



**WESTERN RAILWAY
(Gati Shakti Unit- Ratlam Division)
OFFICE OF THE
DY.CHIEF ENGINEER(GS),
WESTERN RAILWAY, RATLAM- 457001
TENDER DOCUMENTS**

Tender No : RTM-GSU-Engg-ROB-BMI-72_

Name of work:: Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

Mode of Tender : E-tender (Two Packet)
Approx cost : Rs. 24,47,62,803.16
Completion period: 18 (Eighteen) months including monsoon
Date of closing. : 06.07.2026 (At 15:00 Hrs)
Date of opening.: 06.07.2026 (At 15:30 Hrs)

- Note:- i) Tender documents are not transferable.
ii) While submitting the offer, requisite amount of tender cost shall not be submitted i.e free of cost.
iii) For execution of agreement – "The agreement shall be executed based on the hard copy available in the Railway's Office". However the Contract Agreement shall be executed on IRWCMS portal.

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TENDER DOCUMENT

1. **Name of work:** Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway
2. **Mode of Tender** : E-Tender (Two Packet)
3. **Approximate cost of work** : Rs. 24,47,62,803.16
4. **Bid Security** : Rs. 48,95,300.00
5. **Completion Period** : 18 (Eighteen) Months including monsoon.
6. **Cost of Tender Document** : Free of cost

Tender closing time & date : At 15.00 hrs. on 06.07.2026

Tender opening time & date : At 15.30 hrs. on 06.07.2026

NOT TRANSFERABLE

IMPORTANT NOTE: Tenderer may please take note of following: -

Method of submission of Bid Document

The tender shall be submitted as per "Two Packet System" described as below:

1. The offer must be submitted online at E-Tender Portal www.ireps.gov.in.
2. Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents as per policy issued and must be submitted scanned copy of the same along with the tender Document as instructed on www.ireps.gov.in only.
3. Tenderer(s) must give their complete postal address of correspondence correctly with PIN code in the "**Mandate Form**" as provided in the tender document.
4. The copies of the various letters/ documentary proofs/ statements etc. should be uploaded with Tender document and shall be properly indexed
5. The tenderer/s shall quote his/their rate percentage above / below /at par under relevant column against specified schedules in the rate sheet only.
6. The required eligibility criteria have been prescribed in Clause No.10 of Tender Document. It is expected that the tenderer/s shall upload adequate documentary proof of having fulfilled those eligibility criteria. Normally, **there shall be no back reference to confirm the credentials.**
7. If the tenderers do not submit any proof for meeting with the eligibility criteria (Clause No. 10 as laid down in the NIT and Tender Document, the offer shall be considered incomplete and is liable to be rejected.
8. **For eligibility criteria Clause No. (10.1 & 10.2) (Contractor's credential, Financial eligibility)**
 The tenderer/s are required to upload attested copy of completed or substantially completed work completion certificate along with the offer in case a work is started prior to 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed

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in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials

9. Care in Submission of Tenders:

- (a) (i) Before submitting a tender, the tenderer will be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates he enters in the tender forms are adequate and all inclusive to accord with the provisions in Clause-37 of the Standard General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer.
 - (ii) Tenderers will examine the various provisions of The Central Goods and Services Tax Act, 2017(CGST)/ Integrated Goods and Services Tax Act, 2017(IGST)/ Union Territory Goods and Services Tax Act, 2017(UTGST)/respective state's State Goods and Services Tax Act (SGST) also, as notified by Central/State Govt. & as amended from time to time and applicable taxes before bidding. Tenderers will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.
 - (iii) The successful tenderer who is liable to be registered under CGST/IGST/UTGST/SGST Act shall submit GSTIN along with other details required under CGST/IGST/UTGST/SGST Act to railway immediately after the award of contract, without which no payment shall be released to the Contractor. The Contractor shall be responsible for deposition of applicable GST to the concerned authority.
 - (iv) In case the successful tenderer is not liable to be registered under:
 CGST/IGST/UTGST/ SGST Act, the railway shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.
 - (b) When work is tendered for by a firm or company, the tender shall be signed by the individual legally authorized to enter into commitments on their behalf.
 - (c) The Railway will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.
- 9.1 The tenderers shall submit a copy of certificate stating that all their statements/documents submitted along with bid are true and factual. Standard format of certificate to be submitted by the bidder is enclosed as Annexure-V. In addition to Annexure-V, in case of other than Company/Proprietary firm, Annexure V-(A) shall also be submitted by the each member of a Partnership Firm/Joint venture (JV)/ Hindu Undivided Family (HUF)/ Limited Liability Partnership (LLP) etc. as the case may be. Non submission of above certificate by the bidder shall result in summarily rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested/digitally signed by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.**

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ANNEXURE - I

WESTERN RAILWAY
TENDER FORM (FIRST SHEET)

Tender No. **RTM-GSU-Engg-ROB-BMI-72_**

Name of Work: **Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.**

To,

The President of India,
Acting through the Dy.Chief Engineer (Gati Shakti)
Western Railway, Ratlam

1. I/We _____ have read the various conditions to tender attached hereto and agree to abide by the said conditions. I/We also agree to keep this offer open for acceptance for a period of 90 days from the date fixed for closing of the tender and in default thereof, I/We will be liable for forfeiture of my/our "Bid Security". I/We offer to do the work for Western Railway, at the rates quoted in the attached bill(s) of quantities and hereby bind myself/ourselves to complete the work in all respects within 18 months from the date of issue of letter of acceptance of the tender.
2. I/We also hereby agree to abide by the Indian Railways Standard General Conditions of Contract, with all correction slips up-to-date and to carry out the work according to the Special Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Standard Schedule of Rates (SSOR) with all correction slips up-to-date for the present contract.
3. A Bid Security of ₹ **Rs. 48,95,300.00 (Rs Forty Eight Lakhs Ninety Five Thousand Three Hundred only)** has already been deposited online/ submitted as Bank Guarantee bond. Full value of the Bid Security shall stand forfeited without prejudice to any other right or remedies in case my/our Tender is accepted and if:
 - (a) I/We do not submit the Performance Guarantee within the time specified in the Tender document;
 - (b) I/We do not execute the contract documents within seven days after receipt of notice issued by the Railway that such documents are ready; and
 - (c) I/We do not commence the work within fifteen days after receipt of orders to that effect.
4. (a) I/We am/are a Start up firm registered by Department of Industrial Policy and Promotion (DIPP) and my registration number is valid upto (Copy enclosed) and hence exempted from submission of Bid Security.
5. We are a Labour Cooperative Society and our Registration No. is withand hence required to deposit only 50% of Bid Security.

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- 6.** Until a formal agreement is prepared and executed, acceptance of this tender shall constitute a binding contract between us subject to modifications, as may be mutually agreed to between us and indicated in the letter of acceptance of my/our offer for this work.

Signature of Witness.

(1)_____

Signature of Tenderer(s)

(2)_____

Date _____

Address of the Tenderer(s)

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ANNEXURE - I (Contd. ...)

TENDER FORM (SECOND SHEET)

Name of Work: Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

1. Instructions to Tenderers and Conditions of Tender

The following documents form part of Tender/Contract:

- (a) Tender Forms – First Sheet and Second Sheet
 - (b) Special Conditions/Specifications (enclosed)
 - (c) Bill(s) of quantities (enclosed)
 - (d) Standard General Conditions of Contract and Standard Specifications (Works and Materials) of Indian Railways Standard Schedule of Rates (SSOR) as amended/corrected upto latest correction slips, copies of which can be seen in the office of Dy.Chief Engineer (GS)-Ratlam or obtained from the office of the CPM(GS)-Ratlam Western Railway on payment of prescribed charges.
 - (e) All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications
2. **Drawings for the Work:** The Drawing for the work can be seen in the office of the office of Dy.Chief Engineer (GS)-Ratlam and / or CPM(GS)-Ratlam Western Railway at any time during the office hours. The drawings are only for the guidance of Tenderer(s). Detailed working drawings (if required) based generally on the drawing mentioned above, will be given by the Engineer or his representative from time to time.
3. The Tenderer(s) shall quote his / their rates as a percentage above or below the Standard Schedule of Rates (SSOR) of Indian Railway as applicable to Ratlam Division except where he/they are required to quote item rates and must tender for all the items shown in the Bill(s) of Quantities attached. The quantities shown in the attached Bill(s) of Quantities are given as a guide and are approximate only and are subject to variation according to the needs of the Railway. The Railway does not guarantee work under each item of the Bill(s) of Quantities. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by Railway. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.
4. Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tender(s) in his/their entries must be attested by him / them.
5. The works are required to be completed within a period of **18 months** from the date of issue of acceptance letter.

5.1 SYSTEM OF TENDERING

Tender will consist of Two packet and is to be submitted up to 15.00 Hrs on 06.07.2026 on E-tender portal www.ireps.gov.in. The tender will be opened on 06.07.2026 at 15.30 hrs on website www.ireps.gov.in.

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- 5.1.1 **Single Packet System of Tendering:** Technical & Financial bid shall be opened at a time. In case of tenders costing less than Rs.10 Crore single packet tender system will be followed and technical & financial offer of the tenderer/s shall be opened and evaluated at the same time.
- 5.1.2 **Two Packets System of Tendering:** With a view to assess the tenders technically without being influenced by the financial bids, 'Two Packets System of tendering' shall be adopted wherein tender documents provide for the same.
- 5.1.3 **Pre Bid Conference:** Intenders having advertised value more than Rs 50 Crore or as mentioned in the tender document, Railway shall conduct Pre Bid Conference(s) with the prospective bidders.
- 5.1.4 **Make in India Policy:** Provisions of Make in India Policy 2017 issued by Govt. of India, as amended from time to time, shall be followed for consideration of tenders.
- 5.1.5 **Permission to Bid for a bidder from a country which shares Land boundary with India:** Any bidder from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.
- 5.1.6 **Clarification of Bids:** To assist in the examination, evaluation & comparison and pre-qualification of the Tender, the Railway may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Railway shall not be entertained or considered. The Railway request for clarification and the response of the bidder in this regard shall be in writing.

However, if a Bidder does not provide clarification of its bid by the date and time communicated in the Railway request for clarification, the bid shall be evaluated as per the documents submitted along with the bid

- 5.1.7 **Two Packets with e-Reverse Auction System of Tendering:** This system of tendering shall be adopted for the tenders of value more than Rs.50.0 Crores.
- (i) Tender shall be governed by Electronic Reverse Auction (e-RA) guidelines issued by Railway Board vide letter No. 2017/Trans/01/Policy/Pt-5 dated 28/03/2018 updated upto latest correction slips issued and attached as Annexure XXIV.
 - (ii) Initial e-RA period / Initial cooling off period : 04 Hours.
 - (iii) Auto Execution Period / Subsequent Cooling off Period : 30 Minutes.
 - (iv) Minimum Decrement Percentages [%] : 0.20%
 - (v) Date and Time for start of e-RA shall be communicated to qualified tenderers after evaluation of the Technical Bids.
 - (vi) During auction period, identities of the participating tenderers will be kept hidden.
 - (vii) Minimum admissible Bid value will be last bid value minus minimum decrement as specified before starting of reverse auction. Starting point for reverse auction shall be

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lowest initial Price Bid of the tenderer eligible for award.

- (viii) After close of RA, tabulation of last (minimum) bids received from all the tenderers will be generated and made visible to Railways and participating tenderers.
- (ix) Railway users can also view the bidding history in chronological order.
- (x) Bidders are not allowed to withdraw their last offer.
- (xi) L-1 will be defined as the lowest bid obtained after the closure of RA session for Goods, Works and services tenders.

5.2 Opening of Tender

The e-tender is opened after closing date and time of submission online bids on Tender Portal www.ireps.gov.in through Digital Signature Certificate/Encryption Certificate of concern Authorized Officer of Railways on specified date and time. However, if date of tender opening is declared as Holiday, the tender will be opened at the same time on next working day.

5.3 Conditional offer and Alternative proposal by Tenderer

The tenderer/bidder shall submit offers that fully comply with the requirements of the Tender Documents including the Conditions of Contract, Design and Specification requirements if any. Conditional offer or alternative offers will not be considered in tender evaluation and will be **SUMMARILY REJECTED**. The tenderer/bidder shall have no claims in this regard whatsoever.

5.4 Make in India Policy

Provisions of Make in India Policy 2017 issued by Govt. of India, as amended from time to time, shall be followed for consideration of tenders.

5.5 Withdrawal of Offer

No Tender offer can be withdrawn in the interval between the after due date & time of submission and expiration of the Tender validity period. Withdrawal of offer during this period shall result in forfeiture of Tenderer Earnest Money.

6. Bid Security:

- (1)(a) The tenderer shall be required to submit the Bid Security with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender. The Bid Security shall be as under:

Value of the Work	Bid Security
For all works	2% of the estimated cost of the work (Ref. - Railway Board Letter no 2022/CE-I/CT/GCC-2022/POLICY/Pt.I (E-3320424) New Delhi, Dated 3.03.2026)

Note:

- (i) The Bid Security shall be rounded off to the nearest ₹100. This Bid Security shall be applicable for all modes of tendering.
- (ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of Bid Security detailed above.
- (iii) Labour Cooperative Societies shall submit only 50% of above Bid Security detailed above.

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- (b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the Railway.
- (c) If his tender is accepted, this Bid Security mentioned in sub para (a) above will be retained as part security for the due and faithful fulfilment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.
- (2) The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure-VIA** and shall be valid for a period of 90days beyond the bid validity period.
- (3) **In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:**
- i. A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender.
 - ii. The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document before closing date for submission of bids (i.e excluding the last date of submission of bids) (ACS No. 5 of 20.10.2023)
 - iii. Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.
 - iv. The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.
 - v. The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected
 - vi. The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification "**Bid for the ***** Project**" and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right-hand top corner of the envelope.
 - vii. The envelope shall be addressed to the officer and address as mentioned in the tender document.
 - viii. If the envelope is not sealed and marked as instructed above, the Authority assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.
- 6.1 (a) Subject to exemptions provided under para 5(1) (a) of Part-1 (ITT) of this document, the tender must be accompanied by a Bid Security as mentioned in tender documents, failing which the tender shall be summarily rejected.

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(b) The Tenderer(s) shall keep the offer open for a minimum period of 60 days (in case of two packet system of tendering 90 days) from the date of closing of the Tender. It is understood that the tender documents have been issued to the Tenderer(s) and the Tenderer(s), is / are permitted to tender in consideration of the stipulation on his / their part that after submitting his / their tender subject to the period being extended further, if required by mutual agreement from time to time, he will not resile from his offer or modify the terms and conditions thereof in a manner not acceptable to Western Railway. Should the tenderer fail to observe or comply with the foregoing stipulation, the amount deposited or Bank guarantee bond submitted as Bid Security for the due performance of the above stipulation, shall be forfeited to the Railway.

(c) If his tender is accepted,

- (i) the Bid Security mentioned in sub para(a) above deposited in cash through e-payment gateway will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract;
- (ii) the Bid Security mentioned in sub para(a) above submitted as Bank guarantee bond, will be encashed as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract.

The Bid Security of other Tenderers shall, save as herein before provided, be returned to them, but the Railway shall not be responsible for any loss or depreciation to the Bid Security that may happen thereto while in their possession, nor be liable to pay interest thereon.

(d) In case Contractor submits the Term Deposit Receipt/Bank Guarantee Bond towards either the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security so retained as per sub para(c) above, to the Contractor.

7. Rights of the Railway to deal with Tender: The authority for the acceptance of the tender will rest with the Railway. It shall not be obligatory on the said authority to accept the lowest tender or any other tender, and tenderer(s) shall neither demand any explanation for the cause of rejection of his/ their tender nor the Railway to assign reasons for declining to consider or reject any particular tender or tenders.

8. If the tenderer(s) deliberately gives / give wrong information in his / their tender or creates / create circumstances for the acceptance of his / their tender, the Railway reserves the right to reject such tender at any stage.

8.1. If any partner(s) of a partnership firm expires after the submission of its tender or after the acceptance of its tender, the Railway shall deem such tender as cancelled/contract as terminated under clause 61 of the Standard General Conditions of Contract, unless the firm retains its character as per partnership agreement. If a sole proprietor expires after the submission of tender or after the acceptance of tender, the Railway shall deem such tender as cancelled / contract as terminated under clause 61 of the Standard General Conditions of Contract.

9. Nature of tendering (Two Packet System).

The Tender will be opened online at www.ireps.gov.in at 15.30 hrs. on 06.07.2026 The tenderer will upload the scanned copies of following documents while submitting their offer.

- i) Audited Statement of Annual Turn over
- ii) Earnest Money in proper form.
- iii) Proforma No. I, to VIII (attached herewith).
- iv) Method statement, PERT CHARTS & Construction schedule vis-à-vis deployment resources.
- v) Bio data of key design and/or construction Engineers to be involved in this work.
- vi) Partnership deed.

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- vii) Power of Attorneys.
- viii) Tender documents duly signed & completed.
- ix) Any other document the tenderers may like to submit in support of his credentials/scheme.

9.1 Only those tenderer/s who possess necessary past experience, special Tools & Plants and have sufficient expertise for this type of work are required to tender. Tenderer should furnish description of tools and plants available with the tenderer for this type of work.

10. Eligibility Criteria:

10.1 Technical Eligibility Criteria:

- (a) The tenderer must have successfully completed or substantially completed any one of the following categories of work(s) during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:
 - (i) Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or
 - (ii) Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or
 - (iii) One similar work costing not less than the amount equal to 60% of advertised value of the tender.

Similar work for this work shall be as under:

"Bridge work involving Fabrication, erection, launching of Open Web / Semi - through type girders"

(b) (1) In case of tenders for composite works (e.g. works involving more than one distinct component, such as Civil Engineering works, S&T works, Electrical works, OHE works etc. and in the case of major bridges – substructure, superstructure etc.), tenderer must have successfully completed or substantially completed any one of the following categories of work(s) during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

- (i) Three similar works each costing not less than the amount equal to 30% of advertised value of each component of tender, or
- (ii) Two similar works each costing not less than the amount equal to 40% of advertised value of each component of tender, or
- (iii) One similar work each costing not less than the amount equal to 60% of advertised value of each component of tender.

Note for b(1): Separate completed works of minimum required values shall also be considered for fulfilment of technical eligibility criteria for different components.

(b) (ii) In such cases, what constitutes a component in a composite work shall be clearly pre-defined with estimated tender cost of it, as part of the tender documents without any ambiguity.

(b) (3) To evaluate the technical eligibility of tenderer, only components of work as stipulated in tender documents for evaluation of technical eligibility, shall be considered. The scope of work covered in other remaining components shall be either executed by tenderer himself if he has work experience as mentioned in clause 7 of the Standard General Conditions of Contract or through subcontractor fulfilling the requirements as per clause 7 of the Standard General

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Conditions of Contract or jointly i.e., partly himself and remaining through subcontractor, with prior approval of CPM(GS) in writing.

However, if required in tender documents by way of Special Conditions, a formal agreement duly notarized, legally enforceable in the court of law, shall be executed by the main contractor with the subcontractor for the component(s) of work proposed to be executed by the subcontractor(s), and shall be submitted along with the offer for considering subletting of that scope of work towards fulfillment of technical eligibility. Such subcontractor must fulfill technical eligibility criteria as follows:

The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract, costing not less than 35% value of work to be sublated, in last 5 years, ending last day of month previous to the one in which tender is invited through a works contract.

Note: for subletting of work costing up to Rs 50 lakh, no previous work experience of subcontractor shall be asked for by the Railway.

In case after award of contract or during execution of work it becomes necessary for contractor to change subcontractor, the same shall be done with subcontractor(s) fulfilling the requirements as per clause 7 of the Standard General Conditions of Contract, with prior approval of CPM(GS) in writing.

Note for Item 10.1:

Work experience certificate from private individual shall not be considered. However, in addition to work experience certificates issued by any Govt. Organisation, work experience certificate issued by Public listed company having average annual turnover of Rs 500 crore and above in last 3 financial years excluding the current financial year, listed on National Stock Exchange or Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of closing of tender, shall also be considered provided the work experience certificate has been issued by a person authorized by the Public listed company to issue such certificates.

In case tenderer submits work experience certificate issued by public listed company, the tenderer shall also submit along with work experience certificate, the relevant copy of work order, bill of quantities, bill wise details of payment received duly certified by Chartered Accountant, TDS certificates for all payments received and copy of final/last bill paid by company in support of above work experience certificate.

10.2 Financial Eligibility Criteria: The tenderer must have minimum average annual contractual turnover of V/N or 'V' whichever is less; where

V= Advertised value of the tender in crores of Rupees

N= Number of years prescribed for completion of work for which bids have been invited.

The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years, as per the audited balance sheet. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.

The tenderers shall submit requisite information as per Annexure-VIB, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

10.3. Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as **Annexure-VI**.

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10.4 No Technical and Financial credentials are required for tenders having advertised value up to Rs 50 lakh.

10.5 Credentials if submitted in foreign currency shall be converted into Indian currency i.e., Indian Rupee as under:

The conversion rate of US Dollars into Rupees shall be the daily representative exchange rates published by the Reserve Bank of India or entity authorized by RBI to do so for the relevant date or immediately previous date for which rates have been published. Where, relevant date shall be as on the last day of month previous to the one in which tender is invited. In case of any other currency, the same shall first be converted to US Dollars as on the last day of month previous to the one in which tender is invited, and the amount so derived in US Dollars shall be converted into Rupees at the aforesaid rate. The conversion rate of such currencies shall be the daily representative exchange rates published by the International Monetary Fund for the relevant date or immediately previous date for which rates have been published.

[Explanation for Para 10 of the Tender Form (Second Sheet) including Para 10.1 to 10.5 - Eligibility Criteria:

1. Substantially Completed Work means an ongoing work in which payment equal to or more than 90% of the present contract value (excluding the payment made for adjustment of Price variation (PVC), if any) has been made to the contractor in that ongoing contract and no proceedings of termination of contract on Contractor's default has been initiated. The credential certificate in this regard should have been issued not prior to 60 days of date of invitation of present tender.
2. In case a work is started prior to 07 (seven) years, ending last day of month previous to the one in which tender is invited, but completed in last 07 (seven) years, ending last day of month previous to the one in which tender is invited, the completed work shall be considered for fulfillment of credentials.
3. If a work is physically completed and completion certificate to this extent is issued by the concerned organization but final bill is pending, such work shall be considered for fulfillment of credentials
4. In case of completed work, the value of final bill (gross amount) including the PVC amount (if paid) shall be considered as the completion cost of work. In case final bill is pending, only the total gross amount already paid including the PVC amount (if paid) shall be considered as the completion cost of work.

In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.
5. If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to the subcontractor by a Govt. Organization or public listed company as defined in Note for Item 10.1 Para 10 of the Tender Form (Second Sheet), the same shall be considered for the purpose of fulfilment of credentials.
6. In case a work is considered similar in nature for fulfilment of technical credentials, the overall cost including the PVC amount (if paid) of that completed work or substantially completed work, shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.
7. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the

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present tender under consideration, the credentials of partner A will be considered to the extent of 0.3*0.2*value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.

8. In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm(e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
9. In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.
10. Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A&B partners in any other partnership firm or propriety firm without leaving partnership firm of A&B partners.
11. In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.
12. If the percentage share among partners of a partnership firm is changed, but the partners remain the same, the credentials of the firm before such modification in the share will continue to be considered for the firm as it is without any change in their value. Further, in case a partner of partnership firm retires without taking away any credentials from the firm, the credentials of partnership firm shall remain the same as it is without any change in their value.
13. In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB..
14. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.
15. In case company A is merged with company B, then company B would get the credentials of company A also.]

11. Tenderer Credentials:

Documents testifying tenderer previous experience and financial status should be produced along with the tender.

Tenderer(s) who is / are not borne on the approved list of the Contractors of Western Railway shall submit along with his / their tender:

- (i) Certificates and testimonials regarding contracting experience for the type of job for which tender is invited with list of works carried out in the past.

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- (ii) Certificates which may be an attested Certificate from the client, Audited Balance Sheet duly certified by the Chartered Accountant etc regarding contractual payments received in the past.
- (iv) The list of personnel / organization on hand and proposed to be engaged for the tendered work. Similarly list of Plant & Machinery available on hand and proposed to be inducted and hired for the tendered work.
- (iv)A copy of certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as Annexure-V. In addition to Annexure-V, in case of other than Company/Proprietary firm, Annexure V-(A) shall also be submitted by the each member of a Partnership Firm/Joint venture (JV)/ Hindu Undivided Family (HUF)/ Limited Liability Partnership (LLP) etc. as the case may be. Non submission of a copy of certificate by the bidder shall result in summarily rejection of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self attested/ digitally signed by which they/he are/is qualifying the Qualifying Criteria mentioned in the Tender Document.
- (v) The Railway reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the Railway, make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification, by the Railway shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the Railway there under.
- (vi) (a) In case of any information submitted by tenderer is found to be false, forged or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender Bid Security besides banning of business for a period of upto five years.
- (b) In case of any information submitted by tenderer is found to be false, forged or incorrect after the award of contract, the contract shall be terminated. Bid Security, Performance Guarantee and Security Deposit available with the railway shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of upto five years.

12. Non-compliance with any of the conditions set forth therein above is liable to result in the tender being rejected

13. Execution of Contract Documents: The successful Tenderer(s) shall be required to execute an agreement with the President of India acting through the **Dy.CE(GS)-Western Railway Ratlam** for carrying out the work according to Standard General Conditions of Contract, Special Conditions / Specifications annexed to the tender and Standard Specifications (Works and Materials) of Railway as amended/corrected upto latest correction slips, mentioned in tender form (First Sheet).

14. Documents to be Submitted Along with Tender

- (i) The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / Company / Joint Venture (JV) / Registered Society / Registered Trust / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, and copy of PAN Card along with their tender. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be.
- (ii) Following documents shall be submitted by the tenderer:

(a) **Sole Proprietorship Firm:**

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- (i) All documents in terms of Para 10 of the Tender Form (Second Sheet) above.
- (b) **HUF:**
 - (i) A copy of notarized affidavit on Stamp Paper declaring that he who is submitting the tender on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.
 - (ii) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.
- (c) **Partnership Firm:**
 - (i) All documents as mentioned in para18 of the Tender Form (Second Sheet).
- (d) **Joint Venture (JV):** All documents as mentioned in para 17 of the Tender Form (Second Sheet).
- (e) **Company registered under Companies Act 2013:**
 - (i) The copies of **MOA (Memorandum of Association) / AOA (Articles of Association)** of the company
 - (ii) A copy of Certificate of Incorporation
 - (iii) A copy of Authorization/Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender on behalf of the company and create liability against the company.
 - (iv) All other documents in terms Para 10 of the Tender Form (Second Sheet) above.
- (f) **LLP (Limited Liability Partnership):**
 - (i) A copy of LLP Agreement
 - (ii) A copy of Certificate of Incorporation
 - (iii) A copy of Power of Attorney/Authorization issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP.
 - (iv) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.
 - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet).
- (g) **Registered Society & Registered Trust:**
 - (i) A copy of Certificate of Registration
 - (ii) A copy of Memorandum of Association of Society/Trust Deed
 - (iii) A copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.
 - (iv) A copy of Rules & Regulations of the Society
 - (v) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.
- (iii) If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm / Partnership firm / Joint Venture / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.
- (iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered

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Society / HUF/LLP etc. shall be neither asked nor considered, if submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.

- (v) A tender from JV shall be considered only where permissible as per the tender conditions.
- (vi) The Railway will not be bound by any change of power of attorney or in the composition of the firm made subsequent to the submission of tender. Railway may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

15. The tenderer whether sole proprietor / a company or a partnership firm / joint venture (JV) / registered society / registered trust / HUF / LLP etc if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, specifically authorizing him/them to sign the tender, submit the tender and further to deal with the Tender/ Contract up to the stage of signing the agreement except in case where such specific person is authorized for above purposes through a provision made in the partnership deed / Memorandum of Understanding / Article of Association /Board resolution, failing which tender shall be summarily rejected.

A separate power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person, shall be submitted after award of work, specifically authorizing him/them to deal with all other contractual activities subsequent to signing of agreement, if required.

Note: A Power of Attorney executed and issued overseas, the document will also have to be legalized by the Indian Embassy and notarized in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Bidders from countries that have signed the Hague Legislation Convention 1961 are not required to be legalized by the Indian Embassy if it carries a conforming Apostille certificate.

16. Employment/Partnership etc. of Retired Railway Employees:

(a) Should a tenderer

- i) be a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, whether in the executive or administrative capacity or whether holding a pensionable post or not, in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, OR
- ii) being partnership firm / joint venture (JV) / registered society / registered trust etc have as one of its partners/members a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement, OR
- iii) being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement as one of its directors

AND

in case where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender

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the tenderer will give full information as to the date of retirement of such Engineer or gazetted officer from the said service and as to whether permission for taking such contract, or if the Contractor be a partnership firm or an incorporated company, to become a partner or director as the case may be, has been obtained by the tenderer or the Engineer or officer, as the case may be from the President of India or any officer, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender.

- b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazette rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the railways owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.
- (c) Should a tenderer or Contractor being an individual, have member(s) of his family or in the case of partnership firm/ company / joint venture (JV) / registered society / registered trust etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in the Engineering or any other department of the railway, then the tenderer at the time of submission of tender, will inform the authority inviting tenders the details of such persons.

Note:- If information as required as per 16 a), b), c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of contract.

JOINT VENTURE (JV) IN WORKS TENDERS

(This clause shall be applicable for the works tenders of valuing more than 10 crore.)

- 17. Participation of Joint Venture (JV) in Works Tender:** This para shall be applicable for works tenders wherein tender documents provide for the same.

17.1 Separate identity/name shall be given to the Joint Venture.

17.2 Number of members in a JV shall not be more than three, if the work involves only one department (say Civil or S&T or Electrical or Mechanical) and shall not be more than five, if the work involves more than one Department. One of the members of the JV shall be its Lead Member who shall have a majority (at least 51%) share of interest in the JV. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/company with a minimum share of 51%.

17.3 A member of JV shall not be permitted to participate either in individual capacity or as a member of another JV in the same tender.

17.4 The tender form shall be purchased and submitted only in the name of the JV and not in the name of any constituent member. The tender form can however be submitted by JV or any of its constituent member or any person authorized by JV through Power of Attorney to submit tender.

17.5 Bid Security shall be submitted by JV or authorized person of JV either as :

- (i) Cash through e-payment gateway or as mentioned in tender document, or

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(ii) Bank Guarantee bond either in the name of JV, or in the name of all members of JV as per MOU irrespective of their share in the JV if the JV has not been constituted legally till the date of submission of tender.

- 17.6** A copy of Memorandum of Understanding (MoU) duly executed by the JV members on a stamp paper, shall be submitted by the JV along with the tender. The complete details of the members of the JV, their share and responsibility in the JV etc. particularly with reference to financial, technical and other obligations shall be furnished in the MoU.
- 17.7** Once the tender is submitted, the MoU shall not normally be modified / altered / terminated during the validity of the tender. In case the tenderer fails to observe/comply with this stipulation, the full Bid Security shall be liable to be forfeited.
- 17.8** Approval for change of constitution of JV shall be at the sole discretion of the Railway. The constitution of the JV shall not normally be allowed to be modified after submission of the bid by the JV, except when modification becomes inevitable due to succession laws etc., provided further that there is no change in qualification of minimum eligibility criteria by JV after change of composition. However, the Lead Member shall continue to be the Lead Member of the JV. Failure to observe this requirement would render the offer invalid.
- 17.9** Similarly, after the contract is awarded, the constitution of JV shall not be normally allowed to be altered during the currency of contract except when modification become inevitable due to succession laws etc. and minimum eligibility criteria should not get vitiated. Failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.
- 17.10** On award of contract to a JV, a single Performance Guarantee shall be submitted by the JV as per tender conditions. All the Guarantees like Performance Guarantee, Bank Guarantee for Mobilization Advance, Machinery Advance etc. shall be accepted only in the name of the JV and no splitting of guarantees amongst the members of the JV shall be permitted.
- 17.11** On issue of LOA (Letter of Acceptance), the JV entity to whom the work has been awarded, with the same shareholding pattern as was declared in the MOU/JV Agreement submitted alongwith the tender, shall be got registered before the Registrar of the Companies under 'The Companies Act -2013' (in case JV entity is to be registered as Company) or before the Registrar/Sub-Registrar under the 'The Indian Partnership Act, 1932' (in case JV entity is to be registered as Partnership Firm) or under 'The LLP Act 2008' (in case JV entity is to be registered as LLP). A separate PAN shall be obtained for this entity. The documents pertaining to this entity including its PAN shall be furnished to the Railways before signing the contract agreement for the work. In case the tenderer fails to observe/comply with this stipulation within 60 days of issue of LOA, contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit the full amount of the Bid Security and other dues payable to the Contractor under this contract. The entity so registered, in the registered documents, shall have, inter-alia, following Clauses:
- 17.11.1** Joint And Several Liability - Members of the entity to which the contract is awarded, shall be jointly and severally liable to the Railway for execution of the project in accordance with General and Special Conditions of Contract. The members of the entity shall also be liable jointly and severally for the loss, damages caused to the Railways during the course of execution of the contract or due to non-execution of the contract or part thereof.
- 17.11.2** Duration of the Registered Entity - It shall be valid during the entire currency of the contract including the period of extension, if any and the maintenance period after the work is completed.

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17.11.3 Governing Laws - The Registered Entity shall in all respect be governed by and interpreted in accordance with Indian Laws.

17.12 Authorized Member - Joint Venture members in the JV MoU shall authorize Lead members on behalf of the Joint Venture to deal with the tender, sign the agreement or enter into contract in respect of the said tender, to receive payment, to witness joint measurement of work done, to sign measurement books and similar such action in respect of the said tender/contract. All notices/correspondences with respect to the contract would be sent only to this authorized member of the JV.

17.13 No member of the Joint Venture shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other members and that of the Railway in respect of the said tender/contract.

17.14 Documents to be enclosed by the JV along with the tender:

17.14.1 In case one or more of the members of the JV is/are partnership firm(s), following documents shall be submitted:

- (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
- (ii) A copy of consent of all the partners or individual authorized by partnership firm, to enter into the Joint Venture Agreement on a stamp paper,
- (iii) A notarized or registered copy of Power of Attorney in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm.
- (iv) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the contract shall be determined under Clause 62 of the Standard General Conditions of Contract.

17.14.2 In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed:

- (i) A copy of notarized affidavit on Stamp Paper declaring that his Concern is a proprietary Concern and he is sole proprietor of the Concern OR he who is signing the affidavit on behalf of HUF is in the position of 'Karta' of Hindu Undivided Family (HUF) and he has the authority, power and consent given by other members to act on behalf of HUF.

17.14.3 In case one or more members of the JV is/are companies, the following documents shall be submitted:

- (i) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement,
- (ii) The copies of **MOA (Memorandum of Association) / AOA (Articles of Association) of the company**
- (iii) A copy of Certificate of Incorporation
- (iv) A copy of Authorization/copy of Power of Attorney issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender, sign MOU/JV Agreement on behalf of the company and create liability against the company

17.14.4 In case one or more members of the JV is/are LLP firm/s, the following documents shall be submitted:

- (i) A copy of LLP Agreement
- (ii) A copy of Certificate of Incorporation of LLP

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- (iii) A copy of resolution passed by partners of LLP firm, permitting the Firm to enter into a JV agreement
- (iv) A copy of Authorization /copy of Power of Attorney issued by the LLP firm (backed by resolution passed by the Partners) in favour of the individual, to sign the tender and/or sign the MOU/ JV agreement on behalf of the LLP and create liability against the LLP.
- (v) An undertaking by all partners of the LLP that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP or JV in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the Standard General Conditions of Contract.

17.14.5 In case one or more members of the JV is/are Society/s or Trust/s, the following documents shall be submitted:

- (i) A copy of Certificate of Registration
- (ii) A copy of Memorandum of Association of Society/Trust Deed
- (iii) A copy of Rules & Regulations of the Society
- (iv) A copy of Power of Attorney, in favour of the individual to sign the tender documents and create liability against the Society/Trust.

17.14.6 All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.

17.15 Credentials & Qualifying Criteria: Technical, financial eligibility and Bid capacity of the JV shall be adjudged based on satisfactory fulfilment of the following criteria:

17.15.1 Technical Eligibility Criteria ('a' or 'b' mentioned hereunder):

(a) For Works without composite components

The technical eligibility for the work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV'.

Each other (non-lead) member(s) of JV, who is/ are not satisfying the technical eligibility for the work as per para 10.1 above, shall have technical capacity of minimum 10% of the cost of work i.e., each non-lead member of JV member must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of advertised value of the tender.

(b) For works with composite components

The technical eligibility for major component of work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'Lead member of the JV' and technical eligibility for other component(s) of work as per para 10.1 above, shall be satisfied by either the 'JV in its own name & style' or 'any member of the JV'.

Each other (non-lead) member(s) of JV, who is/ are not satisfying the technical eligibility for any component of the work as per para 10.1 above, shall have technical capacity of minimum 10% of the cost of any component of work mentioned in technical eligibility criteria. i.e., each other (non-lead) member of must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one similar single work for a minimum of 10% of cost of any component of work mentioned in technical eligibility criteria.

Note for Clause 17.15.1:

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- (a) The Major component of the work for this purpose shall be the component of work having highest value. In cases where value of two or more component of work is same, any one work can be classified as Major component of work.
- (b) Value of a completed work done by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned technical eligibility criteria in the tender under consideration.

17.15.2 Financial Eligibility Criteria

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 10.2 above. The "financial capacity" of the lead member of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 10.2 above.

The arithmetic sum of individual "financial capacity" of all the members shall be taken as JV's "financial capacity" to satisfy this requirement.

Note: Contractual payment received by a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying compliance of the above mentioned financial eligibility criteria in the tender under consideration

17.15.3 Bid Capacity

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned at para 10.3 above. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement.

18 Participation of Partnership Firms in works tenders:

- 18.1 The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
- 18.2 The partnership firm should have been in existence or should have been formed prior to submission of tender. Partnership firm should have either been registered with the Registrar or the partnership deed should have been notarized as per the Indian Partnership Act, prior to submission of tender.
- 18.3 Separate identity / name should be given to the partnership firm. The partnership firm should have PAN / TAN number in its own name and PAN / TAN number in the name of any of the constituent partners shall not be considered. The valid constituents of the firm shall be called partners.
- 18.4 Once the tender has been submitted, the constitution of the firm shall not normally be allowed to be modified / altered / terminated during the validity of the tender as well as the currency of the contract except when modification becomes inevitable due to succession laws etc., in which case prior permission should be taken from Railway and in any case the minimum eligibility criteria should not get vitiated. The re-constitution of firm in such cases should be followed by a notary certified Supplementary Deed. The approval for change of constitution of the firm, in any case, shall be at the sole discretion of the Railways and the tenderer shall have no claims what-so-ever. Any change in the constitution of Partnership firm after submission of tender shall be with the consent of all partners and with the signatures of all partners as that in the Partnership Deed. Failure to observe this requirement shall render the offer invalid and full Bid Security shall be forfeited.

If any Partner/s withdraws from the firm after submission of the tender and before the award of the contract, the offer shall be rejected and Bid Security of the tenderer will be forfeited. If any new partner joins the firm after submission of tender but prior to award of contract, his / her credentials shall not qualify for consideration towards eligibility criteria either individually or in proportion to his share in the previous firm. In case the tenderer fails to inform Railway beforehand about any such changes / modification in the constitution which is inevitable due to succession laws etc. and the contract is awarded to such firm, then it will be considered a

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breach of the contract conditions liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract.

18.5 A partner of the firm shall not be permitted to participate either in his individual capacity or as a partner of any other firm in the same tender.

18.6 The tender form shall be submitted only in the name of partnership firm. The Bid Security shall be submitted by partnership firm. The Bid Security submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.

18.7 On issue of Letter of Acceptance (LOA) to the partnership firm, all the guarantees like Performance Guarantee, Guarantee for various Advances to the Contractor shall be submitted only in the name of the partnership firm and no splitting of guarantees among the partners shall be acceptable.

18.8 On issue of Letter of Acceptance (LOA), contract agreement with partnership firm shall be executed in the name of the firm only and not in the name of any individual partner.

18.9 In case the Letter of Acceptance (LOA) is issued to a partnership firm, the following undertakings shall be furnished by all the partners through a notarized affidavit, before signing of contract agreement.

(a) Joint and several liabilities:

The partners of the firm to which the Letter of Acceptance (LOA) is issued, shall be jointly and severally liable to the Railway for execution of the contract in accordance with General and Special Conditions of the Contract. The partners shall also be liable jointly and severally for the loss, damages caused to the Railway during the course of execution of the contract or due to non-execution of the contract or part thereof.

(b) Duration of the partnership deed and partnership firm agreement:

The partnership deed/partnership firm agreement shall normally not be modified/altered/terminated during the currency of contract and the maintenance period after the work is completed as contemplated in the conditions of the contract. Any change carried out by partners in the constitution of the firm without permission of Railway, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the Standard General Conditions of Contract.

(c) Governing laws: The partnership firm agreement shall in all respect be governed by and interpreted in accordance with the Indian laws.

(d) No partner of the firm shall have the right to assign or transfer the interest right or liability in the contract without the written consent of the other partner/s and that of the Railway.

18.10 The tenderer shall clearly specify that the tender is submitted on behalf of a partnership firm. The following documents shall be submitted by the partnership firm, with the tender:

- (i) A notarized copy of the Partnership Deed or a copy of the Partnership deed registered with the Registrar.
- (ii) A notarized or registered copy of Power of Attorney in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
- (iii) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by Railways or any other Ministry / Department of the Govt. of India from participation in tenders / contracts as on the date of submission of bids, either in their individual capacity or in any firm/LLP in which they were / are partners/members. Any Concealment / wrong information in regard to above shall make the bid ineligible or the

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contract shall be determined under Clause 62 of the Standard General Conditions of Contract.

- (iv) All other documents in terms of Para 10 of the Tender Form (Second Sheet) above.

18.11 Evaluation of eligibility of a partnership firm:

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfillment of the eligibility criteria laid down in Para 10 of the Tender Form (Second Sheet) above.

19. Security Deposit:

- 19.1** The Security Deposit shall be 5% of the contract value. The Bid Security submitted by the Contractor with his tender will be retained/encashed by the Railways as part of security for the due and faithful fulfilment of the contract by the Contractor. Provided further that, if Contractor submits the Cash or Term Deposit Receipt issued from a Scheduled commercial bank of India or irrevocable Bank Guarantee Bond from a Scheduled commercial bank of India, either towards the Full Security Depositor the Part Security Deposit equal to or more than Bid Security, the Railway shall return the Bid Security, to the Contractor.

Balance of Security Deposit may be deposited by the Contractor in cash or Term Deposit Receipt issued from Scheduled commercial bank of India or irrevocable Bank Guarantee bond issued from Scheduled commercial bank of India, or may be recovered at the rate of 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the Railway may retain any amount due for payment to the Contractor on the pending "on account bills" so that the amounts so retained (including amount guaranteed through Performance Guarantee) may not exceed 10% of the total value of the contract.

The Irrevocable Bank Guarantee submitted towards Security deposit shall be initially valid up to the stipulated date of Maintenance period plus 60 days and shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17A and 17B of the Standard General Conditions of Contract.

Note: Security Deposit deposited in cash by the Contractor or recovered from the running bills of a Contractor or submitted by contractor as Term Deposit Receipt(s) can be refunded/returned to the contractor, in lieu of irrevocable Bank Guarantee bond issued from scheduled commercial bank of India, to be submitted by him, for an amount equal to or more than the already available Security Deposit, provided however that, in a contract of value less than Rs. 50 Crore, such refund/ return of the already available Security Deposit is permitted up to two times and in a contract of value equal to or more than Rs. 50 Crore, such refund / return of the already available Security Deposit is permitted up to three times.

- 19.(2) (i) Refund of Security Deposit:** Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after, the following:

- (a) Final Payment of the Contract as per clause 51.(1) **and**
- (b) Execution of Final Supplementary Agreement or Certification by Engineer that Railway has No Claim on Contractor **and**
- (c) Maintenance Certificate issued, on expiry of the maintenance period as per clause 50.(1), in case applicable.

- 19. (2) (ii) Forfeiture of Security Deposit:** Whenever the contract is rescinded as a whole under clause 62 (1) of these conditions, the Security Deposit already with railways under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of these conditions, the Security Deposit shall not be forfeited.

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- 19.(3)** No interest shall be payable upon the Bid Security and Security Deposit or amounts payable to the Contractor under the Contract, but Government Securities deposited in terms of Sub-Clause 16.(4)(b) of this clause will be payable with interest accrued thereon

20. Performance Guarantee (PG)

The procedure for obtaining a Performance Guarantee is outlined below:

- (a) The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and upto 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the Railway, submission of PG can be accepted on the next working day.

In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated railway shall be entitled to forfeit Bid Security and other dues payable to the contractor against that particular contract, subject to maximum of PG amount. In case a tenderer has not submitted Bid Security on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.

The failed Contractor shall be debarred from participating in re-tender for that work.

- (b) The successful bidder shall submit the Performance Guarantee (PG) in any of the following forms, amounting to 5% of the original contract value: -
- (i) A deposit of Cash;
 - (ii) Irrevocable Bank Guarantee;
 - (iii) Government Securities including State Loan Bonds at 5% below the market value;
 - (iv) Pay Orders and Demand Drafts tendered by any Scheduled Commercial Bank of India;
 - (v) Guarantee Bonds executed or Deposits Receipts tendered by any Scheduled Commercial Bank of India;
 - (vi) Deposit in the Post Office Saving Bank;
 - (vii) Deposit in the National Savings Certificates;
 - (viii) Twelve years National Defence Certificates;favor
 - (ix) Ten years Defence Deposits;
 - (x) National Defence Bonds and
 - (xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of **Dy FA & CAO (C), Ratlam** (free from any encumbrance) may be accepted.
- (c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid upto the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value.

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- (e) The Performance Guarantee (PG) shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily.
- (f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encashed.
- (g) The Engineer shall not make a claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:
 - (i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - (ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.
 - (iii) The Contract being determined or rescinded under clause 62 of these conditions.

VARIATIONS IN EXTENT OF CONTRACT

21. Modification to Contract to be in Writing:

In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Railway and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Railway unless and until the same is incorporated in a formal instrument and signed by the Railway and the contractor, and till then the Railway shall have the right to repudiate such arrangements.

21.(1) Powers of Modification to Contract:

The Engineer on behalf of the Railway shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.

- 21.(2) (i) Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work (in which no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below.
- (ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.
- (iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates
 - (a) Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;
 - (b) Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;
 - (c) Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender

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(d) Variation to quantities of Minor Value Item:

The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original agreement value.

- (i) Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender;
- (ii) Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender;
- (iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.

(iv) In case of earthwork items, the variation limit of 25% shall apply to the gross quantity of earthwork items and variation in the quantities of individual classifications of soil shall not be subject to this limit.

(v) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SSOR schedule(s) as a whole and not on individual SSOR items. However, in case of Non Standard Schedule of Rates (SSOR) items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).

21.3 Valuation of Variations:

The enlargements, extensions, diminution, reduction, alterations or additions referred to in Sub-Clause (2) of this Clause shall in no degree affect the validity of the contract; but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressly included and provided for in the Specifications and Drawings and the amounts to be paid therefor shall be calculated in accordance with the accepted Bill(s) of Quantities. Any extra item(s)/quantities of work falling outside the purview of the provisions of Sub-Clause (2) above shall be paid for at the rates determined under Clause-39 of these Conditions.

22. Force Majeure Clause

If at any time, during the continuance of this contract, the performance in whole or in part by either party of any obligation under this contract shall be prevented or delayed by reason of any war, hostility, acts of public enemy, civil commotion, sabotage, serious loss or damage by fire, explosions, epidemics/pandemics, strikes, lockouts or acts of God (hereinafter, referred to events) provided, notice of the happening of any such event is given by either party to the other within 30 days from the date of occurrence thereof, neither party shall by reason of such event, be entitled to terminate this contract nor shall either party have any claim for damages against the other in respect of such non-performance or delay in performance, and works under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist, and the decision of the Engineer as to whether the works have been so resumed or not shall be final and conclusive, PROVIDED FURTHER that if the performance in whole or in part of any obligation under this contract is prevented or delayed by reason of any such event for a period exceeding 120 days, either party may at its option terminate the contract by giving notice to the other party.

22-A Extension of Time in Contracts: Subject to any requirement in the contract as to completion of any portion or portions of the works before completion of the whole, the Contractor shall fully and finally complete the whole of the works comprised in the contract (with such modifications as may be directed under conditions of this contract) by the date entered in the contract or extended date in terms of the following clauses:

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- (i) **Extension due to Modification:** If any modifications have been ordered which in the opinion of the Engineer have materially increased the magnitude of the work, then such extension of the contracted date of completion may be granted as shall appear to the Engineer to be reasonable in the circumstances, provided moreover that the Contractor shall be responsible for requesting such extension of the date as may be considered necessary as soon as the cause thereof shall arise and in any case not less than one month before the expiry of the date fixed for completion of the works.
- (ii) **Extension for Delay not due to Railway or Contractor:** If in the opinion of the Engineer, the progress of work has any time been delayed by any act or neglect of Railway's employees or by other Contractor employed by the Railway under Sub-Clause (4) of Clause 20 of these Conditions or in executing the work not forming part of the contract but on which Contractor's performance necessarily depends or by reason of proceeding taken or threatened by or dispute with adjoining or to neighbouring owners or public authority arising otherwise through the Contractor's own default etc. or by the delay authorized by the Engineer pending arbitration or in consequences of the Contractor not having received in due time necessary instructions from the Railway for which he shall have specially applied in writing to the Engineer or his authorized representative then upon happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer within 15 days of such happening, but shall nevertheless make constantly his best endeavours to bring down or make good the delay and shall do all that may be reasonably required of him to the satisfaction of the Engineer to proceed with the works. The Contractor may also indicate the period for which the work is likely to be delayed and shall be bound to ask for necessary extension of time. The Engineer on receipt of such request from the Contractor shall consider the same and shall grant such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable as if such extended period of time was originally provided in the original contract itself.
- (iii) **Extension for Delay due to Railways:** In the event of any failure or delay by the Railway to hand over the Contractor possession of the lands necessary for the execution of the works or to give the necessary notice to commence the works or to provide the necessary drawings or instructions or any other delay caused by the Railway due to any other cause whatsoever, then such failure or delay shall in no way affect or vitiate the contract or alter the character thereof or entitle the Contractor to damages or compensation therefor, but in any such case, the Railway may grant such extension or extensions of the completion date as may be considered reasonable.

The Contractor shall indicate the period for which the work is likely to be delayed and shall seek extension of time as may be considered necessary under clause 17A(i) or/and 17A(ii) or/ and 17A(iii) above, as soon as the cause thereof shall arise and, in any case, not less than 15 days before the expiry of the date fixed for completion of the works. The Engineer shall consider the same and shall grant and communicate such extension of time as in his opinion is reasonable having regard to the nature and period of delay and the type and quantum of work affected thereby. No other compensation shall be payable for works so carried forward to the extended period of time; the same rates, terms and conditions of contract being applicable, as if such extended period of time was originally provided in the original contract itself.

The non-submission of request for extension or submission of request within less than 15 days before the expiry of the date fixed for completion of the works, shall make him ineligible for extension under these sub clauses, subject to final decision of Engineer.

- 22-B (i) Extension of Time with Liquidated Damages (LD) for delay due to Contractor:** The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to

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complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17-A, the Railway may, if satisfied that the works can be completed by the Contractor within reasonable short time thereafter, allow the Contractor for further extension of time (Proforma at Annexure-VII) as the Engineer may decide. On such extension the Railway will be entitled without prejudice to any other right and remedy available on that behalf, to recover from the Contractor as agreed damages and not by way of penalty for each week or part of the week, a sum calculated at the rate of Liquidated Damages as decided by Engineer, between 0.05% to 0.30% of contract value of the works for each week or part of the week.

For the purpose of this Clause, the contract value of the works shall be taken as value of work as per contract agreement including any supplementary work order/contract agreement issued. Provided also, that the total amount of liquidated damages under this condition shall not exceed 5% of the contract value or of the total value of the item or groups of items of work for which a separate distinct completion period is specified in the contract.

S.No.	Duration of extension of time under Clause 17B	Rate of Liquidated Damages
(i)	Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i) of GCC	As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week
(ii)	Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i) of GCC	0.10 % of contract value for each week or part of the week
(iii)	Above Fifty percent of original period of completion including period of extension of time granted under Section 17A(i) of GCC	0.30 % of contract value for each week or part of the week

Provided further, that if the Railway is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the Railway shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.

NOTE:

In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B.

(ii) Penalty due to delay in execution of work, slow/unsatisfactory progress & liquidated damages: These shall be as per different provisions of GCC April-2022 with advance correction slip issued by Railway Board vide letter no. 2022/CE-I/CT/GCC-2022/Policy dtd 14.07.2022 however Contract Signing Authority reserves the right to impose token penalty in case of unsatisfactory or slow progress within the work completion period

22 C Bonus for Early Completion of Work: In open tenders having advertised value more than Rs.50 crore and original period of completion 12 months or more, when there is no reduction in original scope of work by more than 10%, and no extension granted on either railway or

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Contractor's account, Contractor shall be entitled for a bonus of 1% for each 30 days early completion of work. The period of less than 30 days shall be ignored while working out bonus. The maximum bonus shall be limited to 5% of original contract value. The completion date **shall be reckoned as the date of issuance of completion certificate by Engineer.**

23. Maintenance period of the work shall be 04 Years.

24 Governance of General Conditions of Contract:

The latest General Conditions of Contract (GCC-April 2022) with Advance Correction Slips circulated by Railway Board shall be referred to for governing following issues and shall be binding to the contractor:

- (i) All Financial, Legal, Technical, Non-Technical and Safety related special conditions / specifications of contract.
- (ii) All other part of the special conditions / specifications of contract as applicable but not covered in this tender document.
- (iii) For all cases of any Typographical Error/ Discrepancy in the document / instructions produced in this tender document.

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SCOPE OF WORK AND SPECIAL CONDITIONS/SPECIFICATIONS OF CONTRACT
(Technical)

Name of Work: Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

1.0 Scope of work & General features of the work:

1.1 The main scope of this work is to construct a two lane Road over bridge at Km. 609/10 – 12 in lieu of L-xing No. 72 between **Bamnia and Bhairongarh stations** of Ratlam Division Western Railway. The work will comprise open foundation with a superstructure of steel composite girders of RDSO approved drawings.

The tenderer(s) is/are advised to visit the site of work and get themselves well acquainted with the site condition etc. before quoting the rates for the work.

1.2. General Description of the proposed work:

- (i) The ROB's are to be constructed according to the approved GADs and detailed drawings provided by the Railway.
- (ii) Superstructure: Supply, fabrication, assembling and erection of Plate Girder/Semi Through Girder/Composite Girder/Bow String/Camel back Steel Girder/Camel Back Girder (steel work) manufactured in well-equipped workshop approved by RDSO and RDSO vendor.
- (iii) Fixing of POT – PTFE and elastomeric Bearing's as per RDSO design & drawing.
- (iv) Supply & fixing of HSFG bolts as per approved drawing.
- (v) The Scheme for fabrication, assembling, erecting of girder is to be submitted by the contractor and the same shall be got approved by Railway.
- (vi) Launching of Steel Girder's by mechanical means over running tracks during traffic block and Non traffic block with the approved scheme. (Scheme shall be submitted by Contractor well in advance to Rly. for approval).
- (vii) Casting of deck slab, crash barrier, parapets and wearing coat over deck slab as per approved drawings.
- (viii) Metalizing of girder and its component before launching.
- (ix) Providing sacrificial shuttering as per approved plan, payment for which will be made under NS Item.
- (x) Load test of foundation & superstructure.
- (xi) Other ancillary works as required for successful completion of ROB.
- (xii) Ensuring safety of trains, road users, nearby habitants, any other safety requirement shall be arranged by the contractor at their cost.

1.3 Precautions to be observed during construction:

The work will have to be carried out in such a manner so as to cause the least obstruction to Railway traffic and also without jeopardizing the safety of moving trains. The successful tenderer shall also take all necessary precautions to ensure the safety of their workmen at the site of construction. The Railway will not be liable for payment of compensation due to any mishap to the workman or machinery during the course of work. The work shall be planned in such a way so as not to cause any infringement to the moving dimensions laid down in the 'standard schedule of dimensions for BG of Indian Railway'.

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2.0. This tender contains Eight schedules for Civil Works viz A to F.

3.0 Details of Schedules:

- i). **SCHEDULE 'A':** This schedule consists of USSOR items for Earthwork, Concreting, painting, POT PTFE bearing etc. to be operated under USSOR-2021.
- ii). **SCHEDULE 'B':** This schedule consists of USSOR items for Supplying, fabrication, assembling of Steel girders to be operated under USSOR-2021.
- iii). **SCHEDULE 'C':** This schedule consists of USSOR items for Supply & Utilising of steel reinforcement & Structural Steel to be operated under USSOR-2021.
- iv). **SCHEDULE 'D':** This schedule consists of USSOR items for Supply & Utilising of Cement to be operated under USSOR-2021.
- v). **SCHEDULE 'E':** This schedule consists of DSR items for miscellaneous structures, and Bridges, to be operated under CPWD-DSR-2023.
- vi). **SCHEDULE 'F':** This schedule consists of Non-Scheduled i.e. NS- item for Building, miscellaneous structures, and Bridges

The tenderers shall quote his/their percentage above/ below or at par for each schedule of each component of work.

Note : i) USSOR Item No. 041010/041011/041012 (Schedule : B : Steel Girder) The contractor shall ensure that this item will be operated in Traffic block for which no extra payment shall be made.

ii) The contractor shall ensure that the cost of studs inclusive in the quoted rate and no extra payment will be made on this account

4.0 SPECIAL CONDITIONS FOR ITEM PERTAINING TO CIVIL WORKS

4.1 Schedule "A", "B", "C" & "D" : SPECIAL CONDITION AND SPECIFICATION FOR USSOR-2021 ITEMS FOR CIVIL WORKS.

The general specifications laid down in Indian Railways Unified Standard Specifications, Edition-2021 with corrections upto date, shall be applicable for items covered under these schedules. Tenderer/s are requested to go through it before quoting rates. Rates taken in these Schedules (USSOR) are based on Unified Standard Schedule of Rates-2021 of Engineering Department Western Railway.

Brief Description of USSOR items given in the schedule is for guidance only and it may not be complete as per USSOR-2021, if the complete description is required, printed Unified standard schedule of Rates - 2021 of W.R. shall be referred.

4.2 Schedule " E " : SPECIAL CONDITION AND SPECIFICATION FOR DSR-2023 ITEMS FOR CIVIL WORKS.

The general specifications laid down in Indian Railways DSR Edition-2019 or latest with corrections upto date (As per Rly. Board letter No. WR-HQ0ENGG(WWSR)/2/2020 Dated 16.01.2023, specification of DSR-2019 are applicable for DSR-2023), shall be applicable for items covered under these schedules. Tenderer/s are requested to go through it before quoting rates. Rates taken in these Schedules (DSR) are based on **Delhi Schedules of Rates** of -2023 of Engineering Department Western Railway.

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Brief Description of DSR items given in the schedule is for guidance only and it may not be complete as per DSR-2023, if the complete description is required, printed **Delhi Schedules of Rates- 2023** of W.R. shall be referred.

4.3 SCHEDULE F: Detail description & specification of Non-Schedule items.

(i) 1/NS: Marking of centre line of bridge alignment along longitudinal axis and giving out foundation layout:

This item is for marking out of Centre line of Bridge alignment along longitudinal axis and giving out foundation layout with Total Station.

Contractor has to carry out at least three rounds of Marking out with the help of Total Station at different stages as and when required and as directed by the Engineer – In – Charge.

Contractor has to mark out levels including providing necessary masonry reference pillars, establishing bench mark etc. as directed by Engineer – In - Charge.

Mode of Payment/Measurement:

The payment shall be made for the whole item and not for the rounds of marking out of alignment. Payment shall only be made when all the three rounds of alignment/ set outs has been done. Stages are (1) Foundation (2) Sub Structure level and (3) Cap level/ Girder level.

(ii) 2/NS: Providing, Fixing and Maintaining MS Fabricated traffic barricading:

This item is including providing, Fixing and Maintaining MS Fabricated traffic barricading of 2.50m height on either side of the carriageway / portion of the carriageway closed to the traffic including provision of all sign boards / bollards and warning lights etc.

The barricading shall be got erected just prior to commencement of the work and will remain erected till the work is completed in all respect or as decided by Engineer in charge at site.

The length of barricading shall be decided by Engineer in charge/Site Supervisor at site and shall be final and binding. The design of barricading shall be as per approved plan/sketch.

Measurement shall be for the finished item. Nothing extra shall be payable for overlapping. However, overlapping has to be provided so that GI sheets perfectly anchor to each other.

After completion of the work, all the material utilised in barricading shall be the contractor's property, however, nothing extra shall be paid for transporting including loading and unloading.

Before erection, the material utilised for barricading shall be got approved by the Railway supervisor at site.

Rate is also inclusive of PCC meant for erection of MS pipe. However, PCC shall not be done in the grade lower than 1:2:4 mix.

Quantity shown above is approximate, however, actual length of barricading may differ as per the site condition. Whatever length of barricading is decided by Engineer in charge/Site supervisor, shall be provided by the contractor.

Mode of Payment/Measurement:

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The payment shall be done as per actual work done at site. The SQM shall be the base for measurement.

(iii) 3/NS : Aerial Recording of the status of construction of Road over Bridge:

1. Tenderer/s will be required to take:-
 - a) Aerial Photograph to be taken by 16 MP camera at 100 meters height. Aerial photography shall be done at least once in the month during the currency of the contract or as directed by Engineer – In – Charge.
 - b) Top-down photography to be taken for crystal clear details of the site.
2. Before the Aerial survey tenderer/s will be required to do the mission planning which has to be verified with ground feasibilities and then iterations will have to be done to finalize the most optimal flight path.
3. Photographs are taken to be stitched, ortho-rectified, and geo-referenced.
4. Vehicle and assistance for the police permission required for this survey will be arranged by the Railway.
5. Ground control points (GCPs) that will be visible in the aerial imagery to be laid on the ground by Railway and their corresponding co-ordinates to be provided by Railways.

A. The following to be adopted by tenderer/s:-

- i) Site survey.
- ii) Mission planning for autonomous navigation.
- iii) Check with ground feasibilities, reiterate the mission plan and finalize the optimal flight path.
- iv) Identify take-off and landing zones.
- v) Capture data from multiple locations for three days to cover complete project.
- vi) Take Ground Control Points data from Railway.
- vii) Stitch all the photographs to create a ortho-mosaic.
- viii) Ortho-rectify the ortho-mosaic created.
- ix) Integrate the GCP data to geo-reference the ortho-rectified data.
- x) Create Multiple file formats (tiff and kmz) to be compatible with CAD and Google earth.

B. Deliverable:

- a) On whole stitched, ortho-rectified, geo-referenced processed tiff file, kmz file that can be opened in Google earth along the exact location of the ROB project.
- b) One tour file of the Google Earth as a video for the complete route, geo-referenced files that can be used in future to check the project progress on a periodic basis.

C. Payment Schedule: -

- a) 50% immediately after completion of data collection.
- b) 50% within 15 days of handover of data.

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- (iv) **4/NS: Providing and fixing expanded metal 20X60mm strands 3.25mm wide and 1.6mm thick on angle iron flat iron frames including all incidental work complete.**

This item is meant for providing protection screen over the parapets in suitable reach over the OHE. Specification for this item will follow the specifications of WR-USSOR-2010 item No. 081110. Cost of frames to be paid separately under relevant item

- (v) **5/NS: Providing Sacrificial shuttering for deck slab made up with galvanized Cold rolled cold annealed (CRCA) steel of 310 MPA Grade.**

Railways by experience have observed that shuttering material becomes bottleneck in achieving desired progress. Contractor shall therefore make note of this and accordingly make arrangement for required shuttering material for enabling smooth and speedy execution of work. Contractor has to arrange new steel shuttering material for execution of this work. Supporting props shall be preferably of steel tubular pipes with screw jack type arrangement. However, wooden props in good condition may be accepted in exceptional case. Contractor has to arrange sufficient shuttering material (plates/props). Shuttering/Formwork shall be strong enough to be suitable for pump concreting and vibration.

Rate of sacrificial shuttering (galvanised CRCA 310 MPa Minimum 1.20 mm thick) for deck slab is inclusive of preparation of detailed structural drawing supported with required calculation duly proof checked by Govt. Engineering College. In case of non availability of material, the contractor may use better material for sacrificial shuttering with prior permission of Engineer in-charge. No extra for change in shuttering material and payment for development of design and drawing of decking sheet or its proof checking is admissible.

This item will be operated only for the shuttering at spans where OHE exist

- (vi) **6/NS: Metal beam CrashBarrier- Double W Single side :-Providing and erecting "W" metal beam.....**

A. MATERIAL AND SPECIFICATION

- 1 All steel members shall be as per specification of railway approved drawing. Railing posts and W-beam shall be made of steel of the section, weight and length as per specification of IS code mentioned in the drawing.
2. All complete steel rail elements, terminal sections, posts, bolts, nuts, hardware, "W" beam section and other steel fittings shall be hot dip galvanized as per specified in drawing. All elements of the railing shall be free from abrasions, rough or sharp edges and shall not be kinked, twisted or bent. Damaged galvanized surfaces, edges of holes and ends of steel sections cut after galvanizing shall be cleaned and re-galvanized as per instruction of site in charge. The "W" beam, the posts, spacers and fasteners for steel barriers shall be galvanized by hot dip process (zinc coated, 0.55 kg per square meter; minimum single spot) unless otherwise specified. The galvanizing on all other steel parts shall conform to the relevant IS Specifications. All fittings (bolts, nuts, washers) shall conform to the IS:1367 and IS:1364. All galvanizing shall be done after fabrication.
3. The "W" beam type safety barrier shall consist 2 mm thick "W" beam as per IS: 5986 grade-205 or equivalent rail element erected on channel steel post as per approved drawing's specification. The end part of "W" corrugation should be equal to or less than the total depth of "W". The vertical steel channel post section should be 150 mm x 75 mm x 4.5 mm thick as per IS: 5986 grade -355 or equivalent as specified in the approved drawing. The steel post shall be 1.50 m above the ground level and posts shall be spaced at 2.0 m c/c or lesser as per site requirements and instruction of site in-charge. The "W" beam barrier shall be fixed as indicated in the approved drawing.

4. Technical Requirements

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Components of Metal Crash Barriers -

W Beams

W beams should be 2.0 mm thick as specified in the drawing. Raw material conforming to IS 5986 grade -205 or equivalent. Hot dip galvanized minimum of 550 gm/sq.m thickness on all surfaces as per IS: 4759 as per specification of drawing.

Posts

Raw material conforming to IS: 5986 grade – 355 or equivalent. Hot dip galvanized minimum of 550 gm/sq.m thickness on all surfaces as per IS: 4759.

Fasteners

M20 and M16 fasteners as per IS 1367 Grade 4.6/8.8 and Hot dip galvanized as per IS: 4759.

5. QUALITY ASSURANCE

Railway reserves the right to inspect the materials prior to dispatch from the factory and lab test (From NABL approved Lab) as per instruction of Engineer In charge.

B. CONSTRUCTION OPERATIONS

1. The line and grade of railing shall be true to that shown on the drawing.

The railing shall be carefully adjusted prior to fixing in place, to ensure proper matching at abutting joints and correct alignment and camber throughout its length. No site holes to be done which may damage the galvanizing.

2. Splices and end connections shall be of the type and designs specified as shown on the drawing and shall be of such strength as to develop full design strength of the rail elements.

C. INSTALLATION OF POSTS

For the installation process, the agency has to submit the methodology and get it approved by the Dy CE-GS-RTM/Sr SEN Co/Sectional DEN/RTM

1. ERECTION

All column rail anchors shall be set and attachments made and placed as indicated on the plans or as directed by the Engineer. All bolts or clips used for fastening the column rail or fittings to the posts shall be drawn up tightly as per drawing. Each bolt shall have sufficient length and at least 10 mm beyond the full nut, except where such extensions might interfere with or endanger movement nearby in which case the bolts shall be cut off flush with the nut. All railings shall be erected, drawn and adjusted so that the longitudinal tension will be uniform throughout the entire length of the rail. The anti-theft arrangement on fittings and fastenings should be provided as per the direction of Engineer in – charge.

2. TOLERANCE

- a. The railing barrier shall be erected true to line and grade as per specification of approved drawing.

3. MEASUREMENTS FOR PAYMENT

- a) Metal beam railing barriers will be measured by weight in Kg of completed work as per railway approved plans as per site conditions.
- b) No extra measurement for payment will be made in connection with this construction.

D. RATE

The item rate should include with materials, labours, lead, lift, loading, unloading, Tools and plants, all taxes, site cleaning, bush cutting, preparation of approach path, manual

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carting of materials due to unavoidable site requirement, etc with contractors own materials and labours necessary for doing all the work involved in constructing the Metal Beam Crash Barrier complete in place in all respects as per the Specifications. Work will be carried out as per direction and instruction of Engineer in charge of work/ Engineer representative. (No any extra payment shall be paid by Railway).

E. Metal Beam Crash Barrier Item Activities clarifications

(A) Activities involved in schedule- F, Item No. 6/NS:

- (1) W-Beam- 2mm thick- 02 Nos.
- (2) Channel post 150x75x4.5 @ 2mt. c/c- length 2.70 mt. each.
- (3) Lap in W-Beam- 0.318 mt.
- (4) All fittings and fastenings.
- (5) Labour charges for driven of channel post as per approved drawing.
- (6) Labour charges for Auger drilling for channel post fixing as per approved drawing.
- (7) **The finished item will be paid by weight in Kg.**

4.4 Supply of Ordinary Portland Cement:

- (1) The cement to be supplied and used for this work shall not be older than 10 weeks and conform to IS-12269-1987 from **approved manufactures such as JK Laxmi, Binani, Ultratech, Ambuja, Birla or similar major cement plants.** The contractor shall submit test certificate of the batch from manufacture. The Railway Engineer in charge can get any of batch of cement bags tested in any Government Laboratory/Engineering College, for which the cost of such test shall be borne by the contractor. The contractor shall take approval of Engineer in -charge prior to procurement of any brand of cement.
- (2) Ordinary Portland Cement shall be paid for execution of various USSOR/NS/DSR items (where applicable) included in this tender **after actual utilisation at site.** The empty cement bags shall be property of the Contractor.

5.0 SEQUENCE OF WORK : The contractor shall comply with the order of Engineer in regard to the sequence of tackling and progressing component part of the work.

- 5.1 While excavation the foundation, the contractor shall ensure that no damage is caused to underground sewer line pipes cables etc. He should also ensure the stability of the adjoining lines, building roads etc. damage to any of the underground services or any adjoining structures if caused during the course of work shall be fully made good by the contractor at his own cost.
- 5.2 Contractor has to submit completion plan for each completed structure in hard/ soft copies indicating all details immediately after completion of the structure, failing which, a recovery at a rate of Rs. 5000/- per structure/ plan shall be made. The rates quoted by contractor in this tender are inclusive of preparation and submission of completion plans. Nothing extra shall be paid on this account.
- 5.3 The contractor also should take time to time photographs and video graphs of execution of work at different stages and submit the digital copies stored on CD-RDM (Two CD-ROMs), to Railways and for which no extra payment shall be made. Failing this, a recovery at a rate of Rs. 20000/- lump-sum shall be made from the final bill.

6.0 REMOVAL OF REJECTED MATERIAL : Any material which is rejected by the Engineer for any reason before or after placing shall be removed from site at the contractor's expenses.

7.0 Material supplied by contractor

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- 7.1 Material conforming to various IS/Railway standards shall only be supplied and used in work after getting the approval for the same in writing from Engineer.
- 7.2 The contractor shall have to submit the cash memo and challans along with the lot of steel/cement or any other materials purchased from various retail factory outlets to SSE in-charge in token of proof of purchase of steel, cement and any other materials from reputed dealers, steel/cement shall not be allowed to be used by SSE-W-(GS) without these documents.
- 7.3 Contractor shall remove from site such materials as rejected by the Engineer within a reasonable time as specified by him.
- 7.4 The payment of steel/cement or any other materials shall be as per quantity calculated and actually used by the Railway accordingly to prescribed specification and approved drawings. If any extra quantity of steel/cement over and above shown in the drawing and standard scale laid down has been used by the contractor for any other reasons such as wastage or bad workmanship or any reasons if any in the opinion of Engineer, then the cost of such material steel/cement shall not be paid by the Railway. All excess consumption shall be borne by the contractor.

8.0 Quality Assurance

- 8.1 Tenderer/s should establish quality assurance system having following essential features among other needed for quality control during the execution of the work.
- 8.2 A separation within the tenderer/s organisation of the responsibility for execution and quality.
- 8.3 The system must be operated by appropriately qualified and trained staff who are familiar not only with the tasks that they are carrying out but also the whole concept of quality assurance.
- 8.4 There must be quality manual defining procedures of materials acceptance and testing, method of execution and testing, finishing product, manual shall name individually who are trained authorised to carry out specified tasks.
- 8.5 The system must ensure traceability of material from acceptance to delivery and be a system of self certifications ensuring the work described in the manual is carried out correctly.
- 8.6 There must be a system of in-house audit carried out to ensure that procedure as being adhered to paper work is up to date and changes in the execution procedures are being recognised with the system being modified to accommodate them.
- 8.7 The system must ensure that if performance does not meet pre-determined quality levels there is an automatic and progressive increase of inspection which is only released when on target is met.
- 8.8 Tenderer/s shall submit full details of the quality assurance system to the railways and shall obtain the Railway's approval prior to its introduction.

9.0 SPECIFICATIONS FOR RCC/CC WORK.

- 9.1 The contractor/s will be required to exercise effective quality control over production, placement and curing of concrete at site. They will ensure proper specifications as laid down in IS-456-1978. No extra payment for this quality control shall be admissible.

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- 9.2 Sample from fresh concrete shall be taken as per IS-1192 (1959) Method of sampling and analysis of concrete and cubes shall be made, cured and tested in accordance with IS 516(1959) Method of test for strength of concrete. The contractor/s shall arrange for testing of cubes in comparison at his own cost in accordance with IS 516 (1959) in present of the Engineer's representative. No extra payment for carrying out such test will be made to the contractor.
- 9.3 The contractor/s will maintain quality control charts at site of work based on the test results which should be made available to the inspecting officers on demand.
- 9.4 Aggregate, sand and water to be used for CC/RCC should conform to relevant ISI standard. Testing shall be made at contractor's cost to ensure quality.
- 9.5 No concreting will be allowed till reinforcement and shuttering work are properly checked and Okayed in writing by the Engineer's representative. Centering and shuttering for RCC & CC work, the contractor are required to design, the shuttering, and centering, properly and submit his/ their design with drawing for approval of the Engineer. All the joints between shuttering plates and concrete surface shall be water tight by application of sponge or any other suitable materials. No concreting will be done unless such drawings have been approved by the Engineer.
- 9.6 All controlled concrete shall be weight batches; concrete mixers with devices for automatic / mechanical weighting facilities for aggregate, cement, sand shall be employed. For controlled concrete work moisture content in the aggregate shall be taken into consideration. Green Concrete properly compacted by used of vibrators.
- 9.7 Contractor shall ensure one stretch concreting during one shift of concreting. Any rest/pauses such as for meals etc. should be adjusted accordingly with the consent of the Engineer's representative.
- 16.8 Any part of the RCC which does not come up to the standards and specifications laid down, shall be rejected and the contractor shall make good such rejected works.
- 9.9 Construction joint may be provided only after approval of Engineer and will be prepared as per standard procedure as laid down in relevant IS Code.
- 9.10 Contractor shall provide only approved type of form work preferably of steel and the same shall be got approved by the Railway before used in work.
- 9.11 For all concrete work, the ingredients will be tested as per standard testes prescribed in IS Codes and Works Hand Book, Part III to determine their properties and their grading. As far as possible, stock piling of the aggregates shall be done in accordance with the standard practices to enable standard analysis being made of such batch that is brought to the site. The design of the mix will be carefully done from representative samples of the aggregate. The preliminary test results along with analysis of aggregate and mix design calculations should be sent to the Engineer for his approval. The contractor's will modify/carry out the mix design to the satisfaction of the Engineer if so required and get his final approval. Such approval, however, does not relieve the contractor/s of his/their responsibility and obligations regarding the minimum strength requirement. Each mix design shall invariably mention the slump value. The designed slump should be adequate for the concreting in member.
- 9.12 The Grade of Concrete and Consumption of cement shall be item specific as per mix design from a reputed laboratory to the satisfaction of the Engineer in-charge.
- 9.13 Contractor has to ensure proper curing for a minimum period of 28 days from the date of casting.

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9.14 For ensuring proper curing of structures, the contractor shall be put minimum one labour at each site/Station at the disposal of Engineer In charge, failing which a recovery of Rs. 450/- (Four Hundred Fifty only) per day per site will be made.

10.0 Supplying and utilizing at-site Steel reinforcement / Structural Steel.

- a) The work includes supplying, cutting, bending, binding, welding and erecting in position high yield strength deformed (HYSD) / TMT steel bars as reinforcement for concrete / Structural Steel.
- b) Railway administration shall also get the steel brought at site, tested from time to time in the reputed institution/lab as and when required at the cost of the contractor.
- c) The rate shall include the cost of preparing reinforcement as per detailed drawings including bar placing drawings, bar bending diagrams, submitting the drawing to the department preparing all necessary bar cutting lists, furnishing and attaching wire ties and cutting bending, cleaning, securing and maintaining in position all reinforcing bars as shown on the drawings or as directed by the Engineer-in-Charge. The unit rate shall also include cost of all incidental operations necessary to complete the work as per specifications.
- d) In case of Structural Steel, the item includes fabricating steel structural members with contractor's own mild steel of various rolled section as per drawing/ details given by the Engineer in charge and assembling. All the mild steel sections shall be procured from IS approved manufacturers only by the contractor and shall conform to IS 226/IS 2062 -2006. The fabrication of steel work will be done strictly as per specification no. 61 to 64 of Western Railway, Works hand book part III, 1984, IRS B-61 Part II, IS 816/IS9417-1979 for welding and IS 800-1984 for practice for use of structural steel, to the extent applicable to this work. The rate includes making the surface good by application of one coat of approved quality of primer red lead confirming to IS 102 or Zinc Chromate confirming to IS 104 and two or more coats (to achieve good and even surface) of good quality synthetic enamel paints or Aluminum paint confirming to IS 2339, where ever required as directed by engineer in charge. The rates are inclusive of transportation, labour, T&P, welding, bolting and riveting, erection etc. Complete..
- e) No extra payment for the difference in weight on account of the use of alternate higher section will be paid. The payment will be made for the weight of the steel sections, bolts/Holding down bolts and nuts, Washers as per approved final fabrication drawings. Only difference of weight on account of use of alternative heavier sections can, however be allowed, for payment, subject to certification by the main producer that the prescribed sections are not being manufactured.
- f) All ends of binding wire shall be carefully turned inwards so that they do not project out of concrete to starting rusting action. Galvanised wires shall only be used as binding wire. No extra payment will be made for binding wire.
- g) All Reinforcement Steel (TMT Bars) and structural steel shall be procured as per specifications mentioned – IS : 1786 – 2008 and IS : 2062 respectively. Independent tests shall be conducted, wherever required, to ensure that the materials procured conform to specifications.
- h) These Steel shall be procured only from those firms, which are Established, Reliable, Indigenous & Primary Producers of Steel, having Integrated Steel Plants (ISP), using iron ore as the basic raw material and having in-house iron rolling facilities, followed by production of liquid steel and crude steel, as per Ministry of Steel's guidelines.

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- i) Contractor may supply and utilize steel in works from vendors which are available in the approved list of RDSO. List of Registered vendors of TMT Reinforcement Bars along with process route of steel making is available on RDSO's web site <http://www.rdsso.indianrailways.gov.in>. The contractor has to submit the certificate from RDSO as approved vendor.
- j) However, only certain isolated sections of structural steel, not being rolled by ISPs, can be procured from the authorized re-rollers of ISPs or authorized licensee of BIS having traceability system and who use billets produced by ISPs. Traceability shall be ensured by an officer specially authorized by concerned SAG officer of the Zonal Railway on case to case basis for this purpose.
- k) The contractor shall furnish BIS manufacturer's test certificate along with test results for each category for every lot brought to the site of work. The manufacturer's test results shall be from the manufacturer's lab only. The test results from other lab shall not be accepted and the consignment will be rejected. Testing of steel shall be carried out as per relevant IS code.
- l) In addition to the manufacturer's test certificate, the contractor has to send it to lab for testing. In case the testing material does not conform to the relevant IS Specifications, it will be summarily rejected. The cost of all such tests is to be borne by the contractor.
- m) Weight of the structural member to be fabricated and erected will be worked out on the basis of the length of different structural steel members shown in the Railway's final fabrication drawing and book weight of the section actually used. No allowance shall be added for welding, riveting, bolting etc. And no deduction shall be made for the holes.
- n) In case the structural sections and nuts, bolts etc. Specified in the approved Railway's fabricated drawings are not available in the market, the tenderer/s will be at liberty to use alternate sections with the approval of the Railway Administration in each case. However it may please be noted that no extra payment for the difference in weight on account of the use of alternate higher section will be paid.
- o) The weight shall be calculated as per the standard unit weight of the section as per the ISI Hand Book. If any extra quantity of steel over and above shown in the drawing and over the standard scale laid down has been used by the contractor or for any other reasons such as wastage or bad workmanship, the cost of this excess will not be paid by the Railway.
- p) If any structural plaque shall be provided, made by cast steel and same shall be paid separately in this item of structural steel by 1.5 times of quoted rate of structural steel.
- q) The rate quoted by the contractor includes all labour, T&P, machinery, taxes, electricity etc. For fabricating Rail attached members, the rail will be made free of cost at the nearest Railway station and these rails will have to be cut and fabricated as per approved drawings and the additional steel like angles, plates, etc. Required to complete the work will be paid in this item. For fabricating rails separate payment will be done in relevant USSOR item.

11.0 Supply, Fabrication, Assembling, welding, erecting, riveting, launching, bolting by HSFG bolts wherever required of steel girder spans as per the railway approved drawings for composite construction i.e. (Steel +RCC) of superstructure.

11.1. MATERIAL

The material of structural steel, weld, rivet, casting & forgings, fasteners etc. and fabrication and erection of the girder shall conform to the provisions of :

- (a) Specifications for road and bridge works of MORTH- section no. 1900-structural steel.

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- (b) Indian railway standard code of practice for the design of steel or wrought iron bridge carrying rail, road or pedestrian traffic and other relevant IRS codes/manuals.
- (c) Unless otherwise specified, paints shall conform to the relevant IS specifications. The paints which have been tested or the following qualities as per specifications given in the relevant IS codes only shall be used.
 - Weight test (weight for 10 litre of paint, thoroughly mixed)
 - Drying time
 - Consistency
 - Dry thickness and rate of consumption.

11.2 FABRICATION**General**

- i) All work shall be in accordance with the drawings and specifications with care being taken that all parts of an assembly fits accurately together. All members shall carry mark number and item number and if required, serial number.
- ii) All structural steel members and parts shall have straight edges and blunt surfaces. If necessary, they shall be straightened or flattened by pressure unless they are required to be of curvilinear forms. They shall also be free from twist. Pressure applied for straightening or flattening shall be such as would not injure the materials. Hammering shall not be permitted. Adjacent surfaces or edges shall be in close contact or at uniform distance throughout.
- iii) **The fabrication is to be done by RDSO approved venders for bridge girders/ ROB/girders. The QAP and WPSS must be submitted by the fabricating agency well in advance before start of fabrication for approval of Railway authorities.**
- iv) The contractor shall submit his programme of work to the Engineer for his approval at least 15 days before the commencement of fabrication. This programme shall include the proposed system of identification and erection marks together with complete details of fabrication and welding procedures.
- v) The contractor shall prepare shop drawings for fabricating any member and obtain approval of the Engineer before that start of work. Complete information regarding the location, type, size and extent of all welds shall be clearly shown on the shop drawings. These drawings shall distinguish between shop and filed welds.

IRS Welded Bridge Code

(Code of Practice for Metal arc Welding in Mild Steel Bridges carrying Rail, Rail-cum-Road or Pedestrian Traffic) is also applicable

11.2.1 Preparation off Edge and Ends

All structural steel – parts, where required, shall be sheared, cropped, sawn or flame cut and ground accurately to the required dimension and shape.

- 1) End/edge planning and cutting shall be done by any one of the following prescribed methods or left as rolled :
 - (a) Shearing, cropping, sawing, machining, machine lame cutting.
 - (b) Hand flame cutting with subsequent grinding to a smooth edge.
 - (c) Sheared edges of plate not more than 16 mm thick with subsequent grinding to smooth profile, which are for secondary use such as stiffeners and gussets.
- 2) If ends of stiffener are required to be fitted, they shall be ground, so that the maximum gap over 60 percent of the contact area does not exceed 0.25 mm. Where flame cutting or shearing is used, at least one of the following requirements shall be satisfied.
 - a) The cut edge is not subjected to applied stress.
 - b) The edge is incorporated in weld.
 - c) The hardness of cut edge does not exceed 350 HV30.

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- d) The material is removed from edge to the extent of 2 mm or minimum necessary, so that the hardness is less than 350 HV 30.
 - e) Edge is suitably heat treated by approved method to the satisfaction of the Engineer and shown that cracks had not developed by dye penetrant or magnetic particle.
 - f) Thickness of plate is less than 40 mm for machine flame cutting for materials conforming to IS:226 and IS:2062. The requirement of hardness below 350 HV 30 of flame cut edges should be specified by the Engineer.
- 3) Wherever specified by the Engineer, the flame cut edges shall be ground or machined over and above the requirement (a) to (f).
 - 4) Where machining for edge preparation in butt joint is specified, the ends shall be machined after the members have been fabricated.
 - 5) Outside edges of plate and section, which are prone to corrosion shall be smoothed by grinding or filling.
 - 6) In the case of high tensile steel at least 6 mm of the material from the flame cut edge shall be removed by machining.
 - 7) Longitudinal edges of all plates and cover plated in plate girders and built – up members shall be machined except in the following cases :
 - a) Rolled edges of single universal plates or flats may not be machined.
 - b) Covers to single flange plates may be left unmachined.
 - c) Machine flame cutting instead of machining is acceptable for edges of single plates in compression and for edges of single plates, 25 mm or less thick, in-tension.
 - d) Edges of single shaped plates over 25 mm thick not capable of being machined by ordinary method may be machine flame cut and the end surface ground.
 - e) Edges of universal plates or flats of the same nominal width used in tiers may be left unmachined, if so authorized by the Engineer.
 - 8) All edges of splice and gusset plates 12 mm thick and over shall be machined and those less than 12 mm thick may be sheared and ground.
 - 9) The ends of plates and sections forming the main components of plate girders or of built-up members shall be machined, machine flame cut, sawn or hand flame cut and ground.
 - 10) Where ends of stiffeners are required to be fitted, they shall be machined machine flame cut, sawn, sheared and ground, or hand flame cut and ground.
 - 11) The ends of lacing bar shall be rounded unless otherwise required.
 - 12) Other edges and ends of mild steel parts may be sheared and any burrs at edges shall be removed.

11.2.2 Preparation of Holes

- 1) **Drilling and punching:** Holes for rivets, black bolts, high strength bolts and countersunk, bolts/rivets (excluding close tolerance and turn fitted bolts) shall be either punched or drilled. The diameter of holes shall be 1.5 mm larger for bolts/rivets less than 25 mm dia and 2.0 mm for more than or equal to 25 mm.
- 2) All holes shall be drilled except for secondary members such as, floor plate, hand rails etc. members which do not carry the main load can be punched subject to the thickness of member not exceeding 12 mm for material conforming to IS : 2062.
- 3) Holes through more than one thickness of material or when any of the main material thickness exceeds 20 mm for steel conforming to IS:2062 or 16 mm for steel conforming to

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IS:961, IS:8500, shall either be sub-drilled or sub- punched to a diameter of 3 mm less than the required sized and then reamed to the required size. The reaming of material more than one thickness shall be done after assembly.

- 4) Where several plates or sections form a compound member, they shall, where practicable, be firmly connected together by clamps or tacking bolts, and the holes be drilled through the group in one operation. Alternatively, and in the case of repetition work, the plates and sections maybe drilled separately form jigs and templates. Jigs and templates shall be checked at least once after every 25 operations. All burrs shall be removed.
- 5) In the case of repetition of spans, the erection of every span shall not be insisted upon, except where close-tolerance or turned bolts are used, provided that methods are adopted to ensure strict interchangeability. In such cases, one span in ten or any number less than ten of each type shall be erected from pieces selected at random by the Engineer and should there by any failure of the pieces to fit, all similar spans shall be erected complete. In the event of spans being proved completely interchangeable, all corresponding parts shall carry the same mark so that sorting of the materials at site is facilitated.
- 6) Block drilling : Where the number of plates to be riveted exceeds three or the total thickness is 90 mm or more, the rivet holes, unless they have been drilled through steel bushed jigs, shall be drilled out in place 3 mm all round after assembling. In such cases, the work shall be thoroughly bolted together.
- 7) Size of holes: The size of holes in millimeters are given in Table – 1 below:-

TABLE. 1 : DIAMETER OF HOLES FOR RIVETS

Nominal dia of Rivets (mm)	Dia of Holes (mm)
12	13.5
14	15.5
16	17.5
18	19.5
20	21.5
22	23.5
24	25.5
27	29.0
30	32.0
33	35.0

- 8) Close tolerance bolts and barrel bolts: Holes for close tolerance and turn fitted bolts. The diameter of the holes shall be equal to the nominal diameter of the bolt shank minus 0.15 mm to 0.0 mm.
- 9) The members to be connected with close tolerance or turn fitted bolts shall be firmly held together by service bolts or clamped and drilled through all thicknesses in one operation and subsequently reamed to required sized within specified limit of accuracy in IS : 919 tolerance grade H8.
- 10) The holes not drilled through all thicknesses at one operation shall be drilled to smaller sized and reamed after assembly.
- 11) Holes for high strength friction grip bolts: All holes shall be drilled after removal of burrs. Where the number of plies in the grip does not exceed three, the diameters of holes shall be 1.6 mm larger than those of bolts and for more than three plies in grip, the diameter of hole in outer plies shall be as above and dia of holes in inner plies shall not be less than 1.6 mm and not more than 3.2 mm larger than those in bolts, unless otherwise specified by the Engineer.
- 12) **Removal of burrs:** The work shall be taken apart after drilling and all burrs left by drilling and the sharp edges of all rivet holes completely removed.

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11.2.3 Rivet and Riveting

The diameter of rivets shown on the drawings shall be the size before heating. Each rivet shall be of sufficient length to form a head of the standard dimensions as given in IS handbook on steel section, part

- I. It shall be free from burrs on the underside of the head.
- II. When countersunk heads are required, the heads shall fill the countersunk. The included angle of the head shall be as follows:

a) For plates over 14 mm thickness	90 degrees
b) For plates up to and including 14 mm thickness	120 degrees
- III. The tolerance on the diameter of rivets shall be in accordance with IS:1148 and IS:1149 for mild steel rivets and high tensile steel rivets respectively and unless otherwise specified, the tolerance shall be minus tolerance.
- IV. Rivets shall be driven when hot so as to fill the hole as completely as possible and shall be of sufficient length to form a head of standard dimension. When counter- sunk head is required, the head shall fill the counter- sunk hole. Projection after counter – sinking shall be ground off wherever necessary.
- V. Rivets shall be heated uniformly to a “light cherry red” colour between 650 degrees Celsius to 700 degrees Celsius for hydraulic riveting and “orange colour” for pneumatic riveting of mild steel rivets and shall be red hot from head to the point when inserted and shall be upset in its entire length so as to fill the hole as completely as possible when hot. Rivets, after being heated and before being inserted in the hole shall be made free from scale by striking the hot rivet on a hard surface.
- VI. Wherever possible, the rivets shall be machine driven, preferably by direct acting riveters. The driving pressure shall be maintained on the rivet for a short time after the upsetting is completed. High tensile steel rivets shall be heated upto 1100 degrees Celsius. Any rivet whose point is heated more than prescribed, shall not be driven.
- VII. Where flush surface is required, any projecting metal shall be chipped or ground off.
- VIII. Before riveting is commenced, all work shall be properly bolted up so that the various sections and plates are in close contact throughout.
- IX. Drifts shall only be used for drawing the work into position and shall not be used to such an extent as to distort the holes. Drifts of a larger size than the normal diameter of the hole shall not be used. The reworking shall be done by hydraulic or pneumatic machine unless otherwise specified by the Engineer.
- X. Driven rivets, when struck sharply on the head by a quarter pound rivet testing hammer, shall be free from movement and vibrations. Assembled riveted joint surfaces, including those adjacent to the rivet heads, shall be free from scale, dirt loose scale, burrs, other foreign, materials and defects that would prevent solid seating of parts.
- XI. All loose or burnt rivets and rivets with cracked or badly formed defective heads or with heads which are unduly eccentric with the shanks, shall be removed and replaced. In removing rivets, the head shall be sheared off and the rivet pushed out so as not to injure the adjacent metal and, if necessary, they shall be drilled out. Recupping or recaulking shall not be permitted. The parts not completely riveted in the shop shall be secured by bolts to prevent damage during transport and handling.

11.2.4 Bolts, Nuts and Washers

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- I. **Black bolts (black all over):** Black bolts are forged bolts in which the shanks, heads and nuts do not receive and further treatment except cutting of screw threads. They shall be true to shape and size and shall have the standard dimensions as shown on the drawing.
- II. **Close tolerance bolts:** Close tolerance bolts shall be faced under the head and turned on the shank.
- III. **Turned barrel bolts:** The diameter of the screwed portion of turned barrel bolts shall be 1.5 mm smaller than the diameter of the barrel unless otherwise specified by the Engineer. The diameter of the bolts as given on the drawing shall be the nominal diameter of the barrel. The length of the barrel shall be such that it bears fully on all the pans connected. The threaded portion of each bolt shall project through the nut by at least one thread. Faces of heads and nuts bearing on steel work shall be machined.
- IV. **High strength friction bolts and bolted connections :** The general requirement shall be as per relevant IS specifications mentioned in clause 5.3 of (Fasteners) of IRC:24, Unless otherwise specified by the Engineer, bolted connections of structural joints using high tensile friction grip bolts shall comply with requirements mentioned in IS:4000.
- V. **Washers:** In all cases where the full bearing area of the bolts is to be developed, the bolts shall be provided with a steel washer under the nut of sufficient thickness to avoid any threaded portion of the bolt being within the thickness of the parts bolted together and to prevent the nut when screwed up, from bearing on the bolt.
- VI. For close tolerance or turned barrel bolts, steel washers whose faces give a true bearing shall be provided under the nut. The washer shall have a hole diameter not less than 1.5 mm larger than the barrel and a thickness of not less than 6 mm so that the nut when screwed up, will not bear on the shoulder of the bolt.
- VII. Taper washers with correct angle of taper shall be provided under all heads and nuts bearing on beveled surfaces.
- VIII. Spring washers may be used under nuts to prevent slackening of the nuts when excessive vibrations occur.
- IX. Where the heads or nuts bear on timber, square washers having a length of each side not less than three times the diameter of bolts or round washers having a diameter of 3V, times the diameter of bolts and with a thickness not less than one quarter of diameter shall be provided.
- X. **Studs:** Ordinary studs may be used for holding parts together, the holes in one of the parts being tapped to take the thread of the stud. Counter –sunk may be used for making connection where the surfaces are required to be clear of all obstruction, such as protruding heads of bolts or rivets, studs may also be welded on the steel work in the positions required.
- XI. **Service bolts:** Service bolts shall have the same clearance as black bolts and where it is required that there should be no movement prior to final riveting, sufficient drifts or close tolerance bolts shall be used to locate the work.
- XII. **Tightening bolts:** Bolted connection joints with black and high strength bolts shall be inspected for compliance of code requirements.
- XIII. The Engineer shall observe the installation and tightening of bolts to ensure that correct tightening procedure is used and shall determine that all bolts are tightened. Regardless of tightening method used, tightening of bolts in a joint should commence at the most rigidly fixed or stiffest point and progress towards the free edges, both in initial snugging and in final tightening.
- XIV. The tightness of bolts in connection shall be checked by inspection wrench, which can be torque wrench, power wrench or calibrated wrench.

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- XV. Tightness of 10 per cent bolts, but not less than two bolts, selected at random in each connection shall be checked by applying inspection torque. If not nut or bolt head is turned by this application, connection can be accepted as properly tightened, but if any nut or head has turned all bolts shall be checked and, if necessary, retightened.

11.2.5 Drifts

The barrel shall be drawn or machined to the required diameter for a length of not less than one diameter over the combined thickness of the metal through which the drifts have to pass. The diameter of the parallel barrel shall be equal to the nominal diameter of the hole subject to a tolerance of + 0 mm and 0.125 mm. Both ends of the drift for a length equal to 1 ½ times the diameter of the parallel portion of the bar shall be turned down with a taper to a diameter at the end equal to one – half that of parallel portion.

11.2.6 Pins and Pin Holes

- i) **Pins** : The pins shall be parallel throughout and shall have a smooth surface free from flaws. They shall be of sufficient length to ensure that all parts connected thereby shall have a full bearing on them. Where the ends are threaded, they shall be turned to a smaller diameter at the ends for the thread and shall be provided with a pilot nut, where necessary, to protect the thread when being drawn to place.
- ii) Pins more than 175 mm in length or diameter shall be forged and annealed.
- iii) **Pin holes**: Pin holes shall be bored true to gauge, smooth, straight at right angles to the axis of the member and parallel with each other, unless otherwise required. The tolerance in the length of tension members from outside to outside of pin holes and of compression members from inside to inside of pin holes shall be one millimeter. In built – up members, the boring shall be done after the members have been riveted or welded
- iv) The specified diameter of the pinhole shall be its minimum diameter. The resulting clearance between the pin and the hole shall not be less than 0.5 mm and not more than 1.0 mm.

11.2.7 Shop Erection and Match Marking

- i) Before being dispatched, the steel work shall be temporarily erected in the fabrication shop for inspection by the Engineer either wholly or in such portion as the Engineer may require so that he may be satisfied both in respect of the alignment and fit of all connections. For this purpose, sufficient number of parallel drifts and service bolts tightly screwed up shall be employed. All parts shall fit accurately and be in accordance with drawings and specifications.
- ii) The steel work shall be temporarily assembled at place of fabrications.
- iii) Assembly shall be of full truss or girder, unless progressive truss or girder assembly, full chord assemble, progressive chord assembly or special complete structure assembly is specified by the Engineer.
- iv) The field connections of main members of trusses, aches, continuous beams, spans, bends, plate girders and rigid frame assembled, aligned, accuracy of holes and camber shall be check by Engineer and then only reaming of sub-size holed to specified size shall be taken up.
- v) After the work has been passed by the Engineer and before it is dismantled, each part shall be carefully marked for re-erection with distinguishing marks and stamped with durable markings. Drawings showing these markings correctly shall be supplied to the Engineer.
- vi) Unloading handling and storage of steel work as per these specifications shall be the responsibility of the contractor/s. The cost of repairs or of rejected materials, its removal and the cost of transporting replacement material to the site shall be borne by the Contractor.

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- v) Where close tolerance or turned barrel bolts are used for those cases where interchangeability is not insisted upon, each span shall be erected and members of each span marked distinctly.

11.2.8 Welding

- 1) All welding shall be done with the prior approval of the Engineer and the workmanship shall conform to the specifications of IS: 823 or other relevant Indian Standards as appropriate.
- 2) When material thickness is 20 mm or more, special precautions' like preheating shall be taken as laid down in IS:823 Surfaces and edges to be welded shall be smooth, uniform and free from fins, tears, cracks and other discontinuities. Surface shall also be free from loose or thick scale, slag rust, moisture, oil and other foreign materials. Surface within 50 mm of any weld location shall be free from any paint or other material that may prevent proper welding or cause objectionable fumes during welding.
- 3) The general welding procedures including particular of the preparation of fusion faces of metal are welding shall be carried out in accordance with IS:9595.
- 4) The welding procedures for shop and site welds including edge preparation of fusion faces shall be submitted in writing in accordance with Clause 22 of IS:9595 for the approval of the Engineer before connecting fabrication and shall also be as per details shown on the drawings. Any deviation from above has to be approved by Engineer. Preparation of edges shall, wherever practicable, be done by machine methods.
- 5) Machine flame cut edges shall be substantially as smooth and regular as those produced by edge planning and shall be left free of slag. Manual flame cutting shall be permitted by the Engineer only where machine cutting is not practicable.
- 6) Electrodes to be used for metal are welding shall comply with relevant IS specifications mentioned in IRC:24. Procedure test shall be carried out as per IS: 8613 to find out suitable wire-flux combination for welded joint.
- 7) Assembly of parts for welding shall be in accordance with provisions of IS: 9595.
- 8) The welded temporary attachment should be avoided as far as possible. Otherwise the method of making any temporary attachment shall be approved by the Engineer. Any scarres form temporary attachment shall be removed by cutting, chipping and surface shall be finished smooth by grinding to the satisfaction of the Engineer.
- 9) Welding shall not be done when the air temperature is less than 10 degrees Celsius. Welding shall not be done when the surfaces are moist, during periods of strong winds or in snowy weather unless the work and the welding operations are adequately protected.
- 10) In assembling and joining parts of a structure or of built – up members, the procedure and sequence of welding shall be such as to avoid distortion and minimize shrinkage stress.
- 11) IRS Welded Bridge Code (Code of Practice for Metal arc Welding in Mild Steel Bridges carrying Rail, Rail-cum-Road or Pedestrian Traffic) is also applicable
- 12) All requirements regarding pre-heating of parent material, and interpass temperature shall be in accordance with provision of IS: 9595.
- 13) **Peening of weld** shall be carried out wherever specified by the Engineer:
 - a) If specified, peening may be employed to be effective one each weld layer except first.
 - b) The peening should be carried out after weld has cooled by light blows form a power hammer using a round tool. Care shall be taken to prevent scaling or flaking of weld and base metal form over peening.
- 14) Where the Engineer has specified the butt welds are to be ground flush, the loss of parent metal shall not be greater than that allowed for minor surface defects. The ends of butt

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joints shall be welded so as to provided full throat thickness. This may be done by use of extension pieces, cross runs or other means approved by the Engineer. Extension pieces shall be removed after the joint has cooled and the ends of the welds shall be finished smooth and flush with the faces of the abutting parts.

- 15) The joints *and welds listed below are prohibited type, which do not perform well under cyclic loading.*

- a) *Butt joints not fully welded throughout their cross-section*
- b) *Groove welds made from one –side only without any backing grip*
- c) *Intermittent groove welds*
- d) *Intermittent fillet welds*
- e) *Bevel – grooves and J-grooves in butt joints for other than horizontal position.*
- f) *Plug and slot welds.*

- 16) The run- on and run – off plate extension shall be used providing full throat thickness at the end of built welded joints. These plates shall comply with the following requirements.

- i) One pair of “run – on” and one pair of “run-off” plates prepared from same thickness and profile as the parent metal shall be attached to start and finish of all butt welds preferably by clamps.
- ii) When “run-on” and “run-off” plates shall be removed by flame cutting, it should be cut at more than 3 mm from parent metal and remaining metal shall be removed by grinding or by any other method approved by the Engineer.

17) Welding of stud shear connectors:

- i) The stud shear connectors shall be welded in accordance with the manufacture instruction including preheating.
- ii) The stud and the surface to which studs are welded shall be free from scale, moisture, rust and other foreign material. The stud base shall not be painted, galvanized or cadmium plated prior to welding.
- iii) Welding shall be not be carried out when temperature is below 10 degrees Celsius or surface is wet or during periods of strong winds unless the work and the welder is adequately protected.
- iv) The welds shall be visually free from cracks and shall be capable of developing at least the nominal ultimate strength of studs.
- v) The procedural trial for welding the stud shall be carried out when specified by the Engineer.

11.2.9 Tolerances

- i) Tolerances in dimensions of components of fabricated structural steel work shall be specified on the drawings and shall be subject to the Engineer before fabrication. Unless specified, all parts of an assembly shall fit together accurately within tolerance specified in MORTH Section 1900 specification as given in Table- 2 below.
- ii) A machined bearing surface, where specified by the Engineer, shall be machined within a deviation of 0.25 mm for surfaces that can be inscribed within a square of side 0.5 mm.

TABLE.2 FABRICATION TOLERANCES

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A. INDIVIDUAL COMPONENTS	
1.	Length
a)	Member with both ends finished for contact bearing
b)	Individual components of members with end plate connection
c)	Other members
i)	Upto and including 12 M
ii)	Over 12 M
2.	Width
a)	Width of built – up girders
b)	Deviation in the width of members required to be inserted in other members
3.	Depth
	Depth Deviation in the depths of solid web and open web girders
4.	Straightness
a)	Deviation from straightness of columns
i)	In elevation
ii)	In plan
5.	Deviation of center line of web from centre line of flanges in built – up members at contact surfaces
6.	Deviation from flatness of plates of webs of built – up members in a Length equal to the depth of the member
7.	Tilt of flange of plate girders
a)	At splices and stiffeners, at supports, at the top flanges of Plate girders and at bearings
b)	At other places
8.	Deviation from squareness of flange to web of columns and box Girders
9.	Deviation from squareness of fixed base plate (not machined) to axis of column. This dimension shall be measured parallel to the Longitudinal axis of the column at points where the other surfaces of the column section make contact with the base plate

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10.	Deviation from squareness of machined ends to axis of columns	D/1000, where D is as defined In 9 above
11.	Deviation from squareness of machined ends to axis of beams or Girders	D/1000, where D is as defined In 9 above
12.	Ends of members abutting at joint through cleats or end plates, Permissible deviation form squareness of ends	1/600, of depth of member Subject to a maximum of 1.5 mm

11.3 ERECTION AND LAUNCHING:**(1) General.**

- i. The provision of this item shall apply to erection & launching of steel bridge superstructures or main members of bridge superstructures, composed of steel, which span between support.
- ii. The contractor shall erect the structural steel, remove the temporary construction, and do all the work required to complete the construction included in the contract in accordance with the drawings and the specifications and to the entire satisfaction of the Engineer.

(2) Organization and Equipment:

- i) The Contractor shall submit erection & launching plans prepared by the fabricator, showing a method and procedure of erection, compatible with the details of fabrication.
- ii) A detailed scheme must be prepared showing stage-wise activities, with complete drawings and working phase-wise instructions. This should be based on detailed stage-wise calculation and take into account specifications and capacity of erection equipment machinery, tools, tackles to be used and temporary working loads as per Codal provisions.
- iii) The scheme should be based on site conditions, climatic conditions and available working space including space required for temporary staging , etc.
- iv) The scheme should indicate precisely the type of temporary fasteners to be used as also the minimum percentage of permanent fasteners to be fitted during the stage erection. The working drawings should give clearly the temporary jigs, fixtures, clamps, spacer supports, etc.
- v) Unless otherwise provided in the contract, the contractor shall supply and erect all necessary false work and staging and shall supply all labour, tools, erection plant and other materials necessary to carry out the work complete in all respects.
- vi) Prior to actual commencement of erection and launching all equipment, machinery, tools, tackles, ropes, etc. need to be tested to ensure their efficient working. Frequent visual inspection is essential in vulnerable areas to detect displacements, distress, drainages, etc.
- vii) Deflection and vibratory tests shall be conducted in respect of supporting structures, launching truss as also the structure under erection and unusual observations reviewed looseness of fittings are to be noted.
- viii) For welded structures, welders' qualifications and skill are to be checked as per standard norms. Non-destructive tests of joints as per designer's directives are to be carried out. Precision non-destructive testing instruments available in the market should be used for noting various important parameters of the structures frequently and systematic record is to be kept.

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- ix) Erection work should start with complete resources mobilised as per latest approved drawings and after a thorough survey of foundations and other related structural work. In case of work of magnitude, maximum mechanisation is to be adopted.
- x) The structure should be divided into erectable modules as per the scheme. This should be pre-assembled in a suitable yard/platform and its matching with members of the adjacent module checked by trial assembly before erection.
- xi) The structure shall be set out to the required lines and levels. The stocks and masses are to be carefully preserved. The steel work should be erected, adjusted and completed in the required, position to the specified line and levels with sufficient drifts and bolts. Packing materials are to be available to maintain this condition.
- xii) Before starting work, the Contractor/s shall obtain necessary approval of the Engineer as to the method adopted for erection & launching, the number and character of tools and plants. The approval of the Engineer shall not relieve the Contractor/s of his responsibility for the safety of his method or equipment or from carrying out the work fully in accordance with the drawings and specification.
- xiii) During the progress of work, the Contractor/s shall have a competent Engineer or foreman in charge of the work, who shall be adequately experienced in steel erection and acceptable to the Engineer.

(3) Formwork.

The formwork shall be properly designed, substantially built and maintained for all anticipated loads. The Contractor, if required, shall submit plans for approval to the Engineer. Approval of the plans, however, shall not relieve the Contractor of his responsibility.

(4) Assembling Steel.

- i) The parts shall be accurately assembled as shown on the drawings and match marks shall be followed. The material shall be carefully handled so that no parts will be bent, broken or otherwise damaged.
- ii) Hammering which will injure or distort the members shall not be done. Bearing surface or surfaces to be in permanent contact shall be cleaned, before the members are assembled. The truss spans shall be erected on blocking so placed as to give the proper camber. The blocking shall be left in place until the tendon chord splices are fully riveted and all other truss connections pinned and bolted. Rivets in splices of butt joints of compression members and rivets in railings shall not be driven until the span has been swung.
- iii) All joints surface for bolted connections including bolts, nuts, washers shall be free from scale, dirt, burrs, other foreign materials and defects that would prevent solid seating of parts. The slope of surface of bolted parts in contact with bolt head and nut shall not exceed 1 in 20, plane normal to bolt axis, otherwise suitable tapered washer shall be used.
- iv) All fasteners shall have a washer under nut or bolt head whichever is turned in tightening.
- v) Any connection to be riveted or bolted shall be secured in close contact with service bolts or with a sufficient number of permanent bolts before the rivets are driven or before the connections are finally bolted. Joints shall normally be made by filling not less than 50 per cent of holes with service bolts and barrel drifts in the ratio 4:1. The service bolts are to be fully tightened up as soon as the joint is assembled. Connections to be made by close tolerance or barrel bolts shall be completed as soon as practicable after assembly.
- vi) Any connection to be site welded shall be securely held in position by approved methods to ensure accurate alignment, camber and elevation before welding is commenced.

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vii) The field riveting, welding, bolted and pin connection shall conform to the requirements of Clause 1904 as appropriate.

viii) The correction of minor misfits involving harmless amounts of reaming, cutting and chipping will be considered a legitimate part of erection. However, any error in the shop fabrication or deformation resulting from handling and transportation which prevents proper assembling and fitting up of parts by moderate use of drifts (by a moderate amount of reaming and slight chipping or cutting shall be reported immediately to the Engineer and his approval of the method of correction obtained. The correction shall be made in the presence of the Engineer.

(5) Inspection & Testing

A. Field Inspection

- i) All materials, equipment and work of erection shall be subject to the inspection of the Engineer who shall be provided with all facilities including labour and tools required at all reasonable times. Any work found defective is liable to be rejected.
- ii) No protective treatment shall be applied to the work until the appropriate inspection and testing has been carried out. The stage inspection shall be carried out for all operations so as to ensure the correctness of fabrication and good quality. Girder dimensions and camber shall not be finally checked until all welding and heating operations are completed and the member has cooled to a uniform temperature.

B. Testing

(a) Testing of material :

Structural steel shall be tested for mechanical and chemical properties as per various IS codes as may be applicable and shall conform to requirements specified in IS : 226, IS : 2062, IS : 11587, IS : 1977, IS : 8500 and IS : 961 etc.

Rivets, bolts, nuts, washers, welding consumables, steel forging, casting and stainless steel shall be tested for mechanical and chemical properties in the appropriate IS : Code.

Rolling and cutting tolerance shall be as per IS: 1852. The thickness tolerance check measurements for the plate and rolled sections shall be taken at not less than 15 mm from edge.

Laminations in plates shall be carried out by ultra-sonic testing or any other specified methods.

Steel work shall be inspected for surface defects and exposed edge laminations during fabrication and blast cleaning. Significant edge laminations found shall be reported to the Engineer for his decision.

Chipping, grinding, machining or ultrasonic testing shall be used to determine depth of imperfection.

(b) Bolted connections:

Bolts and bolted connection joints with high strength friction grip bolts shall be inspected and tested according to IS: 4000.

Rivets and riveted connection shall be inspected and tested for compliance of code requirements.

The firmness of joint shall be checked by 0.2 mm filler gauge, which shall not go inside under the rivet head by more than 3 mm. There shall not be any gap between members to be riveted.

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Driven rivets shall be checked with rivet testing hammer. When struck sharply on head with rivet testing hammer, rivet shall be free from movement and vibration.

All loose rivets and rivets with cracks, badly formed or deficient heads or with heads which are eccentric with shanks, shall be cut out and replaced.

The alignment of plates at all bolted splice joints and welded butt joints shall be checked for compliance with codal requirements.

Testing of flame cut and sheared edges is to be done, where the hardness criteria given in the code are adopted. Hardness testing shall be carried out on six specimens

(c) Welding and welding consumables:

Welding procedure, welded connection and testing shall be in compliance with codal requirements.

All facilities necessary for stage inspection during welding and on completion shall be provided to the Engineer or their inspecting Authority by manufacturer.

Adequate means of identification either by identification mark or other record shall be provided to enable each weld to be traced to the welder(s) by whom it was carried out.

All metal are welding shall be in compliance with IS : 9595 provisions.

The method of inspection shall be in accordance with 15: 822 and extent of inspection and testing shall be in accordance with the relevant standards or in the absence of such a standard, as agreed with the Engineer. Procedure tests.

The Destructive and Non-Destructive test of weld shall be carried out according to IS: 7307 (Part I).

(d) Non Destructive Testing of Welds.

One or more of the following methods may be applied for inspection or testing of weld :

(i) **Visual Inspection:** All welds shall be visually inspected, which should cover all defects of weld such as size, porosity, crack in the weld or in the HAZ (Heat Affected Zone) etc. Suitable magnifying glass may be used for visual inspection. A weld shall be acceptable by visual inspection if it shows that :

- a) The weld has no cracks.
- b) Through fusion exists between weld and base metal and between adjacent layers of weld metal.
- c) Weld profiles are in accordance with requisite clauses of IS: 9595 or as agreed with the Engineer.
- d) The weld shall be of full cross section, except for the ends of intermittent fillet welds outside their effective length.
- e) When weld is transverse to the primary stress, undercut shall not be more than 0.25 mm deep in the part that is undercut and shall not be more than 0.8 mm deep when the weld is parallel to the primary stress in the part that is undercut.
- f) The fillet weld in any single continuous weld shall be permitted to under run the nominal fillet weld size specified by 1.6 run without correction provided that undersize portion of the weld does not exceed 10 per cent of the length of the weld. On the web-to- flange welds on girders, no under-run is permitted at the ends for a length equal to twice the width of the flange.
- g) The piping porosity in fillet welds shall not exceed one in each 100 mm of weld length and the maximum diameter shall not exceed 2.4 mm, except for fillet welds connecting stiffeners to web where the sum of diameters of piping porosity shall not exceed 9.5 mm in any 25 mm length of weld and shall not exceed 19 mm in any 300 mm length of weld.

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h) The full penetration groove weld in butt joints transverse to the direction of computed tensile stress shall have no piping porosity. For all other groove welds, the piping porosity shall not exceed one in 100 mm of length and the maximum diameter shall not exceed 2.4 mm.

- (ii) **Magnetic Panicle and Radiographic Inspection:** Welds that are subject to radiographic or magnetic panicle testing in addition to visual inspection shall have no crack.

Magnetic panicle test shall be carried out for detection of crack and other discontinuity in the weld d according to IS : 5334.

Radiographic test shall be carried out for detection; of internal flaws in the weld such as crack, piping porosity inclusion, lack of fusion, incomplete penetration, etc. This test may be carried out as per IS : 182 and IS : 4853.

Acceptance Criteria: The weld shall be unacceptable if radiographic or magnetic panicle testing shows any of the type of discontinuities indicated in the code.

- (iii) **Ultrasonic Inspection:** The Ultrasonic testing in addition to visual inspection shall be carried out for detection of internal flaws in the weld such as cracks, piping porosity inclusion, lack of fusion, incomplete penetration, etc. Acceptance criteria shall be as per IS: 4260 or any other relevant IS Specification and as agreed to by the Engineer.

- (iv) **Liquid : Penetration Inspection :** The liquid penetrant test shall be carried out for detection of surface defect in the weld, as per IS : 3658, in addition to visual inspection.

The non-destructive testing of following welds be carried out using one of the method or; methods described at (ii), (iii) and (iv) above, as may be agreed to by the Engineer.

- a) All transverse butt welds in tension flange.
- b) 10 per cent of the length of longitudinal and transverse butt welds in tension flanges.
- c) 5 per cent of the length of longitudinal and transverse butt welds in compression flanges.
- d) All transverse butt welds in webs adjacent to tension flanges as specified by the Engineer.

The particular length of welds in webs to be tested shall be agreed with the Engineer, in case of (b) or (c).

Where specified by the Engineer, bearing stiffeners or bearing diaphragms adjacent to welds, flange plates adjacent to web/flange welds, plates at cruciform welds, plates in box girder construction adjacent to corner welds or other details shall be ultrasonically tested after fabrication.

Any lamination, lamellar tearing or other defect found shall be recorded and reported to Engineer for his decision.

- (e) **Testing of Welding for Cast Steel :** The testing of weld for cast steel shall be carried out as may be agreed to by the Engineer.

- (f) **Stud Shear Connectors :** Stud shear connectors shall be subjected to the following tests :

- i) The fixing of studs after being welded in position shall be tested by striking the side of the head of the stud with a 2 kg. Hammer to the satisfaction of the Engineer.

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- ii) The selected stud head stroked with 6 kg. Hammer shall be capable of lateral displacement of approximately 0.25 the height of the stud from its original position. The stud weld shall not show any sign of crack or lack of fusion.

The studs whose welds have failed the tests given in (i) and (ii) shall be replaced, for which no extra payment shall be made.

(g) Inspection requirement:

The fabricated member/component made out of rolled and built-up section shall be checked for compliance of the tolerances given in Table - 2. Inspection of member/components for compliance with tolerances, and the check for deviations shall be made over the full length.

During checking, the inspection requirement shall be placed in such a manner that local surface irregularities do not influence the result.

For plate, out of plane deviation shall be checked at right angle to the surface over the full area of plate.

The relative cross-girder or cross frame deviation shall be checked over the middle third of length of the cross girder or frame between each pair of webs and for cantilever at the end of member.

The web of rolled beam or channel section shall be checked for out-of-plane deviation in longitudinal direction equal to the depth of the section.

During inspection, the component/member shall not have any load or external restraint.

Inspection Stages : The inspection to be carried out for compliance of tolerances shall include but not be limited to the following stages :

- i) For completed parts, component/members on completion of fabrication and before any subsequent operation such as surface preparation, painting, transportation, and erection.
- ii) For webs of plate and box girder, longitudinal compression flange stiffeners in box girders and orthotropic decks and all web stiffeners at site joints, on completion of site joint.
- iii) For cross girders and frames, cantilevers in orthotropic decks and other parts in which deviations have apparently increased on completion of site assembly.

Where, on checking member/component for the deviations in respect of out of plane or out of straightness at right angles to the plate surface, and any other instances, exceed tolerance, the maximum deviation shall be measured and recorded. The recorded measurements shall be submitted to the Engineer who will determine whether the component/member may be accepted without rectification, with rectification or rejected.

11.4 OILING AND PAINTING.

No part of the work is to be painted or coated, packed or dispatched until it has been finally inspected and approved by the Inspecting officer.

- 1) The whole of the work except machined surfaces shall be painted using one of the systems of painting given below. Prior to painting, the surface shall be carefully prepared removing mill scale, rust, etc., using wire brushes, sander or short blasting as approved by the Engineer/Inspecting Officer
 - a) Priming coat:
 - i. Two coats of ready mixed Paint red lead priming to IS: 102.,
OR
 - ii. One coat of ready mixed zinc chrome priming to IS: 104 followed by one coat of zinc chrome red oxide priming to IS: 2074. The dry film thickness should be 40 microns (Each coat of 20 microns).
 - b) Finishing coats:

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Two coats of aluminum paint to IS:2339 shall be applied over the primer coats. One coat shall be applied before the fabricated steel work leaves the shop. After the steel work is erected at site the second coat shall be given after touching up the primer and the cover coat if damaged in-transit. The dry film thickness shall be 30 microns (Each coat of 15 microns)

- 2) Surfaces which are inaccessible for cleaning and painting after fabrication shall be painted as specified in before being assembled for riveting.
- 3) All rivets, bolts, nuts, washers, etc., are to be thoroughly cleaned and dipped into boiling linseed oil to IS:77.
- 4) All machined surfaces are to be well coated with a mixture of white lead to IS:34 and Mutton tallow to IS:887
- 5) For Site Paintings the whole of the Steel work shall be given the second cover coat after finally passing and after touching up the Primer and Cover Coats, if damaged in-transit

11.5 TEST AND STANDARDS OF ACCEPTANCE

- i) The materials shall be tested in accordance with relevant IS specifications and necessary test certificates shall be furnished. Additional tests, if required, shall be got carried out by the Contractor at his own cost.
- ii) The fabrication, furnishing, erecting, painting of structural steel work shall be in accordance with these specifications and shall be checked and accepted by the Engineer.

11.6 MEASUREMENTS FOR PAYMENT

- a) The measurements of this shall be in tones based on the net weight of metal in the fabricated structure computed on the basis of nominal weight of materials.
- b) The weight of rolled and cast steel and cast iron shall be determined from the dimensions shown on the drawings on the following basis:
 - Rolled or cast steel : 7.84×10^{-3} kg/cu. cm.
 - Cast Iron : 7.21×10^{-3} kg/cu. cm.
- c) Weight of structural sections shall be nominal weight
- d) Weight of weld fillets and the weight of protective coating shall not be included.
- e) Weight of rivet heads shall be computed by taking the weight of 100 snap heads as given in Table – 3.

TABLE - 3 : WEIGHT OF RIVET HEADS

Dia of Rivet as manufactured mm	Weight of 100 snap heads kg
12	1.3
14	2.1
16	3.4
18	4.45
20	6.1
22	8.1
24	10.5
27	15.0
30	20.5
33	27.5

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- f) The Contractor shall supply detailed calculation sheets for the weight of the metal in the fabricated structure.
- g) No additions shall be made for the weight of protective coating or weld fillets.
- h) Where computed weight forms the basis for payment, the weight shall be calculated for exact cut sizes of members used in the structure, deductions being made for all cuts, except for rivet holes. Additions shall be made for the rivet heads as mentioned above.

11.7 Following Points shall specifically be noted in connection to fabrication and launching of Girder work:

- 1) Girder has to be provided with camber as per approved drawing.
- 2) Nuts and bolts shall be high strength friction grip bolts conforming to IS 1363-1967 & IS 1367-1974 Grade 4.6.
- 3) All welds shall confirm to IS 816-1969, IS 1323-1982, size 8 mm (except splices) continuous fillet. All contact edges between two members shall be welded.
- 4) Fabrication and erection of steel structure shall confirm to IRC: 24-2001, IS 7205-1974, IS 7215-1974.
- 5) Plates of suitable lengths may be joined together with butt welds to get 100% strength.
- 6) Each girder shall be fabricated in shop and transported to site. Girder shall be assembled and spliced at site (Fully welded).
- 7) Site welding shall be tested as per relevant IS/IRC code before erection.
- 8) Painting of girders shall be as per railway's specification.
- 9) Materials for HSFG Bolts/Nuts/Washer shall confirm to IS 4000-1992, IS 3757-1985, IS 6623-1985 & IS 8649-1988. Minimum bolt tension for HSFG bolt shall confirm to IS 4000-1992.
- 10) Automatic submerged arc welding should be employed for fillet welds in flanges to web. Other welds should be done by submerged arc welding to the maximum extent possible.
- 11) For providing studs, automatic stud gun should only be used.
- 12) Fabrication, erection of girder should also conform to specifications mentioned in drawings approved by railway.
- 13) All welds to be provided using approved welding procedure and by qualified expert welders only.
- 14) The girders be fabricated in any of the RDSO approved vendor workshop for bridge girders. However, if the contractor wants to fabricate girder in that workshops then the RDSO approved vendor shall submit details of their work shop in which he intends to fabricate the girder with item wise detail regarding its fulfilment of schedule of technical requirement for steel bridge girder by RDSO. After scrutiny of submitted record for the work shop, authorised representative of engineer in charge will inspect the work sh Contractor's authorized op and permit in writing for starting fabrication after satisfying that the work shop fulfils the required standard. RDSO approved vendor should ensure fabrication of girders should be got done at work shops with all modern equipment facilities available for the work and the work shop should fulfil schedule of technical requirement required by RDSO for steel bridge girder. In any case work shop should also use modern equipment for the work as directed by engineer in charge. Contractor's authorized RDSO approved vendor shall start fabrication only after written permission of engineer in charge.
- 15) Contractor should inform in writing to Engineer in charge from time to time regarding fabrication stages of the girder in work shop and should provide all facilities to the representative of engineer in charge for frequent inspections during fabrication.
- 16) Notes mentioned on approved structural drawing will supersede all other conditions mentioned in the tender document and contractor shall comply with these notes as per direction of engineer in charge.

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11.8 For this items, specification shall be followed of Chapter No. 4 of USSOR 2021 & relevant specification of works laid down in IRUSS (Works & Materials) edition 2021 Vol. I & II. The priority of applicability of the specification/ methodology shall be as under:

- Latest guidelines issued by RDSO / HQ.
- Specifications as per USSOR-2021
- Specifications as as laid down in this document.

11.0 SAMPLING OF FITTINGS AND FIXTURES.

Contractor/s is/are required to supply a sample of fittings and fixtures to be used in the work for approval of the Engineer before using them in the work.

12.0 All surplus excavated earth obtained from the foundation of structure or obtained from leveling the ground and other works will be deposited wherever required as directed by the Engineer or his representative. The tenderer/s shall note that the payment only for the lead involved will be made and no extra payment for crossing of the railway tracks required will be admissible.

13.0 The successful tenderer will, however have no claim or right in the execution of any work which in the opinion of the Engineer should be carried out Departmentally or otherwise and railway reserves the right at the time of the acceptance of the tender to keep back from the contractor and carry out the work or any part of work through any other agency it may think fit without assigning any reason. No claim for compensation/loss whatsoever on this account will be entertained by the railway. Rates are inclusive of the work of clearing site after completion of work.

14.0 Design stipulation & specification

14.1 The work of construction foundation sub structure will be carried out as per following codes of practice.

Indian Railway standard code of practice for plain concrete construction with latest amendments (concrete bridge codes)

IS: 432 Part-I For mild steel and medium tensile bars.

IS: 1786 (Pt-B) : Code of practice for cold twisted bars for concrete reinforcement.

IS: 456-1978 (Latest) Code of practice for plain and reinforced concrete.

IS: 1199-1959 Method of sampling and analysis of concrete.

IS: 576-1959 Method of test for strength of concrete.

IS-2911-(Pt.I) Sec. 2 1979 Code of practice for design and construction of pile foundation.

Western Railway standard specification Pt.III Works Hand Books 1984 Edition.

Any other relevant Indian Railway standard, Indian standard specifications and Indian Road congress standard.

14.2 Work shall be carried out strictly in accordance with the approved drawings and no deviation from drawings shall be permitted unless specifically approved/ordered by Engineer. Decision of Railway in this regard would be final and binding on the contractor. The contractor shall arrange to prepare site specific sketches/drawings as per direction of Engineer -in-charge. The tenderer shall provide structural drawings/working drawings/ Good for construction drawings etc. from reputed/Railway approved designer's panel, including designing of the foundation, and superstructure of ROB, as per Railway code & specifications etc. duly proof checked by any IIT/NIT institute except for available RDSO or railway approved drawings. Work will have to be executed as per detailed Drawings approved by the Railway Engineer or his representative from time to time. Certain minor changes in the drawing depending upon the site conditions, if required shall be done during the execution of the work, Contractor is bound to do the work as per changed drawing and no claim or dispute will be entertained by the Railway on this account. No extra payment shall be made on this account except otherwise specified in tender schedule

Note : Above and all the latest amendments/Revision of these codes and manual in practice shall be applicable, if any.

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15.0 PRIORITY WISE REFERENCE :

In case of any discrepancy or dis-agreement between different specifications to be followed for any item of work, the following reference shall be adopted in the order of precedence as they appear below :

- Provisions in these documents.
- IRS codes of Practice/Standards Specifications.
- Indian Roads congress specifications.
- I.S. Codes.
- British standard specifications.
- American Standard Specification.

Provisions of any other relevant codes, decision of Rly. administration for the application of any other codes shall be final & binding.

- 16.0 The system shall must ensure that if performance done not meet pre-determined quality levels there is an automatic and progressive increase of Inspection which is only released when the target is met.
- 17.0 The contractor shall be responsible for the maintenance of Bench mark matters in his jurisdiction of work during course of execution under the guidance of Engineer's representative.

18.0 PUMPING/BAILING OUT OF WATER COFFER DAMS ETC.

- 18.1 No extra payment shall be made for pumping out or bailing out of surface water from in side the coffer dam, diversion bunds and from any work done below water level except for work in foundation where sub soil water is required to be bailing out during execution for which appropriate item of the USSOR will apply.
- 18.2 The rate quoted by the contractor/s shall be deemed to include provision of coffer dams, diversion bunds, approach roads to the site of work etc. and such other works necessary for setting out and execution of work in different phases as ordered by the Engineer-in-charge. No extra payment shall be made for each works or for phase works carried out which are necessary for satisfactory execution of works.
- 18.3 Any timbering works required to be done for retaining earth during excavation for foundation will have to be arranged by the contractor which shall conform to the provision laid down in para-8 of Chapter-I item(1) of Works Hand Book, Part III full for which extra payment shall be admissible.
- 18.4 The concrete used for the construction of the ROB shall be supplied exclusively by a batching plant; site batching using a mini-mixer or manual floor mixing is strictly prohibited. If a batching plant is not available in the nearby area, the agency must establish its own plant at the site.
- 18.5 The agency shall provide one four-wheeler (such as an Ertiga, Kia Carens, etc.) for this project within one month of the issuance of the Letter of Acceptance (LOA), with a minimum running capacity of 2,500 kilometres per month. In the event that the agency fails to provide the vehicle, a recovery penalty of ₹60,000 per month shall be deducted from their bill, and no extra payment shall be payable for providing the vehicle per month. The vehicle must be provided up to the end of the maintenance period and will be stationed at Ratlam under the SSE/W/GS/RTM office.
- 18.6 Under any circumstances in this project, if a requirement arises for the design of any structure, shade, foundation, bearings, etc., the agency must get it designed by a structural designer and subsequently proof-checked by a Government Engineering College, IIT, or NIT. Apart from this, if the headquarters requires a third-party analysis using a different method or

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- software, the agency must carry this out at their own expense, and no extra payment shall be payable for it.
- 18.7 Payment for the Camelback Girder shall be made under item 041012. No extra item is payable on this base item for the Camelback Girder. Furthermore, the payment and measurement for the Camelback Girder shall be based on the actual profile cutting; no extra payment shall be made for the initial rectangular shape or any resulting wastage.

This Tender has been submitted by/his after satisfying myself/ourselves about all factors pertaining to this work and site conditions availability of materials, labour, water required for the work, the design and plans for this work quantum of work. Working Hours available for this work and General conditions/Specifications which apply to this work.

I/We accept the above conditions.

Signature of Tenderer/s
Date :

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PROFORMA

MEMORANDUM OF UNDERSTANDING FOR JOINT VENTURE AGREEMENT

In case of joint venture firms, the "Memorandum of Understanding for Joint Venture Agreement" as per proforma below on non-judicial stamp of Rs. (Cost as per the rules of the state in which work is to be executed) should be uploaded.

This memorandum of understanding executed this day of.....20.....between (Name of Co.) a company registered under The Companies Act 1956 / The Companies act 2013 having its registered office at.....having GST No.....and PAN No..... represented through its Director/ Authorized Representative.....(hereinafter referred to aswhich expression shall unless repugnant to the context thereof includes it successors) of the FIRST PART.

AND/OR

M/s a partnership firm constituted under the Indian Partnership Act 1932, having its registered office at..... having GST No.....and PAN No.....represented through its Partner Shri.....Authorized Representative Shri(hereinafter referred to as..... which expression shall unless repugnant to the context there of includes its successors of the FIRST PART/SECOND PART.

AND/OR

M/s.....a proprietary concern having its registered office athaving GST No.....and PAN No.....represented through its Sole proprietor Shri (here in after referred to as..... which expression shall unless repugnant to the context there of includes it successors of FIRST PART/SECOND PART/THIRD PART.

Whereas, the party of the first part i.e. M/s.....details to be supplied of the expertise in their field.

Whereas, the party of the second part M/s.....details to be supplied of the expertise in their field.

Whereas, the party of the Third part M/s.....details to be supplied of the expertise in their field. AND whereas parties to this MOU, have agreed to co-operate with each other to associate jointly and to form a joint Venture Firm to participate in the Tender No..... of Western Railway of Indian Railways. Now, therefore, in consideration of the promises and mutual promises and of the undertaking contained herein, it is hereby agreed between the parties of this MOU as follows:

The purpose of MOU

M/s, and agree to co-operate with each other for the purpose of joint participation in the Tender No. of Western Railway of Indian Railways and in the event, the contract is awarded, to jointly execute the contract. The Broad interfaces and scope of work of each party is set forth below:

.....

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- (1) The name of the Joint Venture firm shall be
- (2) The parties, hereto, represent agree and undertake that :
- (a) They are in possession of all approvals and valid authorization for the purpose of execution of this MOU.
- (b) They have not entered into any agreement/MOU of equal or similar nature with any third party for the Tender No..... of Western Railway of Indian Railways.
- (c) That each of the parties of JV, agrees and undertake to place at the disposal of the JV, benefits of its individual experience, technical knowledge and skill and shall in all respects bear its share of the responsibility, including the provision of information advice and other assistance required in connection with the works. The share and the participation of the partners in the JV shall broadly be follows:

Sr.No.	Name of constitution of	Share of interest in
1		
2		
3		

- (d) "That M/s shall be the lead member of JV firm who shall have a majority (at least 51%) share of interest in the JV firm. The other members shall have a share of not less than 20% each in case of JV with upto three members and not less than 10% each in case of JV with more than three members. In case of JV with foreign member(s), the Lead Member has to be an Indian firm/ company with a minimum share of 51% (strikes out which is not applicable) and all right, interest, liabilities, obligations, work experience and risks (net profits or net losses) arising out of the contract shall be shared or borne by the
- (e) Parties in proportionate to these shares. Each of the parties shall bound by guarantees, sureties required for the work as well as its proportionate share in working capital and other financial requirements.
- (3) The parties to this MOU undertake:
- (a) That after submission of the tender, the MOU shall not be
- (b) modified/alterd/terminated during the validity of the tender including extension and maintenance period except when modification becomes inevitable due to succession laws etc., but in no case the minimum eligibility criteria would be vitiated.
- (c) That after the contract is awarded the constitution of the J.V. Firm shall not be altered during the currency of contract except when modification becomes inevitable due to Succession Law etc., "but in no case the minimum eligibility criteria would be vitiated". Further failure to observe this stipulation shall be deemed to be breach of contract with all consequential penal action as per contract conditions.
- (d) That with respect of the WR Tender neither party, nor any subsidiary company of either Party, nor any joint venture company or any other entity, in which the party/parties, is or are in any way interest, shall complete together with or through any third party, nor shall be parties advise, consult for, engage in or otherwise assist in any way person or entity or any affiliate thereof in respect of any orders or contracts related to this tender.
- (e) That none of the members of joint ventures is black listed and/or debarred by the Railways or any other ministry or department of Govt. of India/State Govt. from participation in contract/under in the past either in individual capacity or the JV Firm or partnership firm in which they were/are members/partners.
- (4) Joint & Several Liability: In respect of the WR Tender, all commercial terms shall comply each part on back-to basis specifications of the WR Tender or any other mutually agreed terms with the Owner/Customer. The Parties hereto shall, if awarded the contract for the project for which

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the Joint Venture is formed, be jointly and severally liable to the Indian Railways for execution of the project in accordance with the contract. The Parties hereto also undertake to be liable jointly and severally for the loss, damages caused to the Indian Railways in course of execution or due to non- execution of the contract or part thereof arising out of the contract.

- (5) Shri Shall be authorized partner/person on behalf of the Joint Venture to deal with tender, to sign the agreement or enter into contract in respect of the said tender, to receive payment in the name of JV, to witness joint measurement of work done, to sign measurement books, and similar such action in respect of WR tender/Contract. All notices/ correspondence with respect to the contracts would be sent only to this authorized partner/person of the JV Firm. (All the above actions shall be in the name and on behalf of JV).
- (6) Notwithstanding anything herein, in respect of the WR Tender, with regard to the internal relationship, the inter se liabilities between the parties shall be in proportion to their respective scope of work and shall be subject to the provisions of this MOU.
- (7) It is agreed by the parties to this JV that all the relevant extant policy guidelines shall be followed by the Joint Venture.
- (8) Responsibility: Each Party shall assume and accept full responsibility for its Scope of Work and the obligations imposed in the Contract and in this MOU as if it was, with regard to this Scope of Work, an independent partner contracting individually with the Customer. In the event of any defect and damage or any claim arising from the Customer under the Contract or any third party in relation to or as a consequence of any failure to meet the performance specification the Party, within whose Scope of Work the claim arises, shall be entirely responsible for the claim and shall indemnify and hold harmless the other Party from any liability, demand, claim burden cost, expense attorney's fees and costs arising from thereof.
- (9) Assignability: No party to the Joint Venture has right to assign or transfer the interest, right or liability in the contract without the prior written consent of the other party and that of the Railway.
- (10) Use of Machinery, Instruments, Labour Force, etc.: The Parties here to undertake that whatever the machinery, instruments, Labour force (including unskilled, skilled, inspectors, Engineers etc.) they possess at the time of entering into joint Venture Agreement or which subsequently shall come in their possession and if such machinery, instruments, labour force is required for the speedy and efficient execution of the work, the Party/Parties having the control over the said machinery, instrument, labour force etc. without having any regard to their share of profit and loss agreed to between the Parties in Joint Venture Agreement shall hand over the same at the disposal of the other party who is actually executing the work for the purpose of execution of the contract without any hindrances and obstacle.
- (11) Duration of MOU: It shall be valid during entire currency of the contract including the period of extension, if any and also till the maintenance period is over or till all the contractual liabilities including warranty/guarantee obligations are discharged completely.
- (12) It is agreed by the parties to the JV that they shall always indemnify Rly administrations against all actions, suits, claims demands and proceedings or any loss or damage or cost or expense that may be suffered by them on account of anything done or omitted to be done by the Joint Venture in connection with the performance of it's obligation under this MOU or agreement with the Rly administration during or on the cessation of the said agreement or MOU.
- (13) Applicable Law: The MOU and any arrangement/agreements regarding the performance shall be construed and interpreted in accordance with and governed by the Laws of India and shall be subject to the exclusive jurisdiction of the courts at the place where MOU is executed/ signed between the parties.

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- (14)** Settlement of Disputes: In the event of disputes arising from this MOU, the Parties to the MOU undertakes to endeavour to settle the said disputes between/amongst them amicably. However, if the parties fail to resolve the disputes amongst them amicably, the said disputes arising out of or in connection with the present MOU shall be resolved through Arbitration as per the provisions enshrined under the Arbitration and Conciliation Act, 1996 or/ any statutory modifications made thereafter.
- (15)** All communications or notices provided for herein shall be in the English language and be delivered, mailed, or tele-faxed to the Parties addresses as indicated below:-
M/s M/s
..... All correspondence and notices to the Joint Venture firm shall be addressed to the Lead Member i.e. M/s
/Shri..... at the address stated herein below:-M/s
..... Such communication or notices shall be deemed to have been duly given when so delivered or, if mailed, when received at destination.
- (16)** Each Part shall have full and sole responsibility to bear the expense of and effect the payment of any taxes, duties, special insurance, fees or assessments of any nature whatsoever (including personal income taxes levied or imposed or any of its employees or personnel or any of its subcontractor's employees or personnel) including penalties and interest, if any, levied in connection with the execution of this MOU.
- (17)** In witness whereof, the Parties have caused this MOU to be executed by their respective authorized representative on the date and year mentioned herein above.

Signature:
Shri
M/s
Witness: -
Name:
Address:

Signature:
Shri
M/s
Witness: -
Name:
Address:

Signature:
Shri
M/s
Witness: -
Name:
Address:

WESTERN RAILWAY
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PROFORMA – I

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

PARTICULAR OF TENDERER

1	Full name of Contractor/ Construction firm and year of establishment	
2.	Registered Head Office & Postal Addressed Telephone Nos. with STD No.	
3.	Branch Office address, if any Telephone Nos. with STD No	
4	Constitution of firm (give full details including names of part Partners/ Executives / Power of Attorney holders, etc.)	
5.	Particulars of Registration with Government/ Semi-Govt. Organization, Public Sector Undertaking & Local Bodies etc.	

Signature of tenderer(s)

PROFORMA-II (A)

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Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

DETAILS OF ONLY THOSE WORKS EXECUTED SIMILAR TO TENDERED WORK
(Works completed during last 7 years to be given)

Sr . No.	Name of work	Contract awarding authority	Agreement No & date	Value of contract		Date of commencement of work	Date of completion as per agreement	Actual date of completion	Description of the similarity in accordance with eligibility criteria
				Original	Completed				
	A	B	C	D	E	F	G	H	I

Note: (i) Details of only specific works shall be furnished.

- (ii) The bidder shall attached a copy of the certificate(s) issued by the employer in support the information being furnished in above table, failing which the claim of bidder shall be liable to be rejected.
- (iii) The certificate of completed work should be self sufficient duly incorporated all requisite details stipulated in clause 10(1)
- (iv) IN COLUMN I, THE BIDDER SHOULD CLEARLY BRING OUT AS TO HOW THE ELIGIBILITY CRITERIA OF SIMILAR NATURE OF WORK IS BEING MET DULY REFERRING TO THE RELEVANT CREDENTIALS ENCLOSED WITH THE BID**
- (v) For at least one similar work, detailing and confirmation of credentials (from employer), for work completed similar work, shall be submitted in proforma II (A)**

Signature of tenderer(s)

WESTERN RAILWAY
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PROFORMA-III

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

DETAILS OF ALL CIVIL ENGINEERING WORKS CARRIED OUT DURING PAST SEVEN YEARS

Sr No	Name of work	Contract awarding authority	Agreement No. & date	Value of contract	Date of commencement	Date of completion as per agreement	Actual date of completion	Brief details of Principal feature of the work

Note: Certificate from authority concerned/employer to be attached

Signature of tenderer(s)

WESTERN RAILWAY
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PROFORMA-IV

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

DETAILS OF CIVIL ENGINEERING WORKS IN HAND/PROGRESS

Sr. No.	Name of work	Contract awarding authority	Agreement No. & date	Value of work	Date of commencement	Date of completion as per agreement	%ge progress of work	Whether Arbitration demanded or not

Signature of tenderer(s)

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

[illegible]

Signature of tenderer(s)

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(Gati Shakti Unit- Ratlam Division)
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PROFORMA-V(B)

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

DETAILS OF PLANTS & MACHINERY PROPOSED TO BE HIRED FOR WORK

Sr. No.	Particular of equipments	No./Unit	Kind/Make	Capacity	Remark

Note:- Supporting documents should be attached

Signature of tenderer(s)

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PROFORMA-VI

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

Detail of contractual payment received in last three financial year .

Sr. No.	Name of work	Name of employer	Detail of payment	For the financial year	Total contract amount received
A	B	C	D	E	F

Signature of tenderer(s)

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PROFORMA - VII

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

PARTICULARS OF PERSONNEL TO BE EMPLOYED ON THIS WORK

Sr. No.	Name & Designation	Qualification	Professional experience	Remarks

Note:- Supporting documents should be attached

I hereby certify that no retired Engineer/ Gazetted Officer of the Railway who has retired within 1 years of date of submission of tender and has not obtained permission of competent authority has been engaged by me/ our firm. I also certify that none of my relative is engaged in Engineering Department of Western Railway

Signature of tenderer(s)

WESTERN RAILWAY
(Gati Shakti Unit- Ratlam Division)
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PROFORMA – VIII

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

(Particulars of site –Conditions)

I/We hereby solemnly declare that I/we visited the site of work personally and have made myself/ourselves fully conversant of the conditions therein and in particulars the following:

1. Topography of the area ;
2. Soil strata at site of work :
3. Source and availability of construction material :
4. Rate of construction materials, water and electricity including all local taxes royalties octroi etc. :
5. Availability of local labour(both skilled and unskilled) :
and relevant labour rates and labour laws
6. Existing roads and approaches to site of work :
7. Availability and rates of private land etc required by :
me/us for various purposes
8. Climate conditions and availability of working days.

I/We have quoted my/ our rates for various items in the tender schedule taking into account all the above factors also

Signature of tenderer(s)

PROFORMA – IX

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Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

Annexure to Top sheet

Mandatory list of item/documents to be submitted along with tender while submitting E-Tender offer

The tenderer shall clearly specify whether the tender is submitted on his own or on behalf of the partnership Firm/ Joint venture (JV)/ Registered Society / Registered Trust / Hindu Undivided Family (HUF) / Limited Liability Partnership (LLP) etc. The tenderer/s who is /are constituents of firm, Company, associates or Society shall enclose self attested copies of the constitution of their concern, Partnership Deed and power of Attorney along with their tender. Tender documents in such cases shall be signed by such persons as may be legally competent to sign them on behalf of the firm/Company, Associates or society as the case may be.

The tenderer shall give full details of the constitution of the firm/JV/Company/Society etc. and shall also submit following documents (as applicable) in addition to documents mentioned above.

S.N.	Item	Submitted Yes or No
(A)		
(1)	If tenderer is SOLE PROPRIETORSHIP FIRM: Notarised copy of the affidavit.	
(2)	If tender is PARTNERSHIP FIRM : Self-attested copies of (i) registered/notarized Partnership deed and (ii) Power of Attorney duly authorizing one or more of the partners of the firm or any other person(s), authorized by all the partners to act on behalf of the Firm and to submit and sign the tender, sign the agreement, witness measurements, sign measurement books, receive payment, make correspondence(s), compromise/ settle/ relinquish any claim(s) preferred by the firm, sign "No claim certificate" refer all or any dispute to arbitration and to take similar action in respect of all tenders/contracts OR said tender/contract.	
(3)	If tenderer is JOINT VENTURE (JV) FIRM:	
(i)	In case one or more of the members of the JV Firm is/are partnership firm(s), following documents shall be submitted:	
(a)	Notary certified copy of the Partnership Deed.	
(b)	Consent of all the partners to enter in to the Joint Venture Agreement on a stamp paper of appropriate value.	
(c)	Power of Attorney (duly registered as per prevailing law) in favour of one of the partners of the partnership firm to sign the JV Agreement on behalf of the partnership firm and create liability against the firm.	
(ii)	In case one or more members is/are Proprietary Firm or HUF, the following documents shall be enclosed.	
	Affidavit on Stamp Paper of appropriate value declaring the his/her Concern is a Proprietary concern and he/she is sole proprietor of the concern OR he/she is in position of "KARTA" of Hindu Undivided Family (HUF) and he/she has the authority, power and consent given by other partners to act on behalf of HUF.	
(iii)	In case one or more members is/are limited companies, the following document shall be submitted :	
(a)	Notary certified copy of resolutions of the Directors of the Company, permitting the company to enter into a JV Agreement, authorizing MD or one	

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	of the Directors of Managers of the Company to sign JV Agreement, such other documents required to be signed on behalf of the company and enter into liability against the company and/or do any other act on behalf of the company.	
(b)	Copy of Memorandum and Articles of Association of the Company.	
(c)	Power of Attorney (duly registered as per prevailing law) by the Company authorizing the person to do/act mentioned in the para (a) above.	
(iv)	All the members of JV shall certify that they are not black listed or debarred by Railways or any other Ministry/Department/PSU (Public Sector Undertaking) of the Govt. of India/State Govt. from participation in tenders/contract on the date of opening of bids either in their individual capacity or as a member of the JV firm in which they were /are members.	
(4)	Company registered under Companies Act-1956: (i) Copies of MOA (Memorandum of Association) and AOA (Article of Association) of the Company, and (ii) Power of Attorney duly registered/Notarized by the Company (backed by the resolution of Board of Directors) in favour of the individual signing the tender on behalf of the Company.	
(5)	Society: (i) Self attested copy of the Certificate of Registration, (ii) Deed of Formation and (iii) Power of Attorney in favour of the tender signatory.	
(B)		
(1)	Affidavit for credentials as per Annexure –B	
(2)	Legal Papers/ documents for Eligibility Criteria	
(i)	(i) Similar nature of work.	
(ii)	(ii) Turnover: Attested certificate from the employer/client, Audited Balance Sheet duly certified by the Chartered Accountant etc.	
(iii)	(iii) Bid Capacity: List of completed works within qualifying period and works in progress.	
(3)	EMD paid on line through Payment Gateway.	
(4)	Cost of Tender Document paid on line through Payment Gateway.	

NOTE: 1. If it is mentioned in the tender that it is being submitted on behalf of /by a Sole Proprietor firm/Partnership firm/Joint venture/Registered company etc., but above mentioned documents/s (as applicable) are not enclosed along with the tender, the tender shall be **SUMMARILY REJECTED.**

2. If it is NOT mentioned in the tender that it is being submitted on behalf of/by a Sole Proprietorship Firm/Partnership Firm/Joint venture/Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender. After opening of the tender, any document pertaining to the constitution of the firm/JV/Society etc., shall neither be asked nor be entertained/considered.
3. A tender from JV /Consortium/Partnership Firm etc., shall be considered only where permissible as per the tender conditions.
4. The Railway will not be bound by any power of Attorney granted by the tenderer or by changes in the composition of the Firm made subsequent to the submission of tender. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor.
5. No document shall be accepted after opening of tender. If any of the above documents is not submitted along with the tender, the tender will be **Summarily Rejected** considering it as a non-compliant bid.

Date

Signature & Seal of Contractor

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Annexure 'A'

MANDATE FORM:

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

Particulars of the Party

Name: _____

Address: _____

Phone No: _____ Mobile No: _____ Fax No: _____

I/Tax PAN No: _____ E.Mail ID No.: _____

Particulars of Bank Account:

Bank Name: _____

Branch: _____

Bank Address: _____

Bank Telephone No: _____ Fax No: _____

Bank MICR Code No (9 Digit): _____ IFS Code No: _____

Bank Account No: _____

Account Type: Savings/Current/Cash Credit Ledger F/No. : _____

Declaration by the Party:

I hereby, declare that the particulars given above are correct and complete. If the transaction is delayed or not effected at all for reasons of incomplete or incorrect information the User Institution, i.e. Dy. FA & CAO/C/ Western Railway/-----will not be held responsible. I Have understood the scheme and agree to discharge the responsibility expected from me as a participant under the scheme. I also undertake to acknowledge/ intimate the concerned Railway Administration (Dy. FA& CAO/C/Western Railway/-----) on receipt of each payment from Railways.

One cancelled cheque/photo copy of the cheque duly carrying IFS Code is enclosed.

Date:

Signature of tenderer(s)

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ANNEXURE-V

Reference -Para 6.1 of ITT

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

FORMAT FOR CERTIFICATE TO BE SUBMITTED / UPLOADED BY TENDERER ALONGWITH THE TENDER DOCUMENTS

I.....(Name and designation)**appointed as the attorney/authorized signatory of the tenderer.

M/s_____ (hereinafter called the tenderer) for the purpose of the Tender documents for the work of _____ as per the tender No._____ of _____(Railway)**, do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

1. I/we the tenderer (s) am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway website www.ireps.gov.in . I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we certify that I/we the tenderer(s) is/are not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/ member of the partnership firm/LLP/JV/Society/Trust.
8. I/we understand that if the contents of the certificate submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the Bid Security besides banning of business for a period of upto five year. Further, I/we (*insert name of the tenderer*) **_____and all my/our constituents understand that my/our offer shall be summarily rejected.

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9. I/we also understand that if the contents of the certificate submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of Bid Security/Security Deposit and Performance guarantee besides any other action provided in the contract including banning of business for a period of upto five year.
10. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or,
if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed)

SEAL AND SIGNATURE
OF THE TENDERER

Place:
Dated:

****The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer.**

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ANNEXURE-V (A)

Reference -Para 6.1 of ITT
ACS No. 2 of 13.12.2022

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

(This certificate is to be given by attorney/authorized signatory/each member of Partnership firm/Joint Venture (JV)/Hindu Undivided family (HUF)/Limited Liability Partnership (LLP) etc.).

I/we(Name), attorney/authorized signatory of the(constituent firm/constituent partner) and member/partner of the(tendering firm) hereby solemnly affirm and state as under:

1. I/We certify that (constituent firm/constituent partner) is/are not blacklisted or debarred by Railways or any other Ministry/Department of Govt. of India from participation in tender on the date of submission of bids, either in individual capacity or as a HUF/member of the partnership firm/LLP/JV/Society/Trust.
2. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am /We are not from such a country or, if from such a country, have been registered with the competent Authority. I/We hereby certify that I/We fulfil all the requirements in this regard and am/are eligible to be considered (evidence of valid registration by the competent authority is enclosed).

SEAL AND SIGNATURE OF
THE CONSTITUENT FIRM/CONSTITUENT PARTNER

Place:

Dated:

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ANNEXURE – VI

Reference -Para 10.3 & 17.15.3 of Tender Form (Second Sheet) of Annexure I of ITT

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

TENDERER'S CREDENTIALS (BID CAPACITY)

"Bid capacity in accordance with para 10.3 (Annexure-VI of GCC, for Tenders valuing more than Rs. 20 Cr."

For tenders having advertised value more than Rs 20 crore wherein eligibility criteria includes bid capacity also, the tenderer will be qualified only if its available bid capacity is equal to or more than the total bid value of the present tender. The available bid capacity shall be calculated as under:

$$\text{Available Bid Capacity} = [A \times N \times 2] - 0.33 \times N \times B$$

Where,

A = Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender), taking into account the completed as well as works in progress.

N= Number of years prescribed for completion of work for which bids has been invited.

B = Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender.

Note:

- (a) The Tenderer(s) shall furnish the details of -
 - (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) for calculating A, and
 - (ii) Existing commitments and balance amount of ongoing works with tenderer as per the prescribed proforma of Railway for statement of all works in progress and also the works which are awarded to tenderer but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished.
 The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant.
- (b) In case if a bidder is JV, the tenderer(s) must furnish the details of
 - (i) Maximum value of construction works executed and payment received in any one of the previous three financial years or the current financial year (up to date of inviting tender) by each member of JV for calculating A, and
 - (ii) Existing commitments and balance amount of ongoing works with each member of JV either in individual capacity or as a member of other JV as per the prescribed proforma of Railway for statement of all works in progress and also the works which

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are awarded to each member of JV either in individual capacity or as a member of other JV but yet not started upto the date of inviting of tender for calculating B. In case of no works in hand, a 'NIL' statement should be furnished.

The submitted details for (i) and (ii) above should be duly verified by Chartered Accountant.

- (c) Value of a completed work/work in progress/work awarded but yet not started for a Member in an earlier JV shall be reckoned only to the extent of the concerned member's share in that JV for the purpose of satisfying his/her compliance to the above mentioned bid capacity in the tender under consideration.
- (d) The arithmetic sum of individual "bid capacity" of all the members shall be taken as JV's "bid capacity".
- (e) In case, the tenderer/s failed to submit the above statement along with offer, their/his offer shall be considered as incomplete and will be rejected **summarily**.
- (f) The available bid capacity of tenderer shall be assessed based on the details submitted by the tenderer. In case, the available bid capacity is lesser than estimated cost of work put to tender, his offer shall not be considered even if he has been found eligible in other eligibility criteria/tender requirement.

Signature of tenderer(s)

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Annexure –VIA

Para 5 of the Instructions to Tenderers

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

(Bid Security)

Bank Guarantee Bond from any scheduled commercial bank of India

(On non-judicial stamp paper, which should be in the name of the Executing Bank).

Name of the Bank: -----

President of India,

Acting through,

..... Railway,

Beneficiary: Railway

Date:.....

Bank Guarantee Bond No.:

Date:-----

In consideration of the President of India acting through----- **(Designation & address of Contract Signing Authority)**, Railway,, (hereinafter called "The Railway") having invited the bid for_____through Notice inviting tender (NIT) No._____, We have been informed that **[Insert name of the Bidder]**..... **(hereinafter called "the Bidder")** intends to submit its bid (hereinafter called "the Bid") .

WHEREAS, the Bidder is required to furnish Bid Security for the sum of **[Insert required Value of Bid Security]**, in the form of Bank Guarantee, according to conditions of Bid.

AND

WHEREAS,**[Insert Name of the Bank]**, with its Branch**[Insert Address]** having its Headquarters office at..... **[Insert Address]**, hereinafter called the **Bank**, acting through**[Insert Name and Designation of the authorised persons of the Bank]**, have, at the request of the Bidder, agreed to give guarantee for Bid Security as hereinafter contained, in favour of the Railway:

1. KNOW ALL MEN that by these present that I/We the undersigned **[Insert name(s) of authorized representatives of the Bank]**, being fully authorized to sign and incur obligations for and on behalf of the Bank, confirm that the Bank, hereby, unconditionally and irrevocably guarantee to pay to the Railway full amount in the sum of **[Insert required Value of Bid Security]** as above stated.
2. The Bank undertakes to immediately pay on presentation of demand by the Railway any amount up to and including aforementioned full amount without any demur, reservation or recourse. Any such demand made by the Railway on the Bank shall be final, conclusive and binding, absolute and unequivocal on the Bank notwithstanding any disputes raised/ pending before any Court, Tribunal, Arbitration or any Authority or any threatened litigation by the Bidder or Bank.
3. The Bank shall pay the amount as demanded immediately on presentation of the demand by Railway without any reference to the Bidder and without the Railway being required to show grounds or give reasons for its demand of the amount so demanded.
4. The guarantee hereinbefore shall not be affected by any change in the constitution of the Bank or in the constitution of the Bidder.

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5. The Bank agrees that no change, addition, modifications to the terms of the Bid document or to any documents, which have been or may be made between the Railway and the Bidder, will in any way absolve the Bank from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification made by Railway at any time.
6. This guarantee will remain valid and effective from.....**[insert date of issue]**till**[insert date, which should be minimum 90 days beyond the expiry of validity of Bid]**. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.
7. The Bank Guarantee is unconditional and irrevocable.
8. The expressions Bank and Railway herein before used shall include their respective successors and assigns.
9. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the Railway. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.
10. The Bank hereby confirms that it is on the SFMS (Structured Financial Messaging System) and shall invariably send the advice of this Bank Guarantee to the following bank details –

IFSC CODE	
IFSC TYPE	
BANK NAME	
BRANCH NAME	
CITY NAME	
ADDRESS	
DISTRICT	
STATE	
BG ENABLED	

11. The Guarantee shall be valid in addition to and without prejudice to any other security Guarantee(s) of Bidder in favour of the Railway. The Bank, under this Guarantee, shall be deemed as Principal Debtor of the Railway.

Date

.....

Place.....

Bank's Seal and authorized signature(s)

[Name in Block letters]

[Designation with Code No.].....

[P/Attorney] No.

Witness:

1 Signature, Name & Address & Seal

2 Signature, Name& address & Seal

Bank's Seal

[P/Attorney] No.

Note: All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.

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Annexure –VIB

Reference -Para 10.2 & 17.15.2 of Tender Form (Second Sheet) of Annexure I of ITT

Name of work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

ANNUAL CONTRACTUAL TURNOVER DATA FOR THE PREVIOUS 3/4 YEARS

(Each Bidder or each member of a JV must fill in this form separately:)

NAME OF BIDDER/JV PARTNER:

Annual Contractual Turnover Data for the Previous 3/4 Years (Contractual Payment only)			
Year	Amount Currency	Exchange Rate	Indian National Rupees Equivalent
Average Annual Contractual Turnover for last 3 years			

1. The average annual contractual turnover shall be calculated as an average of "total contractual payments" in the previous three financial years. However, in case balance sheet of the previous year is yet to be prepared/ audited, the audited balance sheet of the fourth previous year shall be considered for calculating average annual contractual turnover.
2. The information supplied shall be substantiated by data in the audited balance sheets and profit and loss accounts for the relevant years in respect of the bidder or all members constituting the bidder.
3. **Contents of this form should be certified by a Chartered Accountant duly supported by Audited Balance Sheet duly certified by the Chartered Accountant.**

SEAL AND SIGNATURE OF THE BIDDER

Certified that all figures and facts submitted in this form have been furnished after full consideration of all observations/notes in Auditor's reports. _____

(Signature of Chartered Accountant)

Name of CA: _____

Registration No: _____

(Seal)

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ANNEXURE – XI

Name of Work : Construction of Railway portion of two lane Road Over Bridge (1 x 72.00 M Bow String/Camel back Steel Girder + 1 X 36.00 M and 1 X 24.00 M span Composite Steel Girder) at Km. 609/10 - 12 in lieu of Level Crossing No. 72 in Godhra - Ratlam section, between Bamnia and Bhairongarh stations of Ratlam Division Western Railway.

Bidders and each member of the JV should provide information on their current commitments on all Contract that has been awarded or letter of acceptance has been received or Contracts approaching completion but for which an unqualified full completion certificate has yet to be issued.

N o.	Descrip tion of work	Contr act No. & date	Name and address of Employer /Tel /Fax/Em ail	Value of Contr act in Rs.	Date of awar d of Contr act in Rs.	Date of Comple tion of Contrac t	Stipulat ed Period of Comple tion in years = (g- f)/365	Date of openi ng of this tende r (Pres ent Tend er)	Balance period for comple tion of the work (In Years)- (g- i)/365	Value of balanc e of work as on date of openin g total for calcula tion of "B" value of work	Proportio nate Amount of Contract to be execute in "N Years* *(For calculatio n of B Value)
a	b	c	d	e	f	g	h	i	j	k	l
1											
2											
3											
4											
"B" value				Total value of work under column 'I'							

Certified that current commitments on all the Contracts that have been awarded or for which a letter of intent or acceptance has been received or for the works in progress or the works approaching completion, value of outstanding work has been indicated in the above table correctly.

Certified by Chartered Accountant

Name

Signature with seal

Signed by Tenderer's

Name

Signature with seal

The tenderer(s) shall not take any advantage of any misinterpretation of the conditions due to typing error, if any in doubt shall bring it to the notice of the Engineer or his representative without delay. In case of any doubt/contradiction, only the GCC/Manuals/guidelines should be followed and no claims for the misinterpretation shall be entertained and In the event of any dispute, the decision of the Engineer or his representative in this regard is final, conclusive and binding upon the contractor/tenderer.

(END OF TENDER DOCUMENT)