints and construction joint,**
- **Providing bituminous wearing coat/ mastic wearing coat**
- **Any other item of work as may be required to be carried out for completing the bridge works including all incidental works in all respects in accordance with the provisions of the contract.**
- **Constructing new six Lane Bridge on pile foundation, RCC substructure and composite steel and PSC superstructure as decided by the Engineer In charge with bottom of the superstructure nearly up to 6-8 m height.**
- **Prestressed Superstructure as directed by Engineer Incharge and all specification shall followed as MORTH / IRC and accepted international practice.**

Brief information on Bridge included in contract Package is given below.

2.1.3 Others - General

- All aspects of quality control and quality assurance of Works including documentation.
- Providing measures for prevention or mitigation of negative environmental impacts due to construction activities.
- Provision and maintenance of fully furnished and equipped site offices for Engineer; Employer and their staff as per provisions of Contract.
- Provision of laboratory for testing, including the supply of equipment and consumables;
- Supply of colour record photographs and video cassettes of important activities of the work;
- Handing over of the works on completion after due site clearance
- Submission of As Built Drawings and other related documents in six copies (hard and soft).
- Rectification of the defects in the completed works during the defect liability period;
- Execution of any other item of work for the construction and completion of the Works in accordance with the provisions of Contract including all incidental items as well as preparation and submittal of reports, plans as required.
- During the period of the contract the right of way and all existing roads shall be kept open for traffic and maintained in a safe and usable condition. Residents along and adjacent to the works are to be provided with safe convenient access to their properties at all times. Traffic control and traffic diversions shall be used as necessary to protect the works and maintenance will be carried out as directed by the Engineer and provided in the contract.
- Construction of service roads improvement junction, electrification and shifting of utilities, provision signal and sign boards.
- Construction of diversion and its maintenance of the diversion as per the direction of the Engineer in Charge at the cost of the contractor.

2.2 Site Information

2.2.1 Location

The project site is located in the city of Jaipur, Rajasthan.
The proposed Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur

2.2.2 Geotechnical Information

More detailed information can be referred in the offices of Engineer/Employer

2.2.3 Seismic Zone

Project area is in the seismic zone II as per IRC:6.

2.2.4 Climate

Maximum temperature is 47 degree centigrade in summer season while minimum temperature is around 8 degrees centigrade in winter season.
Site information given above and provided elsewhere is given in good faith by the employer. The contractor shall satisfy himself regarding all aspects of site conditions and collect all site information necessary for the construction and completion of the works.

2.3 Survey and Investigations

As part of the planning and design carried out in connection with production of these bid documents comprehensive topographical field surveys and geotechnical investigations were carried out.

The geotechnical investigations are completed. The geotechnical results from the geotechnical investigations are presented in the geotechnical report. This report will provide information about the existing soil conditions.

The topographic survey report and geotechnical report can be referred to in the office of the executive engineer.

Any additional survey and soil investigation required for any purpose shall be done without any extra cost.

2.4 Land for Contractor's facilities

The employer shall provide the right of way of the road works and other appurtenant works to the contractor. However, the contractor shall have to make his own arrangements for the land required by him for borrow areas,

quarries, site offices, testing labs, labour camps, stores, plants and casting yards etc.

2.5 Safety of the existing structure and water supply/drainage work/ electric/ telephone line/ sewerage lines.

The contractor shall have the full responsibility to ensure the safety of the existing structures. Contractor shall be fully responsible and liable to repair any damaged caused to the existing structures (existing bridge foundation) during the execution of construction work for new bridge at his own cost and no amount shall be paid extra. The rates quoted by the contractor shall be deemed included in the unit price of the respective items.

The contractor shall identify the supplier of the propriety items such as bearings, RE wall panels expansion joints, water bars for construction joint etc of any international proven quality at the time of the bidding.

List of suppliers as submitted to the engineer shall be approved by the Engineer In charge after award of work. However, the supplier may be liable to be changed if engineer feels necessary at any later stage.

The contractor shall submit the work methodology to the Engineer Incharge. Contractor shall not be allowed to change construction methodology as suggested in the contract drawing. However, if contractor feels or like to change the construction methodology, it shall be done by the contractor at his own cost.

3 GENERAL REQUIREMENTS

The specification for works shall be in two parts, Technical Specifications and Supplementary Technical Specifications, which shall be read together: In the absence of any definite provision on any particular issue in the Specifications, the work shall be carried out in accordance with Special Specifications to be prepared by Contractor and approved by Engineer. Such Special Specification shall be based on technical literature comprising national MoRTH/(IRC and IS) and international specifications and good engineering practice. In case of any dispute, the decision of the Engineer shall be final and binding on the Contractor.

3.1 GENERAL TECHNICAL SPECIFICATIONS__

Part I - General Technical Specifications

This part shall comprise the "Specifications for Road and Bridge Works" (Fifth Revision), 2013 along with other addendum Corrigendum issued up to 28 days before the final dated of submission of the bid, issued by the Ministry of Road Transport & Highways, Government of India, and published by the Indian Road Congress (IRC), Jamnagar House, New Delhi - 110 011, with a cross reference to relevant Bureau of Indian Standards (BIS) for materials for other aspects not covered by the IRC, all deemed to be bound into this document.

Part II - Supplementary Technical Specifications

The Supplementary Technical Specifications shall comprise various Amendments/ Modification/ Additions to the "SPECIFICATION FOR ROAD AND BRIDGE WORKS" referred to in Part I above and additional specifications for particular items of work not already covered in Part I.

If a particular clause or a part thereof in "SPECIFICATION FOR ROAD AND BRIDGE WORKS" referred to under Part I above, is amended/modified/ substituted/added upon, and incorporated under Part II, referred to above, the Amendment/Modification/ Substitution/Addition to the relevant Clause or part of the Clause shall prevail.

When an amended/modified/substituted/added clause supersedes a Clause or part thereof in the said Specifications, then any reference to the Clause shall be deemed to refer to the amended/modified/substituted/added Clause or part thereof.

Insofar as amended/modified/substituted/added Clause may come in conflict or be inconsistent with any of the provisions of the said Specifications under reference, the amended/modified/ substituted/added Clause shall always prevail.

The Additional Specifications shall comprise specifications for particular item of works not already covered in Part I.

Amendments, modifications, substitutions, additions have been made to the following clauses of specifications for Road and Bridge Works (Fourth Revision).

3.2 Specifications for Road & Bridge Works by Ministry of Surface Transport (MOST), Govt. of India

Unless specifically mentioned otherwise hereafter or/and directed by the Engineer-in-charge to do so, all the civil engineering works shall be carried out in accordance with the provisions of the "Specifications for Road and Bridge Works (Fifth Revision), called MOST Specifications hereinafter published at New Delhi in 2013, or the latest version available, by Indian Roads Congress on behalf of MOST.

3.3.1 MATERIALS AND TEST STANDARDS

3.3.1 Testing

The Contractor shall set up a field laboratory with necessary equipments for testing of water, aggregates, cement and concrete used in the construction as per requirements of the relevant specifications. The testing of all materials shall be carried out by the Engineer-in-charge or his representative for which the contractor shall make all the necessary arrangements and bear the entire cost.

Tests which cannot be carried out in the field laboratory shall be sent for testing by the contractor to any NABL accredited or recognized laboratory/testing establishment approved by the Engineer-in-charge.

The cost of making any and all the Tests shall be borne by the Contractor if such Test is clearly intended by or provided for in the Contract.

The following instruments / apparatus (but not the least), are required in the field laboratory.

1. Digital Compression testing Machine 2000 KN Capacity, electrically operated.
2. Vicat Needle Apparatus with dashpot.
3. Concrete soundness test hammer.
4. Cement autoclave.
5. Cube Moulds (ISI Marked) of different sizes.
6. Aggregate Crushing Value.
7. Aggregate impact value test apparatus.
8. Sieve Shaker.
9. Sieves of different sizes (ISI Marked).
10. Flakiness index test apparatus.
11. Proctor Compaction Apparatus.
12. Bitumen extraction test.

However, as per the site requirement EIC may direct the contractor to arrange some additional testing apparatus required in the field laboratory which are not included in the above mentioned list, at his own cost. Then the cost of such Test shall be borne by the Employer. If, however, the Test shows the workmanship or Materials not to be in accordance with the Contract, then the cost of such Test will be borne by the Contractor

The contractor shall appoint separate engineer (Degree holder) of experience not less than 5 years for quality control and site laboratory who shall provide all assistance to JDA to conduct such tests. The salary/ waged of such engineer shall be deemed to be included in the cost of work and no extra payment shall be made on this account. In case of not appointing separate engineer by the contractor the JDA may appoint such engineer at its own and actual wages/ salary be deducted from the due payments of contractor

3.3.2 Sampling of Materials

Samples provided to the Engineer-in-charge for retention are to be in labeled boxes suitable for storage. Materials or workmanship not corresponding in character and quality with the approved samples will be rejected by the Engineer-in-charge or his representative and shall be removed from site as directed by the Engineer-in-charge or his representative at the contractor's cost.

Samples required for approval and testing must be supplied well in advance to allow for testing and approval. Delay to works arising from the late submission of samples will not be acceptable as a reason for delay in the completion of the work.

3.4 CONSTRUCTION EQUIPMENT

3.4.1 Tolerance

The contractor shall ensure that the major plant and equipment proposed to be deployed on the work shall meet the performance criteria specified herein. The contractor shall be required to give trial runs of these equipments for establishing their capabilities to achieve the laid down specification and tolerance to the satisfaction of the Engineer-in-charge before commencement of the work. All these equipments provided shall be of proven efficiency and shall be maintained at all time.

3.4.2 Batching Equipment

For individual batches the following tolerances shall apply based on the required weight of material.

Material		Percentage
Cement	:	± 1
Aggregate	:	± 2
Water	:	± 1

Notwithstanding above tolerances the construction and accuracy of equipment shall conform to IS:2722, except that an accuracy off 0.4% over the entire range of equipment will be required.

3.4.3 Batch Type Concrete Mixer

The mixer shall be tested under normal working conditions in accordance with the method specified in IS: 4634 with a view to checking its ability to mix the ingredients to obtain a concrete of desired uniformity. The conformity of mixed concrete shall be evaluated by fixing the percentage variation in quantity of cement, fine aggregate and coarse aggregate in a freshly mixed batch of concrete.

The percentage variation between the quantities of cement, fine aggregate and coarse aggregates (as found by weighing in water) in the two halves of a batch and the average of the two halves of the batch shall not be more than the following limits:

Cement	:	8%
Fine Aggregate	:	6%
Coarse aggregate	:	5%

3.4.4 Concrete Transit Mixers

The mixer shall conform to IS: 5892 and be tested under normal working condition in accordance with the method specified in IS:4634. The tolerance limits for the variation between quantities of cement, fine aggregate and coarse aggregates shall be same as for batch type concrete mixer.

Competent authority shall have the right to determine whether all or any of the materials offered or delivered for use in the works are suitable for the purpose.

3.5 SETTING OUT

The works unless otherwise specified, shall be set symmetrical to the centre line of the bridge as shown on the drawings and design.

Reference pillars shall be established by the contractor at his own cost after carrying out the necessary survey with reference to the said drawings.

The centre line of the bridge shall be extended on both ends to at least 60.0 m and the centre line pillars located not less than 3.0 m from the two ends of the bridge. These shall be so located that they are in no way disturbed during flood or during the period of construction.

The reference pillars shall be connected with some permanent features on the site that they can be correctly relocated in case they get disturbed during the construction period.

For the layout work and establishing the centre line of the bridge, only steel tape shall be utilised throughout the work and where work is done by traversing, the traverse shall be closed. In case of minor errors these shall be corrected by interpolation of the layout and the centre line pillars got approved by the Engineer-in-charge.

3.6 MATERIALS FOR STRUCTURE

General

All the basic construction materials viz. cement, aggregates (coarse and fine both), reinforcement and water to be used in works shall be procured from sources approved by the Engineer-in-charge. Unless otherwise mentioned in these specifications the contractor shall identify the sources of basic materials and propose the same for approval after satisfying himself about the quality and quantity required for the work.

3.6.2 Cement

Ordinary Portland Cement (OPC) 43 grade or 53 grade as the case may be conforming to IS: 8112 shall be used throughout construction. Cement shall be procured from reputed manufacturers who have requisite infrastructure for conducting various tests for the conformance to chemical and physical requirements specified in IS: 269. The frequency of such tests in manufacturer's laboratory shall be as per IS: 3535. Since a very good degree of quality control is desired at works, fresh cement from a single source shall be procured unless alternative source is approved by the Engineer-in-charge in writing. The make and quality of cement to be used in the work shall be subject to the approval of Engineer-in-Charge. Along with each lot of cement delivered to site a certificate from the manufacturer shall be forwarded, to the effect that the cement was tested and analysed in accordance with the methods given in IS:4031 and IS:4032. The test results shall be included in the manufacturer's certificate.

Notwithstanding manufacturer's certificate the Engineer-in-charge if so desired may ask for retesting of cement at site or through any other recognised and

approved laboratory. The cost of additional tests and samples shall be borne by the contractor.

3.6.3 Coarse Aggregate

Coarse aggregates shall consist of naturally occurring crushed stones. The aggregates shall be hard, strong, dense, durable, clear and free from veins and adherent coating, and free from injurious amounts of disintegrated pieces, alkali, vegetable matter and other deleterious substances. The presence of flaky, scoriaceous and elongated pieces shall be avoided. The coarse aggregates which conform to the following requirement may only be considered for approval by the Engineer-in-charge:

Deleterious materials	Refer to Table 1 of IS:383
Aggregate Crushing Value	30%
Aggregate Abrasion Value	30%

Aggregate shall be supplied in single sizes. The nominal maximum size of aggregate to be used in work shall be 20mm. The other requirements for coarse aggregates shall be as per IS:383.

While submitting samples of aggregates for approval the contractor shall furnish following information pertaining to the aggregates:

Source of supply, that is, precise location of source from where the materials were procured.

Trade group of principal rock type present.

Presence of reactive minerals.

Physical characteristics.

Specific gravity.

Moisture content

Absorption value.

Aggregate crushing value.

Abrasion value

Presence of deleterious materials.

Potential reactivity of aggregate.

The tests carried out for the above shall be done in accordance with the methods specified in IS:2386.

The contractor shall satisfy himself that the material complies with the requirement of IS:383 and shall furnish a certificate to this effect to the Engineer-in-charge whenever asked for. In case the aggregates tested do not comply with any requirement of the IS standards the source for the same shall be rejected. No further samples from the rejected source shall be considered for approval. The Engineer-in-

charge shall have full liberty of getting the material tested independently through recognised agency. The Contractor shall supply free of charge the material required for tests and bear all expenses for such tests.

3.6.4 Fine Aggregate

The quality, tests and acceptance criteria for fine aggregates shall be same as mentioned for the coarse aggregates. The fine aggregates shall conform to Zone II of Table 4 of IS:383.

3.7 STEEL

3.7.1 Steel reinforcement

Steel shall be procured from primary manufacturers only.

High strength deformed steel bars of TMT500D grade shall be used and shall comply with the provisions of IS: 1786 (Latest revision) For each batch of steel delivered to site the contractor shall supply the Engineer-in-charge with manufacturer's certificate stating the process of manufacture and also the test sheets signed by the manufacturer giving the result of each mechanical test and the chemical composition.

Steel / Strands shall be manufactured by the open hearth, electric, duplex, basic oxygen process or a combination of these processes like TATA (Mumbai), SAIL or equivalent as approved by EIC. In case any other process is employed by the manufacturer, prior approval of the purchaser from EIC should be obtained.

3.8 WATER

Water to be used for mixing and curing shall be clear and free from injurious amounts of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel. Potable water is generally considered satisfactory for mixing concrete. The maximum permissible limits for solids shall be as given below:

- Organic : 300 mg/1
- Inorganic : 3000 mg/1
- Sulphates (as SO_4) : 500 mg/1
- Chlorides (as C1) : 1000 mg/1 for reinforced concrete
  250 mg/1 for pre stressed concrete
- Suspended matter : 2000 mg/1
- pH : < 6

3.9 STORAGE OF MATERIALS

All materials shall be placed at site in a proper way so as to prevent their deterioration or intrusion of foreign matter and to ensure their satisfactory quality

and fitness for the work. The storage space must also permit easy inspection, removal and re-storage of the materials. Materials though stored in approved godown must be subjected to acceptance test prior to their immediate use.

The cement shall be stored in a suitable weather-tight building to protect it from dampness and minimise warehouse deterioration. Each consignment of cement shall be stored separately so that it may be readily identified and inspected. Cement shall be used in the sequence in which it is delivered at site.

The contractor shall prepare and maintain proper records on site in respect of the delivery, handling, storage and use of cement and shall be made available for inspection by Engineer-in-charge at any time.

The cement more than 3 to 4 months old shall invariably be tested at contractor's cost to ascertain that it satisfies the acceptability requirements.

3.10 FORMWORK AND SURFACE FINISH FOR STRUCTURES

3.10.1 Construction Operation

Only rigid steel forms shall be used unless otherwise approved by the Engineer-in-charge. Formwork shall include all temporary or permanent forms of moulds required for forming the concrete which is cast-in-situ, together with all temporary construction required for their support.

The chamfers, beveled edges and mouldings shall be made in the formwork itself. Opening for fixtures and other fittings connected with services shall be provided in the shuttering as directed by the Engineer-in-charge.

3.10.2 Formed surfaces and finish

The formwork shall be made as to produce a finished concrete true to shape, lines, levels, plumb and dimensions as shown on the drawings, subject to the following tolerances unless otherwise specified in these documents or drawings or as directed by the Engineer-in-charge.

a)	Sectional dimension	+ 5 mm
b)	Plumb	+ 1 in 1000 of height
c)	Levels	+ 3 mm before any deflection has taken place.

Tolerances given above are specified for local aberrations in the finished concrete surface and should not be taken as tolerance for the entire structure taken as a whole or for the setting and alignment of formwork, which should be as accurate as possible to the entire satisfaction of the Engineer-in-charge. Errors if noticed in any lift/tilt of the structure after stripping of forms, shall be corrected in the subsequent work to bring back the surface of the structure to its true alignment.

3.11 PREPARATION OF FORMWORK BEFORE CONCRETING

3.11.1 Special Provisions

Wherever the concreting in narrow members is required to be carried out within shutters of considerable depth, temporary openings in the sides of the shutters shall, if so directed by the Engineer-in-charge, be provided to facilitate the pouring and consolidation of the concrete. Small temporary openings shall be provided as necessary at the bottom of shutters of walls and deep beams to permit the expulsion of rubbish etc.

Formation of blotches and stains due to detachment of formwork panel from the concrete when adjacent portion in the same lift is still adhering, shall not be allowed to occur, and for this purpose, all shutters shall be struck off at the same time.

3.12STEEL REINFORCEMENT FOR STRUCTURE

3.12.1 General

Steel reinforcement shall be stored in such a way as to avoid distortion and to prevent deterioration by corrosion. When directed by the Engineer-in-charge, the reinforcing bars shall be given a cement wash before stacking to prevent scales and rust.

The reinforcement bars bent and fixed in position shall be free from rust or scales, chloride contamination and other corrosion products. Effective methods of cleaning such as sand blasting will have to be used so that the steel is free from rust, scales and contamination.

Steel / Strands shall be manufactured by primary manufacturers like TATA, SAIL or equivalent shall be used. In case any other process is employed by the manufacturer, prior approval of the purchaser should be obtained.

3.12.2 Bending of Reinforcement

Bending of reinforcement shall be done as per Bar Bending Schedule to be prepared and got approved by the contractor prior to commencement of work.

3.12.3 Placing of reinforcement

Reinforcement left projecting from newly placed concrete shall be supported in such a way that there is no sag or risk or damage to the newly placed concrete. The projecting bars which are likely to be exposed for a long time shall be protected by a thick coat of neat cement grout. These shall be thoroughly cleaned and wire brushed before depositing fresh concrete around it.

3.13CEMENT CONCRETE FOR STRUCTURES

3.13.1 Grade of concrete

Only design mix concrete shall be used in the work. The design mix concrete shall have the minimum compressive strength of 150 mm cubes at 28 days according to the denomination of the grade the concrete e.g. M 35 grade concrete shall have the minimum characteristic compressive strength of 35 Mpa.

3.13.2 Design mix concrete

The determination of the cement, aggregates and water to attain the required strength shall be made by designing the concrete mix in accordance with IS: 10262. The trial mixes for mix design shall be prepared with approved aggregates, cement and water.

Coarse aggregates of different sizes shall be combined in suitable proportion so as to result in an overall grading conforming to IS : 383.

Minimum six cubes shall be prepared from each trial mix for testing compressive strength at 28 days. Based upon the successful preliminary crushing and workability tests, the contractor shall submit mix proposals to the Engineer-in-charge who will have the right to accept any trial mix. The strength tests for concrete shall be done in accordance with IS : 516. All preliminary tests, approval, etc. shall be got done in advance by the contractor prior to commencement of actual work at site. Failure on the part of the contractor to do so and consequent delay in completion of the works will not entitle him for any compensation whatsoever, either financially or by way of extension of time.

3.13.3 General

In proportioning concrete the quantity of both cement and aggregates shall be determined by weight. The cement shall be weighed separately from the aggregates. Water shall either be measured by volume in calibrated tanks or weighed. All measuring equipment shall be maintained in a clean and serviceable condition. The amount of mixing water shall be adjusted to compensate for moisture content in both coarse and fine aggregates. The moisture content in both coarse and fine aggregates shall be determined in accordance with IS : 2386(Part-III). Suitable adjustments shall also be made in the weights of aggregates to allow for the variation in weight of aggregates due to variation in moisture content.

3.13.4 Production of concrete

The concrete shall be produced in a central batching and mixing plant producing at least 30 cum mixed concrete per hour. The batching plant shall be either fully or semi-automatic type. A semi-automatic batcher shall be charged by devices which are separately actuated manually to allow the material to be weighed but which are actuated automatically when the designated weight of each material has been reached. Automatic batcher shall be charged by devices which, when

actuated by a single starter switch will automatically started when the designated weight of each material has been reached inter locked. A batching plant essentially consists of the following components.

- Storage bins for different sizes of aggregates and cement.
- Batching equipment
- Mixers
- Central panels
- Material feeding and elevating arrangements.

The compartments of storage bins shall be approximately of equal size. The cement compartment shall be centrally located in the batching plant. It shall be water-tight and provided with necessary air vent, aeration fittings for proper flow of cement, emergency cement cut off gate. The aggregate and sand shall be charged by power operated centrally revolving chute. The entire plant from mixer floor upward shall be enclosed and insulated. The batch bins shall be constructed so as to be self cleansing during drawdown. The batch bins shall be general conform to the requirement of clause 4.0 of IS: 4925.

The batching equipment shall be capable of determining and controlling the prescribed amounts of various constituent materials for concrete accurately i.e. water, cement, sand, individual size of coarse aggregates, etc.

3.13.5 Mixing concrete

The concrete shall be mixed in power driven free fall tilting type mixer fitted with abrasion resistant replaceable liners and blades. The concrete shall be mixed for 1½ to 2½ minutes in the mixer depending upon the capacity of mixer. These mixing periods are based on standard speed of rotation of mixer and of the introduction of materials including water into the mixer. Mixing time shall be increased if and when charging and mixing operations fail to produce a concrete batch of uniform composition and consistency. The mixer in the batching plant shall be so arranged that mixing action in the mixers can be observed from the operator's station. The mixer shall be equipped with a mechanically or electrically operated timing, signaling and metering device which will indicate and assure completion of the required mixing period. The mixer shall have all other components as specified in IS:4925.

3.13.6 Transportation, placing and compaction of concrete

Mixed concrete from the batching plant shall be transported to the point of placement by transit mixers or through concrete pumps. In case the concrete is proposed to be transported by transit mixer it shall not be less than 4 rev/min of the drum or greater than a speed resulting in a peripheral velocity of the drum 70 m/min at its largest diameter. The agitating speed of the agitator shall be not less than 2 rev/min nor more than 6 rev/min of the drum. The number of revolution of

the mixing drum or blades at mixing speed shall be between 70 to 100 revolutions for a uniform mix, after all ingredients, have been charged into the drum. Unless tempering water is added, all rotation after 100 revolutions shall be at agitating speed of 2 to 6 rev/min and the number of such rotations shall not exceed 250. The general construction of transit mixer and other requirement shall conform to IS:5892.

In case concrete is to be transported by pumping, the conduit shall be primed by pumping a batch of mortar through the line to lubricate it. Once the pumping is started, it shall not be interrupted (if at all possible)as concrete standing idle in the line is liable to cause a plug. The operator shall ensure that some concrete is always there in the pump receiving hopper during operation. The lines shall always be maintained clean and shall be free of dents.

Except where otherwise agreed to by the Engineer-in-charge, concrete shall be deposited in horizontal layers to a compacted depth of not more than 450 mm. Unless agreed to by the Engineer, concrete shall not be dropped into place from a height exceeding 2 m. In order to avoid such situations chutes shall be used. The chutes shall be kept clean and used in such a way as to avoid segregation. Slope of the chute shall be so adjusted that concrete flows without the use of excessive quantity of water. The delivery end of chute shall be as close as possible to the point of deposit. The chute shall be thoroughly flushed with water before and after each working period and the water used for this purpose shall be discharged outside the formwork. The concrete shall be compacted by using immersion type vibrators. When the concrete is being continuously deposited to a uniform depth along a member, vibrator shall not be operated within one meter of free end of the advancing concrete. Every effort shall be made to keep the surface of the previously placed layer of concrete alive so that the succeeding layer can be amalgamated with it by the vibration process. In case the concrete in underlying layer has hardened to such an extent that it cannot be penetrated by the vibrator but is still fresh (that is, just after initial set), un imposed bond shall be achieved between the top and underlying layer by first satisfying the lower layer before the new concrete is placed by systematically and thoroughly vibrating the new concrete. The points of insertion of vibrator in the concrete shall be so spaced that the range of action overlap to some extent and the freshly filled concrete is sufficiently consolidated at all locations. The spacing between the dipping positions of vibrator shall be maintained uniformly throughout the surface of concrete so that concrete is uniformly vibrated. The vibrating head shall be regularly and uniformly inserted in the concrete so that it penetrates of its own accord and shall be withdrawn slowly whilst running so as to allow redistribution of concrete in its way and allow the concrete to flow back into the hole behind the vibrator. The vibrator head shall be kept in one position till the concrete within its influence is completely consolidated. Vibration shall be continued until the coarse aggregate particles have blended into the surface but have not disappeared.

The contractor shall keep one additional vibrator in serviceable condition to be used in the event of breakdowns.
The vibrator head shall not be brought more than 200 mm near to the formwork as this may cause formation of water stagnations. The formwork shall be strong and great care shall be exercised in its assembly. It shall be designed to take up increased pressure of concrete and pressure variations caused in the neighbour hood of vibrating head which may result in excessive local stress on the formwork. The joints of the formwork shall be made and maintained tight and close enough to prevent the squeezing out of grout or sucking in of air during vibration. The formwork to receive concrete shall be cleaned and made free from standing water, dust, etc.

In case the reinforcement has mild scales or dirt the same shall be cleaned by wire brushes. No concrete shall be placed in any part of the structure until the approval of Engineer-in-charge has been obtained. If concreting is not started within 24 hours of the approval being given, it shall have to be obtained again from the Engineer-in-charge. Concreting shall be done continuously over the area between construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed. When concreting has to be resumed on a surface which has hardened, it shall be roughened, swept, clean, thoroughly wetted and covered with a 13 mm thick layer of mortar composed of cement and sand in same ratio as in the concrete mix itself. This 13 mm layer of mortar shall be freshly mixed and placed immediately before placing of new concrete.

Where concrete has not fully hardened, all laitance shall be removed by scrubbing the net surface with wire or bristle brushes. Care shall be taken to avoid dislodgement of particles of coarse aggregate. The surface shall then be thoroughly wetted, all free water removed and then coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 150 mm in thickness and shall be well rammed against old work. Particular attention shall be given to corners and close spots.

3.14 : VARIOUS CLAUSES OF MoRTH

Sl. Nr.	Section Nr.	Section Title	Clause (Morth VTH Revision)
1.	100	General	102, 105, 106, 107, 108, 111, 112, 114, 115, 121, and 126

Sl. Nr.	**Section Nr.**	**Section Title**	**Clause (Morth VTH Revision)**
2.	200	Site Clearance	201 and 202
3.	300	Earthwork, Erosion Control and drainage.	301, 305, 306 and 309
4.	400	Granular Sub-Bases	401
5.	600	Concrete Pavement	601,602and 603.
6.	800	Traffic Signs, Markings and other Road Appurtenances	801, 803 and 804
7.	900	Quality Control for Road works	901, 903
8.	1000	Materials for Structures	1002, 1006, 1007, 1008, 1009, 1012, 1013, 1014 and 1015
9.	1100	Pile Foundations	1101, 1103, 1104, 1107, 1113, 1115, 1118 & 1119
10.	1500	Form work	1501, 1502, 1503, 1504, 1506, 1508, 1509, 1510 & 1513
11.	1600	Steel Reinforcement (untensioned)	1602, 1604, 1605, 1606 & 1607
12.	1700	Structural Concrete	1703, 1704, 1705, 1707, 1709, 1710, 1712, 1713 & 1715
13.	2200	Substructure	2204, 2210
14.	2300	Superstructure	2305, 2306
15.	2600	Expansion Joints	2601, 2606 and 2609
16.	2700	Wearing Coat & Appurtenances	2702, 2703,2706 and 2709
17.	3000	Maintenance of roads	3001,3002, 3004 and 3005
18.	2000	Bearings	2005

Sl. Nr.	Section Nr.	Section Title	Clause (Morth VTH Revision)
19.	1800	Prestressing	1801,1802, 1803,18041805, 18061807, 1808

Additional Specifications_____

The Clauses A-1 to A-7 have been added to the "SPECIFICATIONS FOR ROAD AND BRIDGE WORKS" - 2013.

CLAUSE A-1 PLANTATION OF TREES AND HEDGES

CLAUSE A-2 LEVELLING AND GRADING ROAD SIDE LAND

CLAUSE A-3 UTILITY DUCTS

CLAUSE A-4 SPECIFICATIONS FOR SCARIFICATION OF EXISTING PAVEMENT AND PROVIDING OVERLAY WITH GRANULAR BASE/DBM.

CLAUSE A-5 REFLECTIVE PAVEMENT MARKERS (ROAD STUDS)

CLAUSE A-6 CURING USING LIQUID MEMBRANE FORMING COMPOUND

CLAUSE A-7 PAVEMENT QUALITY CONCRETE

In the absence of any definite provisions on any particular issue in the aforesaid Specifications, reference may be made to the latest codes and specifications of IRC and BIS in that order. Where even these are silent, the construction and completion of the works shall conform to sound engineering practice as approved by the Engineer and in case of any dispute arising out of the interpretation of the above, the decision of the Engineer shall be final and binding on the Contractor.

However, work shall be executed as per latest edition of MoRTH/MoST. Where any specification of MORTH/ IRC/ BIS are silent then best international practice shall be followed including BRITISH / AASTHO Standards.

SECTION – 5

(FORM OF AGREEMENT)

SECTION -5

FORM OF AGREEMENT

This AGREEMENT is made on …… day of …….. 2016 between (Name of Employer ……..) (Mailing Address of Employer …….) hereinafter called "the Employer", of the one part (Name of Contractor …….. …… (hereinafter called "the Contractor) of the other part.

Whereas the Employer is desirous that certain works should be executed viz. (brief description work)…….. and has by Letter of Acceptance dated (Date of letter of acceptance) …… accepted Bid by the Contractor for the execution completion and maintenance of such works. NOW THIS AGREEMENT WITNESSETH AS FALLOWS.

In this Agreement words and expressions shall have the same meaning as are respectively assigned to them in the conditions of contract hereinafter referred to.

The following documents shall be deemed to form and be read and construed as parts of the agreement viz:

a) The Form of Agreement.
b) The Letter of Acceptance.
c) The said Bid with Schedule of information (Section-5) of bid documents.
d) Instructions to Bidders (Section -1).
e) General Conditions of Contract (Section – 2).
f) Other Conditions of Contract (Section - 3).
g) Technical Specification (Appendix-A) (Section – 4).
h) Form of Agreement (Section – 5)
i) Bank Guarantee (Section – 6)
j) Conditions of Contract on Safety, Health and Environment.(Section – 7)
k) Bill of Quantities (Section-8)
l) Drawings (Section – 9)

3. The aforesaid documents shall be taken as complementary and mutually explanatory of one another, but in the case of ambiguities or discrepancies shall take precedence in the order set out above.
4. In consideration of the payment to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute, complete and maintain the works in conformity in all respects with the provisions of the Contract.
5. The employer thereby covenants to pay the Contractor in consideration of the execution, completion and maintenance of the work of Contract Price at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties have caused their respective Common Seals to be hereunto affixed (or have hereunto set their respective hands and seals) the day and year first above written, SIGNED SEALED AND DELIVERED by the.

Said …….	Said ……..
(Name ……..)	(Name ……..)
on behalf of the Contractor	on behalf of the Contractor
In the presence of :	In the presence of :
Name:	Name:
Address	Address

This form is included in the bid documents only for the information of the bidders. Only the successful bids will in due course be required to complete the form.

SECTION – 6

(Form of Bank Guarantee)

Section - 6

Form of (Bank Guarantee) -En cashable at branch of the bank in Jaipur City.

To
Secretary,
Jaipur Development Authority,
Jaipur

Sub:
Bank Guarantee No. _____ dated _____ for [amount of Security in figures] [in words] on behalf of _____ [Name of the Bidder] against the Bid Security for Bid for Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur.

WHEREAS, _____ [name of Bidder with address] **(hereinafter called "the Bidder")** has submitted his Bid dated ..... For the work of Construction of Four lane ROB with LHS in lieu of L.C. 200 Bassi Town, Jaipur. **(Name of Work)** (hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that we _____ _____ (Name of Bank) of having our registered office at _____ [name of country] having our registered office at _____ (hereinafter called "the Bank") are bound unto Secretary, Jaipur Development Authority. (Hereinafter called "the Employer") in the sum of Rupees _____ **[Amount of Security in figures]** _____ (in words) only for which payment will and truly to be made to the said Employer, the Bank binds itself, its successors, and assigns by these presents.
That on demand of JDA, this Bank Guarantee is encashable at following branch in Jaipur City.
1. Name of Bank:
2. Name of the branch with branch code:
3. Address:
4. E-Mail Id:
5. Telephone No.
6. Fax No.:

SEALED with the Common Seal of the said Bank this _____ day of _____ of 20____.

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;
(2) If the Bidder refuses to accept the correction of errors in his bid;
(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, or
   (b) Fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders;

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 more of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date 30 days after the date of expiration of the Bid Validity, as stated in the Instructions to Bidders, or any such extension thereto as may be agreed by the Bidder, 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.

The amount covered under the above Bank Guarantee shall be automatically be credited in the accounts of JDA in ICICI Bank, JDA Campus, Jaipur through **ISFC code No ICIC0006754. Bank Account No. 675401700518** on the date of expiry or its validity, unless the agencies get it re-validated well before its expiry date or produce NOC from JDA in written for its release.

Date _____ Signature of the Bank_____

Witness_____ Seal _____
[Signature, Name and Address]

[Note: To be furnished on appropriate non-judicial stamps.]

SECTION – 7

Conditions of Contract on Safety, Health and Environment.(SHE).

(Note: - This Section is only for Contractor's reference and not to be uploaded.)

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PART – I : SHE MANAGEMENT

1.0 General

1.1 Scope

1.1.1 This document defines the principal requirements of the Employer on Safety, Health and Environment (SHE) associated with the contractor / sub-contractor and any other agency to be practiced at construction worksites at all time.

1.2 Definition / languages

1.2.1 In this document

i) The use of 'shall' indicates a mandatory requirement.
ii) The use of 'should' indicates a guideline that is strongly recommended.
iii) The use of 'may' indicates a guideline that is to be considered.
iv) 'SHE' means Safety, Health and Environment.
v) Employer means Jaipur Development Authority., (JDA).
vi) Chief Safety Officer means an officer nominated by JDA who is overall responsible for monitoring all SHE functions prescribed in this document.
vii) BOCWA means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996
viii) BOCWR means Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Central Rules, 1998
ix) RBOCWR means Rajasthan Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Rules, 2002
x) DG means Director General of Ministry of Labour, Govt. of India.
xi) CIIBC means Chief Inspector of Inspection of Building and Other Construction of Govt. of Rajasthan.

1.3 Application of this document

1.3.1 This document applies to all aspects of the contractor's scope of work, including all aspects conducted by sub-contractors and all other agencies. There shall be no activity associated to the contract, which is exempted from the purview of this document.

1.4 Purpose of this document

1.4.1 The objective of these guidelines is to ensure that adequate precautions are taken to avoid accidents, occupational illness and harmful effects on the environment during construction.

1.4.2 This document:

i) Describes the SHE interfaces between Employer and the Contractor.

ii) Details the processes by which the contractor shall manage SHE issues while carrying out the work under the contract.

iii) Describes by reference, the practices and procedures as given in the JDA Project Safety, Health & Environment manual for best SHE performance.

1.4.3 **These requirements shall be read together with JDA Project SHE Manual, OHSAS 18001-1999, Occupational Health and Safety Management System and ISO 14001: 2004 Environmental Management Systems. Definition of key terms used in these requirements related to OHSAS 18001 and ISO 14001 standard are found in JDA's Project SHE Manual.**

2.0 'SHE' Targets and Goals

2.1 The SHE targets, goals and aim for the Works are to achieve:

i) Zero total recordable injuries.

ii) Zero reportable environmental incidents

iii) All personnel inducted in accordance with the approved contractor SHE plan

iv) Total compliance of conducting inspections and audits as per approved SHE plan

v) 100% incident recording and reporting

vi) 100% adherence of usage of appropriate PPEs at work.

vii) Executing construction work with least disturbance to the environment, adjoining road users and traffic.

3.0 Compliance

3.1 Memorandum of Understanding (MOU)

3.1.1 A Memorandum of Understanding placed at ***Appendix No.: 1*** shall be executed before the award of contract by the contractor with regard to various provisions on Safety, Health and Environment to be practiced during the construction work.

3.2 JDA's SHE Policy and Management Systems

3.2.1 The construction works shall be undertaken in accordance with JDA's SHE Policy and Management Systems as amended from time to time provided in Project SHE Manual.

3.3 Indian statutory requirements

3.3.1 Primary statutory regulations

3.3.1.1 **Contractor shall develop thorough understanding about Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996, Central Rules 1998, Building and Other Construction Workers' Welfare Cess Act, 1996 and Central Rules, 1998 and, not only to satisfy the Inspectors'**

perspective but the use of legislation as the strong tool for effective SHE management at construction worksites. Contractor is strongly advised to practice the principle of voluntary compliance.

3.3.1.2 In order to facilitate the contractor for better understanding on the various provisions of the above Act and Rajasthan Govt. Rules, a tabulated information highlighting the Sections/Rules referring to the corresponding registration of contractors, maintenance of registers and records, hours of work and wages, welfare, medical facilities and safety requirements are given in ***Appendix No.: 2***. It is an indicative one and not a limiting list.

3.3.2 In addition, the construction works shall be undertaken in accordance with all applicable legislation and Indian statutory requirements listed below but not limiting to:

i) Indian Electricity Act 2003 and Rules 1956
ii) National Building Code, 2005
iii) Factories Act, 1948, Central Govt, Rajasthan Govt Factories Rules.
iv) Motor Vehicles Act as amended in 1994 and The Central Motor Vehicles Rules, 1989.
v) Indian Road Congress Code IRC: SP: 55-2001 'Guidelines on Safety In Road Construction Zones.
vi) The Petroleum Act, 1934 and Rules 1976
vii) Gas Cylinder Rules, 2003
viii) Indian Explosives Act. 1884, along with the Explosives substance Act 1908 and the Explosives Rules 1983
ix) The (Indian) Boilers Act, 1923
x) The Public Liability Insurance Act 1991 and Rules 1991
xi) Minimum Wages Act, 1948 and Rules 1950
xii) Contract Labour Act, 1970 and Rules 1971
xiii) Child Labour (Prohibitions & Regulations) Act, 1986 and Rules 1950
xiv) Environment Protection Act, 1986 and Rules 1986
xv) Air (Prevention and control of Pollution) Act, 1981
xvi) Water (Prevention and Control of Pollution) Act, 1974
xvii) The Noise Pollution (Regulation & Control) Rules, 2000
xviii) Notification on Control of Noise from Diesel Generator (DG) sets, 2002
xix) Recycled Plastic Usage Rules, 1998
xx) Notification, Central Ground Water Board, Act January 1997
xxi) Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989
xxii) The Hazardous Waste (Management & Handling) Rules, 1989
xxiii) Hazardous Waste Management Rules 1989 (as amended in 1999)
xxiv) Delhi Tree Preservation Act (1994)
xxv) Batteries (Management and Handling) Rules
xxvi) Fly ash utilization notification, Sept 1999 as amended in August 2003
xxvii) Guidelines of Delhi Urban Arts Commission and Central Vista Committee

3.3.3 Workman Compensation Act, 1923 along with allied Rules

3.3.3.1 **The contractor shall ensure that all his employees / workmen are covered under 'Workmen Compensation Act' and shall pay compensation to his workmen as and when the eventuality for the same arises.**

3.3.4 Not withstanding the above Act/Rules, there is nothing in those to exempt the contractor from the purview of any other Act or Rule in Republic of India for the safety of men and materials.

3.3.5 If the requirements stated in this document are less stringent than or in conflict with the country's applicable legislation, the latter shall apply.

3.4 International Standards, Guidelines & ISO Certifications

3.4.1 The works should be undertaken in accordance with the applicable international guidelines, standards and specifications on SHE and every contract shall aim to achieve ISO certifications listed below during the currency of the contract:

OHSAS 18001-1999 : Occupational Health and Safety Management System.
ISO 14001-2004 : Environmental Management Systems.

3.4.2 The process of certification shall start immediately after the award of the work and complete within reasonable time. Towards this, the contractor shall undertake the required steps including appointment of ISO consultant for obtaining the certification on Occupational Health and Safety Management System and Environment Management System.

3.4.3 **In case of failure on the part of the contractor, the Employer at the cost of the contractor shall do the same.**

4.0 CONTRACTOR SHE POLICY AND PLAN

4.1 The contractor as per Section 39 of the BOCW Act shall formulate a SHE policy and get it approved by JDA respectively and display it at conspicuous places at work sites in Hindi and a local language understood by the majority of construction workers.

4.2 WITHIN 4 WEEKS OF THE NOTIFICATION OF ACCEPTANCE OF THE TENDER, THE CONTRACTOR SHALL SUBMIT A DETAILED AND COMPREHENSIVE CONTRACT SPECIFIC SHE PLAN. THE SHE PLAN SHALL INCLUDE DETAILED POLICIES, PROCEDURES AND REGULATIONS WHICH, WHEN IMPLEMENTED, WILL ENSURE COMPLIANCE OF THE CONTRACT PROVISIONS. THE SHE PLAN SHALL INCLUDE THE FOLLOWING BUT NOT BE RESTRICTED TO:

i) A statement of the Contractor's policy, organisation and arrangements for SHE

ii) The name(s) and experience of person(s) within the Contractor's proposed management who shall be responsible for co-ordinating and monitoring the

Contractor's SHE performance;

iii) The number of SHE staff who shall be employed on the Works, their responsibilities, authority and line of communication with the proposed Contractor's agent;

iv) A statement of the Contractor's policy and procedures for identifying and estimating hazards, and the measures for addressing the same;

v) A list of SHE hazards anticipated for this Contract and sufficient information to demonstrate the Contractor's proposals for achieving effective and efficient health and safety procedures;

vi) A description of the SHE training courses and emergency drills which shall be provided by the Contractor, with an outline of the syllabus to be followed;

vii) Details of the safety equipment which shall be provided by the Contractor, including personal protective equipment;

viii) A statement of the Contractor's policy and procedures for ensuring that Contractor's Equipment used on the Project Site are maintained in a safe condition and are operated in a safe manner;

ix) A statement of the Contractor's policy and procedures for ensuring that sub-contractors comply with the Contractor's safety plan;

x) A statement of the Contractor's disciplinary procedures with respect to SHE related matters, and

xi) A statement of the Contractor's procedure for reporting and investigating accidents, dangerous occurrences or occupational illnesses

4.3 The Contractor shall, from time to time and as necessary are required by the Employer to produce supplements to the SHE Plan such that it is at all times a detailed, comprehensive and contemporaneous statement by the Contractor of his site safety, industrial health and environment obligations, responsibilities, policies and procedures relating to work on Site. Any and all submissions of supplements to the SHE Plan shall be made to the Employer in accordance with the agreed procedures.

4.4 If at any time the SHE plan is, in the Employer's opinion, insufficient or requires revision or modification to ensure the security of the Works and the safety of all workmen upon and visitors to the Site, the Employer may instruct the Contractor to revise the SHE plan and the Contractor shall within 7 days submit the revised plan to the Employer for review.

4.5 Any omissions, inconsistencies and errors in the SHE Plan or the Employer's acceptance or rejection of the SHE Plan and/or supplements thereto shall be without prejudice to the Contractor's obligations with respect to site safety, industrial health and environment and shall not excuse any failure by the contractor to adopt proper and recognized safety practices throughout the execution of the Work.

4.6 The Contractor shall adhere to the SHE Plan and shall ensure, as far as practically possible, that all sub-contractors of all tiers require that contracting parties each have a copy of the Site SHE Plan and comply with its provisions.

4.7 The details of contents to be covered in the site SHE plan are given in ***Appendix No.: 3.***

5.0 Designer's role

5.0 Designer's role in Safety, Health and Environment

5.1 Designer's primary role includes to minimise the risk to health and safety of those who are going to construct, maintain, clean, repair, dismantle or demolish the structures and any one else like adjoining road users/general public, who might be affected by the work.

5.2 General philosophy

5.2.1 When considering health and safety in designer's work, they shall be expected to do what is reasonable at the time the design is prepared. It may be possible for hazards, which cannot be addressed at the feasibility stage to be looked at during detailed design. In deciding what is reasonably practicable, the risk to health and safety produced by a feature of the design has to be weighed against the cost of excluding the feature. The overall design process does not need to be dominated by a concern to avoid all risks during the construction phase and maintenance. However, a judgement has to be made by weighing up one consideration against another so the cost is counted not just in financial terms, but also those of fitness for purpose, aesthetics, buildability or environmental impact. By applying these principles, it may be possible to make decisions at the design stage, which will avoid or reduce risks during construction work. In many cases, the large number of design considerations will allow a number of equally valid design solutions. What is important is the approach to the solutions of design problems. This should involve a proper exercise of judgement, which takes account of health and safety issues.

5.3 Hierarchy of Risk Control

5.3.1 Designers shall need, so far as reasonably practicable, to avoid or reduce risks by applying a series of steps known as the hierarchy of risk control or principles of prevention and protection. The steps to be adopted shall include the following:

i) consider if the hazard can be prevented from arising so that the risk can be avoided (eg, alter the design to avoid the risk);
ii) if this cannot be achieved, the risk should be combated at source (eg, ensure the design details of items to be lifted include attachment points for lifting);
iii) failing this, priority should be given to measures to control the risk that will protect all people;
iv) only as a last resort should measures to control risk by means of personal protection be assumed (eg, use of safety harnesses).

5.4 Duty to provide health and safety risks in the drawing itself

5.4.1 In case of situations were the designers have carried out the design work and concluded that there are risks, which was not reasonably practicable to avoid, detailed information shall be given about the health and safety risks, which remain. This information needs to be included with the design to alert others to the risks, which they cannot reasonably be expected to know. This is essential for the parties who have to use the design information.

5.4.2 If the designers' basic design assumptions affect health or safety, or health and safety risks are not obvious from the standard design document, the designer shall provide additional information. The information shall include a broad indication of the assumptions about the precautions for dealing with the risks. The information will need to be conveyed in a clear manner; it shall be included on drawings, in written specifications or outline method statements. The level of detail to be recorded will be determined by the nature of the hazards involved and the associated level of risk.

5.5 Employer's approval

5.5.1 Every structure like scaffold, false work, launching girder, earth retaining structures etc. shall have its design calculations included in the method statements in addition to health and safety risks. Employers' designer or his approved proof check consultants as applicable as per the contract conditions shall approve all these designs.

5.6 Any non-standard structures like trestles made up of re-bars or structures which are very old, corroded, repaired for many times etc. for which no design calculations can be made accurately from any national standards, shall not be allowed to be used at sites even for short duration.

5.7 If any of the above mentioned clauses are not adhered penalty shall be imposed depending upon the gravity of the unsafe act and or condition

6.0 Contractor SHE Organisation

6.1 Education and Experience

6.1.1 The contractor shall appoint the required SHE personnel as prescribed in General Instruction ***JDA/SHE/GI/001/MPR/281105*** (enclosed at the end) based upon the statutory requirement and establish the safety organisation based upon the contract value. The minimum educational qualification and the work experience are given in General Instruction **JDA/SHE/GI/002/QE/281105.**

6.1.2 **In order to effectively interact on labour welfare matters with the Employer and the statutory authorities enforcing the labour welfare legislations every contractor shall employ a full time Labour Welfare Officer duly qualified and experienced as per clause *6.1.1*.**

6.2 Conduct and competency

6. 2.1 The conduct and functioning of the contractor SHE personnel shall be monitored by the Employer. Any default or deficiency shall attract penalty as per details given under penalty clause ***56.0*** of this document.

6.2.2 The Contractor shall ensure that all personnel are competent to perform the job assigned to them. In the event that the Contractor is unable to demonstrate the competency of any person whose activities can directly impact on the Works' SHE performance, the Employer shall remove that person from the site without any procedural formalities.

6.3 Approval from Employer

6.3.1 The name, address, educational qualification, work experience and health condition of each personnel deployed for SHE jobs shall be submitted to the Employer in the format prescribed for the purpose for comments and approval well before the start of the work. Only on approval by the Employer these personnel are authorised to work. In case any of the SHE personnel leaves the contractor the same shall be intimated to the Employer. The contractor shall recruit new personnel and fill up the vacancy.

6.4 **Responsibility of SHE personnel**

6.4.1 **For all works carried out by the contractor and his sub-contractors, the responsibility of ensuring the required SHE manpower lies with the main contractor only. The minimum required manpower indicated by the Employer includes the sub-contractors' work also. It shall be the responsibility of the main contractor to provide required SHE manpower for all the works executed by all contractors. Necessary conditions shall be included in all sub-contract documents executed by the main contractor**.

6.5 Employment status of SHE personnel

6.5.1 No contractor shall engage SHE manpower from any outsourcing agencies in which case the effectiveness would be lost. All SHE manpower shall be on the payroll of the main contractor only and not on the payroll of any subcontractor or outsourcing manpower agencies etc. This condition does not apply to positions like traffic marshals who are engaged almost on a daily requirement basis.

6.6 Reporting of SHE personnel

6.6.1 All SHE personnel are to report to the Chief SHE Manager who shall report directly to the Chief Project Manager. The Employer shall monitor adherence to this procedure at all times. In case of non-adherence penalty shall be levied as indicated in the penalty clause.

6.7 **Inadequate SHE personnel**

6.7.1 **In case if the contractor fail to provide the minimum required manpower as illustrated in General Instruction *JDA/SHE/GI/001/MPR/281105*, or fail to fill up vacancies created within 14 days, the same shall be provided by the Employer at**

contractor's cost. Any administrative expenses involved to provide the same like paper advertisement or manpower consultant charges, etc shall also be at the cost of contractor.

6.8 Prohibition of performance of other duties

6.8.1 As per Schedule VIII of DBOCWR no SHE personnel shall be required or permitted to do any work which is unconnected to, inconsistent with or detrimental to the performance of the SHE duties for respective category mentioned in General Information ***JDA/SHE/GI/001/MPR/281105***

6.9 Facilities to be provided to SHE personnel

6.9.1 AS PER SCHEDULE VIII OF BOCWR, THE CONTRACTOR SHALL PROVIDE ALL SHE PERSONNEL WITH SUCH FACILITIES, EQUIPMENT AND INFORMATION THAT ARE NECESSARY TO ENABLE HIM TO DISPATCH HIS DUTIES EFFECTIVELY.

6.9.2 THE MINIMUM EMPLOYER'S REQUIREMENTS OF SUCH FACILITIES / EQUIPMENTS TO BE PROVIDED FOR SHE PERSONNEL ARE GIVEN IN THE GENERAL INSTRUCTION *JDA/SHE/GI/003/AVE/28112005.*

7.0 Contractor SHE Committee

7.1 All employees should be able to participate in the making and monitoring of arrangements for safety, industrial health and environment at their place of work. The establishment of site SHE committees in which employees and Contractor and sub-contractor management are represented can increase the involvement and commitment of employees. The contractor shall ensure the formation and monitor the functioning of contractor SHE committees.

7.2 Terms of Reference

7.2.1 The Terms of Reference for the committee shall be as follows;

i) To establish company safety policies and practices
ii) To monitor the adequacy of the contractor's site SHE plan and ensure its implementation
iii) To review SHE training
iv) To review the contractor's monthly SHE report.
v) To identify probable causes of accident and unsafe practices in building or other construction work and to suggest remedial measures.
vi) To stimulate interest of Employer and building workers in safety by organizing safety week, safety competition, talks and film-shows on safety, preparing posters or taking similar other measures as and when required or as necessary.
vii) To go round the construction site with a view to check unsafe practices and detect unsafe conditions and to recommend remedial measures for their rectifications including first-aid medical and welfare facilities.

viii) Committee team members should perform a site inspection before every committee meetings and to monitor SHE inspection reports.

ix) To bring to the notice of the Employer the hazards associated with use, handling and maintenance of the equipment used during the course of building and other construction work

x) To suggest measures for improving welfare amenities in the construction site and other miscellaneous aspect of safety, health and welfare in building or other construction work.

xi) To look into the health hazards associated with handling different types of explosives, chemicals and other construction materials and to suggest remedial measures including personal protective equipment.

xii) To review the last safety committee meeting minutes and to take action against persons/sub-contractors for non-compliance if any.

7.3 Within 14 days of award of contract, the SHE committee shall be constituted and notification regarding the same shall be communicated to the members and employees as per the format provided in ***Form No.: SF 001***

7.4 Site SHE Committee meeting shall be conducted at least once in a **month** with the minimum members listed below:

Chairman	Project Manager
Secretary	SHE Manager (In-charge)
Members	i) Labour Welfare Officer ii) In charge of plant and machinery iii) In charge of site electrics iv) In charge of stores. v) Senior Managers/ Engineers heading different sub functions. vi) Sub – contractor's representative vii) Labour Contractor's representative viii) Workers' representative ix) Co-contractor representative. x) SHE staffs
Employer's Representatives	JDA SHE in charge and other representatives

7.5 Construction SHE Committee meeting shall be conducted at least once in a **week** with the minimum members listed below:

Chairman	Project Manager
Secretary	SHE Manager (In-charge)
Members	i) Labour Welfare Officer ii) In charge of plant and machinery iii) In-charge of site electrics iv) Senior Managers / Engineers heading different sub functions

	v) Sub- Contractor's representative vi) Labour contractor's representative vii) Workers' representatives viii) All SHE Staffs

7.6 **Co-contractors' participation**

7.6.1 In case of depot, station and other contiguous areas where more than one main contractors are working together, the Employer shall instruct the other contractors to join for the monthly SHE committee meeting of the main civil contractor, so as to discuss and decide about the common provision of security, lighting, toilet, drinking water etc. and sharing the maintenance cost of the same etc.

7.6.2 **The general principle for sharing the cost shall be either based on the contract value of works executed at the contiguous area or the daily average number of workmen employed by each contractor in the contiguous area.**

7.7 Minimum time between two monthly SHE Committee meetings

7.7.1 A minimum period of **21 days** shall be maintained between any two SHE monthly committee meetings.

7.8 Agenda

7.8.1 The Secretary shall circulate the agenda of the meeting at least seven working days in advance of the scheduled date of the meeting to all members.

7.8.2 The agenda should broadly cover the following:

i) Confirmation of minutes
ii) Chairman's review/overview of site SHE performance / condition
iii) Previous month SHE statistics
iv) Incident and Accident Investigation / dangerous occurrence / near miss report
v) Site SHE inspection
vi) Sub-contractors' SHE issues
vii) Safety presentation by Members
viii) Report from Employer
ix) Matters arising
x) Any other business

7.9 Minutes of the meeting

7.9.1 The Minutes of the meeting shall be prepared as per the format provided at ***Form No.: SF- 002*** and sent to all members within 2 working days preferably by mail/fax followed by hardcopy. Safety Committee meeting minutes shall also be displayed in the notice board for wider publicity to all concerned.

7.10 Disciplinary Action

7.10.1 The chairman shall inform the members of any outstanding issues in the meeting and in case of repeated offence/ non-compliance by some members or other co/sub contractors and propose suitable disciplinary action including provisions of monitory penalty as per the relevant contract clauses, the Employer shall ensure that the same is implemented.

8.0 ID Card and First day at work, SHE orientation training

8.1 The Contractor shall ensure that all personnel working at the site receive an induction SHE training explaining the nature of the work, the hazards that may be encountered during the site work and the particular hazards attached to their own function within the operation. The training shall cover the contents as given in the General Instruction ***JDA/SHE/GI/004/OT/281105*.**

8.2 **All personnel shall be issued a photo identity card of size 85mm x 55mm duly signed by the authorized representative of the contractor before they are engaged for any work as per the format given in the General Instruction *JDA/SHE/GI/005/IDC/281105***

8.3 Contractor shall also issue a personnel SHE handbook in a language known to the workers, which provides information on SHE and emergency procedures that all personnel working on contract are required to know and the need to follow. Contractor shall ensure that this is distributed and its content introduced to all personnel working at the site.

9.0 SHE Training

9.1 The behaviour of people at all levels of the contractor is critical for SHE performance.

9.2 The contractor shall organise quality SHE training to engage Managers, supervisors and other personnel in behavioural change and improve safety performance.

9.3 The Contractor shall analyse the training requirements for all the employees and initiate a training program to demonstrate that all persons employed, including subcontractors, are suitably qualified, competent and fit. This will include:

i) Detailed Job descriptions for all personnel, to include their specific SHE responsibilities
ii) Specification of qualifications, competency and training requirements for all personnel
iii) Assessment and recording of training needs for all personnel, including subcontractors' employees in the workforce, vendor representatives and site visitors
iv) A system for assessing new hirers e.g. previous training
v) A means of confirming that the system is effective

vi) A matrix and schedule of training requirements, covering general, task–specific and SHE-related training, showing the training frequency and interval between refresher courses

vii) Timely, competent delivery of training courses

9.4 The contractor shall arrange behavioural-based training programmes for all the executives to identify, recognise and eliminate unsafe act and unsafe conditions.

9.5 The minimum Employer's requirement of training needs for various categories of employees are given in general **instruction *JDA/SHE/GI/006/TM/281105***

9.6 The contents of SHE training to Managers/Supervisors as given in general instruction ***JDA/SHE/GI/007/TMS/281105*** shall be conducted.

9.7 **The refresher-training programme to all employees shall be conducted once in six months.**

9.8 **Toolbox talk as given in the Employer's Project SHE manual shall be conducted to all high-risk workmen everyday.**

9.9 **On-the spot practical skill development training on height safety including scaffold safety, crane safety, welding safety, electrical safety, traffic safety for marshals shall also be conducted to all foremen/ workmen who were associated to the concerned jobs.**

9.10 **Daily Safety Oath as given in Project SHE manual shall be taken by every employee including workman without fail.**

9.11 **All vehicle drivers including Hydra operators shall be trained on defensive driving at Delhi Govt. and Maruti Institute for Driver Training and Research at Wazirabad Road, Adjoining Loni Road Flyover, Delhi-110094. All vehicle drivers shall also undergo refresher training on defensive driving provided by the same institute once in 6 months.**

9.12 All the above listed training programmes except at clause ***9.11*** shall be organised by the contractor only after taking approval from the Employer for the training faculty / organization, content and durations.

9.13 **In case of failure on the part of the contractor to provide all the above-mentioned training programs to all employees in time, the same shall be provided by the Employer through accredited agencies if required by formulating a common scheme to all contractors. Any administrative expenses and training fee towards the same shall be at the cost of the contractor.**

10.0 SHE Inspection

10.1 The contractor shall evolve and administer a system of conducting SHE inspections and other risk management analysis on a periodical basis.

10.2 The purpose of SHE inspection is to identify any variation in construction activities and operations, machineries, plant and equipment and processes against the SHE Plan and its supplementary procedures and programs.

10.3 Following SHE inspections program shall be adopted.

i) Planned General Inspection
ii) Routine Inspection
iii) Specific Inspection
iv) Other Inspection

10.3.1 Planned General Inspection

10.3.1.1 Planned general inspections are performed at predetermined intervals and it usually involves the representation from both Contractor and the Employer.

10.3.1.2 Inspections that will be classified under this inspection program are:

i) Monthly contractor and subcontractors site safety committee Inspection.
ii) Weekly safety inspection by construction supervisors (Contractors and Sub-contractors).
iii) Daily safety inspection by contractor site SHE team.

10.3.2 Routine Inspection

10.3.2.1 Routine inspections are often referring to the inspection of work site, equipment and temporary structures performed by site and equipment operators and temporary structure erectors.

Inspections that will be classified under this inspection program are:

i) Daily Inspection of plant and equipment by operator
ii) Weekly Inspection of scaffold by scaffolding supervisor
iii) Monthly Inspection of electrical hand tools by competent electrical supervisor
iv) Quarterly Inspection of temporary electrical systems by competent electrical supervisor
v) Half-yearly inspection of lifting machinery, lifting appliances, equipment and gears by Govt. approved competent person.

10.3.2.2 The list mentioned above is not exhaustive. Contractor may add additional categories. Contractors' Site SHE Manager will ensure that a system of routine inspections are carried out periodically to all plants, equipment, powered tools and any other temporary structures that will pose a hazard to operators and workmen.

10.3.3 Specific Inspection

10.3.3.1 Specific inspections are performed on activities without a predetermined date. Competent supervisors usually perform inspections for ensuring an activity whether it

is executed in accordance to a general set of rules; method statement submitted or developed procedures.

The following are examples that will be commonly performed as required on the construction site:

i) Inspection performed before a heavy lifting operation.

ii) Inspection performed before and after the entry of person into a confined space.

iii) Inspection performed before and after a welding and gas cutting operation.

iv) Inspection of formwork before concreting by formwork erector.

The list mentioned above is not exhaustive. The contractor shall ensure that a competent supervisor inspects all high-risk processes and activities.

10.3.4 Other Inspection

Other inspections includes the following:

i) Mandatory Inspections by Labour Department of Government.

ii) JDA site SHE management team

10.3.5 The contractor shall prepare all required safety inspection checklist for all activity operations and equipment. Checklists will be prepared based on the Indian standards, rules and regulations and Employer's requirements. The formats provided in the Project SHE manual may be referred.

10.3.6 All inspection records and reports will be properly kept and filed for audit purpose. Inspection reports of Planned General Inspection and Routine Inspection will be used for discussion during Safety Committee Meetings.

11.0 SHE Audit

11.1 General

11.1.1 The purpose and scope of SHE audit is to assess potential risk, liabilities and the degree of compliance of construction, Safety, Health & Environmental plan and its supplementary procedures and programs against applicable and current SHE legislation regulations and requirements of the employer.

11.1.2 Project Manager holds the ultimate responsibility in ensuring implementation of SHE audit program during the construction work.

11.2 Monthly Audit Rating Score (M A R S)

11.2.1 Monthly Audit Rating Score (MARS) will be performed once in a month. A team consisting of Project manager and Employer representative based on the pre-designed score-rating format will conduct it. The details of the pre-designed monthly audit score rating formats are given in the Project SHE manual.

11.2.2 This Monthly SHE Audit Rating Score (MARS) report will enable the Employer to evaluate the general compliance by the Contractor with the Conditions of Contract, the Employer's Project SHE Manual and the Contractor's site specific SHE Plan.

11.2.3 Monthly Audits will be conducted in accordance with JDA Guidelines. The Project Manager accompanied by the Employer's representatives shall carry out the Audit. The Contractor's senior manager and SHE in-charge should also be invited to attend.

11.2.4 Timing

The Monthly Audit Rating Score (MARS) should be conducted at least 7 days prior to the scheduled date of Monthly SHE Committee meeting.

11.2.5 Evaluation

11.2.5.1 The numerical scoring has been weighed on a 1-10 scale. The audit team will use their observations noted in evaluating the points to be awarded against each of the elements of the audited section. Wherever some topics and sub-topics are not applicable the score rating need not be given. The overall audit ratings shall be achieved by:

$$\text{Overall Audit rating} = \frac{\text{Actual Score Achieved}}{\text{Maximum Possible Score}} \times 100$$

11.2.5.2 The criticality of the required actions for the respective sections of the Audit will be classified as:

Sl. No.	Score	Description	Action
1	< 60%	Immediate	Require Contractor to rectify within 24 hours
2	< 75%	Improvement Necessary	Contractor rectification within 7 days and confirmed in writing to Employer
3	< 90%	Improvement Desirable	Contractor rectification within one month and confirmed in writing to Employer

11.2.6 Report

A copy of each Audit Report will be sent to Employer and to all subcontractors, with whom it will then be discussed in detail at the Monthly SHE Committee Meeting in order to ensure that any corrective actions are agreed upon.

11.3 Monthly Electrical Safety Audit

11.3.1 A team comprising of contractor's senior SHE (Electrical) engineer and Employer's representative shall conduct monthly electrical safety audit covering the following and submit the report to Employer.

i) Electrical accidents investigation findings and remedy
ii) Adequacy of power generation and power requirements
iii) Power distribution and transmission system in place
iv) Updated electrical single line diagram showing the current condition of power source and distribution including the IP44 DBs arrangement.
v) Electrical protection devices – selection, installation and maintenance.
vi) Earth or ground connection and earth pit maintenance details
vii) Education and training of electrical personnel undertaken
viii) Routine electrical inspection details
ix) Electrical maintenance system and register.
x) Name plate details of major electrical equipment
xi) Classified zones in the site, if any.

11.4 External SHE Audit

11.4.1 External SHE audits are to be conducted by external agencies that are competent with ISO qualified auditors with the prior approval of the Employer.

11.4.2 Areas of competence of Audit team

11.4.2.1 Practical understanding of BOCW Act and Rules, statutory requirements on health/medical and welfare of workmen, construction hazards and its prevention and control, traffic management, electrical safety, rigging, safety of construction equipment and environment management**.**

11.4.2.2 Audit shall be conducted as per the guidelines of ISO, ILO, and national standards. Audit report shall also be presented as per the above formats**.**

11.4.3 External SHE audit shall be conducted on a quarterly basis throughout the currency of the contract.

11.4.4 Targets of SHE Audit:

The contents and coverage of the external audit shall include the following items

11.4.4.1 SHE management:

i) Organization
ii) Communication and Motivation
iii) Time office
iv) Inspection
v) Emergency preparedness

vi) Budget allocation
vii) Education and Training
viii) Work permit system

11.4.4.2 Technical:

i) Building and Structure
ii) Construction operational safety
iii) Material safety
iv) Hand tools and Power tools
v) Electrical system
vi) Safety Appliances
vii) Fire prevention and control
viii) Housekeeping
ix) Maintenance and Machinery safety
x) First-aid and Medical Facilities
xi) Welfare measures
xii) Environmental Management

11.4.5 Audit Documents:

11.4.5.1 Contractor shall make the below listed documents available for the review by the Audit team.

i) SHE policy
ii) SHE manual
iii) SHE Rules and Regulation
iv) SHE organization chart
v) Annual SHE objectives / programs
vi) Accident / near miss statistics and analysis
vii) SHE Training program / records for all personnel
viii) Operating manuals and maintenance manual of all equipments
ix) Safe worthiness certificates of all lifting appliances and gears
x) Medical fitness record for all personnel
xi) Risk identification, assessment and control details
xii) Environmental management reports
xiii) Emergency management records including mock drill

11.4.6 Audit Preparation:

i) Audit team members are required to gather information by observations through interviews and by checks of hardware and documentation.
ii) Audit team shall prepare checklist to cover all parts based on SHE legislations rules and regulations and JDA requirements.

iii) Audit team members shall verify the facts and findings leading to the identified gaps and weakness.

iv) Audit leader has overall responsibility for reaching a conclusion.

11.4.7 Reporting:

11.4.7.1 Audit report shall be prepared and directly sent to the Employer within 7 days of conducting the audit with a copy to the contractor.

11.4.8 Report contents:

i) Executing summary - based on the finalized checklists as written the findings to the Employer by the audit team members, the audit leader will compile a concise and accurate summary of observations and findings.

ii) Introduction - this will contain basic information regarding the facilities or organization audited, the specific audit dates (inclusion of those for preparation and post-audit activities).

iii) Principal positive findings - This will contain the summary of positive aspects as observed by the auditors. It will also contain highlights of those issue, which may warrant dissemination as best practice regarding methodology used or achievement.

iv) Audit Findings - All audit findings as detailed in the audit checklists shall be grouped together as priority 1 and 2 as detailed below in a separate listing.

a) Priority 1: Actions to rectify gaps or weakness should generally be implemented within two-weeks time, if risk potential is high or unacceptable.

b) Priority 2: Actions should be generally implemented or rectified with a maximum of 3 – 4 weeks, if not rectified would create a likelihood of minor injury or business loss.

11.4.9 Conformity Report & Action by Employer

11.4.9.1 The auditor shall inspect the site after 14 days of conducting initial audit for checking the adequacy of implementation of items maintained under priority 1 by the contractor and shall submit a conformity / non-conformity report to the Employer with a copy to the contractor.

11.4.9.2 The auditor shall again inspect after 28 days of conducting initial audit for checking the adequacy of implementation of items mentioned under priority 2 by the contractor and shall submit a conformity / non-conformity report to the Employer with a copy to the contractor.

11.4.9.3 In case of non-conformity of items mentioned by auditor, the Employer shall take necessary steps including stoppage of work and or imposing any penalty for getting the item implemented.

11.4.10 Failure of contractor to conduct External SHE Audit

11.4.10.1 If the contractor fails to conduct the external SHE audit in time, the Employer at the cost of contractor shall get it done.

12.0 SHE Communication

12.1 The contractor shall take every effort to communicate the Safety, Occupational health and Environment management measures through posters campaigns / billboards / banners / glow signs being displayed around the work site as part of the effort to rise safety awareness amongst to the work force. Posters should be in Hindi, English and other suitable language deemed appropriate. Posters / billboards / banners/ glow signs should be changed at least once in a month to maintain the impact.

12.2 The contractor shall also observe important days as listed in General Instruction ***JDA/SHE/GI/008/DAY/281105*** and printing and displaying safety signage~~s~~ and posters as listed in General Instruction ***JDA/SHE/GI/009/PS/281105*****.**

12.3 The list indicated are the minimum requirements of the Employer and the contractor is encouraged to further the SHE communication activities by formulating suitable reward schemes for safety performers and any other activities, which deem fit for the purpose.

13.0 SHE Submittals to the Employer

13.1 The contractor's SHE management should send the following reports to the Employer periodically:

i) Daily Reporting of total no of workmen (as given in Clause ***13.2***)
ii) Monthly SHE Report (as given in Clause ***13.3***)
iii) SHE Committee Meeting Minutes (as given in Clause ***7.9.1***)
iv) SHE Inspection Reports
v) SHE Audit Reports
   a) Monthly Audit Rating Score (MARS) report
   b) External SHE Audit
   c) Electrical Safety Audit
vi) Air and Noise Quality monitoring report

13.2 Daily Reporting of total no of workmen

13.2.1 The contractor shall report to the Employer the total no of workmen engaged by all including any subcontractor within 2 hours of starting of any shift in any day. This reporting shall be the primary duty of the Chief SHE Manager of the contractor and reporting shall be through tele-fax / email. The onus of checking

the receipt of the same by the Employer lies with the contractor. If the information is not received or received more than 2 hrs after starting of the shift, penalty shall be levied as per relevant clause.

13.3 Monthly SHE Report

13.3.1 The contractor shall prepare a monthly SHE report consisting of the following and submit 3 copies within 7th of next month to the Employer as specified in the Project SHE manual.

i) Monthly man-hour details as specified in the Project SHE manual
ii) Monthly accident / incident details as specified in the Project SHE manual
iii) SHE committee details
iv) Details of SHE training conducted in the month
v) SHE Inspection
vi) SHE internal audit details like electrical audit etc.
vii) SHE Communication activities under taken in the month indicating the number of posters displayed and balance availability in stock.
viii) Air quality / Noise monitoring details
ix) Toolbox talks details
x) PPE details: Quantity purchased, issued to the workmen and stock available.
xi) Details on IP 44 panel boards, lighting poles, welding and cutting equipments, Ladders, Hoists, tools & tackles.
xii) Monthly Lux meter study results
xiii) Housekeeping
xiv) Barricade maintenance details
xv) No of critical excavations
xvi) Health & Welfare activities
xvii) Safety walk conducted by Contractors' Project Manager in the month
xviii) SHE Activities Planned for next month

14.0 Accident reporting and investigation

14.1 Reporting to Employer

14.1.1 **All accidents and dangerous occurrences shall immediately be informed verbally to the Employer. This will enable the Employer to reach to the scene of accident / dangerous occurrences to monitor/assist any rescue work and/or start conducting the investigation process so that the evidences are not lost.**

14.1.2 **Reports of all accidents (fatal / injury) and dangerous occurrences shall also be sent within 24 hours as per format provided in the Employer's Project SHE manual.**

14.1.3 **No accident / dangerous occurrences is exempted from reporting to the Employer.**

14.1.4 **Any wilful delay in verbal and written reporting to the Employer shall be penalised as per relevant clause.**

14.2 Reporting to Govt. organisations

14.2.1 In addition to the above verbal and written reporting to the Employer, as per Rule 210 of BOCWR, notice of any accident to a worker at the building or construction site that:

a) causes loss of life; or
b) disables a worker from working for a period of 48 hours or more immediately following the accident;
c) shall forthwith be sent by telegram, telephone, fax, or similar other means including special messenger within four hours in case of fatal accidents and 72 hours in case of other accidents, to:
   i) the Regional Labour Commissioner (central), wherein the contractor has registered the firm/work
   ii) the board with which the worker involved was registered as a beneficiary;
   iii) Director General and
   iv) the next of kin or other relative of the worker involved in the accident;

14.2.2 Further, notice of accident shall be sent in respect of an accident which

(a) causes loss of life; or
(b) disables the injured worker from work for more than 10 days to
   i) the officer-in-charge of the nearest police station;
   ii) the District Magistrate or, if the District Magistrate by order so desires, to
   iii) the Sub-Divisional Magistrate

14.2.3 In case of an accident causing minor injury, first-aid shall be administered and the injured worker shall be immediately transferred to a hospital or other place for medical treatment.

14.2.4 Where any accident causing disablement that subsequently results in death, notice in writing of such death, shall be sent to the authorities mentioned in clause ***14.2.1*** and ***14.2.2*** above within 72 hours of such death.

14.2.5 Reporting of dangerous occurrences:

14.2.5.1 The following classes of dangerous occurrences shall be reported to the Inspector having jurisdiction, whether or not any disablement or death caused to the worker, namely:

(a) collapse or failure of lifting appliances, or hoist, or conveyors, or similar equipment for handling of building or construction material or breakage or failure of rope, chain or loose gears; or overturning of cranes used in construction work;
(b) falling of objects from height;

(c) collapse or subsidence of soil, tunnel, pipe lines, any wall, floor, gallery, roof or any other part of any structure, launching girder, platform, staging, scaffolding or means of access including formwork;

(d) explosion of receiver or vessel used for storage of pressure greater than atmospheric pressure, of any gas or gases or any liquid or solid used as building material;

(e) fire and explosion causing damage to any place on construction site where building workers are employed;

(f) spillage or leakage of any hazardous substance and damage to their container;

(g) collapse, capsizing, toppling or collision of transport equipment;

(h) leakage or release of harmful toxic gases at the construction site;

14.2.6 In case of failure of launching girder, lifting appliance, loose gear, hoist or building and other construction work, machinery and transport equipment at a construction site, such appliances, gear, hoist, machinery or equipment and the site of such occurrence shall, as far as practicable, be kept undisturbed until inspected by the Authorities;

14.2.7 Every notice given for fatal accidents or dangerous occurrences shall be followed by a written report to the concerned Authorities under Section 39 of BOCWA and the in the specified Form XIV of BOCWR.

14.3 Accident investigation

14.3.1 General

14.3.1.1 Investigations should be conducted in an open and positive atmosphere that encourages the witnesses to talk freely. The primary objective is to ascertain the facts with a view to prevent future and possibly more serious occurrences

14.3.1.2 Accidents and Dangerous Occurrences which result in death, serious injury or serious damage must be investigated by the Contractor immediately to find out the cause of the accident/occurrence so that measures can be formulated to prevent any recurrence.

14.3.1.3 Near misses and minor accidents should also be investigated by the Contractor as soon as possible as they are signals that there are inadequacies in the safety management system.

14.3.2 Procedure of incident investigation

14.3.2.1 It is important after any accident or dangerous occurrence that information relating to the incident is gathered in an organised way. The following steps shall be followed;

a) take photographs and make sketches

b) examine involved equipment, workpiece or material and the environmental conditions

c) interview the injured, eye-witnesses and other involved parties

d) consult expert opinion where necessary

e) identify the specific contractor or sub-contractor involved.

14.3.2.2 Having gathered information, it is then necessary to make an analysis of incident

a) establish the chain of events leading to the accident or incident

b) find out at what stage the accident took place

c) consider all possible causes and the interaction of different factors that led up to the accident, and identify the most probable cause The cause of an accident should never be classified as carelessness. The specific act or omission that caused the accident must be identified.

14.3.2.3 The next stage is to proceed with the follow-up action

a) report on the findings and conclusions

b) formulate preventive measures to avoid recurrence

c) publicise the findings and the remedial actions taken

14.4 Employers' independent incident investigation

14.4.1 In case of fatal / dangerous occurrence the Employer shall also conduct independent investigation. Contractor and his staff shall extend necessary co-operation and testify about the accident.

14.4.2 The contractor shall take every effort to preserve the scene of accident till the Employer completes the investigation.

14.4.3 All persons summoned by the Employer in connection to witness recording shall obey the instructions with out delay. Any wilful suppression of information by any person shall be removed from the site immediately and / or punishable as per relevant penalty clause.

15.0 Emergency preparedness plan

15.1 The Contractor shall prepare an Emergency Response Plan for all work sites as a part of the Contractor SHE Plan. The plan shall integrate the emergency response plans of the Contractor and all other subcontractors. The Emergency Response Plan shall detail the Contractor's procedures, including detailed communications arrangements, for dealing with all emergencies that could affect the Site. This include where applicable, injury, sickness, evacuation, fire, chemical spillage, severe weather and rescue.

15.2 The contractor shall ensure that an Emergency Response Plan is prepared to deal with emergencies arising out of:

i) Fire and explosion
ii) Collapse of lifting appliances and transport equipment
iii) Collapse of building, sheds or structure etc.
iv) Gas leakage or spillage of dangerous goods or chemicals
v) Bomb threatening, Criminal or Terrorist attack
vi) Drowning of workers

vii) Landslides getting workers buried floods, Earthquake, storms and other natural calamities.

15.3 Arrangements shall be made for emergency medical treatment and evacuation of the victim in the event of an accident or dangerous incident occurring, the chain of command and the responsible persons of the contractor with their telephone numbers and addresses for quick communication shall be adequately publicized and conspicuously displayed in the workplace.

15.4 Contractors shall require to tie-up with the hospitals and fire stations located in the neighbourhood for attending to the casualties promptly and emergency vehicle kept on standby duty during the working hours for the purpose.

15.5 Contractor shall conduct an onsite emergency mock drill once in every month for all his workers and his subcontractor's workers.

15.6 It shall be the responsibility of the contractor to keep the Local Law & Order Authorities informed and seek urgent help, as the case may be, so as to mitigate the consequences of an emergency. Prompt communication to JDA, telephonically initially and followed by a written report, shall be made by the contractor.

16.0 Experts / Agencies for SHE services

16.1 Contractors may utilise the services of experts/agencies empanelled under Rule 250 of BOCWR and Rule 297 of DBOCWR for the purpose of training, internal audit and any other SHE services with prior approval of the Employer.

16.2 As an aide to contractors, a list of experts/agencies and the offered service are given in General Instruction ***JDA/SHE/GI/010/AE/281105*** for ready reference. In addition to it if the contractor would like to use any expert/agencies' services for any SHE activities the same can also be allowed provided that they are competent and meet to the general requirements of Employer. In every case prior approval of the Employer is mandatory.

PART – II : SAFETY

17.0 Housekeeping

17.1 Housekeeping is the act of keeping the working environment cleared of all unnecessary waste, thereby providing a first-line of defence against accidents and injuries.

17.2 Contractor shall understand and accept that improper housekeeping is the primary hazard in any construction site and ensure that a high degree of house keeping is always maintained. Indeed "Cleanliness is indeed next to Godliness"

17.3 Housekeeping is the responsibility of all site personnel, and line management commitment shall be demonstrated by the continued efforts of supervising staff towards this activity.

17.4 General House keeping shall be carried out by the contractor and ensured at all times at Work Site, Construction Depot, Batching Plant, Labour Camp, Stores, Offices and toilets/urinals. Towards this the Contractor shall constitute a special group of house keeping personnel as per General Instruction ***JDA/SHE/GI/001/MPR/281105***. This group shall ensure daily cleaning at work sites and surrounding areas and maintain a register as per the approved format by the Employer.

17.5 Adequate time shall be assigned to ensure that good housekeeping is maintained. This shall be carried out by team of housekeeping squad.

17.6 The contractor shall be responsible to provide segregated containers for disposal of debris at required places and regular cleaning of the same.

17.7 Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the surrounding area from excavated soil, rubbish etc, which may cause inconvenience to and endanger the public. The barricade especially those exposed to public shall be aesthetically maintained by regular cleaning and painting as directed by the Employer. These shall be maintained in one line and level.

17.8 The structure dimension of the barricade, material and composition, its colour scheme, JDA logo and other details shall be in accordance with specifications laid down in tender document.

17.9 All stairways, passageways and gangways shall be maintained without any blockages or obstructions. All emergency exits passageways, exits fire doors, break-glass alarm points, fire fighting equipment, first aid stations, and other emergency stations shall be kept clean, unobstructed and in good working order.

17.10 Lumber with protruding nails shall be either bent / removed and properly stacked.

17.11 All surplus earth and debris are removed/disposed off from the working areas to officially designated dumpsites. Trucks carrying sand, earth and any pulverized materials etc. in order to avoid dust or odour impact shall be covered while moving.

The tyres of the trucks leaving the site shall be cleaned with water, wherever the possibility of spillage on carriageways meant for regular road traffic exists.

17.12 No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.

17.13 Roads shall be kept clear and materials like: pipes, steel, sand boulders, concrete, chips and brick etc. shall not be allowed on the roads to obstruct free movement of road traffic.

17.14 Water logging or bentonite spillage on roads shall not be allowed. If bentonite spillage is observed on road endangering the safety of road users, the contractor shall be penalised as per relevant clause.

17.15 Proper and safe stacking of material are of paramount importance at yards, stores and such locations where material would be unloaded for future use. The storage area shall be well laid out with easy access and material stored / stacked in an orderly and safe manner.

17.16 Flammable chemicals / compressed gas cylinders shall be safely stored.

17.17 Unused/surplus cables, steel items and steel scrap lying scattered at different places within the working areas shall be removed to identified locations(s).

17.18 All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).

17.19 Empty cement bags and other packaging material shall be properly stacked and removed.

17.20 The Contractor shall ensure that all his sub-contractors maintain the site reasonably clean through provisions related to house keeping

18.0 Working at Height

18.1 Definitions

18.1.1 “access” and “egress” include ascent and descent.

18.1.2 “fragile surface” means a surface, which would be able to fail if any reasonably foreseeable loading were to be applied to it.

18.1.3 “line” includes rope, chain or webbing

18.1.4 “personal fall protection” means -

(a) a fall prevention, work restraint, work positioning, fall arrest or rescue system, other than a system in which the only safeguards are collective safeguards; or

(b) rope access and positioning techniques;

18.1.5 "work at height" means -
(a) work in any place, including a place at or below ground level;
(b) obtaining access to or egress from such place while at work, except by a staircase in a permanent workplace,
where, if protective measures were not taken, a person could fall a distance liable to cause personal injury;

18.1.6 "work equipment" means any machinery, appliance, apparatus, tool or installation for use at work (whether exclusively or not) and includes
(a) a guard-rail, toe-board, barrier or similar collective means of protection
(b) a working platform
(c) a net, airbag or other collective safe guard for arresting falls.
(d) personal fall protection system
(e) ladders

18.1.7 "working platform"
(a) means any platform used as a place of work or as a means of access to or egress from a place of work;
(b) includes any scaffold, suspended scaffold, cradle, mobile platforms, trestle, gangway, gantry and stairway which is so used.

18.2 Organisation and planning

The contractor shall ensure that work at height is

i) properly planned for any emergencies and rescue

ii) appropriately supervised; and

iii) carried out in a manner, which is reasonably practicable safe.

18.3 The contractor shall ensure that work at height is carried out only when the weather conditions do not jeopardise the health or safety of persons involved in the work.

18.4 Competence

The contractor shall ensure that no person engages in any activity, including organization, planning and supervision, in relation to work at height or work equipment for use in such work unless he is competent to do so or, if being trained, is being supervised by a competent person.

18.5 Avoidance of risks from work at height

The contractor shall ensure that work is not carried out at height where it is reasonably practicable to carry out the work safely otherwise than at height.

18.6 Where work is carried out at height, the contractor shall take suitable and sufficient measures as given below to prevent, so far as is reasonably practicable, any person **falling a distance liable to cause personal injury**.

(a) his ensuring that the work is carried out
(i) from an existing place of work; or

(ii) (in the case of obtaining access or egress) using an existing means, complying to the requirements as given in ***18.15***

where it is reasonably practicable to carry it out safely and under appropriate ergonomic conditions; and

(b) where it is not reasonably practicable for the work to be carried out in accordance with sub-paragraph (a), his providing sufficient work equipment for preventing, so far as is reasonably practicable, a fall occurring.

18.7 Where the measures taken under clause ***18.6*** do not eliminate the risk of a fall occurring, every contractor shall

(a) so far as is reasonably practicable, provide sufficient work equipment to minimise -

(i) the distance and consequences; or

(ii) where it is not reasonably practicable to minimise the distance, the consequences, of a fall; and

(b) Without prejudice to the generality of clause ***18.4***, provide such additional training and instruction or take other additional suitable and sufficient measures to prevent, so far as is reasonably practicable, any person falling a distance liable to cause personal injury.

18.8 Selection of 'work equipment' for work at height

1) the contractor, in selecting work equipment for use in work at height, shall

a) give collective protection measures priority over personal protection measures; and

b) take account of

i) the working conditions and the risks to the safety of persons at the place where the work equipment is to be used;

ii) in the case of work equipment for access and egress, the distance to be negotiated;

iii) the distance and consequences of a potential fall;

iv) the duration and frequency of use;

v) the need for easy and timely evacuation and rescue in an emergency; and

vi) any additional risk posed by the use, installation or removal of that work equipment or by evacuation and rescue from it;

(2) The contractor shall select work equipment for work at height which:

a) has characteristics including dimensions which:

(i) are appropriate to the nature of the work to be performed and the foreseeable loadings; and

(ii) allow passage without risk; and

b) is in other respects the most suitable work equipment, having regard in particular to the purposes specified in ***18.5*** and ***18.6.***

18.9 Fragile surfaces

18.9.1 The contractor shall ensure that no person at work passes across or near, or working on, from or near, a fragile surface where it is reasonably practicable to carry out work safely and under appropriate ergonomic conditions without his doing so.

18.9.2 Where it is not reasonably practicable to carry out work safely and under appropriate ergonomic conditions without passing across or near, or working on, from or near, a fragile surface, every contractor shall,

(a) ensure, so far as is reasonably practicable, that suitable and sufficient platforms, coverings, guard rails or similar means of support or protection are provided and used so that any foreseeable loading is supported by such supports or borne by such protection;

(b) where a risk of a person at work falling remains despite the measures taken under the preceding provisions of this regulation, take suitable and sufficient measures to minimise the distances and consequences of his fall.

18.9.3 Where any person at work may pass across or near, or work on, from or near, a fragile surface, every contractor shall ensure that

(a) prominent warning notices are so far as is reasonably practicable affixed at the approach to the place where the fragile surface is situated; or

(b) where that is not reasonably practicable, such persons are made aware of it by other means.

18.10 Falling objects

18.10.1 The contractor shall, where necessary to prevent injury to any person, take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object.

18.10.2 Where it is not reasonably practicable to comply with the requirements of ***18.9***, every contractor shall take suitable and sufficient steps to prevent any person being struck by any falling material or object which is liable to cause personal injury.

18.10.3 The contractor shall ensure that no material or object is thrown or tipped from height in circumstances where it is liable to cause injury to any person.

18.10.4 Every employer shall ensure that materials and objects are stored in such a way as to prevent risk to any person arising from the collapse, overturning or unintended movement of such materials or objects.

18.11 Danger areas

18.11.1 Without prejudice to the preceding requirements of these Regulations, every contractor shall ensure that

(a) where a workplace contains an area in which, owing to the nature of the work, there is a risk of any person at work

i) falling a distance; or

ii) being struck by a falling object,

which is liable to cause personal injury, the workplace is so far as is reasonably practicable equipped with devices preventing unauthorised persons from entering such area; and

(b) such area is clearly indicated.

18.12 Inspection of work equipment

18.12.1 The contractor shall ensure that, where the safety of work equipment depends on how it is installed or assembled, it is not used after installation or assembly in any position unless it has been inspected in that position.

18.12.2 The contractor shall ensure that work equipment exposed to conditions causing deterioration which is liable to result in dangerous situations is inspected

(a) at suitable intervals; and

(b) each time that exceptional circumstances which are liable to jeopardise the safety of the work equipment have occurred,

to ensure that health and safety conditions are maintained and that any deterioration can be detected and remedied in good time.

18.12.3 Without prejudice to paragraph ***18.12.1***, the contractor shall ensure that a working platform

(a) used for construction work; and

(b) from which a person could fall 2 metres or more,

is not used in any position unless it has been inspected in that position or, in the case of a mobile working platform, inspected on the site, within the previous 7 days.

18.12.4 The contractor shall ensure that the reports of all inspections are properly maintained and shown to the Employer as and when required.

18.12.5 In this clause "inspection",

(a) means such visual or more rigorous inspection by a competent person as is appropriate for safety purposes;

(b) includes any testing appropriate for those purposes,

18.13 Inspection of places of work at height

18.13.1 The contractor shall so far as is reasonably practicable ensure that the surface and every parapet, permanent rail or other such fall protection measure of every place of work at height are checked on each occasion before the place is used.

18.14 Duties of persons at work

18.14.1 Any workmen employed by the contractor shall report to the supervisor about any defect relating to work at height which he knows is likely to endanger the safety of himself or another person.

18.14.2 Every workmen shall use any work equipment or safety device provided to him for work at height by the contractor, in accordance with

(a) any training in the use of the work equipment or device concerned which have been received by him; and

(b) the instructions respecting that use which have been provided to him by the contractor as per the requirements of the Employer

18.15 Requirements for existing places of work and means of access or egress at height

Every existing place of work or means of access or egress at height shall

(a) be stable and of sufficient strength and rigidity for the purpose for which it is intended to be or is being used;

(b) where applicable, rest on a stable, sufficiently strong surface;

(c) be of sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work to be carried out there;

(d) possess suitable and sufficient means for preventing a fall;

(e) possess a surface which has no gap

(i) through which a person could fall;

(ii) through which any material or object could fall and injure a person; or

(iii) giving rise to other risk of injury to any person, unless measures have been taken to protect persons against such risk;

(f) be so constructed and used, and maintained in such condition, as to prevent, so far as is reasonably practicable -

(i) the risk of slipping or tripping; or

(ii) any person being caught between it and any adjacent structure;

(g) where it has moving parts, be prevented by appropriate devices from moving inadvertently during work at height.

18.16 Requirements for guardrails, toe-boards, barriers and similar collective means of protection

i) Unless the context otherwise requires, any reference in this section to means of protection is to a guardrail, toe-board, barrier or similar collective means of protection.

ii) Means of protection shall

(a) be of sufficient dimensions, of sufficient strength and rigidity for the purposes for which they are being used, and otherwise suitable;

(b) be so placed, secured and used as to ensure, so far as is reasonably practicable, that they do not become accidentally displaced; and

(c) be so placed as to prevent, so far as is practicable, the fall of any person, or of any material or object, from any place of work.

iii) In relation to work at height involved in construction work

(a) the top guard-rail or other similar means of protection shall be at least 950 millimetres above the edge from which any person is liable to fall;

(b) toe-boards shall be suitable and sufficient to prevent the fall of any person, or any material or object, from any place of work; and

(c) any intermediate guardrail or similar means of protection shall be positioned so that any gap between it and other means of protection does not exceed 470 millimetres.

iv) Any structure or part of a structure which supports means of protection or to which means of protection are attached shall be of sufficient strength and suitable for the purpose of such support or attachment.

18.17 Requirements for all Working Platforms

i) Every working platforms requires a supporting structure for holding it

ii) Any surface upon which any supporting structure rests shall be stable, of sufficient strength and of suitable composition safely to support the supporting structure, the working platform and any loading intended to be placed on the working platform.

iii). Stability of supporting structure

Any supporting structure shall

(a) be suitable and of sufficient strength and rigidity for the purpose for which it is being used;

(b) in the case of a wheeled structure, be prevented by appropriate devices from moving inadvertently during work at height;

(c) in other cases, be prevented from slipping by secure attachment to the bearing surface or to another structure, provision of an effective anti-slip device or by other means of equivalent effectiveness;

(d) be stable while being erected, used and dismantled; and

(e) when altered or modified, be so altered or modified as to ensure that it remains stable.

(f) Have suitable base plates and properly footed thereby.

iv). Stability of working platforms

A working platform shall

(a) be suitable and of sufficient strength and rigidity for the purpose or purposes for which it is intended to be used or is being used;

(b) be so erected and used as to ensure that its components do not become accidentally displaced so as to endanger any person;

(c) when altered or modified, be so altered or modified as to ensure that it remains stable; and

(d) be dismantled in such a way as to prevent accidental displacement.

v) Safety on working platforms

A working platform shall

(a) be of sufficient dimensions to permit the safe passage of persons and the safe use of any plant or materials required to be used and to provide a safe working area having regard to the work being carried out there;

(b) possess a suitable surface and, in particular, be so constructed that the surface of the working platform has no gap

i) through which a person could fall;

ii) through which any material or object could fall and injure a person; or

iii) giving rise to other risk of injury to any person, unless measures have been taken to protect persons against such risk; and

(c) be so erected and used, and maintained in such condition, as to prevent, so far as is reasonably practicable

i) the risk of slipping or tripping; or

ii) any person being caught between the working platform and any adjacent structure.

vi) Loading

A working platform and any supporting structure shall not be loaded so as to give rise to a risk of collapse or to any deformation, which could affect its safe use.

vii) Additional requirements for scaffolding

Strength and stability calculations for scaffolding shall be carried out unless

(a) a note of the calculations, covering the structural arrangements contemplated, is available; or

(b) it is assembled in conformity with a generally recognised standard configuration.

viii) Depending on the complexity of the scaffolding selected, a competent person shall draw up an assembly, use and dismantling plan. This may be in the form of a standard plan, supplemented by items relating to specific details of the scaffolding in question.

ix) A copy of the plan, including any instructions it may contain, shall be kept available for the use of persons concerned in the assembly, use, dismantling or alteration of scaffolding until it has been dismantled.

x) The dimensions, form and layout of scaffolding decks shall be appropriate to the nature of the work to be performed and suitable for the loads to be carried and permit work and passage in safety.

xi) While a scaffold is not available for use, including during its assembly, dismantling or alteration, it shall be marked with general warning signs in accordance with and be suitably delineated by physical means preventing access to the danger zone.

xii) Scaffolding may be assembled, dismantled or significantly altered only under the supervision of a competent person and by persons who have received appropriate and specific training in the operations envisaged which addresses specific risks which the operations may entail and precautions to be taken, and more particularly in

(a) understanding of the plan for the assembly, dismantling or alteration of the scaffolding concerned;

(b) safety during the assembly, dismantling or alteration of the scaffolding concerned;

(c) measures to prevent the risk of persons, materials or objects falling;

(d) safety measures in the event of changing weather conditions which could adversely affect the safety of the scaffolding concerned;

(e) permissible loadings;

(f) any other risks which the assembly, dismantling or alteration of the scaffolding may entail.

18.18 Requirements for collective safeguards for arresting falls

i) Collective safeguard are a safety net, airbag or other collective safeguard for

arresting falls

ii) A safeguard shall be used only if

(a) a risk assessment has demonstrated that the work activity can so far as is reasonably practicable be performed safely while using it and without affecting its effectiveness;

(b) the use of other, safer work equipment is not reasonably practicable; and

(c) a sufficient number of available persons have received adequate training specific to the safeguard, including rescue procedures.

iii) A safeguard shall be suitable and of sufficient strength to arrest safely the fall of any person who is liable to fall.

iv) A safeguard shall

(a) in the case of a safeguard which is designed to be attached, be securely attached to all the required anchors, and the anchors and the means of attachment thereto shall be suitable and of sufficient strength and stability for the purpose of safely supporting the foreseeable loading in arresting any fall and during any subsequent rescue;

(b) in the case of an airbag, landing mat or similar safeguard, be stable; and

(c) in the case of a safeguard, which distorts in arresting a fall, afford sufficient clearance.

v) Suitable and sufficient steps shall be taken to ensure, so far as practicable, that in the event of a fall by any person the safeguard does not itself cause injury to that person.

18.19 Requirements for personal fall protection systems

i) A personal fall protection system shall be used only if

(a) a risk assessment has demonstrated that

(i) the work can so far as is reasonably practicable be performed safely while using that system; and

(ii) the use of other safer work equipment is not reasonably practicable; and

(b) the user and a sufficient number of available persons have received adequate training specific to the operations envisaged, including rescue procedures.

ii) A personal fall protection system shall

(a) be suitable and of sufficient strength for the purposes for which it is being used having regard to the work being carried out and any foreseeable loading;

(b) where necessary, fit the user;

(c) be correctly fitted;

(d) be designed to minimise injury to the user and, where necessary, be adjusted to prevent the user falling or slipping from it, should a fall occur; and

(e) be so designed, installed and used as to prevent unplanned or uncontrolled movement of the user.

iii) A personal fall protection system designed for use with an anchor shall be securely attached to at least one anchor, and each anchor and the means of attachment thereto shall be suitable and of sufficient strength and stability for the purpose of supporting any foreseeable loading.

iv) Suitable and sufficient steps shall be taken to prevent any person falling or slipping from a personal fall protection system.

18.20 Requirements for Ladders

1) Every contractor shall ensure that a ladder is used for work at height only if a risk assessment has demonstrated that the use of more suitable work equipment is not justified because of the low risk and
   i) The short duration of use; or
   ii) Existing features on site, which he cannot alter.
2) Only metal ladders shall be allowed. Bamboo ladders are prohibited.
3) Any surface upon which a ladder rests shall be stable, firm, of sufficient strength and of suitable composition safely to support the ladder so that its rungs or steps remain horizontal, and any loading intended to be placed on it.
4) A ladder shall be so positioned as to ensure its stability during use
5) A suspended ladder shall be attached in a secure manner and so that, with the exception of a flexible ladder, it cannot be displaced and swinging is prevented.
6) A portable ladder shall be prevented from slipping during use by -
   i) securing the stiles at or near their upper or lower ends;
   ii) an effective anti-slip or other effective stability device; or
   iii) any other arrangement of equivalent effectiveness.
7) A ladder used for access shall be long enough to protrude sufficiently above the place of landing to which it provides access, unless other measures have been taken to ensure a firm handhold.
8) No interlocking or extension ladder shall be used unless its sections are prevented from moving relative to each other while in use.
9) A mobile ladder shall be prevented from moving before it is stepped on.

10) Where a ladder or run of ladders raises a vertical distance of 9 metres or more above its base, there shall, where reasonably practicable, be provided at suitable intervals sufficient safe landing areas or rest platforms.

11) Every ladder shall be used in such a way that
    (a) a secure handhold and secure support are always available to the user; and
    (b) the user can maintain a safe handhold when carrying a load unless, in the case of a step ladder, the maintenance of a handhold is not practicable when a load is carried, and a risk assessment has demonstrated that the use of a stepladder is justified because of
        (i) the low risk; and
        (ii) the short duration of use.

19.0 Overhead protection

All contractors shall provide overhead protections as per Rule 41 of BOCWR

i) Overhead protection should be erected along the periphery of every building which is under construction and the building height shall be 15m or above after construction.

ii) Overhead protection shall be minimum 2m wide and the outer edge shall be 150mm higher than the inner edge and an angle not more than 20^0 to its horizontal sloping into the building.

iii) Overhead protection shall not be erected more than a height of 5m from the base of the building.

iv) Areas of inadvertent hazard of falling of material shall be guarded or barricaded or roped-off thereby by the contractor.

20.0 Slipping, Tripping, Cutting, Drowning and Falling Hazards

As per Rule 42 of BOCWR,

i) All places should be free from dust, debris or similar materials.

ii) Sharp projections or any protruding nails or similar objects shall be suitably guarded or shall even be avoided to make the place safe to work.

iii) Contractor shall not allow workmen to work or use platforms, scaffolds/passageways or any walkways, which has water, or oil or similar substances spilt and has a slipping hazard, unless it is cleaned off or covered or sanded or saw dusted or make it safe with any suitable material.

iv) When workers are exposed to areas where fall into water is possible, the contractor shall provide suitable and adequate equipment for saving the workers from drowning and rescuing from such hazard. If the Employer considers, the contractor shall provide well-equipped boat or launch, manned with trained personnel at the work place.

v) Open side or opening where worker, equipment, vehicle or lifting appliance may fall at a building or outside shall be guarded suitably except in places of free access by reasons of nature of work.

vi) Suitable safety net shall be provided at places of material / man falling is possible in accordance with national standards.

21.0 Lifting Appliances and Gear

21.1 Lifting appliances means a crane, hoist machinery, derrick, winch, gin pole, sheer legs, jack, hoist drum, slewing machinery, slewing bearing fasteners, loffing machinery sheaves, pulley blocks, hooks or other equipment used for lifting materials, objects or building workers and lifting gears means ropes, chain slings, shackles, hooks, lifting lugs, wire ropes, lifting eyebolts and eyenuts and other accessories of a lifting appliance..

21.2 No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered against:

i) the weights, dimensions and lift radii of the heaviest and largest loads
ii) the maximum lift height, the maximum lift radius and the weight of the loads that must be handled at each
iii) the number and frequency of lifts to be made
iv) how long the crane will be required on site
v) the type of lifting to be done (for example, is precision placement of loads important?
vi) the type of carrier required (this depends on ground conditions and machine capacity In its operating quadrants: capacity is normally greatest over the rear, less over the side, and non-existent over th e front
vii) whether loads will have to be walked or carried
viii) whether loads will have to be suspended for lengthy periods
ix) the site conditions, including the ground where the machine will be set up, access roads and ramps it must travel, space for erection and any obstacles that might impede access or operation

21.3 The contractor shall ensure that a valid certificate of fitness issued as per clause ***21.5*** is available for all lifting appliances including synchronised mobile jacks, pre-stressing hydraulic jacks, jacks fitted with launching girders etc. and Employers approval before inducting to the site. **Only after obtaining the approval from the Employer any lifting appliances and gear shall be used.**

21.4 The laminated photocopies of fitness certificate issued by competent person, the Employers' approval letter, the operators' photo, manufacturer's load chart and competency certificate shall always be either kept in the operator cabin or pasted on the visible surface of the lifting appliances.

21.5 All lifting appliances and loose gears shall be clearly marked for its safe working load and identification by stamping or other suitable means.

21.6 The contractor shall also maintain a register containing a system of identification of all tools and tackles, its date of purchase, safe working load, competent person date of examination etc.

21.7 Test and periodical examination of lifting appliances and gears

21.7.1 All lifting appliances including all parts and gears thereof, whether fixed or movable shall be thoroughly tested and examined by a competent person once at least in every six months or after it has undergone any alterations or repairs liable to affect its strength or stability. Within the validity, if the lifting appliances are shifted to a new site, re-examination by the same competent person for ensuring its safety shall also be done.

21.7.2 Contractors can utilise the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories with the permission of the Employer.

21.7.3 All alarms and signals like automatic safe load indicators (SLI), boom angle indicators, boom extension indicators, over lift boom alarm, swing alarm, hydraulic safety valves, mechanical radius indicators, load moment indicators etc. shall be periodically examined and maintained always in working condition

21.8 Automatic safe load indicators

21.8.1 As stipulated in Rule 57 of DBOCW Rules, every lifting appliances and gears like cranes, hydras etc, if so constructed that the safe working load may be varied by raising or lowering of the jib or otherwise shall be attached with an automatic indicator of safe working loads approved by Bureau of Indian standards/ International certifying bodies which gives a warning to the operator and arrests further movements of the lifting parts.

21.9 Qualification of operator of lifting appliances and of signaller etc

21.9.1 The contractor shall not employ any person to drive or operate a lifting machine like crane, hydra etc whether driven by mechanical power or otherwise or to give signals to work as a operator of a rigger or derricks unless he

i) is above twenty-one years of age and possesses a valid heavy transport vehicle driving licence as per Motor Vehicle Act and Rules.

ii) is absolutely competent and reliable

iii) possesses the knowledge of the inherent risks involved in the operation of lifting appliances by undergoing a formal training at any institution of national importance acceptable to Employer

iv) is medically examined periodically as specified in schedule VII of BOCW Rules.

21.10 General requirements of appliances

21.10.1 Out-of level

21.10.1.1 One of the most severe effects of being out-of fit level is that side loads develop in the boom. Because of side loads all mobile cranes lose capacity rapidly as the degree of out-of-level increases and therefore

21.10.2 Boom

i) The boom is one of the more critical elements of the crane and must be in perfect condition at all time. No boom section with a bent lattice member shall be allowed
ii) All welds shall be crack and corrosion free
iii) No member of the boom shall be bent
iv) All telescopic boom shall be free from cracks, rust, flaking or cracked paint, bulges, greases or varnishes

21.10.3 The sweep area (work area) of the construction machinery shall be always free from obstructions.

21.10.4 All hydraulic piping and fittings shall be maintained leak proof.

21.10.5 The operator cab shall posses good and safe:

i) structure, windows and windshield wipers
ii) Drivers chair and foot rest
iii) Control handles
iv) Cab instrumentation
v) Telecommunication
vi) Cab out fitting
vii) wind indicator with an adjustable set point shall be in a position representative for the wind on the crane. The indicator shall give continuous information regarding constant speeds and gusts.

21.11 **Mandatory rigging requirements**

21.11.1 **Rigging shall be done under experienced and qualified rigger only.**

21.11.2 **The primary requirement in rigging shall be to assess the weight of load before attempting any lift.**

21.11.3 **All hooks shall be fitted with Master Rings having certificate of fitness from the competent person, so that the hooks are subjected to balanced vertical loading only.**

21.11.4 **Only four legged slings shall be allowed which includes master link (ring), intermediate master link (ring) if necessary, chain / wire rope sling, sling hook or other terminal fitting.**

21.11.5 **Hand spliced slings up to 32mm diameter shall not be used at site for any lifting purpose.**

21.11.6 **No load shall be slewed over public areas without stopping the pedestrians and road traffic first.**

21.11.7 **Requirements of outriggers**

i) All outriggers shall be fully extended and at all tyres are clear of the ground

ii) **Heavy duty blocking having large bearing area shall be necessary to prevent sinking of floats**

21.11.8 **All loads shall have tag-lines attached in order to ensure that the load can be controlled at all times.**

21.11.9 **No close working to any live overhead power line is permitted without the operation of a strict Permit to Work.**

21.11.10 **Minimum lighting is to be ensured at all lifting operations.**

21.12 **Failure to do any of the above shall attract penalty from the Employer as per relevant clause**

22.0 Launching Operation

22.1 As launching operation is one of the riskiest job, the contractor shall take utmost precaution at all stages like; planning, establishing casing yard, casting segments, transporting segments, fabrication and erection of launching girders, launching of segments, pre-stressing, auto launching of girders and dismantling of launching girders.

22.2 The contractor shall prepare a comprehensive Method Statement for the launching operation, adhering to the SHE conditions laid down in conditions of contract on SHE and project SHE manual. Particular reference shall be made to the provisions on working at height. As the entire process of launching has to be undertaken at an elevated level the safety of workers and the girder is paramount important. The following general guidelines shall be adhered throughout the launching operation.

i) Necessary 'working platforms' and fall protection anchorage arrangement shall be provided in the launching girder itself.

ii) Provisions for mounting light fittings shall also be made available in the launching girder.

iii) The casting yard shall be established ensuring the provision given in clause ***38.0***

iv) The workmen engaged in fabrication of reinforcement, concreting the segment shall be provided with necessary PPEs including compulsory hand protection gloves.

v) Casting and curing of segment shall be undertaken under the direct supervision of the responsible engineer of the contractor.

vi) Trucks with valid registration, license, safe worthiness certificate, Employer's approval certificate, and pollution under check certificate shall only be used for transport of segments

vii) Drivers engaged for driving these trucks, shall be trained once in 6 months at Delhi Government and Maruti Institute of Driver Training and Research, Wazirabad Road, Adjoining Loni Road Flyover, Delhi – 110 094 on defensive driving.

viii) Drivers shall also have undergone proper medical examination as per relevant clause mentioned under 'Medical Facilities'.

ix) The segments shall rigidly secured to the truck with necessary wooden wedges and necessary red indicators/safety tapes provided so that the vehicle is clearly seen by other road users both in day / night time.

x) Every launching girder shall have a responsible engineer on duty all the time.

xi) All the time from erection to dismantling the area between the two piers wherein launching is in progress shall always be barricaded.

xii) Unloading of segments from trucks, lifting of segments, shifting of segments, gluing shall be done under the direct supervision of the approved engineer of the contractor.

xiii) Auto launching shall be done only after approval from the Employer. After every auto launching the stability of launching girder shall be ensured.

xiv) The vertical deflection of launching girder shall be monitored at all critical stages like with/without loads and after every auto launching.

xv) A register containing all important operational details from erection to dismantling of launching girders shall be maintained and made available to Employer whenever called for.

xvi) Test certificate for all lifting gears including Macalloy bars shall be maintained at a location closer to the launching girder itself so that it can be referred during all inspections.

xvii) Adequate lighting at all time shall be ensured in the entire area of operation.

xviii) Access to drinking water & toilet shall be ensured to all workmen engaged for launching process.

xix) Proper access ladders/stairways shall be maintained for safe ascending / descending of workmen / engineers.

22.3 Non-adherence to any of the clauses mentioned above shall be viewed seriously by the Employer and penalty levied as per relevant clause.

23.0 Construction machinery

23.1 Construction machineries may include dumpers and dump trucks, lift trucks and telescopic handlers piling rigs, vibro hammers, rail welding equipments, mobile elevating work platforms, cranes, tipper lorries, lorry loaders, skip wagons, 360° excavators, 180° backhoe loaders, crawler tractors, scrapers, graders, loading shovels, trenchers, side booms, pavers, planers, chippers, road rollers, locomotives, tankers and bowsers, trailers, hydraulic and mechanical breakers etc.

23.2 Safe worthiness certificate

23.2.1 Every construction equipment shall be in sound mechanical working condition and certified by either competent person under Factories Act or manufacturers'

warranty in case of brand new equipments or authorized persons / firms approved by Employer before induction to any site.

23.2.2 Every such certificate shall have the date of purchase, main overhauling undertaken in the past, any accident to the equipment, visual examination details, critical components safety check, list of safety devises and its working condition, manufacturer's maintenance checklist, past projects wherein the equipments were used etc as its minimum content.

23.3 **Reverse Horns**

23.3.1 **All Vehicles shall be fitted with audible reverse alarms and maintained in good working condition. Reversing shall be done only when there is adequate rear view visibility or under the directions of a banksman**

23.4 General operating procedures

i) Drivers entering site shall be instructed to follow the safe system of work adopted on site. These shall be verbal instructions or, preferably, written instructions showing the relevant site rules, the site layout, delivery areas, speed limits, etc.

ii) No passengers shall be carried, unless specific seating has been provided in accordance with the manufacturers recommendations.

iii) Working on gradients beyond any equipments capability shall not be allowed.

iv) Prevention of dumper and dump truck accidents should be managed by providing wheel stops at a sufficient distance from the edges of excavations, spoil heaps, pits, etc.

v) The manufacturer's recommended bucket size must not be exceeded in excavators.

vi) If excavators operating on a gradient which cannot be avoided, it must be ensured that the working cycle is slowed down, that the bucket is not extended too far in the downhill direction, and that travel is undertaken with extreme caution. A large excavator must never be permitted to travel in a confined area, or around people, without a banksman to guide the driver, who should have the excavator attachment close in to the machine, with the bucket just clear of the ground. On wheeled excavators, it is essential that the tyres are in good condition and correctly inflated. If stabilizing devices are fitted, they should be employed when the machine is excavating.

vii) When the front shovel of the 180^0 backhoe loaders is being employed, the backhoe attachment shall be in its "travel" position, with the safety locking device in place.

viii) When operating the backhoe in poor ground conditions, the stabilisers tend to sink into the surface of the ground, reducing stability. Therefore frequent checks shall be made for the stability of the machine. The loading shovel should always be lowered to the ground to stabilise the machine when the backhoe is employed.

ix) The netting operation of the skip wagons should be carried out prior to lifting the skip to reduce the risks of working on the rear platform

x) If a tractor dozer is employed on clearing scrub or felling trees, it shall be provided with adequate driver protection.

xi) When two or more scrapers are working on the same job, a minimum distance of at least 25m shall be kept between them.

xii) Incase of hydraulic breakers, hydraulic rams and hoses shall be in good working condition

23.5 All wood working machines shall be fitted with suitable guards and devices such as top guard, riving knife, push stick, guards for drive belts and chains, and emergency stop switch easily accessible by the operator.

23.6 **Penalty**

23.6.1 **If any of the above clauses are not adhered, penalty shall be imposed as per relevant clause depending upon the gravity of the unsafe act and or condition.**

24.0 Machine and general area guarding

24.1 The contractor shall ensure at the construction site all motors, cogwheels, chains and friction gearing, flywheels, shafting, dangerous and moving parts of machinery are securely fenced or legged. The fencing of dangerous part of machinery is not removed while such machinery is in motion or in use.

25.0 Manual lifting and carrying of excessive weight

25.1 The contractor shall ensure at his construction site of a building or other construction work that no building worker lifts by hand or carries overhead or over his back or shoulders any material, article, tool or appliances exceeding in weight as said below as per Rule 38 of BOCWR, Unless aided by another building worker or device.

Person	Maximum weight in kg.
Adult man	55
Adult woman	30

25.2 No building worker aided by other building worker shall lift or carry weight higher than or exceeding the sum of total of maximum limits set out for each building worker separately as mentioned in the table above.

26.0 Site Electricity

26.1 Competency of Electrical personnel:

26.1.1 **The contractor shall employ qualified and competent electrical personnel as specified in general instruction *JDA/SHE/GI/001/MPR/281105*.**

26.2 Assessment of power

26.2.1 The contractor shall assess the size and location of the electrical loads and the manner in which they vary with time during the currency of the contract.

26.2.2 The contractor shall elaborate as to how the total supply is to be obtained / generated. The details of the source of electricity, earthing requirement, substation / panel boards, distribution system shall be prepared and necessary approval from Employer obtained before proceeding of the execution of the job.

26.2.3 **The main contractor shall take consideration, the requirements of the sub / petty contractors' electric power supply and arrive at the capacity of main source of power supply from diesel generators.**

26.2.4 **As the sub / petty contractors' small capacity generators create more noise and safety hazard, no small capacity diesel generators shall be allowed for whatsoever the type of job to be executed under this contract.**

26.2.5 **If any unsafe noise making small capacity diesel generators are found used by sub / petty contractors the main contractor shall only be penalised.**

26.3 **Work on site**

26.3.1 The contractor shall also submit electrical single line diagram, schematic diagram and the details of the equipment for all temporary electrical installation and these diagrams together with the temporary electrical equipment shall be submitted to the Employer's for necessary approval. Failure to do so shall invite penalty as per relevant clause.

26.4 Strength and capability of electrical equipment

26.4.1 No electrical equipment shall be put into use where its strength and capability may be exceeded in such a way as may give rise to danger.

26.5 Adverse or hazardous environments

26.5.1 Electrical equipment which may reasonably foreseeably be exposed to-

(a) mechanical damage;
(b) the effects of the weather, natural hazards, temperature or pressure;
(c) the effects of wet, dirty, dusty or corrosive conditions; or
(d) any flammable or explosive substance, including dusts, vapours or gases, shall be of such construction or as necessary protected as to prevent, so far as is reasonably practicable, danger arising from such exposure.

26.6 Distribution system:

26.6.1 The contractor shall provide distribution system for control and distribution of electricity from a main AC supply of 50Hz for typical appliances,

i) Fixed plant – 400V 3 phase
ii) Movable plant fed via trailing cable over 3.75 kW – 400 3 phase
iii) Installation in site buildings – 230V single phase
iv) Fixed flood lighting – 230V single phase
v) Portable and hand tools – 115V single phase
vi) Site lighting - 115V single phase
vii) Portable hand lamps – 115V single phase

26.7 Electrical protection circuits

26.7.1 Precautions shall be taken, either by earthing or by other suitable means, to prevent danger arising when any conductor (other than a circuit conductor) which may reasonably foreseeable become charged as a result of either the use of a system, or a fault in a system, becomes so charged. A conductor shall be regarded as earthed when conductors of sufficient strength and current-carrying capability to discharge electrical energy to earth connect it to the general mass of earth.

If a circuit conductor is connected to earth or to any other reference point, nothing which might reasonably be expected to give rise to danger by breaking the electrical continuity or introducing high impedance shall be placed in that conductor unless suitable precautions are taken to prevent that danger.

26.7.2 Appropriate electrical protection shall be provided for all circuits, against over load, short circuit and earth fault current.

26.7.3 The contractor shall provide sufficient ELCBs (maintain sensitivity 30 mA) / RCCBs for all the equipments (including Potable equipments), electrical switchboards, distribution panels etc. to prevent electrical shocks to the workers.

26.7.4 All protection devices shall be capable of interrupting the circuit without damage to any equipments and circuits in case of any fault may occur.

26.7.5 Rating of fuses and circuit breakers used for the protection of circuits should be coordinate with equipment power ratings.

26.7.6 Protection against lightning shall be ensured to all equipment kept in open at sites.

26.8 Cables:

26.8.1 Cables shall be selected after full consideration of the condition to which they shall be exposed and the duties for which they are required. Supply cable up to 3.3 kV shall be in accordance with BS 6346.

26.8.2 For supplies to mobile or transportable equipment where operating of the equipment subjects the cable to flexing, the cable shall conform to any of these codes BS 6007 / BS 6500 / BS 7375.

26.8.3 Flexible cords with a conductor cross sectional area smaller than 1.5 mm^2 shall not be used and insulated flexible cable shall conform to BS 6500 and BS 7375.

26.8.4 Where low voltage cables are to be used, reference shall be made to BS 7375. The following standards shall also be referred to particularly for under ground cables BS 6346 and BS 6708

26.8.5 Cables buried directly in the ground shall be of a type incorporating armour or metal sheath or both. Such cables shall be marked by cable covers or a suitable marking tape and be buried at a sufficient depth to avoid their being damaged by any disturbance of the ground. Cable routes shall be marked on the plans kept in the site electrical register.

26.8.6 Cabling passing under the walk way and across way for transport and mobile equipment shall be laid in ducts at a minimum depth of 0.6 meters.

26.8.7 Cables that need to cross open areas, or where span of 3m or more are involved, a catenary wire on poles or other supports shall be provided for convenient means of suspension. Minimum height shall be 6 m above ground.

26.8.8 Cables carrying a voltage to earth in excess of 65V other than supply for welding process shall have metal armour or sheath, which has been effectively earthed and monitored by the contractor. In case of flexible and trailing cables such earthed metal sheath and/or armour should be in addition to the earth core in the cable and shall not be used as the protective conductor.

26.8.9 Armoured cables having an over-sheath of polyvinyl chloride (PVC) or an oil resisting and flame retardant compound shall be used whenever there is a risk of mechanical damage occurring

26.9 **Plugs, socket-outlets and couplers:**

26.9.1 **The contractor shall ensure plugs, socket-outlets, and couplers available in the construction site as "splash proof" type. The minimum degree of Ingress Protection should be of IP44 in accordance with BS EN 60529**.

26.9.2 Only plugs and fittings of the weatherproof type shall be used and they should be colour coded in accordance with the Internationally recognised standards for example as detailed as follows:

(a) 110 volts : Yellow.

(b) 240 volts : Blue.

(c) 415 volts : Red.

26.10 **Connections**

26.10.1 **Every joint and connection in a system shall be mechanically and electrically suitable for use to prevent danger. Proper cable connectors as per national/international standards shall only be used to connect cables.**

26.10.2 **No loose connections or tapped joints shall be allowed any where in the work site, office area, stores and other areas. Penalty as per relevant clause shall be put in case of observation of any tapped joints.**

26.11 Portable and hand-held equipments:

26.11.1 The contractor shall ensure the use of double insulated or all-insulated portable electrical hand equipment may be used without earthing (i.e. two core cables), but they shall still be used only on 110V because of the risk of damage to trailing leads.

26.12 Other equipments:

26.12.1 All equipment shall have the provision for major switch/cut-off switch in the equipment itself.

26.12.2 All non-current carrying metal parts of electrical equipment shall be earthed through insulated cable

26.12.3 Isolate exposed high-voltage (over 415 Volts) equipment, such as transformer banks, open switches, and similar equipment with exposed energized parts and prevent unauthorised access.

26.12.4 Approved perimeter markings shall be used to isolate restricted areas from designated work areas and entryways and shall be erected before work begins and maintained for entire duration of work. Approved perimeter marking shall be installed with either red barrier tape printed with the words "DANGER—HIGH VOLTAGE" or a barrier of yellow or orange synthetic rope, approximately 1 to 1.5 meter above the floor or work surface.

26.13 Work on or near live conductors

26.13.1 No person shall be engaged in any work activity on or so near any live conductor (other than one suitably covered with insulating material so as to prevent danger) that danger may arise unless-

a) it is unreasonable in all the circumstances for it to be dead; and
b) it is reasonable in all the circumstances for him to be at work on or near it while it is live; and
c) suitable precautions (including where necessary the provision of suitable protective equipment) are taken to prevent injury.

26.14 Inspection and Maintenance

26.14.1 All electrical equipment should be permanently numbered and a record kept of the date of issue, date of last inspection and recommended inspection period.

26.14.2 Fixed installations shall be inspected at least at three monthly intervals; routine maintenance being carried out in accordance with equipment manufactures recommendations.

27.0 Lighting:

27.1 The contractor shall provide sufficient site lighting, of the right type and at the right place for it to be properly effective. Lighting ought not to introduce the risk of electric shock. Therefore, 230V supplies should be used for those fittings, which are robustly installed, and well out of reach e.g. flood lighting or high-pressure discharge lamps.

27.2 Selection of Luminaries:

The contractor shall select the luminaries as per the area requirement indicated below:

Type of Lighting	**Area of Requirement**	**Luminaries**
Area Lighting	Workmen and vehicles to move about in safely.	i) Shovel type: non-symmetrical ii) Symmetrical or non-symmetrical tungsten halogen
Beam flood	Concentrated light over an area	i) Portable flood light (Conical

lighting	from a relatively great distance.	beam) ii) Wide angle flood (fan shaped beam) iii) Medium or narrow angle flood (Conical beam)
Dispersive lighting	Lighting for indoor	i) Dispersive (Mercury florescent) ii) Cargo cluster iii) Florescent trough
Walkway lighting	Lighting for stairways, ladder ways, corridors, scaffold access routs, etc.	i) Well glass unit ii) Bulkhead unit (tungsten filament) iii) Bulk head unit (Florescent)
Local lighting	Lighting on sites and fittings are generally accessible to operatives	i) PAR (Parabolic Aluminised Reflector) lamp cluster ii) Festoons (with or without shades) iii) Adjustable florescent work lamp iv) Portable flood lamp (mounted on own cable drum)

27.3 The contractor shall ensure that luminaries should always be placed so that no person is required to work in their own shadow and so that the local light for one person is not a source of glare for the others. Strongly made clamps should be available for attaching luminaries to poles and other convenient supports.

27.4 Luminaries should be robust, resistant to corrosion and rain proof especially at the point of the cable entry.

27.5 The correct type of lamp for each luminaries should always be used and when lamps need to be replaced if shall be in accordance with the supply voltage.

27.6 Lamp holders not fitted with a lamp should be capped off.

27.7 The contractor shall take every effort to illuminate the work site as per the Employer's requirement illustrated in general instruction ***JDA/SHE/GI/0011/ILL/281105***.

28.0 Hand Tools and Power Tools

28.1 General

28.1.1 The contractor is wholly responsible for the safe condition of tools and equipment used by his employees and that of his sub-contractors.

28.1.2 Use of short / damaged hand tools shall be avoided and the contractor shall ensure all his hand tools used at his worksite are safe to work with or stored and shall also train his employees (including his sub-contractors) for proper use thereby.

28.1.3 All hand tools and power tools shall be duly inspected before use for safe operation.

28.1.4 All hand tools and power tools shall have sufficient grip and the design specification on par with national/international standards on anthropometrics.

28.2 Hand tools

28.2.1 Hand tools shall include saws, chisels, axes and hatches, hammers, hand planes, screw drivers, crow bars, nail pullers.

28.2.2 The contractor shall ensure that,

i) For crosscutting of hardwood, saws with larger teeth points (no. of points per inch) shall be preferred to avoid the saw jumping out of the job.
ii) Mushroom headed chisels shall not be used in the worksite where the fragments of the head may cause injury.
iii) Unless hatchet has a striking face, it shall be used as a hammer.
iv) Only knives of retractable blades shall be used in the worksite.
v) No screwdrivers shall be used for scraping, chiselling or punching holes.
vi) A pilot hole shall always be driven before driving a screw.
vii) Wherever necessary, usage of proper PPEs shall be used by his employees.

28.3 Power tools

28.3.1 Power tools include drills, planes, routers, saws, jackhammers, grinders, sprayers, chipping hammers, air nozzles and drills.

28.3.2 The contractor shall ensure that

i) Electric tools are properly grounded or / and double insulated.
ii) GFCIs/ RCCBs shall be used with all portable electric tool operated especially outdoors or in wet condition.
iii) Before making any adjustments or changing attachments, his workers shall disconnect the tool from the power source.
iv) When operating in confined spaces or for prolonged periods, hearing protection shall be required. The same shall also apply to working with equipments, which gives out more noise as mentioned in clause ***43.0*** of this contract document.
v) Tool is held firmly and the material is properly secured before turning on the tool.
vi) All drills shall have suitable attachments respective of the operations and powerful for ease of operation.
vii) When any work / operation need to be performed repeatedly or continuously, tools specifically designed for that work shall be used. The same is applicable to detachable tool bit also.

viii) Size of the drill shall be determined by the maximum opening of the chuck n case of drill bit.

ix) Attachments such as speed reducing screwdrivers and buffers shall be provided to prevent fatigue and undue muscle strain to his workers.

x) Stock should be clamped or otherwise secured firmly to prevent it from moving.

xi) Workers shall never stand on the top of the ladder to drill holes in walls / ceilings, which can be hazardous, instead standing on the fourth or fifth rung shall be recommended.

xii) Electric plane shall not be operated with loose clothing or long scarf or open jacket.

xiii) Safety guards used on right angle head or vertical portable grinders must cover a minimum of 180^0 of the wheel and the spindle / wheel specifications shall be checked.

xiv) All power tools / hand tools shall have guards at their nip points.

xv) Low profile safety chain shall be used in case of wood working machines and the saw shall run at high rpm when cutting and also correct chain tension shall be ensured to avoid "kickback".

xvi) Leather aprons and gloves shall be used as an additional personal protection auxiliary to withstand kickback.

xvii) Push sticks shall be provided and properly used to hold the job down on the table while the heels moves the stock forward and thus preventing kickbacks.

xviii) Air pressure is set at a suitable level for air actuated tool or equipment being used. Before changing or adjusting pneumatic tools, air pressure shall be turned off.

xix) Only trained employees shall use explosive actuated tools and the tool shall also be unloaded when not in use.

xx) Usage of such explosive actuated tools shall be avoided in case of places where explosive/flammable vapours or gases may be present.

xxi) Explosive actuated tools and their explosives shall be stored separately and be taken out and loaded only before the time of immediate use.

xxii) Misfired cartridges of explosive actuated tools must be placed in a container of water and be removed safely from the project.

xxiii) No worker shall point any power operated / hand tool to any other person especially during loading / unloading.

29.0 Welding, Gouging and Cutting

29.1 Gas cylinders in use shall be kept upright on a custom-built stand or trolley fitted with a bracket to accommodate the hoses and equipment or otherwise secured. The metal cap shall be kept in place to protect the valve when the cylinder is not connected for use.

29.2 Hose clamp or clip shall be used to connect hoses firmly in both sides of cylinders and torches.

29.3 All gas cylinders shall be fixed with pressure regulator and dial gauges

29.4 Non-return valve and Flashback arrester shall be fixed at both end of cylinder and torch.

29.5 Domestic LPG cylinders shall not be used for Gas welding and Cutting purpose.

29.6 DCP or CO_2 type Fire Extinguisher not less than 5 kg shall be fixed at or near to welding process zone in an easily accessible location. Fire Extinguisher should confirm to IS 2190: 1992.

29.7 Use firewatchers if there is a possibility of ignition unobserved by the operator (e.g. on the other side of bulkheads).

29.8 Oxygen cylinders and flammable gas cylinders shall be stored separately, at least 6.6 meters (20 feet) apart or separated by a fire proof, 1.6 meters (5 feet) high partition. Flammable substances shall not be stored within 50 feet of cylinder storage areas.

29.9 Transformer used for electrical arc welding shall be fixed with Ammeter and Voltmeter and also fixed with separate main power switch.

29.10 Welding grounds and returns should be securely attached to the work by cable lugs, by clamps in the case of stranded conductors, or by bolts for strip conductors. The ground cable will not be attached to equipment or existing installations or apparatus.

29.11 Use a low voltage open circuit relay device if welding with alternating current in constricted or damp places.

29.12 Take precautions against the risk of increased fume hazards when welding with chrome containing fluxed consumables or high current metal inert gas (MIG) or tungsten inert gas (TIG) processes.

29.13 Avoid being in contact with water or wet floors when welding. Use duckboards or rubber protection.

29.14 All electrical installations shall meet the IS: 5571: 1997 and NFPA 70 for gas cylinder storage area and other hazardous areas.

29.15 The current for Electric arc welding shall not exceed 300 A on a hand welding operation.

30.0 Dangerous and harmful environment

As per BOCWR Rule 40,

i) When internal combustion engines are to be used into a confined space or excavation or tunnel or any other workplace where neither natural or artificial ventilation system is inadequate to keep carbon monoxide below 50ppm, exposure of building workers shall be avoided unless suitable measures are taken and provided by the contractor.

ii) No worker shall be allowed into any confined space or tank or trench or excavation wherein there is given off any dust, fumes / vapours or other impurities which is likely to be injurious or offensive, explosive or poisonous or

noxious or gaseous material or other harmful articles unless steps are carried out by the contractor and certified by the responsible person to be safe.

31.0 Fire prevention, protection and fighting system

31.1 **The contractor shall ensure that construction site is provided with fire extinguishing equipment sufficient to extinguish any probable fire at construction site. An adequate water supply is provided at ample pressure as per national standard.**

31.2 Recharging of fire extinguishers and their proper maintenance should be ensured and as a minimum should meet Indian National Standards

31.3 All drivers of vehicles, foreman, supervisors and managers shall be trained on operating the fire extinguishers and fire fighting equipment.

31.4 The contractor shall also give consideration to the provision of adequate fire fighting arrangements within the underground and tunnelling operations including the provision of Fire Service compatible hose connections and emergency lighting

31.5 As per the RBOCW Rules 2002, Rule 63(a)(vii), all lifting appliances' driver cabin should be provided with a suitable portable fire extinguisher.

31.6 Combustible scrap and other construction debris should be disposed off site on a regular basis. If scrap is to be burnt on site, the burning site should be specified and located at a distance no less than 12 metres from any construction work or any other combustible material.

31.7 Every fire, including those extinguished by contractor personnel, shall be reported to the Employer representatives.

31.8 Emergency plans and Fire Evacuation plans shall be prepared and issued . Mock drills should be held on a regular basis to ensure the effectiveness of the arrangements and as a part of the programme, the Telephone Number of the local fire brigade should be prominently displayed near each telephone on site.

32.0 Corrosive substances

32.1 As per BOCWR Rule 44, corrosive substances including alkalis and acids shall be stored and used by a person dealing with such substances at a building / construction site in a manner that it does not endanger the building worker and suitable PPE shall be provided by the contractor to the worker during such handling and work. In case of spillage of such substances on building worker, the contractor shall take immediate remedial measures.

33.0 Demolition

33.1 The Contractor shall ensure that

i) all demolition works be carried out in a controlled manner under the management of experienced and competent supervision.

ii) the concerned department of the Government or local authority be informed and permission obtained wherever required. Media shall also be informed regarding this concern.

iii) all glass or similar materials or articles in exterior openings are removed before commencing any demolition work and all water, steam, electric, gas and other similar supply lines are put-off and such lines so located or capped with substantial coverings so as to protect it from damage and to afford safety to the building workers and public..

iv) examine the walls of all structures adjacent to the structure to be demolished to determine thickness, method of support to such adjacent structures

v) no demolishing work be performed if the adjacent structure seems to be unsafe unless and until remedial measures life sheet piling, shoring, bracing or similar means be ensured for safety and stability for adjacent structure from collapsing.

vi) debris / bricks and other materials or articles shall be removed by means of
   a) chutes
   b) buckets or hoists
   c) through openings through floors or
   d) any other safe means

vii) no person other than building workers or other persons essential to the operation of demolition work shall be permitted to enter a zone of demolition and the area be provided with substantial barricades.

34.0 Excavation and Tunnelling:

34.1 Excavation

34.1.1 The contractor shall ensure

i) where any construction building worker engaged in excavation is exposed to hazard of falling or sliding material or article from any bank or side of such excavation which is more than one 1.5 m above his footing, such worker is protected by adequate piling and bracing against such bank or side.

ii) where banks of an excavation are undercut, adequate shoring is provided to support the material or article overhanging such bank.

iii) excavated material is not stored at least 0.65 m from the edge of an open excavation or trench and banks of such excavation or trench are stripped of loose rocks and the banks of such excavation or trench are stripped of loose rocks and other materials which may slide, roll or fall upon a construction building worker working below such bank

iv) metal ladders and staircases or ramps are provided, as the case may be, for safe access to and egress from excavation where, the depth of such excavation exceeds 1.5 m and such ladders, staircases or ramps comply with the IS 3696 Part 1&2 and other relevant national standards.

v) trench and excavation is protected against falling of a person by suitable measures if the depth of such trench or excavation exceeds 1.5 m and such protection is an improved protection in accordance with the design and drawing of a professional engineer, where such depth exceeds 4m.

34.2 Tunnelling

34.2.1 The contractor shall inform in writing to the Director General within 30 days, prior to the commencement of any tunnelling work.

34.2.2 The contractor shall appoint a responsible person for safe operation for tunnelling work as per Rule 121 & 125 of BOCWR.

34.2.3 The contractor shall ensure

i) every compressed air system in a tunnel is provided with emergency power supply for maintained continued supply of compressed air as per Rule 155 of BOCWR

ii) watertight bulkhead doors are installed at the entrance of a tunnel to prevent flooding.

iii) reliable and effective means of communication such as telephone or walkie-talkie are provided and maintained for arranging better effective communication at an excavation or tunnelling work as per Rule 136 of BOCWR.

iv) all portable electrical hand tools and inspection lamp used in under ground and confined space at an excavation or tunnelling work is operated at a voltage not exceeding 24V.

v) only flame proof equipment of appropriate type as per IS:5571:2000 and or other relevant national standard is used inside the tunnel

vi) petrol or LPG of any other flammable substances are not used, stored inside the tunnel except with prior approval from Employer, and also no oxy-acetylene gas is used in a compressed air environment in excavation or tunnelling

vii) adequate number of water outlets provided for fire fighting purpose, an audible fire alarm and adequate number and types of fire extinguishers are provided and maintained.

viii) temperature in any working chamber in an excavation or tunnelling work where workers employed does not exceed 29°C as per Rule 165 of BOCWR.

ix) all working areas in a free air tunnel are provided with ventilation system as approved by the Director General and the fresh air supplied in such tunnel is not less than 6 m^3/ min for each worker employed in tunnel as per Rule 153 of BOCWR.

34.3 Warning signs and notices:

34.3.1 The contractor shall ensure that

i) suitable warning signs or notices, required for the safety of building workers carrying out the work of an excavation or tunnelling, shall be displayed or erected at conspicuous places in Hindi and in a language understood by majority of such building workers at such building such excavation or tunnelling work

ii) such warning signs and notices with regard to compressed air working shall include

a) the danger involved in such compressed air work

b) fire and explosion hazard

c) the emergency procedures for rescue from such danger or hazards.

35.0 Work Permit system

35.1 The Contractor shall develop a Work Permit system, which is a formal written system used to control certain types of work that are potentially hazardous. A work permit is a document, which specifies the work to be done, and the precautions to be taken. Work Permits form an essential part of safe systems of work for many construction activities. They allow work to start only after safe procedures have been defined and they provide a clear record that all foreseeable hazards have been considered. Permits to Work are usually required in high-risk areas as identified by the Risk Assessments.

35.2 A permit is needed when construction work can only be carried out if normal safeguards are dropped or when new hazards are introduced by the work. Examples of high-risk activities include but are not limited to:

i) Entry into confined spaces

ii) Work in close proximity to overhead power lines and telecommunication cables.

iii) Hot work.
iv) To dig—where underground services may be located.
v) Work with heavy moving machinery.
vi) Working on electrical equipment
vii) Work with radioactive isotopes.
viii) Heavy lifting operations and lifting operations closer to live power line

35.3 The permit-to-work system should be fully documented, laying down:

i) How the system works;
ii) The jobs it is to be used for;
iii) The responsibilities and training of those involved; and
iv) How to check its operation;

35.4 A Work Permit authorisation form shall be completed with the maximum duration period not exceeding 12 hours.

35.5 A copy of each Permit To Work shall be displayed, during its validity, in a conspicuous location in close proximity to the actual works location to which it applies.

36.0 Traffic Management

36.1 The basic objective of the following guidelines is to lay down procedures to be adopted by contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen at construction sites.

36.2 All construction workers should be provided with high visibility jackets with reflective tapes as most of viaduct /tunnelling and station works or either above or under right-of-way. The conspicuity of workmen at all times shall be increased so as to protect from speeding vehicular traffic.

36.3 The guiding principles to be adopted for safety in construction zone are to

i) Warn the road user clearly and sufficiently in advance.
ii) Provide safe and clearly marked lanes for guiding road users.
iii) Provide safe and clearly marked buffer and work zones
iv) Provide adequate measures that control driver behaviour through construction zones.

36.4 Legal permission

36.4.1 In all cases, the contractor shall employ proper precautions. Wherever operations undertaken are likely to interfere with public traffic, specific traffic management plans shall be drawn up and implemented by the contractor in consultation with the approval of local police authorities and/or the concerned metropolitan/civil authorities as the case may be.

36.4.2 Such traffic management plans shall include provision for traffic diversion and selection of alternative routes for transport of equipment. If necessary, the contractor shall carry out road widening before commencement of works to accommodate the extra load

36.5 The primary traffic control devices used in work zones shall include signs, delineators, barricades, cones, pylons, pavement markings and flashing lights.

36.6 The road construction and maintenance signs which fall into the same three major categories as do other traffic signs, that are Regulatory Signs, Warning Signs and Direction (or guidelines) Signs shall only be used. The IRC: 67 (Code of Practice for Road Signs) provide a list of traffic signs. The size, colours and placement of sign shall confirm to IRC: 67.

36.7 Regulatory signs

36.7.1 Regulatory signs impose legal restriction on all traffic. It is essential, therefore, that they are used only after consulting the local police and traffic authorities.

36.8 Warning signs

36.8.1 Warning signs in the traffic control zone shall be utilised to warn the drivers of specific hazards that may be encountered.

36.8.2 The contractor shall place detour signage at strategic locations and install appropriate warning signs. In order to minimize disruption of access to residences and business, the contractor shall maintain at least one entrance to a property where multiple entrances exist.

36.8.3 A warning sign as given in general instruction ***JDA/SHE/GI/012/WS/281105*** shall be installed an at all secondary road which merges with the primary road where the construction work is in progress at sufficient distance before it merges with the primary road so as to alert the road users regarding the 'Metro Work in Progress'.

36.8.4 Materials hanging over / protruded from the chassis / body of any vehicle especially during material handling shall be indicated by red indicator (red light/flag) to indicate the caution to the road users.

36.9 Delineators

The delineators are the elements of a total system of traffic control and have two distinct purposes:

i) To delineate and guide the driver to and along a safe path

ii) As a taper to move traffic from one lane to another.

36.9.1 These channelising devices such as cones, traffic cylinders, tapes and drums shall be placed in or adjacent to the roadway to control the flow of traffic. These should normally be retro-reflectors complying to IRC: 79 - Recommended Practice for Road Delineators.

36.9.2 Traffic cones and cylinders

36.9.2.1 Traffic cones of 500mm, 750mm and 1000mm high and 300mm to 500mm in diameter or in square shape at base and are often made of plastic or rubber and normally have retro-reflectorised red and white band shall be used wherever required.

36.9.3 Drums

36.9.3.1 Drums about 800mm to 1000mm high and 300mm in diameter can be used either as channelising or warning devices. These are highly visible, give the appearance of being formidable objects and therefore command the respect of drivers.

36.9.4 Barricades

36.9.4.1 Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the working area from the risk of accidents due to speedy vehicular movement. Same the way barricades protect the road users from the danger due to construction equipment and other temporary structures.

36.9.4.2 The structure dimension of the barricade, material and composition, its colour scheme, JDA logo and other details shall be in accordance with specifications laid down in tender document.

36.9.4.3 All barricades shall be erected as per the design requirements of the Employer, numbered, painted and maintained in good condition and also Barricade in-charge maintains a barricade register in site.

36.9.4.4 **All barricades shall be conspicuously seen in the dark/night time by the road users so that no vehicle hits the barricade. Conspicuity shall be ensured by affixing retro reflective stripes of required size and shape at appropriate angle at the bottom and middle portion of the barricade at a minimum gap of 1000mm. In addition minimum one red light or red light blinker should be placed at the top of each barricade.**

36.9.5 The contractor shall ensure that all his construction vehicles plying on public roads (like dump trucks, trailers, etc.) have proper license to ply on public roads from the State Transport Authority. Drivers holding proper valid license as per the requirements of Motor Vehicles Act shall drive these vehicles

36.9.6 The contractor shall not undertake loading and unloading at carriageways obstructing the free flow of vehicular traffic and encroachment of existing roads by the contractor applying the excuse of work execution.

36.9.7 **Tow away vehicle**

36.9.7.1 **The contractor shall make arrangements keeping toe away van / manpower to tow away any breakdown vehicle in the traffic flow without loosing any time at his cost.**

36.9.8 **Cleaning of roads**

36.9.8.1 **The contractor shall ensure the cleanliness of roads and footpaths by deploying proper manpower for the same. The contractor shall have to ensure proper brooming, cleaning washing of roads and footpaths on all the time throughout the entire stretch till the currency of the contract including disposal of sweepage.**

37.0 Work to adjacent railways

37.1 Whenever work is to be conducted in close proximity to the live railways then the following measures shall need to be addressed:

(a) The rules provided for in the Railway's manual shall be followed.

(b) No persons are allowed to encroach onto the railway unless specific authority has been given by the owner.

(c) Adequate protection in accordance with the railway owner's requirements shall be followed. (Provision of Block Inspectors, Flagmen and Lookouts)

(d) All persons shall wear high visibility clothing at all times.

(e) Any induction training requirements of the railways shall be strictly observed

38.0 Batching Plant / Casting Yard

i) The batching plant / casting yard shall be effectively planned for smooth flow of unloading and stacking the aggregates reinforcements and cement, batching plant, transport of concrete, casting the segment, stacking the segment and loading the segments / precast units to the trucks. As far as possible the conflicts should be avoided.

ii) The batching plant / casting yard shall be barricaded and made as a compulsory PPE zone

iii) If in case of material unloading area is not maintainable as PPE zone, the same shall be segregated properly and made as a non-PPE zone with appropriate barrications.

iv) Electrical system shall also be suitably planned so that location of diesel generator, if any, location of DBs, routing of cables and positioning of area lighting poles/masts does not infringe on any other utility and pose danger.

v) Drainage shall be effectively provided and waste water shall be disposed after proper treatment

vi) Time office, canteen, drinking water, toilet and rest place shall be suitably located for the easy access to workers. All the facilities shall be properly cleaned and maintained during the entire period of operation.

vii) Manual handling of cement shall be avoided to a larger extent. Whenever it is absolutely necessary the workmen shall be given full body protection, hand protection and respiratory protection as a basic measure of ensuring better health.

viii) The PPEs provided to cement handling workmen shall conform to international standards.

ix) Access roads and internal circulation roads shall be well laid and maintained properly at all time.

x) Non-adherence to any of the above provision shall be penalised as per relevant penalty clause.

39.0 Personal Protective Equipments (PPEs)

39.1 The contractor shall provide required PPEs to workmen to protect against safety and / or health hazards. Primarily PPEs are required for the following protection

i) Head Protection (Safety helmets)
ii) Foot Protection (Safety footwear, Gumboot, etc)
iii) Body Protection (High visibility clothing (waistcoat/jacket), Apron, etc)
iv) Personal fall protection (Full body harness, Rope-grap fall arrester, etc)
v) Eye Protection (Goggles, Welders glasses, etc)
vi) Hand Protection (Gloves, Finger coats, etc)
vii) Respiratory Protection. (Nose mask, SCBAs, etc)
viii) Hearing Protection (Ear plugs, Ear muffs, etc)

39.2 **The PPEs and safety appliances provided by the contractor shall be of the standard as prescribed by Bureau of Indian Standards (BIS). If materials conforming to BIS standards are not available, the contractor as approved by the Employer shall procure PPE and safety appliances.**

39.3 **All construction workers should be provided with high visibility jackets with reflective tapes confirming to the requirement specified under BS EN 471: 1994 as most of viaduct /tunnelling and station works are executed either above or under right-of-way. The conspicuity of workmen at all times shall be increased so as to protect them from speeding vehicular traffic.**

39.4 The contractor shall provide **safety helmet, safety shoe and high visibility clothing** for all employees including workmen, traffic marshal and other employees who are engaged for any work under this contract as per the following requirement.

All employees of the Contractor including workmen	Traffic marshals
i) Hard hat with company Logo ii) Safety boots iii) Hi-visibility **waistcoat** covering upper body and meeting the following requirements as per BS EN 471:1994: a) Background in fluorescent orange-red in colour b) Two vertical green strips of 5cm wide on front side, covering the torso at least 500 cm^2 c) Two diagonal strips of 5 cm	i) Hard hat with reflective tape ii) Safety boots iii) Hi-visibility **jacket** covering upper body and meeting the following requirements as per BS EN 471:1994 : a) Background in fluorescent orange-red in colour b) Jackets with full-length sleeves with two bands of retro reflective material, which shall be placed at the same height on the garment as those of the torso. The upper band shall encircle the upper part of the sleeves between the elbow and the shoulder; the

wide on back in an 'X' pattern covering at least 570cm^2 d) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. e) The bottom strip shall be at a distance of 5cm from the bottom of the vest. f) Strips must be retro reflective and fluorescent g) Waistcoat shall have a side adjustable fit and a side and front tear-away feature on vests made of nylon.	bottom of the lower band shall not be less than 5cm from the bottom of the sleeve. c) Two vertical green strips of 5cm wide on front side, covering the torso at least 500 cm^2 d) Two diagonal strips of 5 cm wide on back in an 'X' pattern covering at least 570cm^2 e) Horizontal strips not less than 5cm wide running around the bottom of the vertical strip in front and 'X' pattern at back. f) The bottom strip shall be at a distance of 5cm from the bottom of the vest. g) Strips must be retro reflective and fluorescent.

39.4.1 **Colour coding for helmets**

Safety Helmet Colour Code (Every Helmet should have the LOGO* affixed /painted)	**Person to use**
White	**JDA staffs**
Grey	**All Designers, Architect, Consultants, etc.**
Violet	**Main Contractors (Engineers / Supervisors)**
Blue	**All Sub-contractors (Engineers / Supervisors)**
Red	**Electricians (Both Contractor and Sub-contractor)**
Green	**Safety Professionals (Both Contractor and Sub-contactor)**
Orange	**Security Guards / Traffic marshals**
Yellow	**All workmen**
White (with "VISITOR" sticker)	**Visitors**

Note: LOGO*

1. Logo shall have its outer dimension 2"X 2" and shall be conspicuous
2. Logo shall be either painted or affixed
3. No words shall come either on Top / Bottom of Logo

Logo of the corresponding main contracting company for their employees and sub-contracting company for their employees shall only be used.

39.5 In addition to the above any other PPE required for any specific jobs like, welding and cutting, working at height, tunnelling etc shall also be provided to all workmen and also ensure that all workmen use the PPEs properly while on the job.

39.6 **The contractor shall not pay any cash amount in lieu of PPE to the workers/sub-contractors and expect them to buy and use during work.**

39.7 **The contractor shall at all time maintain a minimum of 10% spare PPEs and safety appliances and properly record and show to the Employer during the inspections. Failing to do so shall invite appropriate penalty as per the provisions of the contract.**

39.8 It is always the duty of the contractor to provide required PPEs for all visitors. Towards this required quantity of PPEs shall be kept always at the security post.

40.0 Visitors to site

40.1 No visitor is allowed to enter the site without the permission of the Employer. All authorised visitors should report at the site office. Contractor shall provide visitor's helmet (White helmet with visitor sticker) and other PPEs like Safety Shoe, reflective jacket, respiratory protection etc. as per requirement of the site.

40.2 All Visitors shall be accompanied at all times by a responsible member of the site personnel.

40.3 The contractor shall be fully responsible for all visitors' safety and health within the site..

PART – III: OCCUPATIONAL HEALTH AND WELFARE

41.0 Physical fitness of workmen

41.1 The contractor shall ensure that his employees/workmen subject themselves to such medical examination as required under the law or under the contract provision and keep a record of the same.

41.2 The contractor shall not permit any employee/workmen to enter the work area under the influence of alcohol or any drugs.

42.0 Medical Facilities

42.1 Medical Examination

42.1.1 The contractor shall arrange a medical examination of all his employees including his sub-contractor employees employed as drivers, operators of lifting appliances and transport equipment before employing, after illness or injury, if it appears that the illness or injury might have affected his fitness and, thereafter, once in every two years up to the age of 40 and once in a year, thereafter.

i) **The Contractor** shall maintain the confidential records of medical examination or the physician authorized by the Employer.

ii) No building or other construction worker is charged for the medical examination and the cost of such examination is borne by contractor employing such building worker.

iii) The medical examination shall include: -

a) Full medical and occupational history.

b) Clinical examination with particular reference to

i) General Physique;

ii) Vision: - Total visual performance using standard orthorator like Titmus Vision Tester should be estimated and suitability for placement ascertained in accordance with the prescribed job standards.

iii) Hearing: - Persons with normal must be able to hear a forced whisper at twenty-four feet. Persons using hearing aids must be able to hear a warning shout under noisy working conditions.

iv) Breathing: - Peak flow rate using standard peak flow meter and the average peak flow rate determined out of these readings of the test performed. The results recorded at pre-placement medical examination could be used as a standard for the same individual at the same altitude for reference during subsequent examination.

v) Upper Limbs: - Adequate arm function and grip

vi) Spine: - Adequately flexible for the job concerned.

vii) Lower Limbs: - Adequate leg and foot concerned.

viii) General: - Mental alertness and stability with good eye, hand and foot coordination.

c) Any other tests which the examining doctor considers necessary

42.1.2. If the contractor fails to get the medical examination conducted as mentioned above, the employer will have the right to get the same conducted by through an agency with intimation to the contractor and deduct the cost and overhead charges.

42.2 **Occupational Health Centre**

42.2.1 **The contractor shall ensure at a construction site an occupational health centre, mobile or static is provided and maintained in good order. Services and facilities as per the scale laid down in Schedule X of BOCWR. A construction medical officer appointed in an occupational health centre possess the qualification as laid down in Schedule XI of BOCWR.**

42.3 **Ambulance van and room**

42.3.1 **The contractor shall ensure at a construction site of a building or other construction work that an ambulance van and room are provided at such construction site or an arrangement is made with a nearby hospital for providing such ambulance van for transportation of serious cases of accident or sickness of workers to hospital promptly and such ambulance van and room are maintained in good repair and is equipped with standard facilities specified in Schedule IV and Schedule V of BOCWR.**

42.4 First-aid boxes

42.4.1 The contractor shall ensure at a construction site one First-aid box for 100 workers provided and maintained for providing First-aid to the building workers. Every First-aid box is distinctly marked "First-aid" and is equipped with the articles specified in Schedule III of BOCWR.

42.5 HIV/ AIDS prevention and control

42.5.1 The contractor shall adopt the Employer's Policy on "HIV / AIDS Prevention and Control for Workmen Engaged by Contractors" and the copy of the policy is given in ***Appendix No.: 4.***

42.5.2 The Employer will engage a professional agency for implementing the guidelines laid down in the policy and communicate to the contractor.

42.5.3 The Contractor shall extend necessary support to the appointed agency by deputing the workmen to attend the awareness creation programmes.

42.5.4 The contractor shall also extend necessary organizational support to the appointed agency for the effective implementation of the Employers' workplace policy on HIV/AIDS for workmen of the Contractors.

42.5.5 As laid down in the policy the contractor shall identify peer educators (1 for every 100 workers) and refer them for professional training to the Employers' appointed agency for the purpose.

42.5.6 **The peer educators on completion of the training shall serve as the focal point for any information, education and awareness campaign among the workmen throughout the contract period.**

42.5.7 The peer educators will be paid a monthly honorarium as fixed by the Employer for rendering his services in addition to his regular duty.

42.5.8 The total number of peer educators (1 for 100 workers) shall always be maintained by the contractor.

42.5.9 **In case if these peer educators leave the contractor by creating vacancy, then the contractor at his own expense train the new replacement peer educator from the Employers' appointed agency for the purpose.**

42.5.10 It is suggested to the contractor that due care should be taken to select the peer educators from among the group of workmen so that they remain with the contractor throughout the contract period.

42.6 Prevention of mosquito breeding

42.6.1 Measures shall be taken to prevent breeding at site. The measures to be taken shall include:

i) Empty cans, oil drums, packing and other receptacles, which may retain water shall be deposited at a central collection point and shall be removed from the site regularly.
ii) Still waters shall be treated at least once every week with oil in order to prevent mosquito breeding.
iii) Contractor's equipment and other items on the site, which may retain water, shall be stored, covered or treated in such a manner that water could not be retained.
iv) Water storage tanks shall be provided.

42.6.2 Posters in both Hindi and English, which draw attention to the dangers of permitting mosquito breeding, shall be displayed prominently on the site.

42.6.3 **The contractor at periodic interval shall arrange to prevent mosquito breeding by fumigation / spraying of insecticides. Most effective insecticides shall include SOLFAC WP 10 or Baytex, The Ideal Larvicide etc.**

42.7 Alcohol and drugs

42.7.1 The contractor shall ensure at all times that no employee is working under the influence of alcohol / drugs which are punishable under Govt. regulations.

42.7.2 Smoking at public worksites by any employee is also prohibited as per Govt. regulations.

43.0 Noise

43.1 The Contractor shall consider noise as an environmental constraint in his design, planning and execution of the Works and provide demonstrable evidence of the same on Employer's request. The Contractor shall, at his own expense, take all appropriate measures to ensure that work carried out by the Contractor and by his sub-Contractors, whether on or off the Site, will not cause any unnecessary or excessive noise which may disturb the occupants of any nearby dwellings, schools, hospitals, or premises with similar sensitivity to noise.

43.1.1 Without prejudice to the generality of the foregoing, noise level reduction measures shall include the following:

i) The Contractor shall ensure that all powered mechanical equipment used in the Works shall be effectively sound reduced using the most modern techniques available including but not limited to silencers and mufflers.

ii) The Contractor shall construct acoustic screens or enclosures around any parts of the Works from which excessive noise may be generated.

43.1.2 The Contractor shall ensure that noise generated by work carried out by the Contractor and his sub-Contractors during daytime and night time shall not exceed the maximum permissible noise limits, whether continuously or intermittently, as given in the project SHE Manual. The same may be varied from time to time by and at the sole discretion of the Employer, In the event of a breach of this requirement, the Contractor shall immediately re-deploy or adjust the relevant equipment or take other appropriate measures to reduce the noise levels and thereafter maintain them at levels which do not exceed the said limits. Such measures may include without limitation the temporary or permanent cessation of use of certain items of equipment.

43.1.3 The noise monitoring requirements including monitoring locations are given in the project SHE Manual.

43.2 Control Requirements

43.2.1 Construction material should be operated and transported in such a manner as not to create unnecessary noise as outlined below:

i) Perform Work within the procedures outlined herein and comply with applicable codes, regulations, and standards established by the Central and State Government and their agencies.

ii) Keep noise to the lowest reasonably practicable level. Appropriate measures will be taken to ensure that construction works will not cause any unnecessary or excessive noise, which may disturb the occupants of any nearby dwellings, schools, hospitals, or premises with similar sensitivity to noise. Use equipment with effective noise-suppression devices and employ other noise control measures as to protect the public.

iii) Schedule and conduct operations in a manner that will minimize, to the greatest extent feasible, the disturbance to the public in areas adjacent to the construction activities and to occupants of buildings in the vicinity of the construction activities.

iv) The Contractor shall submit to the Employer a Noise Monitoring and Control Plan (NMCP) under contract specific Site Environmental Plan. It shall include full and comprehensive details of all powered mechanical equipment, which he proposes to use during daytime and night time, and of his proposed working methods and noise level reduction measures. The NMCP shall include detailed noise calculations and vibration levels to demonstrate the anticipated noise generation and vibrations by the Contractor.

v) The NMCP prepared by the Contractor shall guide the implementation of construction activity. The NMCP will be reviewed on a regular basis and updated as necessary to assure that current construction activities are addressed. It may appear as a regular agenda item in project coordination meetings, if noise is an issue at any location in the contract.

43.3 Occupational Noise

i) Protection against the effects of occupational noise exposure should be provided when the sound levels exceeds the threshold values as provided in Project SHE Manual.

ii) When employees are subjected to sound levels exceeding those listed in the Table, feasible administrative or engineering controls should be utilized as given in this document and JDA's Project SHE Manual.

iii) If such controls fail to reduce sound levels within the levels of the table, personal protective equipment shall be provided and used to reduce sound levels within the levels of the table.

iv) When the daily noise exposure is composed of two or more periods of noise exposure of different levels, their combined effect should be considered, rather than the individual effect of each. Exposure to different levels for various periods of time shall be computed according to the formula and sample computation as given in project SHE Manual.

43.4 Vibration Level

43.4.1 In locations where the alignment is close to historical / heritage structures, the contractor shall prepare a monitoring scheme prior to construction at such locations. This scheme for monitoring vibration level at such historical / heritage sites shall be submitted to Employer for his approval. This scheme shall include:

i) Monitoring requirements for vibrations at regular intervals throughout the construction period.

ii) Pre-construction structural integrity inspections of historic and sensitive structures in project activity.

iii) Information dissemination about the construction method, probable effects, quality control measures and precautions to be used.

iv) The vibration level limits at work sites adjacent to the alignment shall conform to the permitted values of peak p velocity as given in article project SHE Manual.

44.0 Ventilation and illumination

44.1 Ventilation

44.1.1 The contractor shall ensure at a construction site of a building or other construction work that all working areas in a free tunnel are provided with ventilation system as approved by the DG/CIIBC and the fresh air supply in such tunnel is not less than $6m^3$/min for each building worker employed underground in such tunnel and the free air flow movement inside such tunnel is not less than 9m/min.

44.1.2 The oxygen level shall not be less than 19.5% in the working environment.

44.2 Illumination

44.2.1 The contractor shall take every effort to illuminate the work site as per the Employer's requirement illustrated in general instruction ***JDA/SHE/GI/0011/ILL/281105***.

44.2.2 **The contractor shall conduct a monthly illumination monitoring by lux meter for all the locations and the report shall be sent to the Employer within 7th of the next month and the same shall be reviewed during the monthly SHE committee meeting.**

45.0 Radiation

45.1 The use of radioactive substances and radiating apparatus shall comply with the Govt. regulatory requirements and all subsidiary legislation

45.2 Operations involving ionising radiation shall only be carried out after having been reviewed without objection by the Employer's representative and shall be carried out in accordance with a method statement.

45.3 each area containing irradiated apparatus shall have warning notices and barriers, as required by the Regulations, conspicuously posted at or near the area.

45.4 Radioactive substances will be stored, used or disposed shall be strictly in accordance with the Govt. Enactments.

45.5 The contractor shall ensure that all site personnel and members of the public are not exposed to radiation.

46.0 Welfare measures for workers

46.1 Latrine and Urinal Accommodation

46.1.1 **The contractor shall provide one latrine seat for every 20 workers up to 100 workers and thereafter one for every additional 50 workers. In addition one urinal accommodation shall be provided for every 100 workers.**

46.1.2 When women are employed, separate latrine and urinals accommodation shall be provided on the same scale as mentioned above.

46.1.3 Latrine and urinals shall be provided as per Section 33 of BOCWA and maintained as per Rule 243 of BOCWR and shall also comply with the requirements of public health authorities

46.1.4 Moving sites

46.1.4.1 In case of works like track laying, the zone of work is constantly moving at elevated level or at underground level. In such cases mobile toilets with proper facility to drain the sullage shall be provided at reasonably accessible distance.

46.1.5 **In case if the contractor fail to provide required number of urinals and latrines or fail to maintain it as per the requirements of Public Health laws, the Employer shall have the right to provide/maintain through renowned external agencies like "Sulabh" at the cost of the contractor.**

46.2 **Canteen:**

46.2.1 **In every workplace wherein not less than 250 workers are ordinarily employed the contractor shall provide an adequate canteen conforming to Section 37 of BOCWA, Rule 244 of BOCWR and as stipulated in Rule 247 of BOCWR the changes for food stuff shall be based on 'no profit no loss' basis. The price list of all items shall be conspicuously displayed in such canteen.**

46.3 **Serving of tea and snacks at the workplace:**

46.3.1 **As per Rule 246 of BOCWR, at a building or other construction work where a workplace is situated at a distance of more than 200 m from the canteen provided under Rule 244(1) of BOCWR, the contractor employing building works shall make suitable arrangement for serving tea and light refreshment to such building works at such place.**

46.4 **Drinking water**

46.4.1 **As per Section 32 of BOCWA the contractor shall make in every worksite, effective arrangements to provide sufficient supply of wholesome drinking water with minimum quantity of 5 litres per workman per day. Quality of the drinking water shall conform to the requirements of national standards on Public Health.**

46.4.2 While locating these drinking water facility due care shall be taken so that these are easily accessible **within a distance of 200m from the place of work** for all workers at all location of work sites.

46.4.3 All such points shall be legible marked "Drinking Water" in a language understood by a majority of the workmen employed in such place and such point shall be situated within six metres of any washing places, urinals or latrines.

46.5 **Labour Accommodation**

46.5.1 **The contractor shall provide free of charges as near as possible, temporary living accommodation to all workers conforming to provisions of Section 34 of BOCWA. These accommodations shall have cooking place, bathing, washing and lavatory facilities**

46.6 Creches

46.6.1 In every workplace where in more than 50 female workers are ordinarily employed, there shall be provided and maintained a suitable room for use of children under age of 6 yrs, conforming to the provisions of Section 35 of BOCWA.

PART - IV: ENVIRONMENTAL MANAGEMENT

47.0 Air Quality

47.1 The Contractor shall take all necessary precautions to minimise fugitive dust emissions from operations involving excavation, grading, and clearing of land and disposal of waste. He shall not allow emissions of fugitive dust from any transport, handling, construction or storage activity to remain visible in atmosphere beyond the property line of emission source for any prolonged period of time without notification to the Employer.

47.2 The Contractor shall use construction equipment designed and equipped to minimise or control air pollution. He shall maintain evidence of such design and equipment and make these available for inspection by Employer.

47.3 If after commencement of construction activity, Employer believes that the Contractor's equipment or methods of working are causing unacceptable air pollution impacts then these shall be inspected and remedial proposals shall be drawn up by the Contractor, submitted for review to the Employer and implemented.

47.4 In developing these remedial measures, the Contractor shall inspect and review all dust sources that may be contributing to air pollution. Remedial measures include use of additional/ alternative equipment by the Contractor or maintenance/modification of existing equipment of the Contractor.

In the event that approved remedial measures are not being implemented and serious impacts persist, the Employer may direct the Contractor to suspend work until the measures are implemented, as required under the Contract.

47.5 Contractor's transport vehicles and other equipment shall conform to emission standards fixed by Statutory Agencies of Government of India or the State Government from time to time. The Contractor shall carry out periodical checks and undertake remedial measures including replacement, if required, so as to operate within permissible norms.

47.6 The Contractor shall establish and maintain records of routine maintenance program for internal combustion engine powered vehicles and equipment used on this project. He shall keep records available for inspection by Employer.

47.7 The Contractor shall cover loads of dust generating materials like debris and soil being transported from construction sites. All trucks carrying loose material should be covered and loaded with sufficient free- board to avoid spills through the tail board or side boards.

47.8 The Contractor shall promptly transport all excavation disposal materials of whatever kind so as not to delay work on the project. Stockpiling of materials will only be allowed at sites designated by the Employer. The Contractor shall place excavation materials in the dumping/disposal areas designated in the plans as given in the specifications.

47.9 The temporary dumping areas shall be maintained by the Contractor at all times until the excavate is re-utilised for backfilling or as directed by Employer. Dust control activities shall continue even during any work stoppage.

47.10 The Contractor shall place material in a manner that will minimize dust production. Material shall be minimized each day and wetted, to minimize dust production. During dry weather, dust control methods must be used daily especially on windy, dry days to prevent any dust from blowing across the site perimeter.

47.11 The Contractor shall water down construction sites as required to suppress dust, during handling of excavation soil or debris or during demolition. The Contractor will make water sprinklers, water supply and water delivering equipment available at any time that it is required for dust control use. Dust screens will be used, as feasible when additional dust control measures are needed specially where the work is near sensitive receptors.

47.12 The Contractor shall provide a wash pit or a wheel washing and/or vehicle cleaning facility at the exits from work sites such as construction depots and batching plants. At such facility, high-pressure water jets will be directed at the wheels of vehicles to remove all spoil and dirt.

47.13 The Contractor shall design and implement his blasting techniques so as to minimise dust, noise, vibration generation and prevention fly rock.

47.14 Blasting technique should be consistent not only with nature and quaintly of rock to be blasted but also the location of blasting.

47.15 The contractor shall give preference to explosives with better environmental characteristics.

47.16 The Contractor shall protect structures, utilities, pavements roads and other facilities from disfiguration and damage as a result of his activities. Where this is not possible, the contractor shall restore the structures, utilities, pavements, roads and other facilities to their original or better, failing which the rectification/restoration work shall be carried out at the risk and cost of the contractor.

47.17 The Contractor shall submit to the Employer an Air Monitoring and Control Plan (AMCP) under contract specific Site Environmental Plan to guide construction activity insofar as it relates to monitoring, controlling and mitigating air pollution.

48.0 Water Quality

48.1 The Contractor shall comply with the Indian Government legislation and other State regulations in existence in Rajasthan State insofar as they relate to water pollution control and monitoring. A drainage system should be constructed at the commencement of the Works, to drain off all surface water from the work site into suitable drain outlet.

48.2 The Contractor shall provide adequate precautions to ensure that no spoil or debris of any kind is pushed, washed, falls or deposited on land adjacent to the site perimeter

including public roads or existing stream courses and drains within or adjacent to the site. In the event of any spoil or debris from construction works being deposited or any silt washed down to any area, then all such spoil, debris or material and silt shall be immediately removed and the affected land and areas restored to their natural state by the Contractor to the satisfaction of the Employer.

48.3 Due to lowering of potable water supplies in Rajasthan and subsequent contamination of ground water, the Contractor is not allowed to discharge water from the site without the approval of the Employer. The Contractor must comply with the requirements of the Central Ground Water Board for discharge of water arising from dewatering. Any water obtained from dewatering systems installed in the works must be either re-used for construction purposes and this water may subsequently be discharged to the drainage system or, if not re-used, recharged to the ground water at suitable aquifer levels. The Contractor must submit his proposals for approval of Employer, on his proposed locations of dewatering of excavation and collection of water for either construction re-use or recharge directly to aquifers. The Contractor's recharge proposals must be sufficient for recharging of the quantity of water remaining after deduction of water re-used for construction. During dewatering, the contractor shall monitor ground water levels from wells to ensure that draw down levels do not exceed allowable limits. The Contractor will not be permitted to directly discharge, to the drainage system, unused ground water obtaining from the excavation without obtaining approval of Employer or the Agency controlling the system.

48.4 The Contractor shall ensure that earth, bentonite, chemicals and concrete agitator washings etc. are not deposited in the watercourses but are suitably collected and residue disposed off in a manner approved by local authorities.

48.5 All water and waste products (surface runoff and wastewater) arising on the site shall be collected and removed from the site via a suitable and properly designed temporary drainage system and disposed off at a location and in a manner that will cause neither pollution nor nuisance.

48.6 Any mud slurry from drilling, tunnelling, diaphragm wall construction or grouting etc. shall not be discharged into the drainage system unless treatment is carried out that will remove silt, mud particles, bentonite etc. The Contractor shall provide treatment facilities as necessary to prevent the discharge of contaminated ground water.

48.7 The Contractor shall discharge wastewater arising out of site office, canteen or toilet facilities constructed by him into sewers after obtaining prior approval of agency controlling the system. A wastewater drainage system shall be provided to drain wastewater into the sewerage system.

48.8 The bentonite mixing, treatment and handling system shall be established by the contractor giving due regard to its environmental impacts. The disposal of redundant bentonite shall be carefully considered whether in bulk or liquid form. The disposal location will be advised and agreed with the relevant authorities.

48.9 The Contractor shall take measures to prevent discharge of oil and grease during spillage from reaching drainage system or any water body. Oil removal / interceptors shall be provided to treat oil waste from workshop areas etc.

48.10 The Contractor shall apply to the appropriate authority for installing bore wells for water supply at site.

49.0 Archaeological and Historical Preservation

49.1 The contractor shall seek to accommodate archaeological and historical preservation concerns that may arise due to the construction of the project especially in close vicinity of such areas where such monuments may be located.

49.2 The contractor shall consult the Archaeological Survey of India (ASI) and other parties, on the advise of the Employer, to identify and assess construction effects and seek ways to avoid, minimize or mitigate adverse effects on such monuments.

49.3 Adverse effects may include reasonably foreseeable effects caused by the construction that may occur later in time, be farther removed in distance or those that alter, howsoever temporarily, the significance of the structure.

50.0 Landscape and Greenery

50.1 As far as is reasonably practicable, the Contractor shall maintain ecological balance by preventing deforestation and defacing of natural landscape. In respect of ecological balance, the Contractor shall observe the following instructions.

50.2 The Contractor shall, so conduct his construction operations, as to prevent any avoidable destruction, scarring or defacing of natural surrounding in the vicinity of work.

50.3 Where destruction, scarring, damage or defacing may occur as a result of operations relating to Permanent or Temporary works, the same shall be repaired, replanted or otherwise corrected at Contractor's expense. All work areas shall be smoothened and graded in a manner to conform to natural appearance of the landscape as directed by the Employer.

50.4 A suggested list of trees/shrubs suitable for planting and landscaping is found in Employer's Project SHE Manual.

51.0 Felling of Trees

51.1 The contractor shall identify the number and type of trees that are required to be felled as a result of construction of works and facilities related to JDA Project and inform the Employer.

51.2 All trees and shrubbery, which are not specifically required to be cleared or removed for construction purposes, shall be preserved and shall be protected from any damage that may be caused by Contractor's construction operations and equipment. The contractor shall not fell, remove or dispose of any tree or forest produce in any land handed over to him for the construction of works and facilities related to JDA except with the previous permission obtained from the Forest Department.

51.3 The Employer shall arrange permission from the forest department for trees to be felled or transplanted. The Employer will permit the removal of trees or shrubs only after prior approval.

51.4 Special care shall be exercised where trees or shrubs are exposed to injuries by construction equipment, blasting, excavating, dumping, chemical damage or other operation and the Contractor shall adequately protect such trees by used of protective barriers or other methods approved by the Employer. Trees shall not be used for anchorage.

52.0 Fly Ash

52.1 The Employer may require the contractor to use fly ash as a percentage substitution of cement, in concrete for certain structures and works.

52.2 In all such uses of Fly Ash, the contractor shall maintain a detailed record of usage of Fly Ash. The contractor shall also collect related details and provide to the Employer.

52.3 The reporting details on consumption of Fly Ash are found in Employer's SHE Manual.

53.0 Waste

53.1 The contractor is required to develop, institute and maintain a Waste Management Programme (WMP) during the construction of the project for his works, which may include: -

i) Identification of disposal sites.
ii) Identification of quantities to be excavated and disposed off.
iii) Identification of split between waste and inert material
iv) Identification of amounts intended to be stored temporarily on site location of such storage.
v) Identification of intended transport means and route.
vi) Obtaining permission, where required, for disposal.

53.2 Such a mechanism is intended to ensure that the designation of areas for the segregation and temporary storage of reusable and recyclable materials are incorporate into the WMP. The WMP should be prepared and submitted to the Engineer for approval.

53.3 The Contractor shall handle waste in a manner that ensures they are held securely without loss or leakage thus minimizing potential for pollution. The Contractor shall maintain and clean waste storage areas regularly.

53.4 The Contractor shall remove waste in a timely manner and disposed off at landfill sites after obtaining approval of Conservancy and Sanitation Engineering Department of Municipal Corporation of Jaipur for its disposal.

53.5 Burning of wastes is prohibited. The Contractor shall not burn debris or vegetation or construction waste on the site but remove it in accordance with ***50.1*** above.

53.6 The Contractor shall make arrangement to dispose of metal scrap and other saleable waste to authorized dealer and make available to the Employer on request, records of such sales.

54.0 Hazardous Waste Management

54.1 If encountered or generated as a result of Contractor's activity, then waste classified as hazardous under the "Hazardous Wastes (Management & Handling) Rules, 1989, amendments 2000, 2003" shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.

54.2 Chemicals classified as hazardous chemicals under "Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 of Environment (Protection) Act, 1986 shall be disposed off in a manner in compliance with the procedure given in the rules under the aforesaid act.

54.3 The contractor shall identify the nature and quantity of hazardous waste generated as a result of his activities and shall file a 'Request for Authorisation' with Jaipur Pollution Control Committee along with a map showing the location of storage area.

54.4 Outside the storage area, the contractor shall place a 'display board', which will display quantity and nature of hazardous waste, on date. Hazardous Waste needs to be stored in a secure place

54.5 It shall be the responsibility of the contractor to ensure that hazardous wastes are stored, based on the composition, in a manner suitable for handling, storage and transport. The labelling and packaging is required to be easily visible and be able to withstand physical conditions and climatic factors.

54.6 The contractor shall approach only Authorised Recyclers of Hazardous Waste for disposal of Hazardous Waste, under intimation to the Employer.

54.7 Submittal of all environment related documents and records pertaining to monitoring and trend analysis on key parameters such as but not limited to consumption/efficient use of resources such as energy, water, material such as cement, fly ash, iron and steel, recycle/reuse of waste etc that shall have demonstrated continual improvement in the implementation of Environmental management System. Failure to do so the employer shall impose appropriate penalty as indicated under penalty clause.

55.0 Energy Management

55.1 The contractor shall use and maintain equipment so as to conserve energy and shall be able to produce demonstrable evidence of the same upon Employer's request.

55.2 Measures to conserve energy include but not limited to the following:

i) Use of energy efficient motors and pumps
ii) Use of energy efficient lighting, which uses energy efficient luminaries
iii) Adequate and uniform illumination level at construction sites suitable for the task
iv) Proper size and length of cables and wires to match the rating of equipment
v) Use of energy efficient air conditioners

55.3 The contractor shall design site offices maximum daylight and minimum heat gain. The rooms shall be well insulated to enhance the efficiency of air conditioners and the use of solar films on windows may be used where feasible.

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PART - V: PENALTY AND AWARDS

56.0 Charges to be recovered from contractor for unsafe act or condition

56.1 JDA has built an image of safety conscious organisation meticulously over a period of seven years. Any reportable accident (fatality / injury) results in loss of life and/or property damage. These accidents not only result in loss of life but also damage the reputation of JDA. Most of the accidents are avoidable and caused preliminary due to contractors' negligence. Hence JDA shall recover the cost of damages from the contractors for every reportable incident (fatality / injury).

56.2 In addition every JDA work site is exposed to public scrutiny as the work is executed just on the right-of-way. Any unsafe act / unsafe condition observed by public further damages our reputation. Because of the non-voluntary compliance of contractors to the condition of contract on she and project she manual, JDA has been forced to establish safety-enforcing organisation. The cost of established such organisation is to be recovered from contractors for all observed safety violations at sites.

56.3 The following table indicates the Safety, Health and Environment violation (unsafe act / unsafe condition) and charges to be recovered from contractors subject to a maximum limit @ 0.1% of the contract value in addition to all other penalties / compensation./ liquidated damages.

SL. NO.	TOPIC	UNSAFE ACT/UNSAFE CONDITION	*DEDUCTIBLE AMOUNT*
1.	SHE Policy & Plan	i) SHE policy a) non-compliance of clause 4.1 b) Inadequate coverage, not signed c) Not displayed at prominent locations	Rs.5,000 per single violation, compounded to a maximum of Rs.25,000 at any single instance.
		ii) SHE plan: a) Not as per Employers' content and coverage b) Delay in submission c) Not updated as per employer's instruction as per clause 4.4 d) Copies not provided to all required supervisors / engineers	Rs.1,00,000 per single violation, compounded to a maximum of Rs.2,00,000 at any single instance.
2.	SHE Organisation	i) Not complying to the minimum manpower requirements as mentioned in General Instruction JDA/SHE/001/MPR/281105 ii) Not filling up the vacancies created due to SHE personnel leaving the	i) Rs.50,000 per month for first month and Rs.75,000 for subsequent months ii) Rs.25,000 per month for first month and Rs.40,000

		contractor within 14 days. iii) SHE organisation not provided with required Audio-visual and other equipments as per General Instruction DMRS/SHE/012/AVE/281105 iv) Employing through outsourcing agencies and SHE personal are not in the payroll of the main contractor v) Disobedience / Improper conduct of any SHE personnel. vi) Chief SHE Manager not reporting directly to CPM of contractor.	for subsequent months For items iii), iv), v) and vi) Rs.25,000 for first violation and Rs.35,000 for subsequent violations
3.	SHE committee	i) Failed to formulate or conduct SHE Committee meeting for any month ii) Contractor and Sub-contractor representatives not attending SHE Committee meetings iii) Failed to conduct Site inspection before conducting SHE Committee meeting iv) Failed to send SHE Committee Meeting minutes or Agenda to Employer in time v) Non-adherence of clause 7.7.1 vi) Non-adherence of clause 7.9	i) Rs.25,000 for the first violation and Rs.35,000 for the subsequent violations ii) Rs.5,000 to the contractor of the member who had not attended the meeting for first violation and Rs.10,000 for subsequent violations. For item iii), iv), v) and vi) Rs.15,000 for first violation and Rs.25,000 for subsequent violations
4.	ID card	i) Non-adherence of clause 8.1, 8.2 and 8.3	Rs.10,000 for first violation and Rs.15,000 for subsequent violations
5.	SHE Training	i) Not complying to the requirements as mentioned in conditions of contract on SHE and project SHE manual with regard to: a) Induction training not given b) Supervisor/engineer/manager training not conducted as per clause 9.6 c) Refresher training as per clause 9.7 and 9.11 not conducted d) Tool-box talk not conducted as per clause 9.8 e) Skill development training not conducted as clause 9.9 f) Daily Safety Oath not conducted as per clause 9.10 g) Top management behaviour based SHE training conducted	For item 1 a) to g) Rs.10,000 for first violation on and Rs.15,000 for subsequent violations

6.	SHE Inspection	i) Not complying to the requirements as mentioned in conditions of contract on SHE and project SHE manual as per clause 10.0 ii) Non compliance of clause 10.3.6	Rs.15,000 for first violation and Rs.25,000 for subsequent violations
7.	SHE audit	Internal Audit: MARS i) Not conducted as per SHE Plan ii) Report not sent to Employer iii) Action not taken for any month	For item i) to iii) Rs.20,000 for first violation and Rs.25,000 for subsequent violations.
		External Audit iv) Not conducted as per SHE Plan v) Report not sent to employer vi) Action not taken for any quarter	For item iv) to vi) Rs.1,000 for first violation and Rs.15,000 for subsequent violations.
8.	SHE Communication	i) Important days to be observed for SHE awareness as furnished by employer not observed ii) Posters as furnished by Employer not printed and displayed	i) Rs.10,000 for first violation and Rs.15,000 for subsequent violations ii) 10,000 per contract
9.	SHE Submittals	i) Non compliance of clause 13.1 ii) Non compliance of clause 13.2 iii) Non compliance of clause 13.3	For item i) Rs.10,000 for first violation and Rs.15,000 for subsequent violations For item ii) and iii) Rs.15,000 for first violation and Rs.20,000 for subsequent violations
10.	Injury and Incidence reporting	i) Fatal accidents ii) Injury accident iii) Abnormal delay in reporting accidents or will full suppression of information about any accidents / dangerous occurrence as per clause 14.1.4 iv) Delay in informing about any accidents / dangerous incidents. v) Non-compliance of the clause 14.4	i. Rs.1,00,000 for first fatality and Rs.2,00,000 for every subsequent fatality. ii. Rs.25,000 for first grievously injured person and Rs.35,,000 for every subsequent grievously injured person (Grievous Injury as defined by Workmen Compensation Act) iii. Rs.75,000 for first violation and Rs.1,00,000 for subsequent violations For items iv) and v) Rs.50,000 for first violation and Rs.1,00,000 for subsequent violations
11.	Emergency	Non-compliance of the clause 15.1,15.2,	Rs.1,00,000 for non-

	preparedness Plan	15.3, 15.4, 15.5 and 15.6	compliance of any of the clauses
12.	Housekeeping	i) Housekeeping maintenance register not properly maintained up to date ii) Surrounding areas of drinking water tanks / taps not hygienically cleaned / maintained iii) Office, stores, toilet / urinals not properly cleaned and maintained. iv) Required dustbins at appropriate places not provided / not cleaned. v) Stairways, gangways, passageways blocked. vi) Lumber with protruding nails left as such vii) Openings unprotected viii) Excavated earth not removed within a reasonable time. ix) Truck carrying excavated earth not covered / tyres not cleaned. x) Vehicles / equipments parked / placed on roads obstructing free flow of traffic xi) Unused surplus cables / steel scraps lying scattered xii) Wooden scraps, empty wooden cable drums lying scattered xiii) Water stagnation leading to mosquito breeding	Rs.10,000 per single violation Compounded to a maximum of Rs.1,00,000 at any single instance
13.	Working at Height / Ladders and Scaffolds	i) Not using or anchoring Safety Belt ii) Not using Safety Net iii) Absence of life line or anchorage point to anchor safety belt iv) Non-compliance of clause 18.17 v) Using Bamboo ladders vi) Painting of ladders vii) Improper usage (less than 1m extension above landing point, not maintaining 1:4 ratio) viii) Aluminium ladders without base rubber bush ix) Usage of broken / week ladders x) Usage of re-bar welded ladders xi) Improper guardrail, toe board, barriers and other means of collective protection xii) Improper working platform	Rs.10,000 per single violation Compounded to a maximum of Rs.15,000 at any single instance

		xiii) Working at unprotected fragile surface xiv) Working at unprotected edges	
14.	Lifting appliances and gear	i) Non availability of fitness certificate as per clause 21.3 ii) Documents not displayed on the machine or not available with the operator as per clause 21.4 iii) Maximum Safe Working Load not written on the machine as per clause 21.5 iv) Non-compliance of 21.6 v) Non-compliance of 21.7 vi) Automatic safe load indicator not provided or not in working condition as per clause 21.8 vii) Age of the operator less than 21 years or without any license and non-compliance of other item as per clause 21.9 viii) Non-compliance of 21.10 ix) Non-compliance of any of the items mentioned regarding rigging requirements as per clause 21.11 x) Failure to submit method statement in case of all critical lifting xi) Person riding on crane. xii) Creating more noise and smoke xiii) Absence of portable fire extinguisher in driver cabin xiv) Fail to guard hoist platform xv) No fencing of hoist rope movement area xvi) Hoist platform not in the horizontal position	Rs.10,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance
15.	Launching operation	Non-adherence of any of the provisions mentioned in clause 22.2	Rs. 50,000 for first violation and Rs.1,00,000 for subsequent violations .
16.	Site Electrical safety	i) Non-compliance of clause 26.1.1 ii) Non-compliance of clause 26.2.4, 26.2.5 iii) Non-compliance of clause 26.3.1 iv) Non-compliance of clause 26.7, 26.8 and 26.9.1 v) Non-compliance of clause 26.10 and 26.13 vi) Non-compliance of clause 28.3.2	Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance

		vii) Exposed electric lines (fermentative damage) and circuits in the workplace. viii) Inserting of bare wires into the socket ix) Improper grounding for the electrical appliances x) Electrical cables running on the ground xi) Non-compliance clause 27.0	
17.	Hand tools and Power tools	i) Non-compliance of clause 28.0	Rs.10,000 per single violation Compounded to a maximum of Rs.1,00,000 at any single instance
18.	Gas Cutting	ii) Wrong colour coding of cylinder. iii) Cylinders not stored in upright position. iv) Flash back arrester, non-return valve and regulator not present or not in working condition. v) Fail to put cylinders in a cylinder trolley. vi) Damaged hose. vii) Using domestic LPG cylinders viii) Fail to store cylinder 6.6m away from fire prone materials ix) Fail to use hose clamps x) Fire extinguisher not placed in the vicinity during operation	Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance
19.	Welding	i) Voltmeter and Ammeter not working ii) Improper grounding and return path. iii) Damaged welding cable iv) Bare openings in the cable. v) Non-availability of separate switch in the transformer vi) Non-availability of main switch control to switch off power to the welding unit. vii) Usage of reinforcement rod as return conductor viii) Damaged holder ix) Fire extinguisher not placed in the vicinity during operation	Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance
20.	Fire precaution	i) Smoking and open flames in fire prone area ii) Using more than 24V portable electrical appliances in the fire prone area iii) Not proper ventilation in cylinder	Rs.5,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance.

		storage area. iv) Absence of fire extinguishers v) Fire extinguishers not refilled once in a year. vi) Fire extinguisher placed in a not easily accessible location	
21.	Excavation, Tunnelling and confined space	i) Non-compliance of clause 34.1.1 ii) Non-compliance of clause 34.2.3 iii) Non-compliance of clause 34.3	For any item from i) and ii) Rs.10,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance. For item iii) Rs.10,000 per first violation and Rs.50,000 for subsequent violations
22.	Work permit system	i) Non-compliance of clause 35.2 ii) Non-compliance of clause 21.11.9	For item I) and ii) Rs.50,000 per first violation and Rs.1,00,000 for subsequent violations
23.	Traffic Management	i) Non-compliance of clause 36.4.1 ii) Non-compliance of clause 36.8.3 iii) Non-compliance of clause 36.9.2 iv) Non-compliance of clause 36.9.3 v) Non-compliance of clause 36.9.7 vi) Non-compliance of clause 36.9.8	Rs.50,000 per first violation and Rs.1,00,000 for subsequent violations
		a) Barricades i) Not Cleaned ii) Not in alignment iii) Not numbered iv) Not painted v) Red lights / reflectors not working vi) Damages not repaired vii) Not secured properly viii) Barricade inspector not employed ix) Protruding parts / portions repaired x) Barricades maintaining register not properly maintained up to date	Rs.25,000 per single violation Compounded to a maximum of Rs.50,000 at any single instance

		b) Contractor Vehicles i) Over loading of vehicles ii) Unfit drivers or operators iii) Unlicensed vehicles iv) Absence of traffic marshals v) Absence of reversing alarm vi) Absence of fog light (at winter) vii) Power / hand brakes not in working condition.	Rs.5000 per single violation Compounded to a maximum of Rs.10,000 at any single instance
		c) Splashing of Bentonite on roads / non-cleaning of tyres of dumpers and transit mixers i) Mishandling of bentonite like splashing of bentonite outside specified width of barricading ii) Non-cleaning of tyres of dumpers and transit mixers before leaving the site and thereby creating a traffic safety hazard to road users.	For item i) and ii) a) Rs.10,000 on first observation. b) Rs. 20,000 on second observation c) Rs. 30,000 on third and subsequent observations
24.	Batching plant / Casting yard	Non-adherence of any of the provisions mentioned in clause 38.0.	Rs. 10,000 for single violation compounded to a maximum of Rs.1,00,000 at any single instant.
25.	PPE	i) Not having ii) Not wearing (or) using and kept it elsewhere iii) Using damaged one iv) Using wrong type v) Using wrong colour helmet or helmet without logo vi) Using for other operation (e.g. Using safety helmet for storing materials or carrying water from one place to other) vii) Not conforming to BIS standard viii) Non-compliance of clause 39.6, 39.7 and 39.8	From item i) to vi). Rs.200 per single violation For item vii) Rs.10,000 for first violation and Rs.50,000 for subsequent violations For item viii) Rs.50,000 for first violation and Rs.1,00,000 for subsequent violations
26.	Occupational Health	i) Fail to conduct Medical examination to workers ii) Absence of ambulance van & room iii) Workers not having ID card iv) Inadequate number of toilets v) Toilets not cleaned properly vi) Absence of water facilities for toilets and washing places vii) Toilet placed more than 500m from	Rs.10,000 per single violation Compounded to a maximum of Rs.25,000 at any single instance

		the work site viii) Absence of drinking water ix) Absence of first-aid person in work site. x) Absence or inadequacy of first-aid box. xi) Misuse of first-aid box. xii) First-aid box not satisfy the minimum Indian standard. xiii) Smoking inside the construction site xiv) Drink and drive or work xv) Excessive noise and vibration xvi) Canteen not provided xvii) Food stuff not served on no loss no profit basis xviii) Creche not provided xix) Accommodation not provided as per BOCWA xx) Fumigation / insecticides not sprayed to prevent Mosquito breeding xxi) Non-compliance of clause 44.1 and 44.2	
27.	Labour Welfare measures	i) Non adherence of Labour welfare provisions of BOCWA ii) Fail to register establishment and display the registration certificate at workplace iii) Absence of workers register and records iv) Absence of muster roll and wages register v) Fail to display an abstract of BOCWA and BOCWR	Rs.10,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance
28.	Environmental Management	i) Tyre wash facility not provided ii) Spillage from vehicles not arrest iii) Air monitoring not practiced iv) Noise monitoring not practiced v) The values of air monitoring and noise monitoring not with in acceptable limits vi) Dust control measures at sites not practiced vii) Improper disposal of debris / residues	Rs.10,000 per single violation Compounded to a maximum of Rs.20,000 at any single instance

56.4 Without limiting to the unsafe acts and or conditions mentioned above in clause 56.3 the Employer shall have the right to deduct charges for any other unsafe act and or

condition depending upon the gravity of the situation on a case-to-case basis. The charges shall be in comparison with that of the similar offence indicated in clause 56.3.

57.0 Stoppage of work

57.1 The Employer shall have the right to stop the work at his sole discretion, if in his opinion the work is being carried out in such a way that it may cause accidents and endanger the safety of the persons and / or property, and / or equipments. In such cases, the contractor shall be informed in writing about the nature of hazards and possible injury / accident.

57.2 The contractor shall not proceed with the work until he has complied with each direction to the satisfaction of Employer

57.3 The Contractor shall not be entitled for any damages / compensation for stoppage of work, due to safety reasons and the period of such stoppage of work shall not be taken as an extension of time for Completion of the Facilities and will not be the ground for waiver of levy of liquidated damages.

58.0 Awards

The following categories will be considered for awards as per the scheme in practice and discretion of Employer

i) For every safe million man hour working without any reportable incidents
ii) Zero fatality contracts
iii) 100% adherence to voluntary reporting of all accidents throughout the currency of contract
iv) Safest project team of the year.
v) Best SHE team of the year.
vi) Safest Contractor of the year.

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

APPENDIX NO.: 1

Memorandum of Understanding between JAIPUR DEVELOPMENT AUTHORITY (JDA) and the Contractor for safe execution of contract work

This Memorandum of Understanding is made and executed by and between JAIPUR DEVELOPMENT AUTHORITY (JDA), or their authorized representative(s), hereinafter referred to as "EMPLOYER" (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the one party

AND

M/s _____ having its registered office at _____

hereinafter referred to as the "CONTRACTOR" (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the other party

WITNESSETH THAT

WHEREAS the EMPLOYER gives highest importance to the occupational safety, health and environment during execution of work, seeks cooperation from the CONTRACTOR in this endeavor.

Thus, this Memorandum of Understanding is for promoting the safety, health and environment aspects required to be followed at workplace/site and will be applicable to any site job to be done by the CONTRACTOR

AND

WHEREAS the CONTRACTOR has read all the terms and conditions of the EMPLOYER and whereas the CONTRACTOR has studied the following documents:

(a) Tender Documents, including Notice Inviting Tender, General Conditions, Special Conditions,

(b) Conditions of Contract on Safety, Health and Environment and Project Safety, Health and Environment Manual.

(c) Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996, Central Rules 1998 and subsequent Rajasthan Government Rules 2002, Building and Other Construction Workers Welfare Cess Act 1996 and Rules 1998 and Rajasthan Building and Other Construction Workers' Welfare Board Rules and

(d) Indian Electricity Act 2003 and Rules 1956.

(e) Corresponding International / Bureau of Indian Standard Codes.

The amendments to any of the above rules and any other rules & regulations or procedures, circulars, notices & advices laid down by the EMPLOYER from time to time.

Now it is hereby AGREED AND DECLARED by and between the EMPLOYER and the CONTRACTOR as follows:

Clause - I	The CONTRACTOR shall abide by the terms and conditions stipulated in Condition of Contract on Safety, Health & Environment and Project Safety, Health & Environment Manual.
Clause - II	The CONTRACTOR shall undertake full responsibility for safe execution of job at work place/site and safety of his personnel and adjoining road users during work.
Clause - III	Without giving any prior notice, the EMPLOYER shall from time to time be entitled to add/or amend any or all terms and conditions with a view to improving safety and occupational health of personnel and safety of work, with immediate effect and the same shall be binding on the CONTRACTOR. The contractor agrees to implement all such amendments, which shall be laid down by the EMPLOYER.
Clause - IV	Besides following the guidelines, safety rules and regulations, safety codes given in various safety procedures/documents mentioned above, the CONTRACTOR shall also prepare detailed method statement which includes job safety analysis wherever there are complicated and hazardous/high risk working involved and get it approved from Employer before execution of work.
Clause - V	Any negligence or violation in implementing any of the provision of the conditions of contract on Safety, Health & Environment and JDA project Safety, Health & Environment Manual shall be viewed seriously and the contractor is liable to compensate the employer for the loss of reputation. The cost of damage shall be fixed on case-to-case basis.

In witness thereof the Parties hereto by representatives duly authorised have executed this Memorandum of Understanding on _____ day of _____ 20____.

Signed on	Signed on
For and on behalf of JDA	For and on behalf of (Contractor)
_____	_____
Signature:	Signature:
Name:	Name:
Title:	Title:

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR.

APPINDIX No. 2.

Safety, Welfare and Occupational Health requirements as per BOCW Act 1996 and Rules 1998 and Rajasthan Building and Other Construction Workers Rules 2009

(This list has been prepared in chronological order with primary importance to **S**ection of Act and secondary importance to **R**ules)

S - Refers relevant **S**ections in BOCWA
R - Refers relevant **R**ules in BOCWR
C - Refers relevant **C**hapter No. in BOCWR

Sl. No.	Items	Relevant Sections / Rules in BOCWA and BOCWR and DBOCWR
1.	Registration of establishment	S – 7, R – 23 to 27
2.	Display of registration certification at workplace	R – 26 (5)
3.	Hours of work	S – 28 R – 234 to 237
4.	Register of overtime	S – 28; S – 29 R – 241(1) Form XXII
5.	Weekly rest and payment at rest	R – 235
6.	Night shift	R – 236
7.	Maintenance of workers registers and records	S – 30 R – 238
8.	Notice of commencement and completion	S – 46 R – 239
9.	Register of persons employed as building workers	R – 240
10.	Muster roll and wages register	R – 241(1) (a); Form XVI and XVII
11.	Payment of wages	R – 248
12.	Display of notice of wages regarding	R – 249
13.	Register of damage or loss	R – 241(1)(a); Form XIX, XX, XXI
14.	Issue of wages book	R – 241(2)(a); Form XXIII
15.	Service certificate for each workers	R – 241(2)(b); Form XXIV
16.	Display an abstract of BOCWA and BOCWR	R – 241(5)

17.	Annual return	R – 242; Form XXV
18.	Drinking water	S – 32
19.	Latrines and Urinals	S – 33 R - 243
20.	Accommodation	S – 34
21.	Crèches	S – 35
22.	First-aid boxes	S – 36 R – 231 and Schedule III
23.	Canteens	S – 37 R – 244
24.	Food stuff and other items served in the canteens	R – 245
25.	Supply of tea and snacks in work place	R – 246
26.	Food charges on no loss no profit basis	R - 247
27.	Rajasthan BOCW welfare Board Rules	R – 250 to 296
28.	Safety committee	S – 38 R – 208
29.	Safety officer	S – 38 R – 209 and Schedule VII
30.	Reporting of accidents and dangerous occurrences	S – 39 R – 210
31.	Procedure for inquiry in to the causes of accidents	R – 211
32.	Responsibility of employer	S - 44 R – 5
33.	Responsibility of Architects, Project engineer and Designers	R – 6
34.	Responsibility of workmen	R – 8
35.	Responsibility for payment of wages and compensation	S – 45
36.	Penalties and Procedures	S – 47; S – 55
37.	Excessive noise, vibration etc	R – 34
38.	Fire Protection	R – 35
39.	Emergency action plan	R – 36
40.	Fencing of motors	R – 37
41.	Lifting of carrying of excessive weight	R – 38
42.	Health, Safety and Environmental Policy	R – 39
43.	Dangerous and Harmful Environment	R – 40
44.	Overhead protection	R – 41
45.	Slipping, Tripping, Cutting, Drowning and Falling Hazards	R – 42

46.	Dust, Gases, Fumes, etc	R – 43
47.	Corrosive substance	R – 49
48.	Eye Protection	R – 45
49.	Head Protection and other protection apparel	R – 46; R – 54
50.	Electrical Hazards	R – 47
51.	Vehicular traffic	R – 48
52.	Stability of structure	R – 49
53.	Illumination	R – 50; R – 124
54.	Stacking of materials	R – 51
55.	Disposal of debris	R – 52
56.	Numbering and marking of floors	R – 53
57.	Lifting appliances and gears	C – VII; R – 55 to 81
58.	Runways and Ramps	C – VIII; R – 82 to 85
59.	Working on or adjacent to water	C – IX; R – 86 & 87
60.	Transport and earthmoving equipments	C – X; R – 88 to 95
61.	Concrete work	C – XI; R – 96 to 107
62.	Demolition	C – XII; R – 108 to 118
63.	Excavation and Tunnelling works	C – XIII; R – 119 to 168
64.	Ventilation	R – 153
65.	Construction, repair and maintenance of step roof	C – XIV; R – 169 to 171
66.	Ladders and Step ladders	C – XV; R – 172 to 174
67.	Catch platform and hoardings, chutes, safety belts and nets	C – XVI; R – 175 to 180
68.	Structural frame and formworks	C – XVII; R – 181 to 185
69.	Stacking and unstacking	C – XVIII; R – 186 & 187
70.	Scaffold	C – XIX; R – 188 to 205
71.	Cofferdams and Caissons	C – XX; R – 206 to 211
72.	Explosives	C – XXI; R – 212 & 213
73.	Piling	C – XXII; R – 214 to 222
74.	Medical Examination for building and other construction worker, Crane operator an Transport vehicle drivers	R – 81; R – 223(a)(iii) and Schedule XII
75.	Medical examination for occupational health hazards	R – 223(a)(iv)
76.	Charging of workers for Medical Examination	R – 223(b)
77.	Occupational health centres and Medical officers	R – 225 and Schedule X &XI

78.	Ambulance van & room	R – 226 & 227 and Schedule IV & V
79.	Stretchers	R – 228
80.	Occupational health service for building workers	R – 229
81.	Medical examination for occupational health hazards	R – 223(a)(iv)
82.	Emergency care services and emergency treatment	R – 232
83.	Panel of experts and agencies	Central Rule 250 Delhi Rule 297
84.	Power of inspectors	Central rule 251 Delhi rule 298

JAIPUR DEVELOPMENT AUTHORITY,JAIPUR.

APPENDIX NO.: 3

SITE SHE PLAN

Contract No	
Contractor Name	
Project Name	

1.	**Project Highlights** i) Title of the content ii) Contractor Number iii) Brief scope of work iv) Location map/ key plan v) Period of the project
2.	**SHE Policy**
3.	**Site Organisation Chart** Chart indicating reporting of SHE personnel
4.	**Roles & Responsibility** Individual responsibility of the i) Project Manager ii) Construction Manager iii) Construction Supervisors iv) SHE Committee Members v) SHE In charge vi) Site Engineers vii) First Line Supervisors viii) Sub-contractors
5.	**SHE Committee** i) Details - Chairman, Members, Secretary and Employer's representative, ii) Procedures for effective conduct of meeting
6.	**SHE Training**
7.	**Subcontractor Evaluation, Selection and Control**
8.	**SHE Inspection**
9.	**SHE Audit**
10.	**Accident Investigation And Reporting Procedures**
11.	**Occupational Health Measures**

12. Labour Welfare Measures

13.	**Risk assessment and mitigation procedures**
14.	**Safe Work Procedures** i) Work at Height ii) Structural Steel Erection iii) Launching of segments iv) Floor, Wall Openings and Stairways v) Welding, Cutting and Bracing vi) Lifting appliances vii) Work Permit Systems viii) Electrical Equipments ix) Mechanical Equipments x) Excavation xi) Fire Prevention xii) Hazardous Chemicals and Solvents xiii) Ionising Radiation xiv) Lighting xv) Abrasive Blasting
15.	**Work Permit System**
16.	**List of standard job specific PPEs to be used in the site**
17.	**Maintenance of Regime for construction Equipment and Machinery**
18.	**Traffic management**
19.	**Housekeeping**
20.	**Environmental Management**
21.	**Emergency Management**
22.	**Visitors and Security arrangement**

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

APPENDIX NO.: 4

WORKPLACE POLICY ON HIV/AIDS PREVENTION & CONTROL FOR WORKMEN ENGAGED BY CONTRACTORS

"Being mobile in and of itself is not a risk factor for HIV infection. It is the situations encountered and the behaviours possibly engaged in during mobility or migration that increase vulnerability and risk regarding HIV / AIDS."

UNAIDS, Technical update on 'Population, Mobility and AIDS', February 2001, p.5

JAIPUR DEVELOPMENT AUTHORITY (JDA) recognizes HIV / AIDS as a developmental challenge and realizes the need to respond to it by implementing regular HIV / AIDS prevention programmes and creating a non-discriminatory work environment for HIV infected workmen engaged by contractors. For the purpose of making conscientious, sensitive and compassionate decision in addressing the realities of HIV / AIDS, JDA has established these guidelines based on ILO code of practice on HIV / AIDS.

- Creating awareness through professional agency using IEC (Information, Education and Communication) package specially designed for migrant workers.
- Institutional capacity building by training the project implementation team, Safety, Health & Environment (SHE) Managers, establishing linkages for efficient diagnosis and treatment of the affected workers, effective monitoring of implementation and documentation for further learning.
- Establishing peer educators by selecting them in consultation with contractors and training them through professional agencies so that they become focal point for any information, education and awareness campaigns among the workmen throughout the contract period.

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/001/MPR/200106

MINIMUM MANPOWER REQUIREMENTS OF SHE ORGANIZATION BASED ON CONTRACT VALUE

	1	2	3	4	5	6
Awarded Contract value (in Cr.)	**Chief SHE Manager**	**Senior SHE Manager**	**Junior SHE Manager**	**Safety Steward**	**Senior SHE (Electrical) Engineer**	**Junior SHE (Electrical) Engineer**
Upto 2	-	-	1	Refer Note 1	-	1
Upto 10	-	1	Refer Note 1		1	Refer Note 2
Upto 25	1	Refer Note 1			1	
Upto 100	1				1	
Upto 250	1				1	
More than 250	1				1	

	7	8	9	10	11	12	13
Awarded Contract value (in Cr.)	***Junior SHE (Fire) Manager / **Senior SHE (Fire) Manager**	**Occupational Health officer** with Necessary Nursing Assistants (Refer Note3)	**Environmental Manager**	**Senior SHE (Traffic) Engineer** (Refer Note4)	**Barricade Maintenance Squad** (Refer Note4)	**House Keeping Squad**	**Labour Welfare Officer**
Upto 2	-	-	-	-	Refer Note 5	Refer Note 6	-
Upto 10	-	1 (PT)	1	1			1
Upto 25	1*	1 (PT)	1	1			1
Upto 100	1*	1 (FT)	1	1			1
Upto 250	1**	2(FT)	1	1			1 with support staff
More than 250	2**	2(FT)	1 with support staff	1			1 with support staff

Note 1: Adequate, qualified and trained SHE Professionals with required support staff to be deployed at each worksite at each shift.

Note 2: Adequate, qualified and trained Electrical Engineers / supervisors to be deployed at each worksite at each shift.

Note 3: (PT) means Part-Time and (FT) means Full-time.

Note 4: Senior SHE (Traffic) Engineer Post and Barricade Manager (including the staff) Posts are applicable to contracts where the work has to be executed either below or over the right-of-way like Viaduct, Tunnel Contracts wherein erection and maintenance of barricades are paramount important.

Note 5: One Barricade Manager supported by required supervisors and workmen

Note 6: One Housekeeping Manager supported by required supervisors and workmen

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/002/QE/281105

MINIMUM QUALIFICATION AND EXPERIENCE FOR (SHE) SAFETY, ELECTRICAL, ENVIRONMENTAL, TRAFFIC ENGG. AND OCCUPATIONAL HEALTH PROFESSIONALS

Sl. No	Designation	Qualification	Experience (in years)
1	Chief SHE Manager	The Chief SHE Manager shall have qualified in any of the following degree/diploma: i) Post Graduate Diploma in Industrial Safety & Environmental Management (PGDISEM) from National Institute of Industrial Engineering, Mumbai ii) M.E. in Industrial Safety from NIT, Trichy, Tamil Nadu iii) M.E. in Industrial Safety from Mepco Schlenk Engineering College, Sivakasi, Tamil Nadu iv) B.E. in Fire and Safety Engg. From Cochin University of Science and Engg. Cochin, Kerala v) B.E. with advanced Safety Management Diploma from CLI / RLI Mumbai / Chennai / Kolkata and Kanpur. vi) B.E / B.Arch., with one year Full Time advanced Safety diploma from NICMAR, Hyderabad. vii) B.E / B.Tech with any other equivalent State and Central Govt. recognized full time Degree / Diploma in Safety. viii) International qualifications like CSP (Certified Safety Professional), NEBOSH, MIOSH, MSISO etc.	2 {for all category except (iv) and 5yrs for category (iv)}
2	Senior SHE Manager	As stated in Sl. No:1 and in addition the following categories: i) B.Sc.(Physics/Chemistry/Maths) with one year Full Time advanced Safety diploma from NICMAR, Hyderabad ii) B.Sc. / Diploma in Engg. with advanced Safety Management Diploma from CLI / RLI / Mumbai / Chennai / Kolkata and Kanpur. iii) B.Sc. (Physics/Chemistry/Maths) with One year Full Time diploma in Safety Engineering offered by West Bengal State Technical Education Departments and similar courses by other states. iv) Any Graduate or diploma holder with 7 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis	2 {for category (i), (ii) and (iii) only}

3	Junior SHE Manager	i) Degree in Science / Diploma in Engineering with Govt. recognized safety diplomas from Correspondence course of recognized University, National and State Productivity Councils, Other State Technical Education Boards etc. ii) Any Graduate or diploma holder with 5 years of work experience in full fledged SHE department of any Public Sector / Leading Private Sector / MNC / with prior approval of employer on a case to case basis	2 (for category (i) only)
4	Safety Steward	Any basic qualification with any SHE related certificate courses.	2
5	Senior SHE (Electrical) Manager	Degree in Electrical Engineering + Govt. recognized Electrical License holder	2
6	Junior SHE (Electrical) Manager	Diploma in Electrical Engineering + Govt. recognized Electrical License holder	1
7	Senior SHE (Fire) Manager	i) B.E. (Fire) from National Fire Service College, Nagpur ii) B.E (Fire & Safety) from Cochin University iii) Graduate with any Govt. recognized diploma in Fire Safety with 5 years of experience	2 (for category (i) and (ii) only)
8	Junior SHE (Fire) Manager	Any Diploma holder with any Govt. recognized diploma in Industrial Fire Safety.	1
9	Occupational Health Officer	MBBS with Govt. recognized degree/diploma in Industrial/ occupational health	1
10	Environment Manager	Govt. recognized PG Degree / PG Diploma / Degree in Environmental Engineering / Science	2
11	Senior SHE (Traffic) Engineer	Govt. recognized PG Degree / Degree / Diploma in Traffic/Transportation Engineering or Planning	1
12.	House Keeping Squad - Manager	Any Diploma in Engineering	1
13	Barricade Manager	Any Diploma in Engineering	1
14	Labour Welfare Officer	Any Degree with Govt. Recognized Degree / Diploma / P G Diploma in Labour Welfare related fields like Law, Personnel / Industrial Relations etc.	2

Note 1: In some extraordinary cases where the candidate had earlier worked in JDA Projects they can be considered for the following posts:

i) Senior SHE Manager
ii) Junior SHE Manager
iii) Safety Steward

depending upon the qualification and no. of years of experience on a case-to-case basis even if they do not possess the prescribed qualification as listed above.

Note 2: In all other cases other than listed under **Note 1** irrespective their earlier experience with JDA projects the candidates shall qualify as specified above.

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

MINIMUM REQUIREMENTS OF SHE MONITORING AND AUDIO-VISUAL EQUIPMENTS

1. For the purpose of minimum requirements of Audio-visual and Other equipment the contracts are categorized into the following groups:

Contract Value (Initial awarded value of contract)	Group
Upto 25 Cr	A
Upto 100 Cr	B
Upto 250 Cr	C
More than 250 Cr	D

2. Every contractor falling into the above groups shall provide the following minimum required audio visual aids for conducting weekly review, monthly safety committee and other post review meeting of all fatal and major incidences effectively. These audio-visual equipments are a must for conducting periodical in-house safety presentations in the training programmes.

3. In addition to the above portable hand held digital sound level meter (SLM) and portable hand held digital lux meter are also to be provided.

Sl. No	SHE monitoring and Audio-Visual Equipment details	SHE monitoring and Audio-Visual equipment required for			
		Group A Contract	Group B Contract	Group C Contract	Group D Contract
1.	Portable hand held Digital Sound Level Meter (SLM)	1	1	1	1
2.	Portable hand held Digital Lux Meter	1	1	1	1
3.	Laptop Computer with standard configuration including multi media Facilities	1	1	1	1
4.	Colour Printer	1	1	1	1
5.	Computer projector with screen	-	1	1	1
6.	Overhead projector	1			
7.	35mm Camera (For taking accident investigation photos in which case the images can not be easily altered)	1	1	1	1

8.	Digital camera with flash of minimum 4 mega pixel and video facility	1	1	1	2

9.	Digital still camera with flash of minimum 4 mega pixel	1	2	4	6
10.	Portable loudspeaker (for tool-box talk and emergency purpose)	1	1	2	6
11.	Communication facility like mobile phone, walky-talky etc	For all supervisors and managers/engineers working in Safety, Health & Environment			
12.	Accident investigation Kit containing the following:	1	1	1	2
a)	Chalk piece for marking				
b)	Measuring tape for measuring • Flexible tape – 2m length • Metal Foot long scale and • Metal tape – 30m				
c)	Equipment tags				
d)	Multipurpose Flash light				
e)	Barrier tape of 20m length				
f)	Accident investigation Forms and checklists				
g)	Enough Paper for witness recording and other noting				
h)	Emergency Phone Numbers list				

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Topics for First day at work SHE orientation training of Workmen

1. Hazard Identification Procedure

Hazards on site:

- Falls
- Earthing work
- Electricity
- Machinery
- Handling materials
- Transport
- Site housekeeping
- Fire

2. Personal Protective Equipment

- What is available?
- How to obtain it?
- Correct use and care

3. Health

- Site welfare facilities
- Potential health hazards
- First Aid/CPR

4. Duties of the contractor

- Brief outline of the responsibilities of the Contractor by law
- Details of Contractor's accident prevention policy
- JDA's SHE manual
- Building and other Constructions Welfare Law

5. Employee's Duties

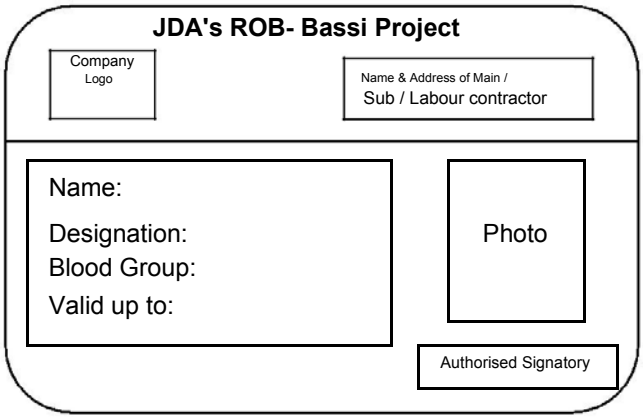
- Brief outline of responsibilities of employee under law
- Explanation of how new employees fit into the Contractor's plan for accident prevention. (Induction and orientation).

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

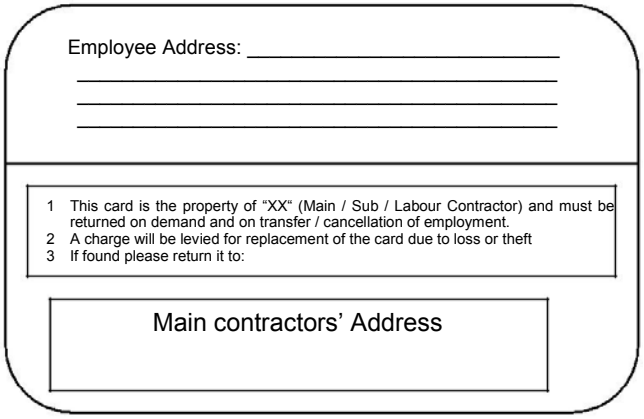
ID Card Format

(85 mm x 55mm)

Front side of ID Card:



Backside of ID Card:



JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

SHE Training details for Managers and Supervisors

1. The Law and Safety	**2. Policy and Administration**
Statutory requirement Appropriate regulations Duties of employer and employee	Effect of incentive on accident prevention Human relations Consultation Safety Officer: duties, aims, objectives
3. Safety and the Supervisor	**4. Principles of Accident Prevention**
Safety and efficient production go together Accidents affect morale and public relations	Attitudes of management, supervision and operations Methods of achieving safe operations Accident and injury causes
5. Site Inspection	**6. Human Behavior**
The role of management Hazard Identification Procedure Records results Follow-up procedures Feedback	Motivating agencies Individual behavior Environmental effects Techniques of persuasion
7. Site housekeeping	**8. Health**
Site organization Relationship of site housekeeping to accident Occurrence Site access Equipment storage Material stacking Materials handling	Medical examination Hazard to health on site Sanitation and welfare Protective clothing First Aid/CPR
9. Personal Protective Equipment	**10. Electricity**
Eye, face, hands, feet and legs Respiratory protective equipment Protection against ionizing radiation	Appreciation of electrical hazards Power tools Arc welding Low voltage system Lighting and power system on sites ELCB, RRCB, Grounding/Ground fault circuit interrupters (GFCIs)
11. Oxygen and Acetylene Equipment	**12. Equipment**
Cylinder storage and maintenance Condition and maintenance of valves, regulators, and gauges Condition and maintenance of hoses and fittings Pressures	Accidents related to moving parts of machinery Appreciation of principles of guarding Importance of regular maintenance

13. Transportation	**14. Excavations**
Transport to and from site Hazard connected with site transport Competent drivers Dumpers Tipping trucks Movement near excavations	Method of shoring Precautions while shoring Precautions at edge of excavations Removal of shoring Sheet steel piling
15. Working platforms, Ladders, and Scaffolding	**16. Cranes and other Lifting Machines**
Hazards connected with the use of ladders Maintenance and inspection Type of scaffold Overloading Work on roofs Fragile material Openings in walls and floors Use of safety belts and nets	Licensing, certification and training required for operation of cranes Slinging methods Signaling Access to crane(s) Maintenance and examination Ground conditions Hazards and accident prevention methods connected with the use of different types of cranes/heavy equipment Crane Lift Plan for all lifts
17. Lifting Tackle	**18. Fire Prevention and Control**
Slings - single and multi-legged Safe working loads (SWLs) Safety hooks and eyebolts Cause of failure Maintenance and examination	Principle causes determining fire Understanding fire chemistry Fire fighting equipment Fire fighting training
19. Communications	**20. Manual Handling**
Effective methods of communication (particular interest to non-English speaking workers) Method and preparation of reports Safety committees Safety meeting	Body posture and procedure for lifting, pushing, pulling, dragging, sitting and walking Ergonomics Stretching exercises

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

SHE Training Matrix

| Types of training | Management | | | | | | | | | | | | | | | | | | | Supervisor | | | | | | | | | | Specific | | | | | | | | | | | | | | | | | | |

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

DAYS TO BE OBSERVED FOR CREATING SHE AWARENESS

1st Monday to Sunday of January	Road Safety Week (Subjected to confirmation from Ministry of Road Transport, Govt. of India every year.)
16th February	Kyoto Protocol Day
March	Red Cross Month
4th March	National Safety Day
7th April	World Health Day
14th April	Fire Safety Day
April 18 to 22	Earth Week
20th April	Earth Day
20th April	Noise Awareness Day
28th April	ILO World Day for Safety and Health at Work
May 1 to 7	Emergency Preparedness Week
5th June	World Environmental Day
12th June	World Day against Child Labours
9th July	Occupational Health Day
17th October	World Trauma Day
1st December	World AIDS Day

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

Minimum Requirements of SHE Communication Posters / Signages / Video

1. For the purpose of Minimum requirements of SHE Communication Posters / Signages / Video the contracts are categorized into the following groups:

Contract Value (Initial awarded value of contract)	Group
Upto 25 Cr	A
Upto 100 Cr	B
Upto 250 Cr	C
More than 250 Cr	D

2. Every contractor falling into the above groups shall prepare a SHE Communication Plan as a part of site specific SHE Plan and shall include the following minimum requirement of Posters / Signages / Video as applicable. In case readymade posters are available in any of the category from National Safety Council, Loss Prevention Association of India or any other safety related organisations they may procure the same and display it. In case the same is not available then the contractors' shall make necessary arrangements to get the posters designed and printed on their own.

   All the above are to be detailed in the Site SHE Plan and get an approval from the Employer before displaying the posters.

Table No.: 1 - Minimum No. of Posters

Sl.No	SHE Poster Title	Minimum No. of concepts in each title	No. of Posters / Signage / Video			
			Group A Contract	Group B Contract	Group C Contract	Group D Contract
1.	Safety Culture	5	Each 10	Each 50	Each 75	Each 100
2.	Daily Safety Oath	1 English &1 Hindi	Each 100	Each 200	Each 500	Each 1000
3.	Mandatory PPE Usage					
a)	**Signages** to display the messages like PPE ZONE, NO PPE ZONE, HARD HAT AREA etc.	2 types of sizes made up of **metal** sheet to be mounted at different locations.	Each 25	Each 50	Each 75	Each 200

b)	Helmet	5	Each 25	Each 50	Each 75	Each 200
c)	Shoe	5	Each 25	Each 50	Each 75	Each 200
d)	Goggles & Ear Protection	5	Each 25	Each 50	Each 75	Each 200
e)	Full Body Harness	5	Each 25	Each 50	Each 75	Each 200
f)	Hi-Vi Jacket	5	Each 25	Each 50	Each 75	Each 200
4.	Emergency Management Plan	5	Each 25	Each 50	Each 75	Each 200
5.	Working at Heights	10	Each 25	Each 50	Each 75	Each 200
a)	Ladder, Stairway, Scaffold - **Signages** to display the messages like SAFE, UNSAFE, FIT FOR USE, AVOID USE etc.	5 types of sizes made up of **metal** sheet to be mounted at different locations	Each 25	Each 50	Each 75	Each 200
6.	Site Electricity	5	Each 25	Each 50	Each 75	Each 200
7.	Fire and Explosion	5	Each 25	Each 50	Each 75	Each 200
8.	Crane Safety	5	Each 25	Each 50	Each 75	Each 200
9.	Slings	5	Each 25	Each 50	Each 75	Each 200
10.	Rigging Procedures	5	Each 25	Each 50	Each 75	Each 200
11.	Excavation	5	Each 25	Each 50	Each 75	Each 200
12.	Occupational Health (Mosquito Control, HIV/AIDS awareness, Dust Control, Noise Control, No Smoking/Spitting, etc.)	10	Each 25	Each 50	Each 75	Each 200
13.	First – Aid	3	Each 25	Each 50	Each 75	Each 200
14.	Labour Welfare Measures (Payment of Minimum Wages, Avoidance of Child labour, Signing in the Muster Roll, In case of accidents-what to do? etc	5	Each 25	Each 50	Each 75	Each 200
15.	Importance of “Safety Handbook”	1	25	50	75	200
16.	Traffic Safety (Speed limit, safe crossing and working within barricaded area etc.)	5	Each 25	Each 50	Each 75	Each 200
17.	Environmental Monitoring (Spillage of Muck, hazardous material,	5	Each 25	Each 50	Each 75	Each 200

	Improper drainage, water spray for dust containment etc.)					

18.	Video in Hindi on PPE usage – 15 minutes duration	1	-	-	-	1

Note 1: Items mentioned under 17 is **video**. Items under 3 (a) and 5 (a) are **metal signage boards** and all other items are **posters**.

Table No.: 2 – Size of Posters / Signages

Sl.No	Item	Size
1.	Posters – Standard	17”x22” –135 GSM 4 Colour Printing
2.	Posters – Special (Wherever required)	17”x22” card laminated FA Poster
3.	Posters - Mega size (Wherever required)	32”x40” Flex FA Poster
4.	First-Aid Booklet	6”x4”
5.	Safety Handbook	6”x4”
6.	Signages	Small : 12”x6” Big : 24”x12”
7.	Road Traffic Sign Boards	Strictly as per Indian Road Congress (IRC) specifications

Table No.: 3 – Safety Signage Colour (as per IS 9457)

Sl.No	Type of signage	Colour
1	Mandatory	Blue
2	Danger	Yellow
3	Prohibit	Red
4	Safe conditions	Green

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR
General Instruction : JDA/SHE/GI/010/AE/281105

Experts / Agencies for SHE Services

Sl. No.	Organisation	Services
1.	Bureau Veritas Industrial Services (India) Pvt. Ltd., B-21 & 22, First Floor, Sector-16, NOIDA-201 301 (U.P.) Phone: 0120 - 2515055 Fax: 0120 - 2515248 E-mail: enp.delhi@in.bureauveritas.com	• External SHE Audit • SHE Management / Technical Training
2.	Central Labour Institute Post box no: 17851, N.S.Monkikar Marg Sion , Mumbai- 400 022 Tel.: 022- 4092203 Fax: 022 – 4071986 E-mail: cli@dgfasli.nic.in	• SHE Management / Technical Training
3.	Construction Industry Development Council 801, 8th Floor, Hemkunt Chambers, 89, Nehru Place, New Delhi – 110 019 E-mail: cidc@vsnl.com	• SHE Management / Technical Training
4.	Delhi Productivity Council 1E/10, Swami Ramtirath Nagar New Delhi – 110 055 Tel.: 23522835	• SHE Management / Technical Training
5.	Det Norske Veritas AS, 203, Savitri Sadan 1, 11 Preet Vihar Community Centre, New Delhi-110 092 Phone: 011-22531502/2253/1503, 22427688/22531278 Fax: 011-2253 0247 Website: www.dnv.com	• External SHE Audit • SHE Management / Technical Training
6.	Dr. A. V. Baliga Memorial trust Link House, Bagadur Shah Zafar Marg Press Area	• HIV / AIDS awareness

	New Delhi – 110 002 Phone: 011 – 23311119	
7.	Dr. Cris Research Centre For Occupational Health & Safety 306, Guru Arjuna Dev Bhawan, Ranjit Nagar Complex, New Delhi – 110 008 Phone: 9810040406 Fax: 011 – 25702929 E-mail: team@drcris.com Website: www.drcris.com	• Ambulance Room & Van • Communication Materials • First-aid box • First-aid Training • HIV / AIDS awareness • ID Card • Medical Facilities • SHE Orientation Training
8.	DuPont Safety Resources, E.I. DuPont India Private Limited, Arihant Nitco Park 6th Floor, 90, Dr. Radhakrishnan Salai, Mylapore, Chennai-600 004 Phone: 044-2847 2800, 2847 3752 Fax: 044-2847 3800 Mobile: 9381201040 Website: in.dupont.com	• SHE Management Training
9.	EQMS INDIA PVT. LTD. 304 & 305, 3rd Floor, Rishabh Towers, Plot No. 16, Community Centre, Karkardooma, Delhi - 110092. Phone: 011 - 22374729 / 22374775 Fax: 011- 22374662 E-mail: eqms@eqmsindia.org Website: www.eqmsindia.com	• ISO Certification • SHE Management / Technical Training
10.	Green Cross Consultants 59, 7th Cross, 1st Floor, Jai Bharath Nagar, Banglore-560 033 Phone: 080-2549 6782 E-mail: etgrangan@yahoo.com	• SHE Management / Technical Training
11.	HSRTC, PENTASAFE, 201, 2nd Floor, Town Centre, Andheri Kurla Road, Marol, Andheri (East), Mumbai-400 059 Phone: 022-2850 2210/20/50 Fax: 022-2850 2260 E-mail: training@penta-safe.com	• SHE Practical Field Training for Height Safety
12.	Institute of Driving Training & Research, Wazirabad Road, Adjoining Loni Road flyover.	• SHE Technical Training for Vehicle Drivers.

13.	Institute for Research, Development & Training of Construction Trades & Management, An Educational Institute, Society and Trust, 1st Floor, UVCE Alumni Association Building, K.R. Circle, Banglore-560 001 Phone: 080-22294291/22243257 Fax: 080-22243257 E-mail: ubrco@vsnl.com Website: www.instructindia.org	• SHE Technical /Field Training
14.	International Engineering Company K – 10, South Extension, Part – 2, New Delhi – 110 049 Phone: 011 – 26254761, 26258130 Mobile: 9312260130 E-mail: ashok@intenco.net	• Crane and Lifting appliances and Gears Certification • SHE Practical Field Training for Crane Safety
15.	L & T Eutectic 32, Sivaji Marg, New Delhi – 110 015 Phone: 011 - 51419538, 51419539 Fax: 011 - 51419600 Website: www.lnteutecticwelding.com	• SHE Practical Field Training for Welding Safety
16.	Loss Prevention Association of India Ltd. Warden House, Sir P.M. Road, Mumbai – 400 001 Website: www.lpaindia.org	• SHE Management / Technical Training
17.	MFA Crucial Moments Healthcare Pvt. Ltd., 42, Okhla Industrial Estate, Phase – II New Delhi – 110 020 Phone: 011 – 55624000 Fax: 011 – 55624010 E-mail: contact@crucialmoments.net	• First-aid Training
18.	Modicare Foundation 4 Community Centre, New Friends Colony, New Delhi – 110 065 Phone: 011 – 5167235059 Fax: 011 – 26915469 E-mail: nivedita@modi.com nivedita@gmavil.com Website: www.modicarefoundation.org	• HIV / AIDS awareness

19.	National Safety Council HQ and Institute Building 98A, Sector 15, industrial Area C.B.D Belapur, Navi Mumbai – 400614 Phone: 27579924	• SHE Management / Technical Training
20.	NICMAR (National Institute of Construction Management and Research) 910,9th Floor, Hemkunt Chambers, 89, Nehru Place, New Delhi – 110 019 Phone: 011 – 51618415, 51618417, 51618418 Fax: 011 – 51618416	• SHE Management / Technical Training
21.	Quality Growth Services Pvt. Ltd. H-13, Kirti Nagar, New Delhi – 110 015 Fax: 011 – 25431737 / 25438598 / 25918332 E-mail: qgs@qgspl.com Website: www.qgspl.com	• ISO Certification
22.	Safety Engineers Association / Safety Educational Trust – India 2/257, First Floor, Dr. Ambedkar Nagar, Manapakkam, Chennai – 600 116 Phone: 044 – 22523461 E-mail: safetrustindia@rediffmail.com	• SHE Management / Technical Training
23.	SHE Management Consultancy & Support Services, 145 A, Pocket-VI, (DDA Flats), Kondli Gharoli, Mayur Vihar-II, Delhi-110 096 Fax: 011-2262 5015 Mobile: 9811153873 E-mail: r_k_p@vsnl.net	• SHE Management / Technical Training
24.	St. Johns' Ambulance Red Cross Road New Delhi – 110 001	• First-aid Training
25.	Vexil Business Process Services Pvt. Ltd. 208, A/4, Savitri Nagar, New Delhi – 110 017 Mobile: 9350232714, 98102832201, 9350232716 E-mail: info@vexilbps.com Website: www.vexilbps.com	• Emergency Preparedness Mock drill • SHE Management / Technical Training
26.	Welding Research Institute Bharat Heavy Electricals Ltd. (BHEL) Trichirappalli,	• SHE Practical Field Training for Welding Safety

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

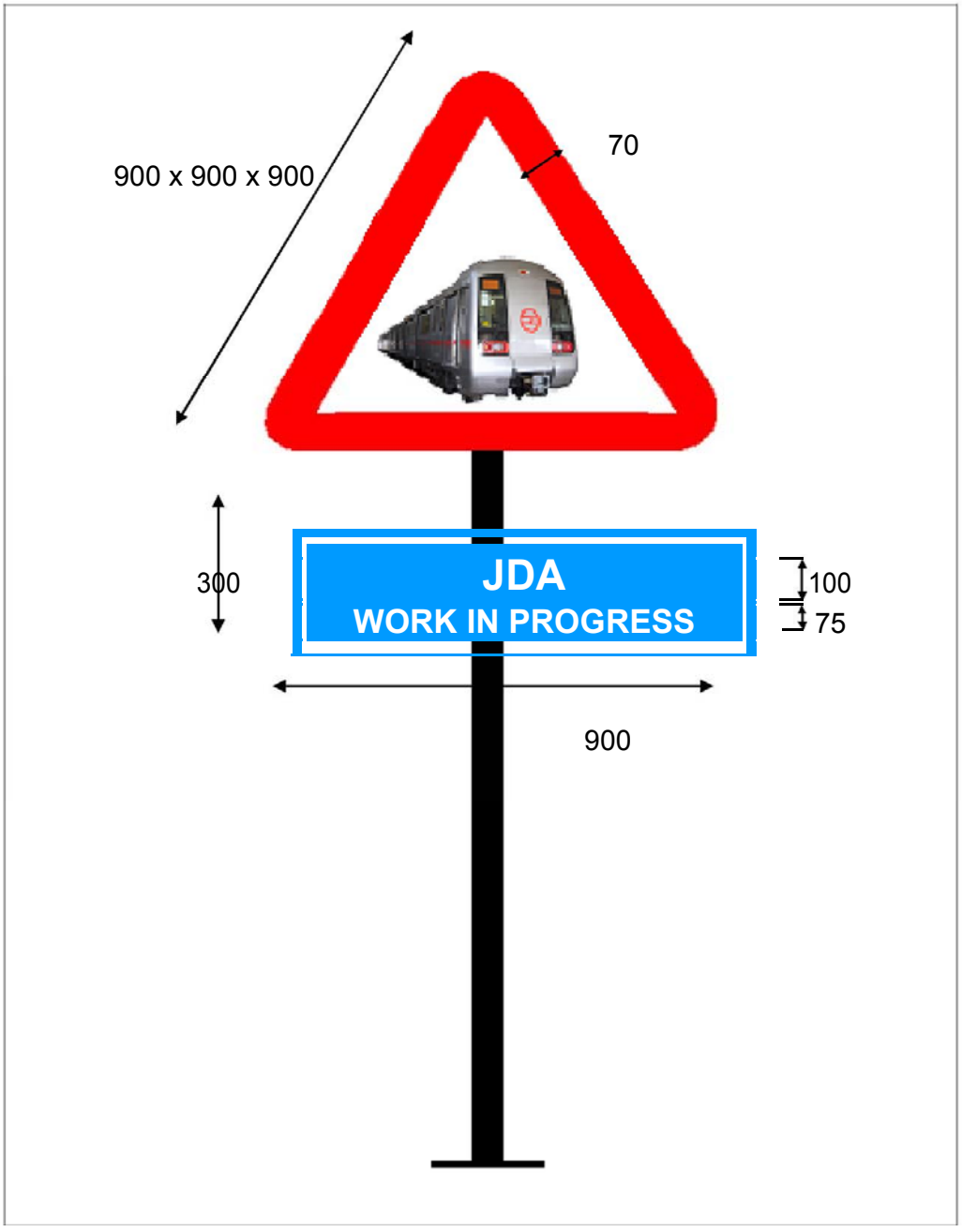
Minimum Lighting Requirements

Sl. No.	Facility or Function	Luminance – lx (lm/ft^2)
1.	Administrative areas (offices, drafting and meeting rooms, etc.)	540 (50)
2.	**Construction areas** - general indoor - general outdoor -tunnel and general underground work areas (minimum 110 lux required at tunnel and shaft heading during drilling, mucking and scaling)	 55 (5) 33 (3) 55 (5)
3.	**Access ways** - exit ways, walkways, ladders, stairs	 110 (10)
4.	**Maintenance / Operating areas / shops** - vehicle maintenance shop - carpentry shop -outdoors field maintenance area - refueling area, outdoors -shops, fine details work -shops, medium detail work - welding shop	 325 (30) 110 (10) 55 (5) 55 (5) 540 (50) 325 (30) 325 (30)
5.	Mechanical/electrical equipment rooms	110 (10)
6.	Hoists, Elevators, freight and passenger	215 (20)
7.	**Warehouses and storage rooms/area** -indoor stockroom, active/bulk storage - indoor rack storage - outdoor storage	 110 (10) 270 (25) 33 (3)
8.	Health Centers and First aid stations and infirmaries	325 (30)
9.	Toilets, wash and dressing rooms	110 (10)
10.	Work areas – general (not listed above)	325 (30)
11.	Parking areas	33 (3)
12.	Visitor areas	215 (20)
13.	Laboratories	540 (50)

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

General Instruction : JDA/SHE/GI/012/WTS/281105

Warning Traffic Sign



All dimensions are in "mm"

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

FORM No. : SF/001

FORMATION OF SITE SHE COMMITTEE	
Contract No	
Contractor Name	
Contract Title	

CIRCULAR

Committee

The following SHE Committee is constituted with immediate effect:

Chairman:

Members:

1)
2)
3)
4)
5)

Secretary:

Periodicity

The committee will meet at least once in a month on the day (specify date)

Agenda

Secretary will circulate agenda of the meeting at least two days in advance of the schedule date of the meeting.

Circulation

Gist of the meeting will be minutes in the standard format and circulated to the following under the signature of the secretary.

1. Chairman
2. Members
3. JDA Representatives
4. Others concerned

Date:

Signed By: ----------

CHAIRMAN

JAIPUR DEVELOPMENT AUTHORITY, JAIPUR

FORM No. : SF/002

MINUTES OF SHE COMMITTEE MEETING			
Contract No.			
Contractor Name			
Contract Title			
Meeting No.		**Date of Meeting**	
Location of Meeting			

MEMBERS PRESENT	INVITEES	MEMBERS ABSENT

REPORT SENT TO					
No. of Copies	Name / Dept.	No. of Copies	Name / Dept.	No. of Copies	Name / Dept.

Prepared by: Location: Date:

MINUTES OF SHE MEETING				
Item No.	**Description of Discussion**	**Action By**	**Target**	**Remarks**
1	Complaints received from Clients and corrective and preventive action			
2	Review of MOM of previous meeting			
3	NCR's / Observation from third party			
4	First - Aid cases / Reportable accident cases			
5	Future jobs and specific requirement			
6	Status of implementation of Safety plan			
7	Sub-contractor performance			
8	Analysis of first-aid cases			
9	Need for any specific system / training / PPE's / resources			
10	Observation of SHE committee during last walk down			

Next SHE Meeting is scheduled on:

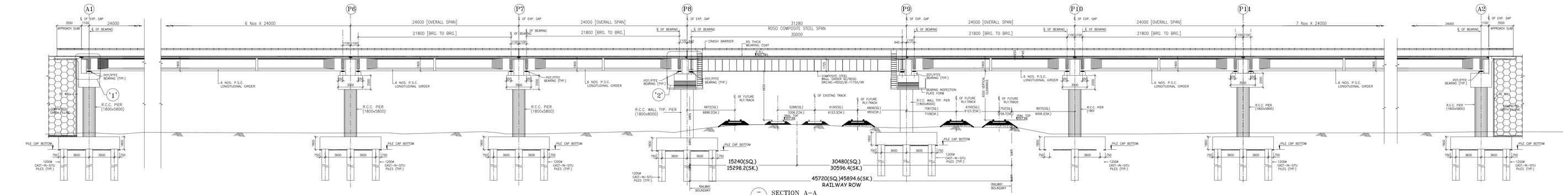
Date:	**Chief SHE Manager (Signature & Name)**
Date:	**Project Manager (Signature & Name)**

SECTION – 8

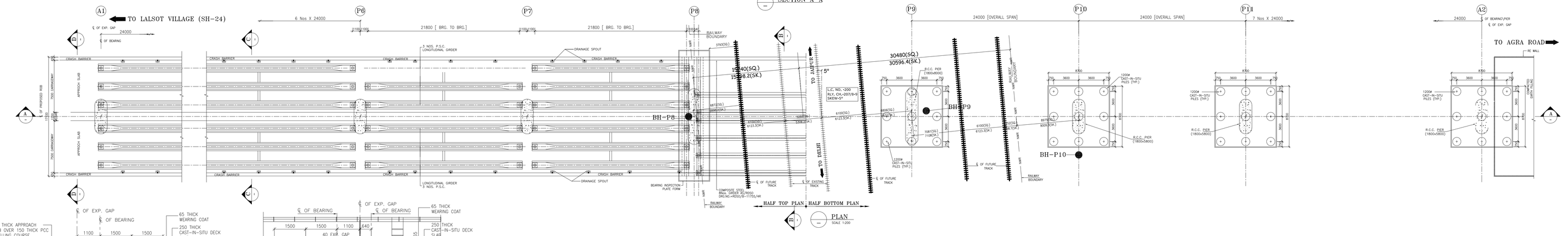
(Bill of Quantities)

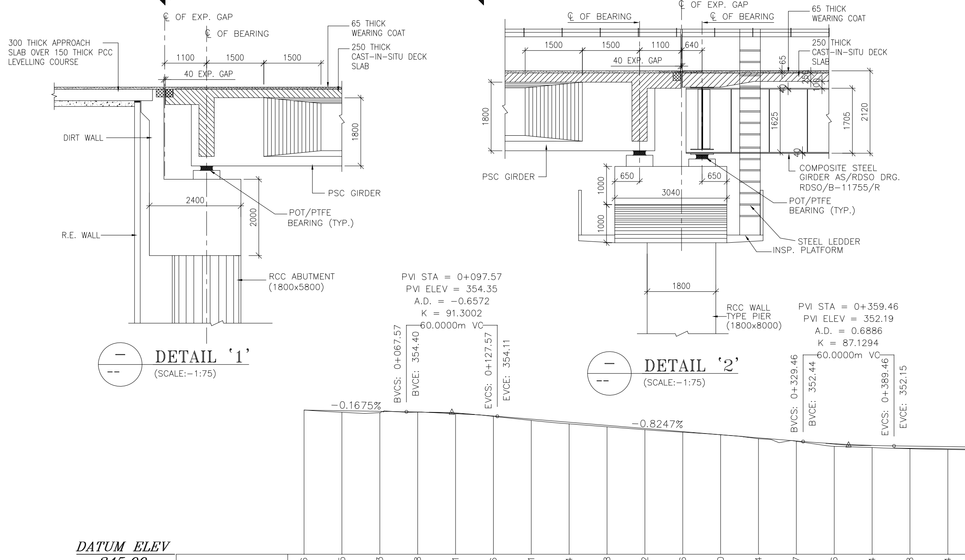
SECTION – 9

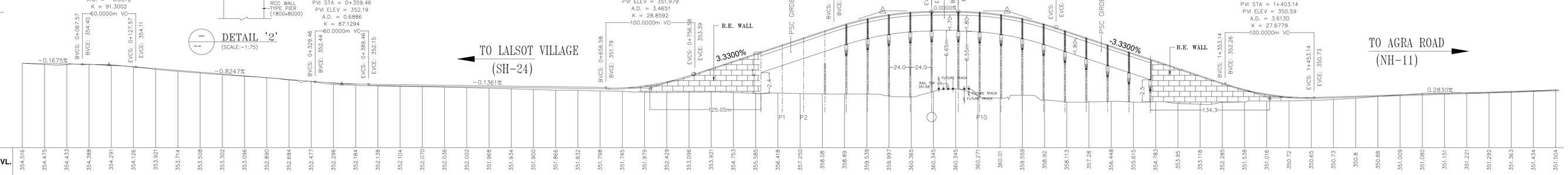
(Drawing-GAD)


A1
P6
P7
P8
P9
P10
P11
A2
6 Nos X 24000
24000 [OVERALL SPAN]
21800 [BRG. TO BRG.]
RDSO COMPOSITE STEEL SPAN
31280
30000
7 Nos X 24000
APPROACH SLAB
POT-PTFE BEARING (TYP.)
6 NOS. P.S.C. LONGITUDINAL GIRDER
R.C.C. PIER (1800x5800)
R.C.C. WALL TYP. PIER (1800x8000)
R.C.C. PIER (1800x6800)
R.C.C. PIER (1180)
CRASH BARRIER
PILE CAP BOTTOM
1200Ø CAST-IN-SITU PILES (TYP.)
15240(SQ.)
15298.2(SK.)
30480(SQ.)
30596.4(SK.)
45720(SQ.)45894.6(SK.)
RAILWAY ROW
RAILWAY BOUNDARY

SECTION A–A


TO LALSOT VILLAGE (SH-24)
TO AGRA ROAD
TO JAIPUR
TO DELHI
3 NOS. P.S.C. LONGITUDINAL GIRDER
DRAINAGE SPOUT
CRASH BARRIER
APPROACH SLAB
BH-P8
BH-P9
BH-P10
R.C.C. PIER (1800x8000)
R.C.C. PIER (1800x6800)
1200Ø CAST-IN-SITU PILES (TYP.)
RAILWAY BOUNDARY
COMPOSITE STEEL GIRDER AS/RDSO DRG.NO.RDSO/B-11755/R
RAILWAY INSPECTION PLACE FORM
C.L.C. NO.-200 (R.L.Y. CH.-207/8-9 SKEW-0°)
HALF TOP PLAN
HALF BOTTOM PLAN
PLAN
SCALE 1:200


300 THICK APPROACH SLAB OVER 150 THICK PCC LEVELLING COURSE
65 THICK WEARING COAT
250 THICK CAST-IN-SITU DECK SLAB
40 EXP. GAP
DIRT WALL
PSC GIRDER
POT/PTFE BEARING (TYP.)
R.E. WALL
RCC ABUTMENT (1800x5800)
DETAIL '1'
(SCALE:-1:75)
RCC WALL TYPE PIER (1800x8000)
STEEL LEDDER
INSP. PLATFORM
DETAIL '2'
(SCALE:-1:75)


TO LALSOT VILLAGE (SH-24)
TO AGRA ROAD (NH-11)
PSC GIRDER
STEEL GIRDER / RDSO DRG. NO. R-11755/AR
R.E. WALL
-3.3300%
-0.1675%
-0.8247%
-0.1361%
0.2830%
24.0
25.05m
34.3
P1
P2
P10

| | | |

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur						
Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:			**Excess (+)**		**%**	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
1.00	Earth work in excavation in foundation, trenches etc. including dressing of sides and ramming of bottoms, including getting out the excavated material, refilling after laying pipe/ foundation and disposal of surplus excavated material at a lead upto 50m suitable site as per direction of Engineer for following depths, below natural ground / Road top level. In all types soils/ saturated soil such as moorum, sand, sandy silt, clay, black cotton soil, kankar, etc. Depth upto 1.5m	10774.92	Cum	169.00	Rupees One Hundred & Sixty Nine Only	1820960.64
2.00	Add extra for over all depth of excavation above 1.5 m and upto 3.0 m over item no-1	4544.91	Cum	25.50	Rupees Twenty Five and Paise Fifty Only	115895.21
3.00	Providing, laying and compacting plain/ reinforced cement concrete of specified grade in foundation/ leveling course/pilecap usingconcrete mixer and vibrater complete including cost of form work, as per drawing and technical specifications and as per clause 1100,1500,1700,2100 of MoRT&H specification including all scaffolding material, labour, machinery. PCC Grade M -15	548.40	Cum	3840.00	Rupees Three Thousand Eight Hundred & Forty Only	2105856.00
4.00	Providing, laying and compacting design mix plain/ reinforced cement concrete of specified grade in ndation/ levelingcourse/pile cap using batching plant, transit mixer and concrete pump and vibrater including cost of form work, complete as per drawing and technical specifications as per clause 1100, 1500,1700,2100 of RT&H specification including all material, labour, machinery,and maintenance of diversion RCC Grade M -35	2636.60	Cum	5100.00	Rupees Five Thousand One Hundred Only	13446649.80
5.00	Bored cast-in-situ R.C.C. pile with design mix concrete using batching plant, transit mixer and concrete pump, excluding reinforcement complete as per drawing and technical specificationsand removal of excavated earth with all lifts and lead upto 1000 m. as per clause 1100, 1600 & 1700 of MoRT&H Specification including all material, labour and machinery.1200 mm dia pile, RCC Grade M -35 (Design mix)	4325.00	Mtr	9850.00	Rupees Nine Thousand Eight Hundred & Fifty Only	42601250.00

Signature of Tenderer with seal

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur						
Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:		Excess (+)		%		

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
6.00	Providing and laying TMT bar reinforcement at any level infoundation/ pile/ pile cap complete as per drawing and clause 1600of MoRT&H Specification including all material, labour and machinery.HYSD Bar Reinforcement	788.51	Tonne	64600.00	Rupees Sixty Four Thousand Six Hundred Only	50937552.20
7.00	Plie load testing on single vertical piles in accordance with IS 2911 (Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc. complete as per direction of Engineer and as per clause 1100 of MoRT&H specification including all labour,material,machinery.					
7.10	Initial and routine vertical load test	4500.00	tonne	303.00	Rupees Three Hundred & Three Only	1363500.00
7.20	Lateral load test	120.00	tonne	6050.00	Rupees Six Thousand & Fifty Only	726000.00
8.00	Non destructive Integrated testing of cast-in-situ pile using pile deriving analyzer or equivalent as detailed in specification and as approved by Engineer.	173.00	Each	1650.00	Rupees One Thousand Six Hundred & Fifty Only	285450.00
9.00	Providing and laying structural plain/ reinforced cement concrete(design mix) of pecified grade in substructure at all levels using batching plant, transit mixer, concrete pump and vibrater cluding cost of form work complete as per drawing and clause 1500, 1700 and 2200 of MoRT&H specification including all scaffolding, material, labour, machinery etc.RCC Grade M -40	2504.10	Cum	5620.00	Rupees Five Thousand Six Hundred & Twenty Only	14073036.38
10.00	Providing and laying structural plain/ reinforced cement concrete (design mix) of pecified grade in substructure at all levels using batching plant, transit mixer, concrete pump and vibrater including cost of form work complete as per drawing and clause 1500, 1700and 2200 of MoRT&H specification including all scaffolding, material,labour, machinery etc. RCC Grade M -45	2315.70	Cum	5870.00	Rupees Five Thousand Eight Hundred & Seventy Only	13593135.52

Signature of Tenderer with seal

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR					
Name of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur					
Contract No: EE/ROB RUB-III/NIB No-02/2016-17					
Bidder Name:		Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
11.00	Supplying, fitting and fixing in position true to line and level POTPTFE bearing consisting of a metal piston supported by a disc or un reinforced elastomer confined within a metal cylinder, sealing rings, dust seals, PTFE surface sliding against stainless steel mating surface, complete assembly to be of cast steel/fabricated structural steel, metal and elastomer elements to be as per IRC: 83 part-I & II respectively and other parts conforming to BS: 5400, section 9.1 & respectively and other parts conforming to BS: 5400, section 9.1 & 9.2 and clause 2006 of MoRT&H Specifications complete as per drawing and approved technical specifications and as per clause 2000 & 2200 of MoRT&H Specification including all scaffolding, material, labour, machinery etc.	33000.00	P.MT	308.00	Rupees Three Hundred & Eight Only	10164000.00
12.00	Providing and laying TMT bar reinforcement at any level infoundation/ pile/ pile cap complete as per drawing and clause 1600of MoRT&H Specification including all material, labour and machinery. HYSD Bar Reinforcement	1145.91	tonne	65700.00	Rupees Sixty Five Thousand Seven Hundred Only	75286484.10
13.00	Painting two coats on specified surface with synthetic enamel paint of approved brand and shade, after thorough cleaning and necessary filling to give even shade as per clause 803 of MoRT&H Specification including all material labour. On new plastered concrete surface	3969.78	SQM	83.00	Rupees Eighty Three Only	329491.41
14.00	Painting two coats on specified surface with synthetic enamel paint of approved brand and shade, after thorough cleaning and necessary filling to give even shade as per clause 803 of MoRT&H Specification including all material labour. On steel surface railway portion	1400.00	sqm	66.50	Rupees Sixty Six and Paise Fifty Only	93100.00

Signature of Tenderer with seal

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Name of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur						
Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:		Excess (+)		%		

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
15.00	"Fabrication, Welding, Riveting, olting by HSFG bolts wherever required, supply, transportation to site, Assembling, Launching, Erecting of steel girder spans as per drawings and specifications approved by Railway and department for composite construction i.e. (Steel +RCC) of superstructure of the Road Over Bridge with ontractor's own mild steel confirming to IS: 2062 Grade 250(B) with all welds, rivets, nuts bolts rivet materials, weld materials, HSFG bolts, service bolts, with other ancillary steel structures fixed to the girder where necessary in proper level and alignment and as per technical specifications etc. with contractor's own materials, fabrication, machinery, templates, fixtures, equipments tools and plants, transportation to site, skilled/ unskilled labour, excise duty., Octroi, sales tax and other taxes, all leads and lifts, descent, loading, unloading, crossing one or more Railway track if required etc. complete and as per technical specifications. The rate shall also be inclusive of cold straightening of deformed and bent girder parts before their assembly. The structural steel to be used should be manufactured by SAIL/ RINL/ TISCO/ ESSAR/ JINDAL only. For Painting prior approval for superior brand/ make of the paint should be taken from engineer in charge." The rate shall be inclusive of supply, erection and dismantling of taging and scaffolding and	330.00	MT	136000.00	Rupees One Lakh Thirty Six Thousand Only	44880000.00
16.00	Providing, precasting, transportation and placing in position at all level precast pre/post-tensioned specified grade girders as per drawing and clause 1800 & 2300 of MoRT&H specifications (excluding cost of reinforcement, HTS strands and pre-stressing) including all material, labour, machinery (suitable crane).RCC M-45	3672.00	Cum	9450.00	Rupees Nine Thousand Four Hundred & Fifty Only	34700400.00
17.00	Providing and laying structural Reinforced cement concrete (design mix) of specified grade using batching plant, transit mixer, concrete pump and vibrater in approach slab, friction slab, edge beam, footpath and kerb as per approved drawing and specification as directed by the Engineer as per clause 1500 &1700 of MoRT&H specification including all scaffolding, material, labour, machinery etc. RCC M-35	35.91	Cum	6340.00	Rupees Six Thousand Three Hundred & Forty Only	227669.40

Signature of Tenderer with seal

Tender Inviting Authority: JAIPUR DEVELOPMENT AUTHORITY, JAIPUR					
Name of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur					
Contract No: EE/ROB RUB-III/NIB No-02/2016-17					
Bidder Name:		Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
18.00	Providing, laying and fixing of strip seal expansion joint catering to maximum horizontal movement up to 70 mm complete as per approved drawings and as per clause 2600 of MoRT&H specifications to be installed by manufacturer's authorized representative ensuring to compliance to manufacturer's instruction for installation including preparing the edges of bridge, welding to exposed reinforcement, concreting with design mix of grade of bridge or M-35 whichever is richer including all material, labour, machinery etc complete.	324.90	Metre	9060.00	Rupees Nine Thousand & Sixty Only	2943594.00
19.00	Providing and erecting Drainage Spouts with 0.15m long GI pipe 150mm dia and GI bolt 10mm dia with Galvanised MS flat clamp complete as per drawing and Technical specification as per clause 2705 of MoRT&H specifications including all material, labour, machinery etc.	133.00	Each	862.00	Rupees Eight Hundred & Sixty Two Only	114646.00
20.00	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 50 meters, stacking serviceable and unserviceable materials separately as directed by Engineer. Bituminous course	554.30	Cum	1020.00	Rupees One Thousand & Twenty Only	565381.92
21.00	Dismantling of flexible pavements and disposal of dismantled materials up to a lead of 50 meters, stacking serviceable and unserviceable materials separately as directed by Engineer. Granular course	2660.62	Cum	682.00	Rupees Six Hundred & Eighty Two Only	1814544.89
22.00	Earth work in excavation for roadway, including trimming bottom and side slopes in accordance with requirement of line, grades and cross sections, including disposal of surplus material with all lift and lead up to 1000 meter as per MoRT&H specification clause 301. In all type of soil	3436.64	CUM	171.00	Rupees One Hundred & Seventy One Only	587665.10

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Bidder Name:		Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
23.00	Providing, laying, spreading and compacting of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per MoRT&H specification clause - 401 including all material, labour, machinery, lighting, guarding and maintenance of diversion.	1806.51	Cum	1080.00	Rupees One Thousand & Eighty Only	1951026.48
24.00	Providing, laying, spreading (with paver finisher only) and compacting wet mix macadam (WMM) base course comprising of graded stone aggregate and granular material conforming to MORT&H specifications (Table 400-II) in layers of equal compacted thickness each consolidated, including pre-mixing the material with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tippers to site, laying in uniform layers in base course on a well prepared sub-base/ base course and compacting with power vibratory-roller to achieve the desired density complete as per MoRT&H specification clause - 406 including all material, labour, machinery, lighting, guarding and maintenance of diversion.	1825.80	Cum	1300.00	Rupees One Thousand Three Hundred Only	2373536.10
25.00	Providing weep holes in brick/ stone masonry/ Plain/ Reinforced concrete abutment, wing wall/ return wall with following dia AC pipe, extending through the full width of the structure with slope of 1V : 20H towards drawing face complete as per drawing, technical specifications and clause 2205 of MoRT&H Specification including all scaffolding, material, labour, machinery etc.	380.00	mtr	122.00	Rupees One Hundred & Twenty Two Only	46360.00

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SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
26.00	Providing and laying of Filter media with granular materials/stone crushed aggregates satisfying the requirements laid down in clause 2504.2.2. of MoRT&H specifications with smaller size towards the soil and bigger size towards the wall and provided over the entire surface behind abutment, wing wall and return wall to the full height compacted to a firm condition complete as per drawing and technical specification including all material, labour, machinery as per clause 710.1.4 of IRC:78 and clause 2200 of MoRT&H specification.	1496.83	Cum	1150.00	Rupees One Thousand One Hundred & Fifty Only	1721356.80
27.00	Designing, providing and erection of Precast RCC facia panels of thickness 180mm made with M-35 Grade concrete batching plant, transit mixer, concrete pump and vibrater for retaining earth with all elements and accessories including reinforcing element, complete as per approved drawing and clause 3100 of MoRT&H specifications including all material, labour, machinery etc. (Scope of work includes designing, getting approval, casting in yard including reinforcement, curing, storing, transporting, lifting, placing in position, erection with all necessary fasteners etc complete)	1786.23	Sqm	4620.00	Rupees Four Thousand Six Hundred & Twenty Only	8252364.12
28.00	Providing, placing and compacting to desired density approved backfill material in layers as per approved methodology including testing for reinforced fill portion and random fill portion in the approaches between the Reinforced Soil (RS) Wall panels as per approved drawings as per clause 3103 of MoRT&H specification The soil should be minately coarse grained not more than 10% of particle should pass 75 micron sieve The item shall be measured and paid for the finished volume of backfill and sub-grade placed in on excluding the volume of filter media at base and behind the RS walls.	10886.38	Cum	383.00	Rupees Three Hundred & Eighty Three Only	4169484.69

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:		Excess (+)		%		

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
29.00	Providing and laying marking of center line and stop line etc with hot thermoplastic compound 2.5 mm thick on road/ plain surface, including reflectorising glass beads @ 250 gms per sqm area with special applicator machine, as per IRC:35 including cleaning the surface of all dirt, dust and other foreign matter, demarcation at site and traffic control involved. The finished surface to be level, uniform and free from streaks and holes as per clause 803 of MoRT&H Specification including all material, labour, achinery, lighting, guarding and maintenance of diversion	584.63	SQM	803.00	Rupees Eight Hundred & Three Only	469458.69
30.00	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade New work (Two or more coats applied @ 1.43 ltr/10 sqm. over and including base coat of water proofing cement paint applied @ 2.20 kg/ 10 sqm).	25362.88	SQM	90.50	Rupees Ninety and Paise Fifty Only	2295340.64
31.00	Providing and laying High tensile steel wires/ strands at any level including all accessories for stressing, stressing operations and grouting complete as per drawing, technical specification and as per clause 1800 of MoRT&H Specification. Stands 19k13 (4 strands per girder of length 30.70 Mtr of 9.42 kg/mtr Unit Weight)	94.35	Tonne	147900.00	Rupees One Lakh Forty Seven Thousand Nine Hundred Only	13954365.00
32.00	Carriage of Materials by mechanical transport including loading, unloading and stacking. (The rates will be applicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under subhead "Carriage of Materials") Earth up to lead 5 km	8168.98	Cum	88.98	Rupees Eighty Eight and Paise Ninety Eight Only	726875.84
33.00	Carriage of Materials by mechanical transport including loading, unloading and stacking. (The rates will be applicable to net quantities after deduction of prescribed percentage for voids mentioned in the specification under subhead "Carriage of Materials") Stone, boulders, gravelly material up to lead 4 km	2250.44	Cum	83.74	Rupees Eighty Three and Paise Seventy Four Only	188452.18

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Bidder Name:		Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
34.00	Providing and applying primer coat with bitumen emulsion (SS-1) on prepared surface of granular base including cleaning of road surface and spraying primer at the rate of 0.70-1.0 kg/sqm using mechanical means as per MoRD Specification Clause 502	14299.19	sqm	35.00	Rupees Thirty Five Only	500471.58
35.00	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.25 to 0.30 kg per sqm on the prepared granular surfaces treated with primer & cleaned with Hydraulic broom as per MoRD Specification Clause	14299.03	sqm	12.00	Rupees Twelve Only	171588.35
36.00	Providing and applying tack coat with Bitumen emulsion (RS-1) using emulsion distributor at the rate of 0.20 to 0.25 kg per sqm on the prepared bituminous surface cleaned with Hydraulic broom as per MoRD Specification Clause 503.	14606.38	SQM	10.00	Rupees Ten Only	146063.76
37.00	Providing and Laying Fiberglass Geogrid of indigenously manufactured from high quality glass fiber strands and coated with a polymer modified bitumen as reinforcement to asphalt overlay flexible pavements and asphalt over distressed rigid PCC pavements. (b) Type 100 (TFI - Tec glass 100kN X 100 ken), minimum width of 2.5 Meter/ 5.0 Meter. As per the approved Comparative Statement.	3915.73	P.SQ M	265.00	Rupees Two Hundred & Sixty Five Only	1037668.98

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:			Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
38.00	Providing, fixing, maintaining, shifting & refixing, barricading of minimum 2.0 mtr height at stipulated active site of the same project site, made with angle iron frame of 50x50x5mm and GI sheet of 0.63mm thick including primer painted initialy, painting, lettering & border with reflective paint at the time of every shifing, traffic diversion arrangement, safety guard, suitable lightning arrangement during night, complete in all respect till completion of the project as per technical specification and direction of Engineer-In-charge and same shall be possessed by the contractor after completion of the Project. Payment under this item will be released (1) 50% At the time of Providing new barricading at the time of start of project at location and plan as approved by the Engineer & certification (2) 50% After completion of project including shifting re-erecting and maintaining the barricading in position, during entire onstruction tenure with requisite manpower /flagman etc. complete for guiding traffic and safety etc and dismantling after completion of project.	3500.00	Sqm	2650.00	Rupees Two Thousand Six Hundred & Fifty Only	9275000.00
39.00	Providing and constructing of Reinforced cement concrete crash barrier at the edges of the road, approaches to bridge structures and medians, constructed with specified grade concrete using batching plant, transit mixer, concrete pump and vibrator with 450 mm long at expansion joints filled with pre-moulded asphalt filler board, keyed to the structure on which it is built and installed as per design and dimensions in the approved drawing and at locations directed by the Engineer, all as specified as per clause 809 of MoRT&H specification including all material, labour scaffolding etc. RCC M-35	734.29	cum	6110.00	Rupees Six Thousand One Hundred & Ten Only	4486487.46

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Bidder Name:			Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
40.00	Providing and laying 30-45 mm compacted thickness Bituminous Concrete as per design mix (approved by Engineer) on prepared surface with specified grade stone aggregate as per Table - 500-18 with bitumen for wearing course including loading of aggregate with F.E. loader and hot mixing of stone aggregate and bitumen (including cost of anti-stripping compound wherever required) in computerised hot mix plant, transporting the mixed material by tippers to paver and laying with paver finisher fitted with electronic sensing device (as per clause 504-3.5) to the required level and grade and compacting by power rollers and vibratory rollers or 150 to 250 KN pneumatic tyred roller with TP = 0.7 Mpa, to achieve the desired density complete as per clause 509 of MoRT&H specification including all material, labour, machinery, lighting, guarding and maintenance of diversion but excluding primer/tack coat. Grade-II with bitumen of grade SBS PMB-40 @ 6% (percent by weight of total mix).	1345.14	P.MT	3890.00	Rupees Three Thousand Eight Hundred & Ninety Only	5232594.60
41.00	Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade. New work (Two or more coats applied @ 1.43 ltr/10 sqm. over and including base coat of water proofing cement paint applied @ 2.20 kg/ 10 sqm).	665.00	mtr	250.00	Rupees Two Hundred & Fifty Only	166250.00
42.00	P&F rigid PVC pipe fittings (IS: 4985 mark) of approved quality /make including joining the pipe with solvent cement rubber ring and lubricant:					
42.10	Coupler (socket) 160 mm dia	400.00	Each	77.00	Rupees Seventy Seven Only	30800.00
42.20	Door Tee 160 mm dia	250.00	Each	148.00	Rupees One Hundred & Forty Eight Only	37000.00
42.30	Double Door 'Y' 160 mm dia	250.00	Each	264.00	Rupees Two Hundred & Sixty Four Only	66000.00
42.40	Bend 45 160 mm dia	250.00	Each	93.00	Rupees Ninety Three Only	23250.00

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:			Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
42.50	Door bend Top side 160 mm dia	400.00	Each	111.00	Rupees One Hundred & Eleven Only	44400.00
42.60	vent cowal 160 mm dia	125.00	Each	49.00	Rupees Forty Nine Only	6125.00
42.70	soket plug 160 mm dia	250.00	Each	66.00	Rupees Sixty Six Only	16500.00
42.80	Pipe Clip 160 mm dia	1500.00	Each	34.00	Rupees Thirty Four Only	51000.00
43.00	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	2908.80	kg	88.50	Rupees Eighty Eight and Paise Fifty Only	257428.80
44.00	Providing and laying structural Reinforced cement concrete (design mix) of specified grade using mechanical concrete mixer and vibrater in approach slab, friction slab, edge beam, footpath and kerb as per approved drawing and specification as directed by the Engineer as per clause 1500 &1700 of MoRT&H specification including all scaffolding, material, labour, machinery etc. M-35	216.00	cum	6010.00	Rupees Six Thousand & Ten Only	1298160.00
45.00	Providing and fixing G.I. Pipes railing of 80 mm dia. (Class B) over brackets of 16 mm thick MS plate with 200 mm at bottom & 120 mm at top with 200 mm height welded to 16 mm thick MS Plates of size 200 X 175 anchored with 400 mm long 4-12 mm dia.steel bars at the top of RCC crash barrier @1.0m c/c including fixing arrangement as per the drawing, clause 800 of MoRTH specification and as per the direction of the Engineer.	1400.00	mtr	1170.00	Rupees One Thousand One Hundred & Seventy Only	1638000.00

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:		Excess (+)		%		

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
46.00	Providing and laying bituminous concrete with 100-120 TPH batch type hot mix plant producing an average output of 75 tonnes per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 5.4 to 5.6 per cent of mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT & H Specifications Clause 509 complete in all respects. for Grading-I (19 mm nominal size) Bitumen PMB-40	858.13	PMT	4020.00	Rupees Four Thousand & Twenty Only	3449662.50
47.00	Providing and laying dense graded bituminous macadam with 100-120 TPH batch type HMP producing an average output of 75 tones per hour using crushed aggregates of specified grading, premixed with bituminous binder @ 4.0 to 4.5 per cent by weight of total mix and filler, transporting the hot mix to work site, laying with a hydrostatic paver finisher with sensor control to the required grade, level and alignment, rolling with smooth wheeled, vibratory and tandem rollers to achieve the desired compaction as per MoRT&H Specifications Clause 507 complete in all respects. for Grading II (19 mm nominal size)	1012.22	PMT	3025.00	Rupees Three Thousand & Twenty Five Only	3061971.55
48.00	Providing and fixing precast cement concrete M-20 grade (Using mechanical Concrete Mixer) kerb stone top and bottom width 115 and 165 mm respectively, 250 mm high on 150 mm thick PCC M-10 grade foundation as per design, including fixing at site as per clause 408 of MoRT&H Specification including all material, labour, machinery, lighting, guarding and maintenance of diversion.	1300.00	mtr	244.00	Rupees Two Hundred & Forty Four Only	317200.00
49.00	Providing and laying precast cement concrete M-30 Grade interlocking paving blocks of 100mm thick over 50mm coarse sand bedding (duly compacted) including filling of joints with sand suitable for heavy pedestrian traffic/ light vehicle traffic of pattern as approved by Engineer.	3352.37	sqm	541.00	Rupees Five Hundred & Forty One Only	1813631.09

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:			Excess (+)		%	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
50.00	Add extra for over all depth of excavation above 3.0 m and upto 4.5 m over item no-1	717.60	CUM	54.50	Rupees Fifty Four and Paise Fifty Only	39109.20
51.00	Add extra for over all depth of excavation above 4.5 m and upto 6.0 m over item no-1	95.68	CUM	88.00	Rupees Eighty Eight Only	8419.84
52.00	Providing and laying structural plain/ reinforced cement concrete (design mix) of specified grade in substructure at all levels using concrete mixer and vibrater, including cost of form work, as per drawing and technical specifications complete as per clause 1500, 1700 and 2200 of MoRT&H specification including all material, labour, scaffolding etc.RCC Grade M - 35	856.80	CUM	5250.00	Rupees Five Thousand Two Hundred & Fifty Only	4498200.00
53.00	Providing weep holes in brick/ stone masonry/ Plain/ Reinforced concrete abutment, wing wall/ return wall with following dia AC pipe, extending through the full width of the structure with slope of 1V : 20H towards drawing face complete as per drawing, technical specifications and clause 2205 of MoRT&H Specification including all scaffolding, material, labour, machinery etc.100 mm dia	300.00	MTR	104.00	Rupees One Hundred & Four Only	31200.00
54.00	Providing and laying structural reinforced/ prestressed cement concrete (design mix) of specified grade using batching plant, transit mixer, concrete pump and vibrater in superstructure at all levels including cost of steel form work complete as per clause 1500, 1600 and 1700 of MoRT&H specification including all scaffolding, material, labour, machinery etc.RCC/PSC Grade M -35. For solid slab superstructure	116.15	CUM	6090.00	Rupees Six Thousand & Ninety Only	707353.50
55.00	Providing and laying reinforced cement concrete wearing coat M-30grade at any level including formwork and reinforcement @75kg/cum complete as per drawing and technical specification andas per clause 2702 of MoRT&H Specification including all material,labour, machinary etc.	198.20	cum	9720.00	Rupees Nine Thousand Seven Hundred & Twenty Only	1926504.00

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Bidder Name:			**Excess (+)**		**%**	

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
56.00	Structural steel work riveted, bolted or welded in built up sections trusses and framed work, including cutting, hoisting, fixing in osition and applying a priming coat of approved steel primer all complete:	20800.00	KG	74.50	Rupees Seventy Four and Paise Fifty Only	1549600.00
57.00	Sand filling with compaction in wells complete as per level on drawing and technical specification as per clause 1209 of MoRT&H specification including all material, labour, machinery.	92.92	CUM	1260.00	Rupees One Thousand Two Hundred & Sixty Only	117079.20
58.00	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete On concrete work	3588.00	SQM	122.00	Rupees One Hundred & Twenty Two Only	437736.00
59.00	Coal tarring two coats on new work using 0.16 and 0.12 litre coal tar per sqm in the first coat and second coat respectively.	901.60	SQM	31.00	Rupees Thirty One Only	27949.60
60.00	Retro-reflectorised Traffic Signs Providing and fixing of retro-reflectorised cautionary,mandatory and nformatory sign as per IRC:67 made of encapsulated lens type reflective sheeting vide Clause 1701.2.3, fixed over aluminium sheeting, 1.5 mm thick supported on GI pipe 50 mm dia firmly fixed to the ground by means of properly designed foundation with M-15 grade cement concrete 450 mm x 450 mm x 600 mm, 600 mm below ground level as per drawings and MoRD Specification Clause 1701					
60.10	900 mm equilateral triangle	2.00	Each	3825.00	Rupees Three Thousand Eight Hundred & Twenty Five Only	7650.00
60.20	600 mm equilateral triangle	2.00	Each	2430.00	Rupees Two Thousand Four Hundred & Thirty Only	4860.00
60.30	800 mm x 600 mm rectangular	2.00	Each	4770.00	Rupees Four Thousand Seven Hundred & Seventy Only	9540.00

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Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name:		**Excess (+)**		**%**		

SCHEDULE OF WORKS

Sl. No.	Description of work	No. or Qty.	Unit	Estimated Rate		AMOUNT Rs. P
				Figure	Words	
60.40	600 mm x 600 mm square	12.00	Each	3915.00	Rupees Three Thousand Nine Hundred & Fifteen Only	46980.00
61.00	Providing and fixing CAT's eye made of aluminium alloy size 75x100x22mm having 21 biconvex lenses embedded in circular disk of AS plastic on each side on road surface complete including all material, labour, diversion.	700.00	Each	195.00	Rupees One Hundred & Ninety Five Only	136500.00
Total Estimated Cost in Figures						**391600818.10**
Quoted Amount					**391600818.10**	**391600818.00**
Quoted Rate in Words		**Rupees Thirty Nine Crore Sixteen Lakh Eight Hundred & Eighteen Only**				

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Tender Inviting Authority : JAIPUR DEVELOPMENT AUTHORITY, JAIPUR						
Nature of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur						
Contract No: EE/ROB RUB-III/NIB No-02/2016-17						
Bidder Name :						

SCHEDULE OF WORKS

(This BoQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Sl. No.	Description of work	No.or Qty.	Unit	RATE In Figures To be entered by the Bidder Rs. P		AMOUNT Rs. P
				Figures	Words	
1.00	Providing RCC M-35 controlled concrete in segmental box with 20mm crushed stone aggregate including form work, shuttering, staging, mixing, placing vibrating etc. complete as directed by Engineer in charge.	633.42	Cum		Rupees only	0.00
2.00	Placement of precast RCC segmental box/base slab/wing wall segment etc. with the help of road crane at desired location, carefully by lifting and packing method, during traffic and power block with all contractor labour tools and materials, crane, machinery, preparation of surface as directed by Engineer, including filling of joints by epoxy mortar and laying of required sand including cost of epoxy and sand, including all material and labour, tools, plants, machinery etc. with all lead and lift.	226.22	Mtr.		Rupees only	0.00
3.00	Removing of existing track including removing rails, sleepers and ballast up to 20m length on either 120.000 R.Mtr. side of bridge with all contactors material, tools, plants and labour. This work is to be carried out during traffic block for each bridge.	120.00	R.Mtr		Rupees only	0.00
4.00	Laying f track on newly laid box uptp 20m on either side of bridge including filling of ballast, laying of MBC sleepers, rail and lifting, packing tack to meet out longitudinal alignment, gauge level of approaches to make track fit for 20 kmph.	120.00	R.Mtr		Rupees only	0.00

Signature of Tenderer with seal

Tender Inviting Authority : JAIPUR DEVELOPMENT AUTHORITY, JAIPUR	
Nature of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur	
Contract No: EE/ROB RUB-III/NIB No-02/2016-17	
Bidder Name :	

SCHEDULE OF WORKS

(This BoQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Sl. No.	Description of work	No.or Qty.	Unit	RATE In Figures To be entered by the Bidder Rs. P		AMOUNT Rs. P
				Figures	Words	
5.00	Lifting of track consisting of concrete sleeper by 75mm under traffic to eliminate sag and maintain desired profile along with one round of through packing after each round of lifting (Two rounds of lifting has been taken for calculation purpose, it will be operated as per site requirement).	480.00	R.Mtr		Rupees only	0.00
6.00	Cutting/cropping of 52Kg/90R rails perfectly verticals with contractors hacksaw blade, tools, labour wherever required.	32.00	Nos		Rupees only	0.00
7.00	Drilling 32mm dia holes in 52Kg/90R rails web either on cess or in running line with contractors own machine, tools, plans etc. The rate should be includes centring of drilled holes.	128.00	Each		Rupees only	0.00
8.00	Subsequent through packing's of the track after completing 10/NS as per the procedure laid down in IRPWM paragraph 224 for making track fir for 75 kmph safe speed.					
8.10	Second through packing to make track fit for 45 kmph with picking up slacks as required.	480.00	R.Mtr		Rupees only	0.00
8.20	Third through packing after 45 kmph to make track fit for 75 kmph with picking up slacks as required.	480.00	R.Mtr		Rupees only	0.00
9.00	De-stressing of LWR after re-welding upto 1Km, length as per procedure laid down on paragraph-5.7 of manual of instruction of long welded rails 1996 inclusive cropping, providing closer rails adjustment of SEJ and all operation with without rail tensor during specified range of rails (rate of working on both left and right rails)	2000.00	R.Mtr		Rupees only	0.00

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Nature of Work: Construction of four lane ROB including L.H.S. in lieu of L.C. No. 200 at Bassi, Jaipur	
Contract No: EE/ROB RUB-III/NIB No-02/2016-17	
Bidder Name :	

SCHEDULE OF WORKS

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Sl. No.	Description of work	No.or Qty.	Unit	RATE In Figures To be entered by the Bidder Rs. P		AMOUNT Rs. P
				Figures	Words	
10.00	Picking up and spreading of ballast from available stack along the track or in station yard to the 240.000 cum location of work with all leads and lift, crossing of track obstacles etc. with contractor's own tools plants, transport, labour etc. the rate include dressing and boxing of ballast to the standard profile.	240.00	Cum		Rupees only	0.00
11.00	Providing & fixing of color coated trapezoidal profile sheet of 1015 mm supply cover width and 1072mm effective supply nominal 28.5 mm deep ribs with subtle square fluting in the five pan at nominal 200 mm centre-to-centre. The end rib shall be designed for anti-capillary action, to avoid any seepage of water through the lateral overlap. The feed material is manufactured out of nominal 0.50 mm Total Coated Thickness (TCT), Hi-Tensile steel with min. 550 MPa yield strength, metallic hot dip coated with Aluminium-Zinc alloy (55% Aluminium, 45% Zinc) as per AS 1397 - Zincalume AZ150 (Min. 150 gms/sq.mt total on both sides) with Color bond steel quality paint coat . The paint shall have a total coating thickness of nominal 35 pm, comprising of nominal 20 pm exterior coat on top surface and nominal 5 pm reverse coat on back surface over nominal 5 pm primer coat on both surfaces of approved color shade by the department. The steel sheet shall be fastened with nominal 40 pm zinc coated or nominal 25 pm zinc-tin alloy coated, Hex head, self-drilling screw as per AS 3566-2002 Class 3 fasteners of approved make (Buildex or equivalent) with EPDM washer as per the requirement considering the	1540.00	sqm		Rupees only	0.00

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SCHEDULE OF WORKS **(This BoQ template must not be modified/replaced by the bidder and the same should be uploaded after filling the relevent columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)**						
Sl. No.	**Description of work**	**No.or Qty.**	**Unit**	**RATE In Figures To be entered by the Bidder Rs. P**		**AMOUNT Rs. P**
				Figures	**Words**	
12.00	Add extra over item no.12 for crimping the surface of the trapezoidal profile sheet to fit the shape of the truss work prepared for roofing including all cutting, overlapping etc.	1540.00	Sqm		Rupees only	0.00
13.00	add extra for providing GI binding wire in place of MS annealed binding wire for binding the reinforcement complete in all respect.	1923.86	Tonne		Rupees only	0.00
14.00	add extra rate for PMB-40 grade with elastomer (meeting IRC SP-53-2002) instead of bitumen S-65/VG-30 for DBM (payment to be made as per quantity of bitumen consumed as mentioned in the respective BSR item of DBM)	45.55	cum		Rupees only	0.00
Total in Figures						**0.00**
Total in Words					**Rupees only**	

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