

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED



TENDER DOCUMENT

FOR

Tender No: HRIDC/KET/31/2020/2

“Construction of Elevated BG Railway line from **Km 79/6** to **Km 85/7** along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana- Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.”

AUGUST 2020

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

Corporate Office: SCO 17-19, 3rd Floor, Sector 17, Chandigarh.

Website: www.hridc.co.in

<https://etendershry.nic.in>

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**HARYANA RAIL INFRASTRUCTURE DEVELOPMENT
CORPORATION LIMITED (HRIDC)**

Tender Document

(TOP SHEET)

(A) Details to be filled in by HRIDC:

Mode of Tender	E-tender (Two Packet System)
Tender Notice No.	HRIDC/KET/31/2020/336 dated 10.07.2020
Full name of work	Construction of Elevated BG Railway line from Km 79/6 to Km 85/7 along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana- Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.
Approx. cost	INR 212.73 Crores (Two Hundred Twelve crores and Seventy Three lakhs)
Completion period	30 (Thirty) months
Earnest money amount	INR 1,00,00,000/- (Rupees One crore only)
Issue of Tender Notice and Sale/availability of tender document on e-procurement portal of Haryana Govt.	Tender documents will be available on e-procurement portal Government of Haryana i.e. https://etenders.hry.nic.in from 11.08.2020 at 05:00 PM to 02.09.2020 upto 03:00 PM.
Site visit and other related details	The prospective tenderers may contact the following for further details: General Manager/Projects/HRIDC (Email: gmphrdc@gmail.com)

Last date of receipt of Pre-bid Queries at the e-mail address hridc2017@gmail.com	24.07.2020 upto 03:00 PM
Pre-Bid meeting details	<p><u>Date:</u> 29.07.2020</p> <p><u>Time:</u> 11:00 AM</p> <p><u>Venue:</u> Haryana Rail Infrastructure Development Corporation, 5th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003</p>
Last date for HRIDC's response to Pre-bid Queries and issue of Corrigendum, if any	11.08.2020 upto 05:00 PM
Start date for submission of offer on the e-procurement portal of Haryana Govt. i.e. https://etenders.hry.nic.in	12.08.2020 at 05:00 PM
Last date/Time of upload of tenders	02.09.2020 upto 03:00 PM. Tender documents can be uploaded by the tenderer on e-procurement portal Government of Haryana w.e.f. 12.08.2020 at 05:00 PM to 02.09.2020 upto 03:00 PM.
Date/Time of Opening of Tender	Technical Bids will be opened immediately after close of uploading of tender (D2) i.e. 02.09.2020 at 03:00 PM. Financial bids of the eligible tenderers would be opened subsequently on the date & time to be notified later on.

(B) Details to be filled in by tenderer while uploading their offer:

S.No.	Particular	Response
1	Constitution of the Firm (Tick as applicable)	Sole Proprietorship Firm/ Partnership Firm/ Company/ JV/ LLP/ Registered Society or Trust
2	Full name of the Sole Proprietorship Firm/ Partnership Firm/ Company/ JV/ LLP/ Registered Society or Trust (as the case may be)	
3	Year of formation/ incorporation	
4	PAN No.	
5	Registered Office Address	
6	Address on which correspondence regarding this tender should be done	
7	Names of the proprietor/ partners/ JV members etc.	

Note:

- i) Special attention of tenderers is drawn to **clause 2.4.1 of “Special tender condition & instruction to tenderers”**, as per which the tenderer must submit along with tender, the documents mentioned therein pertaining to constitution of firm/ concern.
- ii) Special attention of tenderers is drawn to **clause 2.3 of “special tender condition & instruction to tenderers”**, and **Annexure-M** as per which they should submit the requisite documents along with tender pertaining to their technical & financial eligibility.

Signature of the tenderer

Name of signatory

(C) Check List of documents to be uploaded by the tenderer(s) while submitting their offer. Tenderer must upload following documents without fail along with their offer and these documents should accompany Packet I (Technical Bid).

1	Requisite earnest money (ONLINE mode (No Documentary Proof required))
2	Cost of tender document (ONLINE mode (No Documentary Proof required))
3	E-service Fee (ONLINE mode (No Documentary Proof required))
4	All requisite documents mentioned in clause 2.4 of “Special Tender Conditions and instruction to tenderers” pertaining to constitution of firm/concern. (As applicable).
5	All requisite documents/credentials mentioned in clause 2.3 of “Special Tender Conditions and Instructions to tenderers” pertaining to his/their technical and financial eligibility. (As applicable)
6	Tenderers are compulsorily required to upload Affidavit as per Annexure–M as stipulated in 2.2.6 & 2.2.7 of “Special Tender Conditions and instruction to tenderers” without which the offer will be considered incomplete and will be summarily rejected.
7	Tenderer(s) are compulsorily required to upload detail statement of works being executed/in hand on prescribed format as per Annexure-H & maximum value of contractual payment received in any one year in last five years & current financial year as per Annexure-N as stipulated in Clause No. 2.3.2(A)(xiv) of “Special Tender Condition and Instructions to Tenderer(s)” without which the offer will be considered as incomplete and will be summarily rejected.
<u>Note:</u>	<p>i) Tenderer may please note that offers received without requisite Annexure-H, M & N as mentioned above, will be considered as incomplete & invalid tender and for which Contractor shall have no claim on HRIDC.</p> <p>ii) After opening of tender, any document/credential pertaining to technical, financial eligibility and available Bid Capacity constitution of firm etc. shall neither be asked nor be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the Tenderer, shall be clear & readable. However, HRIDC reserves the right to ask for any clarification on the documents/credentials already submitted by the tenderer along with the offer.</p> <p>iii) Tenderer may have to submit the original Documents in physical form at short notice whenever asked by HRIDC at any stage of tender evaluation process or even after finalization of tender.</p>

	<p>iv) After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF 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.</p> <p>v) In E-tender, all submissions of documents are to be uploaded on the e-procurement portal of Government of Haryana. There may be last minute hic-cups and delay in uploading the Documents and payment of Earnest Money etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. HRIDC will not be responsible for any delay/non submission of offer due to any reason whatsoever.</p> <p>vi) Annexure Q - Mandatory undertaking Regarding Employment/ Partnership of Retired Haryana Government Employees.</p>
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(D) Check List of documents attached with the offer (For guidance to Tenderer)

SNo.	Document/ Detail	Required in the form	Attached	
			Yes	No
Constitution of Firm documents (as required in terms of Clause 2.4 of the tender document)				
1	In case of Sole Proprietorship Concern	<p>(i) Affidavit certifying the sole Proprietorship of the firm. This affidavit shall be Notarized and submitted in original. (Standard Affidavit as per Annexure O-1)</p> <p>(ii) An undertaking that he is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).</p> <p>(iii) All other documents in terms of explanatory notes in clause 10 of the General Conditions of Contract (July 2020).</p>		
2	In case of HUF	<p>(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.</p>		
		<p>(ii) An undertaking that the HUF is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment /wrong information in regard to above shall make the contract liable for determination under</p>		

		Clause 62 of the General Conditions of Contract (July 2020).		
		(iii) All other documents in terms of explanatory notes in clause 10 of the General Conditions of Contract (July 2020).		
3	In case of a “Partnership Firm/Concern”	(i) Notary certified copy of the Partnership Deed.		
		(ii) Document(s) in support of Registration of firm with Registrar of firms viz. Registration certificate/ Form- A & Form-B/ Form C (as applicable) etc. issued by Registrar of firms.		
		iii) Notarised Power of Attorney/authorization in favour of the individual signing the tender document (duly registered) and create liability against the Firm. (Standard Performa as per Annexure O-2)		
4	In case of a “JV Firm”	(i) Original/ copy of Memorandum of Understanding (MOU)/JV Agreement duly notarized in accordance with the Annexure K-1 to “Special Tender Conditions and Instructions to Tenderers” of Tender Document, duly signed by the Power of Attorney (POA) holders/authorized signatories of all the constituents/members of the JV.		
		(ii) Power of Attorney/authorization duly Notarised by all JV constituents, in favour of the individual signing the tender document on behalf of the JV. (Standard Performa as per Annexure O-3)		
4 (a)	In case one or more of the members of the JV Firm is/are Partnership Firm(s), following documents shall be submitted:	(i) Notary certified copy of the Partnership Deed and document(s) in support of registration of firm with registrar of firms viz. Registration certificate/ Form-A& Form-B/Form C (as applicable) etc. issued by registrar of firms;		
		(ii) Consent of all the partners to enter into the Joint Venture Agreement on a Stamp Paper		

		of appropriate value (in original). (Standard Performa as per Annexure O-4)		
		(iii) Power of Attorney (duly registered as per prevailing law) in favour of the individual to sign the MOU/JV Agreement on behalf of the Partnership Firm and create liability against the Firm. (Standard Performa as per Annexure O-5)		
4 (b)	In case one or more of the members of the JV Firm is/are Proprietary Firm or HUF, following documents shall be submitted:	(i) A copy of notarized affidavit on Stamp Paper declaring that 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. (Standard Affidavit as per Annexure O-6)		
4 (c)	In case one or more members of JV is/are Limited Companies, the following documents shall be submitted:	(i) Notary certified copy/ Original resolutions of the Directors of the Company, permitting the Company to enter into a JV agreement; (Standard Performa as per Annexure O-7)		
		(ii) Notarised Copy of Memorandum and Articles of Association of the Company duly registered as per prevailing law;		
		(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, sign MOU/JV Agreement on behalf of the company and create liability against the company (Standard Performa as per Annexure O-8).		
4 (d)	In case one or more members of JV is/are LLP firm, the following documents shall be submitted/uploaded	(i) A notarised copy of certificate of incorporation and LLP agreement		
		(ii) A notarised copy of resolution of the partners of LLP, permitting the LLP to enter into a JV agreement, authorising one		

		of the partners of LLP to sign JV MOU/agreement and such other documents required to be signed on behalf of the LLP and to create liability against the LLP and/or to do any other act on behalf of LLP (Standard proforma as per Annexure O-12)		
		(iii) A copy of authorisation/copy of power of attorney issued by the LLP (backed by resolution of partners) in favour of individual to sign the tender, sign MOU/JV agreement on behalf of the LLP and create liability against the LLP (Standard proforma as per Annexure O-13)		
5	In case of a “Company” registered under Companies Act-2013	(i) Copy of the AOA & MOA (Article of Association & Memorandum of Association) of the Company		
		(ii) A copy of Certificate of Incorporation		
		(iii) Notarised copy of Power of Attorney (Standard Performa as per Annexure O-9) by the Company (along with copy of the resolution of Board of Directors) (Standard Performa as per Annexure O-10) in favour of the individual signing the tender on behalf of the Company and create liability against the company.		
		(iv) An undertaking that the Company is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the Company was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).		
		(v) All other documents in terms of explanatory notes in clause 10 of the General Conditions of Contract (July 2020).		
6		(i) Notarised copy of the certificate of registration;		

	In case of a “Registered Society & Registered Trust”	(ii) Notarised copy of Deed of formation;		
		(iii) Notarised copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust.		
		(iv) All other documents in terms of explanatory notes in clause 10 of the General Conditions of Contract (July 2020).		
7	In case of a LLP	(i) Notarised copy of the 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. (Standard performa as per Annexure O-11)		
		(iv) An undertaking that the LLP is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was / is a member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).		
		(v) All other documents in terms of explanatory notes in clause 10 of the General Conditions of Contract (July 2020).		
Other important documents				
8	Technical Eligibility Criteria:	Completion/Performance Certificate in support of 30%/40%/60% (as the case may be) for similar nature of work as per clause 2.3.2.A (v) of tender document.		

9	Financial Eligibility Criteria:	Contractual payment received as per detail at Annexure-I in form of Form-16A/26AS to judge the 150% payment received as per clause 2.3.2.A (vi) of tender document.		
10	Annexure-C	Declaration form regarding site etc.		
11	Annexure-D	Declaration regarding constitution of firm		
12	Annexure-E	Plant and Machinery		
13	Annexure-F	Engineers/Personnel		
14	Annexure-G	Works executed during last 7 years ending last day of the month previous to the one in which tender is invited		
15	Annexure-H	Works in Hand - in support of Bid Capacity (Mandatorily for tender value more than Rs.20 crore)		
16	Annexure-I	Detail of Contractual Payment received in previous three financial years and the current financial year		
17	Annexure-J	Bank Detail/RTGS		
18	Annexure-L	Performa of Completion Certificate		
19	Annexure-M	Mandatory Affidavit to be submitted by tenderer along with the tender documents		
20	Annexure-N	Contractual payment received in last three years in support of Bid Capacity (Mandatorily for tender value more than Rs.20 crore)		
21	Annexure-Q	Mandatory undertaking Regarding Employment/ Partnership of Retired Haryana Government Employees		
22	Annexure-R	Drawing of GAD and L section with Key Plan		
23	Attested copy of Ballast Test Report, if required as per tender document	DELETED		

(E) PRECAUTIONS TO BE TAKEN FOR PREPARING LEGAL DOCUMENTS (For guidance to Tenderer):

1. Non-Judicial Stamp Paper

- i) Should have been purchased in the name of the Company/firm/executants
- ii) Should be purchased from the Place/State where the document is being executed.
- iii) Values of the non-judicial stamp paper (NJSP) should be as mentioned in Tender conditions, where value of NJSP is not mentioned in the tender conditions, value of NJSP should as per the law of the state in which the document is being executed.
- iv) Date of purchase of Non-Judicial stamp paper should be prior from the date of execution of document.

2. Signature on the document

- i) The document should be signed on each page and also at the appropriate place meant for signature of executants/deponent.
- ii) Signatory/executants should ensure that on the date of signing the document he/she has valid authority/attorney in his/her favour for signing.
- iii) In affidavit declaration clause as well as verification clause both should be signed by deponent/executants.
- iv) Where the document requires witnessing, it should be duly signed by witnesses along with their names and addresses.
- v) On Power of Attorney, signatures of the Attorney holder should also be got done and attested by executants.

3. Format of the document

- i) Where the format has been prescribed by HRIDC, the document should be executed in that format.
- ii) Date and place of execution should always be mentioned on the document.

4. Notarization of document

- i) The document should be duly attested (signed and stamped) by notary public on each page.
- ii) The seal of the notary public should contain his name, area of practice and Registration number.
- iii) Notarial stamps of appropriate value wherever required should be affixed on the document

HARYANA RAIL INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED

TENDER NOTICE

1.0 The **Deputy General Manager/ Projects**, for and on behalf of **Haryana Rail Infrastructure Development Corporation** invites open e-tender under **Two-Packet System** for the following work:

S. No.	Name of work	Approx. Cost/ Earnest Money	Similar nature of work/ Period of completion	Cost of tender document/ E-service Fee
1	Construction of Elevated BG Railway line from Km 79/6 to Km 85/7 along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana-Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.	Approx. Cost: INR 212.73 Crores (Two Hundred Twelve crores and Seventy Three lakhs) Earnest Money: INR 1,00,00,000 (One crore only)	“Construction of Rail to Rail Flyover/ Railway Viaduct/ Railway Major bridges/ Elevated Metro Viaduct of span 12.20m or above including sub-structure and super-structure.” Completion Period: 30 (Thirty) months	Cost of tender document: INR 25,000/- only (Rupees Twenty-five thousand Plus 18% GST) E-service Fee: INR 1,000/- (Rupees One thousand Plus 18% GST)

NOTE: TENDER/OFFER WITHOUT EARNEST MONEY WILL BE SUMMARILY REJECTED

2.0 Critical Dates

Code	Activity	Date
D	Issue of Tender Notice in the leading newspapers and HRIDC website.	10.07.2020
	<u>Site visit:</u> The prospective tenderers may contact General Manager/ Projects/ HRIDC (Email: gmphridc@gmail.com) for further details.	

PBQ = D + 14 days	Last date of receipt of Pre-bid Queries at e-mail address gmphrdc@gmail.com , hridc2017@gmail.com	24.07.2020
PBM = D + 19 days	Pre-bid meeting at 11:00 AM <u>Venue:</u> Haryana Rail Infrastructure Development Corporation, 5 th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003	29.07.2020
RPBQ = D + 24 days	Last date for HRIDC's response to Pre-bid Queries and issue of Corrigendum, if any	11.08.2020
D1 = D + 25 days	Start of submission of offer on e-procurement portal i.e. https://etenders.hry.nic.in	12.08.2020
D2 = D + 40 days	<ul style="list-style-type: none"> • End of availability of tender documents at https://etenders.hry.nic.in • Opening of tender/ offer <p>Note: This is also the last date of uploading of completed offers by the bidders</p>	02.09.2020
The reference time for all the above activities is indicated in Top sheet.		
NOTE: In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time.		

3.0 Eligibility Criteria

3.1 Technical eligibility criteria:

3.1.1 The tenderer(s) must have successfully completed/**substantially completed** any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:

- a. Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or
- b. Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or
- c. One similar work each costing not less than the amount equal to 60% of advertised value of the tender.

3.1.2 Where, similar work means “Construction of Rail to Rail Flyover/ Railway Viaduct/ Railway Major bridges/ Elevated Metro Viaduct of span 12.20m or above including sub-structure and super-structure”

Further, it may be kindly noted that the above work, if executed as part of any other single work, will also be considered eligible as similar work provided the value of that part of single work meets the minimum amount as mentioned in Clause 3.1.1 above.

3.1.3 Substantially completed work(s) shall mean: The work(s) is considered as substantially completed when the value of executed work i.e. payment received is 80% or more of the contract value subject to the condition that work is not terminated by the concerned department/Client or abandoned by the Contractor and balance work is progressing satisfactory. This is to be substantiated by a certificate from the concerned department/Client.

Note for 3.1:

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 opening 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.

3.2 Financial eligibility criteria:

3.2.1 The tenderer(s) must have received contractual payments in the previous three (3) financial years and the current financial year up to the date of **inviting of tender** at least 150% of the advertised estimated value of the work in this tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department/client and/or Audited Balance Sheet duly certified by the Chartered Accountant/**Certificate from Chartered Accountant duly supported by Audited Balance Sheet.**

Note for 3.2.1: Client certificate from other than Govt Organization should be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India.

3.3 Bid Capacity:

3.3.1 Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the updated estimated value of work in this tender. The available Bid Capacity will be calculated as detailed in the tender document.

3.4 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 for the relevant date. 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.

Notes for clause 3.1 to 3.4:

1. 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.
2. 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.
3. If a part or a component of work is completed but the overall scope of contract is not completed, this work shall not be considered for fulfillment of technical credentials even if the cost of part completed work/component is more than required for fulfillment of credentials.
4. **In case a work is considered similar in nature for fulfillment of technical credentials, the overall cost of that work including PVC amount if any shall be considered and no separate evaluation for each component of that work shall be made to decide eligibility.**
5. The value of final bill including PVC amount-if paid, or otherwise in case final bill is pending the contract cost in last approved variation statement plus PVC amount paid or cumulative amount paid up to last on-account bill including PVC amount and statutory deductions whichever is less, shall be considered as the completion cost of work.
6. In case of newly formed partnership firm, the credentials of individual partners from previous proprietary 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 present tender under consideration, the credentials of partner A will be considered to the extent of $0.3 \times 0.2 \times$ 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.
7. 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.
8. In case of existing partnership firm if any other partner(s) joins 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.
 9. 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.
 10. 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.
 11. 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.
 12. 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.
 13. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.
 14. In case company A is merged with company B, then company B would get the credentials of company A also.

4.0 Validity of Offer: 120 days from the date of opening of Technical Bid(D2).

5.0 Submission of Tender Documents & Opening:

- 5.1 The tenders may be uploaded up to date D2 along with scanned copy of all the requisite document (as per Annexure 1 & 2).
- 5.2 Technical Bid will be opened on Date D2 immediately after close of uploading of tenders.
- 5.3 Financial bids of the eligible tenderers would be opened subsequently on the date and time to be notified later on.

- 5.4 Tenderer may have to submit the original documents at short notice whenever asked by HRIDC at any stage of tender evaluation process or even after finalization of tender.
- 5.5 In E-tender, all submissions of documents are to be uploaded on the e-procurement portal as indicated in the tender document. There may be last minute hic-cups and delay in uploading the Earnest Money and documents etc. Tenderer(s)/ Prospective bidders are advised to upload their offer well in time. HRIDC will not be responsible for any delay/non submission of offer due to any reason whatsoever.

6.0 Note for Tenderer(s):

6.1 Instructions regarding GST

- i) Works contracts shall be treated as supply of services as per Schedule-II GST Act.
- ii) GST Act and Rules issued from time to time by the Government/ concerned authorities shall be applicable
- iii) Contractor/ suppliers/ service providers/ parties shall register their firms State wise under GSTIN (GST Identification Number) and submit at the time of opening of tender or before the signing the agreement and shall mention place of business, registered office address and email id.

6.2 Tenderer(s) shall upload two packets/files: Packet-I/File-I and Packet-II/File-II

- i) **Packet-I/File-I** shall contain Technical Bid and the scanned copies of all necessary documents regarding constitution of the firm and other requisite documents/credentials as per Annexures 1 and 2.
- ii) **Packet-II/File-II** shall contain the Financial Bid only and will be uploaded along with File-I/Packet-I on or before the tender opening date D2.

6.3 The cost of the Tender Documents is non-refundable and Tender Document is not transferable.

6.4 JVs/ Consortiums/ MOUs shall be considered in accordance with approved tender conditions as per “**Annexure K** - Guidelines for participation of JV firms.”

6.5 The detailed e-tender notice is available on e-procurement portal of Government of Haryana i.e. <https://etenders.hry.nic.in>.

6.6 As the work indicated in this tender document is to be executed in close vicinity to the running railway track, the Tenderers are expected to meet the required safety guidelines (also mentioned in this document) and keep a constant vigil on safety related aspects. Tenderers are also advised to visit the site before submission of their tenders to understand the need for adopting safety related precautions at the work site.

6.7 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.

NOTE:

1. The tenderers who desire to participate against e-tenders, are advised to electronically register themselves on website <https://etenders.hry.nic.in> for which they would require to obtain Class III digital certificate (if already not obtained) issued by CCA under IT Act-2000. The detailed process for the same is explained in the **Annexure-P** (Instructions regarding electronic tendering system)
2. All other terms and conditions in respect of above tender are given in the tender document.
3. Only e-tenders will be accepted, and tenders submitted in any other form will be summarily rejected.
4. The tenderer(s) shall abide by the Indian Railways Standard General Conditions of Contract (July 2020), wherever applicable, in addition to the conditions mentioned in this tender document.

Deputy General Manager/ Projects

Haryana Rail Infrastructure Development Corporation Limited
SCO 17-19, 3rd Floor, Sector-17, Chandigarh
Contact No. 0172-2715644, E-mail: dgmphridc@gmail.com

Annexure-1

Scanned copy of the Documents to be uploaded along with offer

S.No.	Document	Required in the form	If Not submitted along with the tender, then
1.	Cost of Tender Document (in terms of Clause 2.1.2 (a) of tender document)	ONLINE MODE (no documentary proof required)	Summarily Rejected
2.	Earnest Money Deposit (in terms of Clause 3.0 of tender document)	ONLINE MODE (no documentary proof required)	Summarily Rejected
3.	Constitution of Firm documents (as required in terms of Clause 2.4 of the tender document)		As per Clause 2.4.1.1 of Special Tender conditions and Instruction to the tenderer, "After opening of the tender, any document pertaining to the constitution of the firm/ JV/ sole/ partnership firm/ company/ Society (as applicable), shall not be entertained/ considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained".
(A)	In case of Sole Proprietorship Firm	(i) Affidavit certifying the sole Proprietorship of the firm. This affidavit shall be notarized and submitted in original. (ii) An undertaking that he is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which he was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).	Note: If all the requisite documents pertaining to the constitution of the firm/JV/sole/partnership firm/company/Society etc., as specified in clause 2.4.1 below, are not submitted, offer will be considered as incomplete and shall be summarily rejected.
(B)	In case of 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	

		<p>authority, power and consent given by other members to act on behalf of HUF.</p> <p>(ii) An undertaking that the HUF is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which HUF was / is a partner/member. Concealment /wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).</p>	
(C)	In case of a “Partnership Firm/ Concern”	<p>i) Notary certified copy of the Partnership Deed.</p> <p>ii) Document(s) in support of Registration of firm with Registrar of firms viz. Registration certificate/ Form-A & Form-B/ Form C (as applicable) etc. issued by Registrar of firms.</p> <p>iii) Power of Attorney (duly notarised) in favour of the individual signing the tender documents.</p>	
(D)	In case of a “JV Firm”	<p>(i) Original/ copy of MOU/JV Agreement duly notarized in accordance with the Annexure K-1 to “Special Tender Conditions and Instructions to Tenderers” of Tender Document, duly signed by the Power of Attorney (POA) holders/authorized signatories of all the constituents/members of the JV.</p>	

		(ii) Power of Attorney/ authorization duly Notarised by all JV constituents, in favour of the individual signing the tender document on behalf of the JV;	
(D) (i)	In case one or more of the members of the JV Firm is/ are Partnership Firm(s), following documents shall be submitted:	(i) Notary certified copy of the Partnership Deed and document(s) in support of registration of firm with registrar of firms viz. Registration certificate/ Form-A& Form-B/Form C (as applicable) etc. issued by registrar of firms; (ii) Consent of all the partners to enter into the Joint Venture Agreement on a Stamp Paper of appropriate value (in original).; (iii) Power of Attorney (duly registered as per prevailing law) in favour of the individual to sign the MOU/JV Agreement on behalf of the Partnership Firm and create liability against the Firm.	
(D) (ii)	In case one or more of the members of the JV Firm is/ are Proprietary Firm or HUF, following documents shall be submitted:	A copy of notarized Affidavit on Stamp Paper in original confirming that 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.	
(D) (iii)	In case one or more members of JV is/ are Limited Companies, the following documents shall be submitted:	(i) Notary certified copy/ Original resolutions of the Directors of the Company, permitting the Company to enter into a JV agreement; (ii) Notarised Copy of Memorandum and Articles of	

		<p>Association of the Company duly registered as per prevailing law;</p> <p>(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, sign MOU/JV Agreement on behalf of the company.</p>	
(D) (iv)	In case one or more members of JV is/are LLP firm, the following documents shall be submitted/:	<p>(i) A notarised copy of certificate of incorporation and LLP agreement;</p> <p>(ii) A notarised copy of resolution of the partners of LLP, permitting the LLP to enter into a JV agreement, authorising one of the partners of LLP to sign JV MOU/agreement and such other documents required to be signed on behalf of the LLP and to create liability against the LLP and/or to do any other act on behalf of LLP</p> <p>(iii) A copy of authorisation/copy of power of attorney issued by the LLP (backed by resolution of partners) in favour of individual to sign the tender, sign MOU/JV agreement on behalf of the LLP and create liability against the LLP.</p>	
(E)	In case of a “Company” registered under Companies Act-2013	<p>(i) Copy of the MOA (Memorandum of Association) /AOA (Articles of Association) of the Company;</p> <p>(ii) A copy of Certificate of Incorporation</p> <p>(iii) Power of Attorney (in original/ Notarised copy) by the Company (along with copy of the resolution of Board of Directors) in favour of the</p>	

		<p>individual signing the tender on behalf of the Company.</p> <p>(iv) An undertaking that the Company is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of the partnership firm or JV in which the Company was / is a partner/member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).</p>	
(F)	In case of a “LLP (Limited Liability Partnership)”	<p>(i) Notarised copy of the LLP Agreement;</p> <p>(ii) Copy of Certificate of Incorporation; and</p> <p>(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.</p> <p>(iv) An undertaking that the LLP is not blacklisted or debarred by Railways or any other Ministry / Department of Govt. of India from participation in tender on the date of opening of bids, either in individual capacity or as a member of JV in which the LLP was / is a member. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (July 2020).</p>	

(G)	In case of a Registered Society/ Registered Trust	(1) Notarized copy of the Certificate of Registration; (2) Notarized copy of Deed of Formation; (3) Notarized copy of Power of Attorney in favour of the individual to sign the tender documents and create liability against the Society/Trust	
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Annexure-2**Scanned copy of the Documents required to be uploaded along with offer**

S.No.	Document	Required in the form	If Not submitted along with the tender, then
1.	<u>Technical Eligibility Criteria</u> – Completion/ Performance Certificate in support of 30%/ 40%/ 60% (as the case may be) similar nature of work as per clause 2.3.2.A(v) of tender document.	Copy	As per Note(ii) of para 7 of Check List and in the opening para of Covering Note: <i>“After opening of the tender, any document/ credential pertaining to the technical & financial eligibility and available bid capacity, constitution of firm etc. shall neither be asked nor be entertained/ considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained”</i>
2.	<u>Financial Eligibility Criteria</u> – Contractual payment received as per detail at Annexure-I in form of Form-16A/26AS to judge the 150% payment received as per clause 2.3.2.A(vi) of tender document.	Copy	
3.	Annexure-C Declaration form regarding site etc.)	Copy	Liable to be rejected
4.	Annexure-D Declaration regarding constitution of firm	Copy	Liable to be rejected
5.	Annexure-E (Plant and Machinery)	Copy	Liable to be rejected
6.	Annexure-F (Engineers/ Personnel)	Copy	Liable to be rejected
7.	Annexure-G (work executed in last seven years)	Copy	Liable to be rejected
8.	Annexure-H (Work in Hand) in support of Bid Capacity	Copy	In terms of Clause 2.3.2 (A) (XIV) of tender document Summarily Rejected
9.	Annexure-I (Contractual Payment received)	Copy	Liable to be rejected

10.	Annexure-J (Bank Detail/RTGS)	Copy	Liable to be rejected
11.	Annexure-L (Performa of Completion Certificate)	Copy	Liable to be rejected
12.	Annexure M Affidavit to be submitted by tenderer along with the tender documents	Copy	Summarily Rejected
13.	Annexure-N Contractual payment received in last three years in support of Bid Capacity	Copy	In terms of Clause 2.3.2 (A) (XIV) of tender document Summarily Rejected.
14.	Annexure Q - Mandatory undertaking Regarding Employment/ Partnership of Retired Haryana Government Employees.	Copy	Summarily Rejected
15	Ballast Test Report (if required)	Attested Copy	DELETED

COVERING NOTE**FOR THE SPECIAL ATTENTION OF THE TENDERERS**

1.0 The tenderers are requested to carefully peruse the Tender Documents **and upload all requisite documents/credentials along with the offer. Scanned copy of the documents uploaded by the tenderer shall be clear & readable. Documents submitted/uploaded previously or along with another tender currently under consideration SHALL NOT be considered while evaluating the present tender.**

2.0 The tenderer (s) shall visit the site of work and acquaint himself/themselves with the conditions of work viz. approach roads and accessibility, nature of soil/rock, availability of materials, electric power, water for work and drinking purposes, site for labour camps, stores, godowns, extent of lead/lift in work, availability of skilled and unskilled labour etc. that may be encountered in the course of execution of work. In short, he/they should familiarize himself/themselves fully with the conditions of the site and FURNISH A CERTIFICATE TO THIS EFFECT, in the Proforma appended as **Annexure-C**.

3.0 **Further, offered rates should be filled up in the Tender Schedule at specified space i.e. Financial bid sheet. Rates offered in any other Proforma/Form shall be summarily rejected.**

4.0 Pre-bid Queries and Pre-bid Meeting

A. **Pre-bid Queries:** Tenderers shall review the tender documents in a detailed manner, conduct site inspections at their own cost and carry out a detailed review of drawings for the works mentioned in this tender document. Further, in case of queries/ clarifications, if any, Tenderers shall send their pre-bid queries to HRIDC through mail on the email id hridc2017@gmail.com clearly mentioning their name as well as the name of the tender document at least 1 (one) week before the scheduled date for the Pre-bid meeting. Additionally, Tenderers can also send their pre-bid queries through registered post to the office of General Manager/Projects, Haryana Rail Infrastructure Development Corporation, 5th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003 at least 1 (one) week before the scheduled date for the Pre-bid meeting.

B. **Pre-bid Meeting:** The date, time and venue of the Pre-Bid Meeting shall be:

Date: 29.07.2020

Time: 11:00 AM

Venue: Haryana Rail Infrastructure Development Corporation, 5th Floor, Railtel Tower, Plot No. 143, Sector-44, Gurugram, Haryana-122003

Note: A maximum of two representatives of each Tenderer shall be allowed to participate on production of an authority letter from the Tenderer.

5.0 Two Packet System.

5.1 The tender uploaded by the tenderer(s) will consist of TWO Packets/Files i.e. Packet-I/File-I and Packet-II/File-II.

5.2 **“Packet-I/File-I” – Technical Bid** will be opened immediately after close of uploading of tender (D2) i.e. **02.09.2020** at 03:00 PM. This Bid shall contain (a) Tender form (First sheet), (b) Special Tender Conditions and Instructions to tenderer/s and (c) Special conditions relating to site data, specification and Special conditions of Non-Schedule Items. This Bid shall contain all the documents as listed in Annexure-1 & Annexure-2 of Tender Notice, Para (D) of Top Sheet and the Covering note. Tenderers are requested to ensure that all such documents and Annexures duly filled in are uploaded, complete in all respects with their Packet-I/File-I failing which his/their offer is likely to be rejected/summarily rejected, as applicable.

5.3 Packet II/File II-FINANCIAL BID (SECOND PACKET) of only those tenderer(s) will be opened whose Packet-I/File-I (Technical Bid) is found eligible as per Tender Conditions. The time, date and venue of opening of Packet-II/File-II (Financial Bids) shall be notified to the successful tenderer(s) after evaluation of Packet-I/File-I (Technical Bid). The same shall be opened on due date in the presence of tenderers/their representatives as may wish to attend the same.

Further, offered rates should be filled up in the Tender Schedule at specified space i.e. Financial bid sheet (Packet-II/File-II). Rates offered in any other Proforma/Form shall be summarily rejected.

6.0 Tender Document shall be uploaded along with the following documents:

- (i) Earnest Money (EMD), Cost of Tender Document and E-service fees ONLINE MODE
- (ii) All other mandatory documents as listed in the document

7.0 Tenderer(s) to please note that after opening of tender, any document/credential pertaining to technical & financial eligibility, constitution of firm etc. shall neither be asked nor be entertained/ considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained. Scanned copy of the documents, uploaded by the tenderer shall be clear & readable. However, HRIDC reserves the right to seek any clarification on the documents/credentials already submitted by the tenderer along with the offer.

7.1 Tenderer should keep the validity of their offer for 120 days. Any deviation from this will not be accepted under any circumstances.

8.0 Tenderer may have to submit the original Documents in physical form at short notice whenever asked by HRIDC at any stage of tender evaluation process or even after finalization of tender.

9.0 In E-tender, all submissions of documents are to be uploaded on e-procurement portal indicated in this tender document. There may be last minute hic-cups and delay in uploading the documents and payment of Earnest Money etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. HRIDC will not be responsible for any delay/non submission of offer due to any reason whatsoever.

10.0 Each page of the tender papers will be treated as signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them.

11.0 The tenderer(s) may note that the HRIDC reserves its right to either accept or reject any Bid/s without assigning any reasons whatsoever and tenderer(s) shall have no claim(s) on this account.

12.0 Prospective tenderer(s) may contact **General Manager/Projects, Haryana Rail Infrastructure Development Corporation 5th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003** for obtaining further clarifications, if required, **during the working hours.**

**HARYANA RAIL INFRASTRUCTURE DEVELOPMENT
CORPORATION LIMITED****TENDER FORMS (FIRST SHEET)**

Tender no.: HRIDC/KET/31/2020/2

Name of work: Construction of Elevated BG Railway line from **Km 79/6** to Km 85/7 along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana- Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.

To,

The Managing Director,

Haryana Rail Infrastructure Development Corporation Limited

SCO-. 17-19, 3rd Floor, Sector-17A, Chandigarh

E-mail: hridc2017@gmail.com

Dear Sir,

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 tender open for acceptance for a period of 120 (One hundred twenty) days from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our “Earnest Money”. I/We offer to do the work **“Construction of Elevated BG Railway line from Km 79/6 to Km 85/7 along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana- Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.”** for Haryana Rail Infrastructure Development Corporation Limited, at the rates quoted in the attached schedule and hereby bind myself/ourselves to complete the work in all respects within **30 (thirty) 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 (July 2020)**, with all correction slips up-to-date and to carry out the work according to the Special Tender Conditions of Contract and Specifications of materials and works as laid down by Railway in the annexed Special Conditions/Specifications, Schedule of Rates with all correction slips up to-date for the present contract.

3. A sum of **INR 1,00,00,000 (Rupees One Crore only)** has already been deposited online as Earnest Money. Full value of the Earnest Money 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 (7) days after receipt of notice issued by HRIDC that such documents are ready; and
 - c) I/We do not commence the work within fifteen (15) 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 up to (Copy enclosed) and hence exempted from submission of Earnest Money.

5. We are a 100% Govt. owned PSUs and hence exempted from payment of Earnest Money.
6. We are a Labour Cooperative Society and our Registration No. is withand hence required to deposit only 50% of Earnest Money.

7. Until a formal Contract 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.

Our bank account no. for the purpose of refund of EMD is (Account no./ name of the A/c holder, other details of NEFT/RTGS).

Signature of Witnesses:

(1)

(2)

.....

Signature of Tenderer(s)

Date.....

Address of the Tenderer(s)

(Complete postal address)

**HARYANA RAIL INFRASTRUCTURE DEVELOPMENT
CORPORATION LIMITED**

SPECIAL TENDER CONDITIONS AND INSTRUCTION TO TENDERER(S)

1.0	<u>DETAILS OF WORKS:</u>
	Tenders are invited for the work “AS ON TOP SHEET”
2.0	<p><u>TENDER DOCUMENTS:</u> One set of complete tender documents contains the following:</p> <p>Packet I – Technical Bid It will consist of Top sheet, Tender Notice, Addendum/Corrigendum, if any, Covering Note, Tender form (first sheet), Special Tender Conditions and Instructions to the Tenderers along with related Annexures, Special Conditions related to Site Data and Specifications along with related Annexures. These must be uploaded along with all mandatory documents/credentials as directed in Para (C) of Top Sheet as well as document listed in Para 3.1 of the Covering Note.</p> <p>Packet II – Financial Bid It will contain the Schedule of Items and Quantities with provision for quoting of rates by tenderers.</p>
2.1	<u>SUBMISSION OF TENDERS:</u>
2.1.1 (a)	<p>The offer is to be uploaded online upto 02.09.2020 by 03:00 PM (D2) along with scanned copy of all the requisite documents (as per Annexure 1 & 2 of Tender Notice).</p> <ul style="list-style-type: none"> • Tenderer may have to submit the original Documents in physical form at short notice whenever asked by HRIDC at any stage of tender evaluation process or even after finalization of tender. • In E-tender, all submissions of documents are to be uploaded on the e-procurement portal of Government of Haryana i.e. https://etenders.hry.nic.in. There may be last minute hic-cups and delay in uploading the Documents and payment of Earnest Money etc. Tenderer’s/ Prospective bidders are advised to upload their offer well in time. HRIDC will not be responsible for any delay/non submission of offer due to any reason whatsoever.
(b)	Packet-I/File-I (Technical Bid)

	The Packet-I/File-I (Technical Bid) along with requisite details as mentioned in para (B) shall be uploaded/attached with all the documents as mentioned in Para (C) of Top Sheet/Annexure-1 & 2 of tender notice in support of their eligibility.
(c)	Packet II/File-II – Financial Bid The Packet-II/File-II (Financial Bid) containing the Schedule of Items and Quantities with provision for quoting of rates by tenderers in Financial bid sheet .
(d)	Care in submission of tender
(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 (July 2020) 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. Tenderer's 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 HRIDC 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 HRIDC shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.
2.1.2	Cost of Tender Documents (a) Tender Documents will be available on the e-procurement portal https://etenders.hry.nic.in from 11.08.2020 at 05:00 PM to 02.09.2020 upto

	<p>03:00 PM. The cost of Tender Document will have to be deposited ONLINE. The cost of tender document is Rs. 25,000/- (plus 18% GST). This should be paid separately and not included in the Earnest Money of tender.</p> <p>(b) However, for service contracts, MSEs registered with District Industries Centres, Khadi and Village Industries Commission, Khadi and Village Industries Board, Coir Board, National Small Industries Corporation, Directorate of Handicraft and Handloom, Any other body specified by Ministry of MSME, shall be supplied such tender document free of cost on confirmation (Xerox Copy) of their evidence to this effect.</p>
2.1.3	<p>The Tender Documents, consisting of TWO Packets/Files i.e., Packet-I/File-I (TECHNICAL BID) and the Packet-II/File-II (FINANCIAL BID), shall be uploaded up to 02.09.2020 upto 03:00 PM. The Packet-I/File-I (Technical Bid) will be opened immediately after closing of uploading of tender i.e. 02.09.2020 upto 03:00 PM. Technical details and commercial conditions read out in the presence of such tenderer(s) as is/are present. The time, date and venue of opening of Packet-II/File-II (Financial Bids) shall be notified to successful tenderer(s) after evaluation of Packet-I/File-I (Technical Bid). The offer shall be uploaded along with scanned copy of all the requisite document (as per Annexure 1 & 2 of Tender Notice). In case the intended date for opening of tenders is declared a holiday, the tenders will be opened on the next working day at the same time.</p>
2.2	<u>COMPLETION OF TENDER DOCUMENTS:</u>
2.2.1	<p>The tenderer(s) shall quote his rate in financial bid sheet against each schedule i.e. Schedule "A1" "A2" & "B" separately (Packet-II, Financial Bid). Every possible fluctuation, in the rate of labour, material and general commodities, and other possibilities of each and every kind which may affect the rates, should be considered and kept in view before quoting the rates and no claim on this account shall be entertained by HRIDC under any circumstances except the price escalation payable as per price variation clause, if any, provided separately in the tender documents.</p>
2.2.2	<p>The rate/s should be quoted in figures only in Financial bid sheet (BoQ). However, the quoted rate in figures against each Schedule will automatically be converted into words in Financial Bid sheet.</p> <p>In case, the tenderer(s) quote/s multiple rates*, the offer will be treated as incomplete and shall be summarily rejected.</p> <p>Rebate if any, one single rebate over entire Tender schedule shall be considered.</p>

	<p>*Multiple Rates - in case tenderer/s quote selective rebate on any individual item(s) of a USSOR Chapter of Schedule-A1 & A2/ Individual NS item of Schedule-B, the same will be treated as multiple rate and their offer will be summarily rejected.</p> <p>If a tenderer does not quote rate/rates in the format as specified in this tender document i.e. Financial bid sheet (Package II/File-II- Financial Bid), the offer will be treated incomplete and summarily rejected.</p>
2.2.3	<p>Each page of the tender papers will be deemed to be signed/ accepted by the tenderer(s) or such person(s) on his/their behalf who is/are legally authorized to sign for him/them.</p>
2.2.4	<p>The rates, rebates and/or other financial terms, if any, quoted by tenderer in the relevant fields of the Financial Bid page will only be the ruling terms for deciding the inter-se ranking, and any such condition having financial repercussions, if quoted by them anywhere else including attached documents shall not be considered for deciding inter-se ranking.</p>
2.2.5	<p>Additional conditions or stipulations, if any, must be made by the tenderer/s in a covering letter with the tender. HRIDC reserves the right not to consider conditional tenders and reject the same without assigning any reason. Only those additional conditions which are explicitly accepted by HRIDC shall form part of the contract.</p>
2.2.6	<p>An affidavit is required to be uploaded/submitted by all tenderers (as given in Annexure-M). Based on this affidavit, Tender Committee will deliberate and decide eligibility of tenderers for first packet. However, the suitability/eligibility of shortlisted tenderers will be provisional and same shall be subject to verification of their credentials from the issuing authority.”</p> <p>Second packet (Finance Bid) of only eligible tenderers will be opened and relevant documents of lowest eligible tenderer will be got verified.</p> <p>If contents in documents uploaded/submitted by tenderers are found to be incorrect/false, action will be taken against such tenderers as per provisions contained in Affidavit submitted by them as Annexure-M. In such eventuality, next lowest eligible tenderer/offer will be considered.</p>

2.2.7	If the Tenderer(s) fail to submit the Affidavit as prescribed in clause 2.2.6 above along with his/their offer shall be considered incomplete and will be summarily rejected.
2.2.8	Tenderer may have to submit the original Documents in physical form at short notice whenever asked by HRIDC at any stage of tender evaluation process or even after finalization of tender.
2.2.9	In E-tender, all submissions of documents are to be uploaded on the e-procurement portal https://etenders.hry.nic.in . There may be last minute hic-cups and delay in uploading the Documents and payment of Earnest Money etc. Tenderer's/Prospective bidders are advised to upload their offer well in time. HRIDC will not be responsible for any delay/non submission of offer due to any reason whatsoever.
2.2.10	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.
2.2.11	The works are required to be completed within a period of 30 months from the date of issue of acceptance letter.
2.2.12	<p>Employment/Partnership, etc. of Retired Haryana Government Employees: Should a Tenderer</p> <p><u>i)</u> 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 Haryana Government, OR</p> <p><u>ii)</u> being partnership firm/ company/ joint venture (JV)/ registered society/ registered trust etc have as one of its partners a retired Engineer of the gazetted rank or any other gazetted officer working before his retirement in Haryana Government, OR</p> <p><u>iii)</u> being an incorporated company have any such retired Engineer of the gazetted rank or any other gazetted officer working before his retirement in Haryana Government as one of its directors</p> <p style="text-align: center;">AND</p> <p>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</p> <p style="text-align: center;">THEN</p>

	<p>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 Haryana Government, duly authorized by him in this behalf, shall be clearly stated in writing at the time of submitting the tender. Tenders without the above information referred to or a statement to the effect that no such retired Engineer or retired gazetted officer is so associated with the Tenderer, as the case may be, shall be rejected.</p> <p><u>Note:</u> The undertaking for the above shall be submitted as per Annexure-Q</p>
2.3	<u>CREDENTIALS TO BE UPLOADED/SUBMITTED ALONG WITH TENDER DOCUMENTS:</u>
2.3.1	Tenderer(s) should upload documents and certificates to show that he/they has/have satisfactorily carried out works of the type involved in the construction of the work being tendered for. He/they should also produce proof of the satisfaction of HRIDC of his/their technical ability and financial stability to undertake the work of the magnitude tendered for.
2.3.2	The tenderer(s) shall upload with his/their tender a list of serviceable machinery, tools and plants, equipment and vehicles he/they has/have in hand for executing the work & those, he/they intends/intend to purchase.
2.3.2 (A)	The tenderer(s) must upload along with his/their tenders:
(i)	Statement showing similar works executed by him/them
(ii)	Certificates of successful completion of his/their work
(iii)	A statement of all payments received against all successfully completed work/works in progress of all types (not necessarily similar in type to work in this tender) indicating the Organizations/Units from which the payments have been received. Necessary certificates in this regard, from the authorities who made the payments, for 3 (three) preceding financial years and the current financial year up to the date of opening of the tender should be uploaded, duly self-attested.

(iv)	A list of their Engineering Organization and equipment, construction Tools and Plants available with them.
(v)	Technical Eligibility Criteria
(a)	<p>As a proof of technical experience/competence, the tenderer(s) must have successfully completed/substantially completed any of the following during last 07 (seven) years, ending last day of month previous to the one in which tender is invited:</p> <ol style="list-style-type: none"> Three similar works each costing not less than the amount equal to 30% of advertised value of the tender, or Two similar works each costing not less than the amount equal to 40% of advertised value of the tender, or One similar work each costing not less than the amount equal to 60% of advertised value of the tender.
(b)	<p><u>Similar Nature of Work:</u> “Construction of Rail to Rail Flyover/ Railway Viaduct/ Railway Major bridges/ Elevated Metro Viaduct of span 12.20m or above including sub-structure and super-structure.”</p> <p>Further, it may be kindly noted that the above work, if executed as part of any other single work, will also be considered eligible as similar work provided the value of that part of single work meets the minimum amount as mentioned in Clause 2.3.2(A) (v) (a) above.</p>
(c)	<p>Substantially completed work(s) shall mean: The work(s) is considered as substantially completed when the value of executed work i.e. payment received is 80% or more of the contract value subject to the condition that work is not terminated by the concerned department/Client or abandoned by the Contractor and balance work is progressing satisfactory. This is to be substantiated by a certificate from the concerned department/Client.</p>
	<p><u>Note for (v) (a):</u> 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</p>

	<p>Bombay Stock Exchange, incorporated/registered at least 5 years prior to the date of opening 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.</p> <p>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.</p>
(d)	The following will be applicable in evaluating the eligibility:
(i)	Similar nature of work physically completed within the qualifying period i.e., the last 07 (seven) years, ending last day of the month previous to the one in which tender is invited (even though the work might have commenced before the qualifying period) should only be considered in evaluating the eligibility criteria.
(ii)	<p>The total value of similar nature of work completed during the qualifying period and not the payments received within qualifying period alone, should be considered. In case, the final bill of similar nature of work has not been passed and final measurements have not been recorded; the paid amount including statutory deductions is to be considered. If final measurements have been recorded and work has been completed with negative variation, then also the paid amount including statutory deductions is to be considered.</p> <p>However, if final measurements have been recorded and work has been completed with positive variation but variation has not been sanctioned, original agreement value or last sanctioned agreement value whichever is lower should be considered for judging eligibility.</p>
2.3.2	<u>Financial Eligibility Criteria:</u>
(A)	As a proof of sufficient financial capacity and organizational resources, the tenderer(s) must have received contractual payments in the previous three (3) financial years and the current financial year up to the date of inviting of tender , at least 150% of the advertised estimated value of the work in this tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department/client and/or Audited Balance Sheet duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.
(vi)	

	<p>Note: Client certificate from other than Govt Organization should be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India.</p>
(vii)	<p>For judging the technical eligibility, financial capability and available bid capacity only those works which had been executed for the Government or Semi Government Organizations shall be considered and the tenderer(s) will submit the certificate to this effect from the Officer concerned duly signed under the official seal. It should be noted that credentials for the works executed for Private Individual/ Private Organization shall not be considered.</p> <p>Completion Certificate/Experience Certificate issued by Competent Authority in favour of tenderer duly stating Name & Final cost of the Work, Date of Completion etc. as per Annexure-L must be uploaded along with the offer.</p>
(viii)	<p>The tenderer(s) shall submit a statement of contractual payments received during the last three financial years and current year on the prescribed performa as detailed at Annexure-I. The details shall be based on the Form 16-A issued by employer i.e., the certificate of deduction of tax at source under Section 203 of the Income Tax Act, 1961 & Form 26-AS issued by Income tax department. Self attested photocopies of the form 16-A/ form 26AS shall be enclosed in support of the above. HRIDC may invite the tenderer for online verification of Form 26AS.</p>
(ix)	<p>If a tenderer(s) has completed a work of similar nature where cement and steel was issued by the Department free of cost, tenderer(s) must upload the completion certificate indicating cost of these materials and total cost of the work (including cost of cement/steel) shall be considered to decide eligibility or otherwise.</p>
(x)	<p>The overall financial soundness of the tenderer(s) will be evaluated based upon the volume of the work handled, Turn over, Balance Sheet etc. Tenderer(s) will accordingly furnish these particulars for the last 3 (three) years (i.e. Current year and Three Previous Financial Years) duly supported by latest audited results/Balance Sheets.</p>
(xi)	<p>Tenderer(s) has to satisfy the eligibility criteria for technical capability and competence as well as for financial capacity and organizational resources.</p>
(xii)	<p>If the tenderer(s) is a JV/Consortium, each partner of JV/Consortium should have good credentials and the JV/Consortium should meet the technical and financial eligibility criteria as per the guidelines given in Annexure K & K-1.</p>

(xiii)	If the tenderer(s) is a Partnership Firm, the conditions and the technical & financial eligibility criteria will be applicable as per guidelines given in Annexure K-2 .
(xiv)	<u>Bid Capacity: Applicable for tenders (costing more than Rs 20 Crore)</u>
	<p>Tenderers meeting the minimum eligibility criteria will be qualified only if their available Bid capacity is equal to or more than estimated cost of the present work. The available bid capacity of the tenderer shall be worked out by the following formula:</p> <p>Available Bid capacity= [A x N x 2] – B</p> <p>Where,</p> <p>A = Maximum value of payment received for contractual work 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 work in progress.</p> <p>N = Number of years prescribed for completion of work for which bids has been invited.</p> <p>B = Value of existing commitments and balance amount of ongoing works with the tenderer to be completed in next ‘N’ years.</p> <p>(a) The tenderer(s) shall furnish the details of existing commitments and balance amount of ongoing works with tenderer as per the prescribed Performa in Annexure-H for statement of all works in progress and also the works which are awarded to tenderer but yet not started up to the date of inviting of tender. In case of no works in hand, a Nil statement should be furnished. This statement should be submitted duly verified by the Chartered Accountant.</p> <p>(b) In case of JV, the tenderer(s) must furnish the details of existing commitments and balance amount of ongoing works with each member of JV as per the prescribed proforma in Annexure-H for statement of all works in progress and also the works which are awarded to tenderer but yet not started up to the date of inviting of tender. In case of no works in hand, a ‘NIL’ statement should be furnished. This statement should be submitted duly verified by Chartered Accountant.</p> <p>(c) The tenderers shall upload on the prescribed Performa as Annexure-N his statement of maximum value of contractual payment received in any one</p>

	<p>financial year during last three years and current financial year. (Note: Tenderer may upload self attested certificate from the employer/client.)</p> <p>(d) 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.</p> <p>(e) The arithmetic sum of individual “bid capacity” of all the members shall be taken as JV’s “bid capacity”.</p> <p>(f) In case the tenderer(s) fail(s) to submit the above statements i.e. Annexure-H and Annexure-N along with offer, their/his offer shall be considered as incomplete and will be summarily rejected.</p> <p>(g) 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.</p>
2.4	<u>CONSTITUTION OF THE FIRM:</u>
2.4.1	<p>The tenderer(s) must necessarily upload/submit the legal documents at the time of tendering & submit in original on or before closing of uploading of tender & before opening of tender (D2), pertaining to the constitution of their Concern as applicable, along with the tender, as enumerated below. Tender Documents in such cases are to be signed by such persons as may be legally competent to sign them on behalf of their Concern.</p> <p>The tenderer(s) shall give full details of the constitution of the Firm/JV/Company/Society etc. in the “Top Sheet” as well as in “Annexure-D” to “Special Tender Conditions and Instructions to Tenderers” of Tender Document and must submit the following documents, without fail:-</p>
(A)	<u>Sole Proprietorship Firm:</u>
	<p>If the tender is uploaded on behalf of a “Sole Proprietorship” Concern, the tenderer must submit affidavit certifying the sole Proprietorship of the firm. This affidavit can be original/ notarized. Firm shall provide all details of firm in the</p>

	Annexure-D on or before close of uploading of tender & before opening of tender (D2).
(B)	<u>Partnership Firm:</u>
	<p><u>For All Type of Works Tenders.</u></p> <p>If the tender is uploaded on behalf of a “Partnership firm/concern”, The Partnership Firm should be registered with Registrar of firms before the date of opening of tender. The tenderer must submit along with the offer:</p> <ol style="list-style-type: none"> 1. Notary certified copy of the Partnership Deed. 2. Document(s) in support of Registration of firm with Registrar of firms viz. Registration certificate/ Form-A& Form-B/Form C (as applicable) etc. issued by Registrar of firms. 3. Power of Attorney/authorization in favour of the individual signing the tender document duly Notarised. (Alternatively, authorisation given in the partnership deed shall also be accepted). 4. All details of Firm must be provided in Annexure D <p>The tenderer must upload at the time of tendering & submit above documents on or before close of uploading of tender & before opening of tender (D2).</p>
(C)	<u>Joint Venture (JV):</u>
	If the tender is uploaded on behalf of a JV, the tenderer must upload/submit along with the tender on or before close of uploading of tender & before opening of tender (D2).
(1)	Original/ copy of MOU/JV Agreement duly notarized in accordance with the Annexure K-1 to “Special Tender Conditions and Instructions to Tenderers” of Tender Document, duly signed by the Power of Attorney (POA) holders/authorized signatories of all the constituents/members of the JV.
(2)	Power of Attorney/authorization duly Notarised by all JV constituents, in favour of the individual signing the tender document on behalf of the JV; and
(3)	In addition, following documents must be upload/submit by the JV firms along with the tender:

(i)	In case one or more of the members of the JV firms is /are partnership firm(s), following documents shall be uploaded/submitted.
(a)	<ul style="list-style-type: none"> i) Notary certified copy of the Partnership Deed. ii) Document(s) in support of registration of firm with registrar of firms viz. Registration certificate/ Form-A& Form-B/Form C (as applicable) etc. issued by registrar of firms
(b)	Consent of all the partners to enter into the Joint Venture Agreement on a Stamp Paper of appropriate value (in original).
(c)	Power of Attorney/authorization duly Notarised in favour of one of the partners of the Partnership Firm to sign the JV MOU/Agreement on behalf of the Partnership Firm and create liability against the Firm.
(ii)	<p>In case one or more members of JV is/are Proprietary Firm or HUF, the following documents shall be uploaded/submitted:</p> <p>Affidavit on Stamp Paper in original confirming that 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.</p>
(iii)	In case one or more members of JV is/are Limited Companies, the following documents shall be submitted/uploaded:
(a)	Notary certified copy/ Original resolutions of the Directors of the Company, permitting the Company to enter into a JV Agreement, authorizing MD or one of the Directors or Managers of the Company to sign JV MOU/Agreement and 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)	Notarised Copy of Memorandum and Articles of Association of the Company duly registered as per prevailing law.
(c)	Power of Attorney (in original/notarised copy) by the Company, authorizing the person to do/act on behalf of the Company as mentioned in the Para (a) above.
(D)	<u>Company registered under Companies Act-2013:</u>

	<p>If the tender is uploaded on behalf of a Company registered under Companies Act-2013, the tenderer must submit/upload along with the tender the following documents on or before close of uploading of tender & before opening of tender (D2):(1) Copy of the MOA (Memorandum of Association) of the Company; (2) POA Power of Attorney (in original/Notarised copy) by the Company (along with copy of the resolution of Board of Directors) in favour of the individual signing the tender on behalf of the Company.</p>
(E)	<u>Registered Society & Registered Trust:</u>
	<p>If the tender is submitted on behalf of a Society, the tenderer must submit on or before close of uploading of tender & before opening of tender (D2), (1) Notarised copy of the certificate of registration; (2) Notarised copy of Deed of formation; and (3) Power of Attorney, in original/notarised, in favour of the tender signatory.</p>
(F)	<u>LLP (Limited Liability Partnership):</u>
	<p>If the tender is submitted on behalf of a LLP registered under LLP Act-2008, the Tenderer shall submit along with the tender- (i) a copy of LLP Agreement, (ii) a copy of Certificate of Incorporation; and (iii) a copy of Power of Attorney/Authorisation issued by the LLP in favour of the individual to sign the tender on behalf of the LLP and create liability against the LLP.</p>
2.4.1.1	<p>After opening of the tender, any document pertaining to the constitution of the <i>firm/ JV/ sole/ Partnership firm/ Company/ LLP/ Society</i> (as applicable), shall not be entertained/considered under any circumstances and no claim or representation whatsoever from the tenderer in this regard shall be entertained.</p> <p>No change in the constitution of the <i>firm/ JV/ sole/ Partnership firm/ Company/ LLP/ Society</i> shall be permitted after opening of the tender except where necessitated due to the operation of succession law.</p> <p><u>Note:</u> If all the requisite documents pertaining to the constitution of the firm/JV/sole/partnership firm/company/LLP/Society etc., as specified in clause 2.4.1 above, are not submitted, offer will be considered as incomplete and shall be summarily rejected.</p>
2.4.2	<p>(a) If the tenderer expires after the submission of his tender or after the acceptance of his tender, HRIDC shall deem such tender/contract as cancelled, if a partner</p>

	<p>of firm expires after the submission of their tender, HRIDC shall deem such tender as cancelled unless the firm retain its character.</p> <p>(b) If the Contractor's firm is dissolved on account of death, retirement of any partners or for any reason what-so-ever before fully completing the whole work or any part of it, undertaken by the principal agreement the surviving partners shall remain jointly/severally and personally liable to complete the whole work to the satisfaction of HRIDC due to such dissolution. The amount of such compensation shall be decided by General Manager/Projects, Haryana Rail Infrastructure Development Corporation, 5th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003 and his decision in the matter shall be final and binding on the Contractor.</p> <p>(c) The cancellation of any documents such as power of attorney, partnership deed etc., shall forth be communicated to HRIDC in writing, failing which HRIDC shall have no responsibility or liability for any action taken on the strength of the said documents.</p> <p>(d) The value of contract and the quantities given in the attached schedule of items, rates and quantities are approximate and are given only as a guide. These are subject to variations/additions and omission. The quantum of work to be actually carried out shall not form the basis of any dispute regarding the rates to be paid and shall not give rise to claim for compensation on account of any increase or decrease either in the quantity of in the contract value.</p>
2.5	<u>INCOME TAX DEDUCTION:</u>
2.5.1	Under Section 194-C of the Income Tax Act 1961, deduction of 2% plus surcharge as applicable on Income Tax will be made for sums paid for carrying out the work under this contract. In case of supply contract for ballast, deduction of 2% (Two percent) Income tax will be made for the sums paid for labour portion only (i.e., loading, unloading, stacking, measurement and laying etc.).
3.0	<u>EARNEST MONEY</u>
3.1	<p>The tender must be accompanied by a sum of INR 1,00,00,000 (Rupees One Crore only) i.e for works estimated to cost more than 1 crore - Rs 2 lakh plus 1/2% (half percent) of the excess of the estimated cost beyond 1 crore, subject to a maximum of 1 crore, (as indicated in Tender Notice) as Earnest Money in the manner prescribed in Para 3.2 failing which the tender shall be summarily rejected.</p> <p><u>Note:</u></p> <p>i. The Earnest Money shall be rounded off to the nearest INR 100. This earnest money shall be applicable for all the modes of tendering.</p>

	<p>ii. Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as ‘Start-ups’ shall be exempted from payment of earnest money deposit detailed above.</p> <p>iii. 100% Govt. owned PSUs shall be exempt from payment of earnest money deposit detailed above.</p> <p>iv. Labour Cooperative Societies shall deposit only 50% of above earnest money deposit detailed above.</p> <p><u>Additional note:</u> For service contracts, MSEs registered with District Industries Centres, Khadi and Village Industries Commission, Khadi and Village Industries Board, Coir Board, National Small Industries Corporation, Directorate of Handicraft and Handloom, Any other body specified by Ministry of MSME, shall be exempted from payment of minimum EMD detailed above. * Further, registered MSEs IN TERMS OF Ministry of MSME’s notification No. 503 are exempted from Earnest Money Deposit.</p>
3.1.1	Labour Co-operative is required to deposit only 50% of the Earnest Money as referred to clause 3.1 above.
3.1.2	<p>The tenderer(s) shall keep the offer open for a period of 120 days from the date of opening of the tender in which period tenderer(s) cannot withdraw his/their offer subject to period being extended further, if required, by mutual agreement from time to time. It is understood that the Tender Documents have been sold/issued to the tenderer(s) and tenderer(s) is/are being permitted to in consideration of stipulation on his/their part that after submitting his/their offer, he/they will not resile from his/their offer or modify the terms and conditions thereof in a manner not acceptable to HRIDC. Should the tenderer(s) fail to observe/to comply with the foregoing stipulation or fail to undertake the contract after acceptance of his/their tender, the entire amount deposited as Earnest Money for the due performance of the stipulation and to keep the offer open for the specified period, shall be forfeited to HRIDC.</p> <p>If the tender is accepted, the requisite amount of Earnest Money referred to in Clause 3.1 above will be retained as initial Security Deposit for due and faithful fulfilment of the contract. The Earnest Money of unsuccessful tenderer(s) will, save as herein before provided be returned to the unsuccessful tenderer(s) within a reasonable time, but HRIDC shall not be responsible for any loss or depreciation that may happen to the Earnest Money for the due performance of the stipulation and to keep the offer open for the period stipulated in the Tender Documents while in HRIDC’s possession nor will be liable to pay interest thereon.</p>

3.2	<p>The Earnest Money of the requisite amount referred to in Clause 3.1 above is required to be deposited ONLINE.</p> <p><u>Note:</u></p> <ol style="list-style-type: none"> 1. Tenders uploaded/submitted with Earnest Money in any form other than those specified above shall not be considered. 2. Any request for recovery from outstanding bills for Earnest Money against present tender will not, under any circumstances, be entertained. 3. No interest will be payable on the Earnest Money and Security Deposit or the amount payable to the Contractor under the contract.
4.0	<p><u>ACCEPTANCE OF TENDER</u></p>
4.1	<ol style="list-style-type: none"> i) If the tenderer(s) deliberately gives wrong Information/ credentials/ documents in his/their tenders and thereby create(s) circumstances for acceptance of his/their Tender, HRIDC reserves the right to reject such tender at any stage, besides, shall suspend the business for up to 3 (three) years. ii) If on verification of credentials, at the evaluation stage, it is found that the tenderer has submitted forged/fake documents in support of his offer, his Earnest Money Deposit shall be forfeited besides suspending business with him/them for up to 3 (three) years.
4.2	<p>The authority for acceptance of the Tenders rests with Managing Director (HRIDC)/ Director (HRIDC)/ Designated Competent Authority, as the case may be, who does not undertake to assign reasons for declining to consider any particular tender or tenders. He also reserves the right to accept the tender in whole or in part or to divide the tender amongst more than one tenderer if deemed necessary.</p>
4.3	<p>The successful tenderer/s shall be required to execute an agreement with the HRIDC for carrying out of the work as per agreed conditions. The cost of stamp for the agreement will be borne by HRIDC.</p>
4.3.1	<p>The Contractors operations and proceedings in connection with the works shall at all times be conducted during the continuance of contract in accordance with the laws, ordinance, rules and regulations for the time being in force and the Contractor shall further observe and comply with the bye-laws and regulations of the Govt. of India, State Govt. and of Municipal & other authorities having jurisdiction in connection with the works or site over operations such as these are carried out by the Contractor/s and shall give all notice required by such bye-laws</p>

	and regulations. The Hospital and medical regulations in force for the time being shall also be complied with by the Contractor/s and his workmen.
4.3.2	The Contractor shall be responsible for the observance of the rules and regulations under the mines act and mineral rules and Indian Metallurgical rules and regulations of State/Central Govt. concerned as amended from time to time.
4.3.3	Contractor shall at all times keep the HRIDC administration indemnified against all penalties that may be imposed by the Govt. of India or State Govt. for infringements or any of the clauses of the mines act and rules made there under in respect of quarries from which the ballast for these works is procured.
4.4	The tenderer/s shall not increase his/their rate in case the HRIDC Administration negotiates for reduction of rates. Such negotiations shall not amount to cancellation or withdrawal of the original offer and rates originally quoted will be binding on the tenderer/s.
4.5	The tenderer/s shall submit an analysis of rates if called upon to do so.
4.6	Non-compliance with any of the conditions set forth herein is liable to result in the tender being rejected.
4.7	<u>Variation in quantity</u>
4.7.1	Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be up to 25% of the quantity originally contracted, except in case of foundation work.
4.7.2	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 up to the limit of 25% variation in quantity of individual item of works.
4.7.3	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:
4.7.3.1	Quantities operated in excess of 125% but up to 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;

4.7.3.2	Quantities operated in excess of 140% but up to 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;
4.7.3.3	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.
4.7.3.4	<p><u>Variation to quantities of Minor Value Item:</u></p> <p>The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). <i>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></p> <p>a) Quantities operated up to 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;</p> <p>b) Quantities operated in excess of 100% but up to 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;</p> <p>c) 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.</p>
4.7.4	In case of earthwork, the variation limit of 25% shall apply to the gross quantity of earthwork and variation in the quantities of individual classifications of soil shall not be subject to this limit.
4.7.5	In case of foundation work, no variation limit shall apply, and the work shall be carried out by the Contractor on agreed rates irrespective of any variation.
4.7.6	As far as SOR items are concerned, the limit of 25% would apply to the value of SOR schedule as a whole and not on individual SOR items. However, in case of NS items, the limit of 25% would apply on the individual items irrespective of the manner of quoting the rate.
4.8	<p>Vitiation Clause</p> <p>In the event of vitiation occurring due to increase or decrease in quantities among the first, second and third lowest valid tenderers, the vitiation shall be to contractor's account. The total value of the work done shall be calculated at the</p>

	<p>rate offered by those tenderers and the amount payable shall be limited to the lowest aggregate value as worked out.</p> <p>Vitiation as above shall be worked out as a whole for Agreement including all variations in quantities.</p>
5.0	<u>Security Deposit and Performance Guarantee on Acceptance of Tender</u>
5.1	<u>Security Deposit:</u>
5.1.1	<p>The Earnest Money deposited by the Contractor with his tender will be retained by HRIDC as part of security for the due and faithful fulfilment of the contract by the Contractor. The Security Deposit shall be 5% of the contract value. Security Deposit may be deposited by the Contractor before release of first on account bill in cash or Term Deposit Receipt issued from Scheduled Bank or may be recovered at the rate of 10% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, HRIDC 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.</p> <p>Further, in case of contracts having value equal to or more than ₹ 50 crore (Rs Fifty crore) the Security Deposit may be deposited as Bank Guarantee Bond also, issued by a scheduled bank after execution of contract documents, but before payment of 1st on account bill. Provided further that the validity of Bank Guarantee Bond shall be extended from time to time, depending upon extension of contract granted in terms of Clause 17 of the Standard General Conditions of Contract (July 2020).</p> <p>Further, in case Security Deposit has been submitted as Term Deposit Receipt/Bank Guarantee Bond in full amount, the Earnest Money deposited by the Contractor with his tender will be returned by HRIDC.</p> <p>Note: After the work is physically completed as certified by competent authority, Security Deposit recovered from the running bills of a Contractor can be returned to him, if he so desires, in lieu of Term Deposit Receipt/irrevocable Bank Guarantee for equivalent amount from Scheduled Bank, to be submitted by him.</p>
5.1.2	<p><u>Refund of Security Deposit:</u></p> <p>Security Deposit mentioned in sub-clause 5.1.1 above shall be returned to the Contractor along with or after, the following:</p>

	<p>a) Final Payment of the Contract as per Clause 51(1) of the Standard General Conditions of Contract (July 2020). and</p> <p>b) Execution of Final Supplementary Agreement or Certification by Engineer that HRIDC has No Claim on Contractor and</p> <p>c) Maintenance Certificate issued, on expiry of the maintenance period as per Clause 50(1) of the Standard General Conditions of Contract (July 2020). in case applicable.</p>
5.1.3	<p><u>Forfeiture of Security Deposit:</u> Whenever the Contract is rescinded as a whole under clause 62 (1) of GCC (July 2020), the Security Deposit already with HRIDC under the Contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of GCC (July 2020), the Security Deposit shall not be forfeited.</p>
5.1.4	<p>No interest shall be payable upon the Earnest Money 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 GCC (July 2020) will be payable with interest accrued thereon.</p>
5.2	<p><u>Performance Guarantee:</u></p> <p>(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 HRIDC, submission of PG can be accepted on the next working day.</p> <p>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, HRIDC shall be entitled to forfeit EMD and other dues payable against that contract. In case a tenderer has not submitted EMD on the strength of their registration as a ‘Start-up’ 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.</p>

- (b) The successful bidder shall submit the performance Guarantee (PG) in any of the following forms, amounting to 5% of the 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) Deposit Receipts, pay orders, Demand Drafts and Guarantee Bonds. These forms of performance Guarantee could be either of the State Bank of India or of any of the Nationalized Banks;
 - v) Guarantee Bonds executed of deposits receipts tendered by all scheduled Banks;
 - vi) A Deposit in the post office saving Bank;
 - vii) A Deposit in the National savings Certificates;
 - viii) Twelve years National Defence Certificates;
 - 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 HRIDC (free from any encumbrance) may be accepted.

Note: The instruments as listed above will also be acceptable for Guarantees in case of mobilization advance. All the instruments mentioned in (i) to (xii) above should be in favour of Deputy General Manager (Projects), Haryana Rail Infrastructure Development Corporation Limited, SCO 17-18-19, 3rd Floor, Sector-17A, Chandigarh - 160017.

- (c) (i) A Performance Guarantee shall be submitted by the successful Bidder after the letter of acceptance has been issued, but before signing of the agreement. This PG shall be initially valid up to the stipulated date of completion plus 60 (Sixty) days beyond that. In case, the time of completion of work get extended, the Contractor shall get the validity of P G extended time for completion of work plus 60 (Sixty) days.
- (ii) If Railway PSUs are awarded contracts through competitive bidding (Open Tender, Special Limited Tender etc..) the normal rule regarding submission of Performance Guarantee as applicable to other tenderer/s. shall be applicable to these PSUs.
- (iii) Wherever the Railway PSUs are awarded works contracts by HRIDC, on Single Tender basis, they are exempted from the requirement of submitting Performance Guarantee.
- (iv) However, in the event of failure of the Railway PSU to successfully execute the contract as per terms and conditions laid down in the

Agreement, a penalty equivalent to 5% (Five Percent) of the Original value of contract would be levied.

- (c) The value of PG to be submitted by the Contractor will not change for variation upto 25% (either increase or decrease). In case during the course of execution, value of the contract increases by more than 25% of the original contract value, an additional Performance Guarantee amounting to 5% (five percent) for the excess value over the original contract value shall be deposited by the Contractor. On the other hand, if the value of Contract decreases by more than 25% of the original contract value, Performance Guarantee amounting to 5% (five percent) of the decrease in the contract value shall be returned to the Contractor. The PG amount in excess of required PG for decrease contract value, available with HRIDC, shall be returned to Contractor as per their request duly safeguarding the interest of HRIDC.
- e) The Performance Guarantee (PG) shall be released after the Physical completion of the work based on the “Completion Certificate” issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily. The competent authority shall normally be the authority who is competent to sign this contract. If the competent authority is of the rank lower than JA Grade, then a JA Grade Officer (concerned with the work) should issue certificate. The security deposit shall, however, be released only after expiry of the maintenance period and after passing the final bill based on ‘No claim certificate ‘from the Contractor.
- (f) Whenever the contract is rescinded, the Security Deposit shall be forfeited and the Performance Guarantee shall be encashed and the balance work shall be got without Risk and Cost of the failed Contractor. The failed Contractor shall be debarred from participating in the tender for executing the balance work. If the failed Contractor is a JV or a Partnership Firm, then every member/Partner of such a firm shall be debarred from participating in the tender for the balance work in his/ her individual capacity or as a partner of any other JV/Partnership firm.
- (g) The Engineer shall not make a Claim under the Performance Guarantee except for amount to which HRIDC is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

	<p>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.</p> <p>ii) Failure by the Contractor to pay HRIDC 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.</p> <p>iii) The Contract being determined or rescinded under provision of the Clause 62 of GCC July 2020, the Performance Guarantee shall be forfeited in full and shall be absolutely at the disposal of HRIDC.</p> <p>(h) The Tenderer who has offered lower total cost as compared to tender value by more than 10 %, shall be required to submit additional Performance Guarantee of value equal to half the percentage of tender value by which offer is lower than 10%.</p>									
6.0	<p align="center"><u>CONDITIONS OF CONTRACT AND SPECIFICATIONS</u></p>									
6.1	<p>Except where specifically stated otherwise in the tender documents the work is to be carried out in accordance with (i) Indian Railways Standard General Conditions of Contract, July 2020 amended from time to time & up to date; (ii) Northern Railway Unified Standard Schedule of Rates (Works & Material)-2010 amended from time to time and up to date and (iii) Indian Railway Unified Standard Specifications (Material and Works)-2010 Volume-I and volume-II. Copies of all these publications can be obtained from the office of General Manager/Projects, Haryana Rail Infrastructure Development Corporation, 5th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003 on payment as under:</p> <table border="1"> <tr> <td>(i)</td> <td>Indian Railways Standard General Conditions of Contract, July 2020;</td> <td>Rs.100/-</td> </tr> <tr> <td>(ii)</td> <td>Northern Railway Unified Standard Schedule of rates (Works & Materials)-2010</td> <td>Rs.1000/-</td> </tr> <tr> <td>(iii)</td> <td>Indian Railways Unified Standard Specifications (Material and Works)-2010 volume-I & volume-II</td> <td>Rs.1000/- (Each volume)</td> </tr> </table> <p>Note: For the reference publication documents in the above table, listed prices are indicative, and the latest rates shall be applicable.</p>	(i)	Indian Railways Standard General Conditions of Contract, July 2020;	Rs.100/-	(ii)	Northern Railway Unified Standard Schedule of rates (Works & Materials)-2010	Rs.1000/-	(iii)	Indian Railways Unified Standard Specifications (Material and Works)-2010 volume-I & volume-II	Rs.1000/- (Each volume)
(i)	Indian Railways Standard General Conditions of Contract, July 2020;	Rs.100/-								
(ii)	Northern Railway Unified Standard Schedule of rates (Works & Materials)-2010	Rs.1000/-								
(iii)	Indian Railways Unified Standard Specifications (Material and Works)-2010 volume-I & volume-II	Rs.1000/- (Each volume)								

	Demand for these publications from out station will be considered only if a sum of Rs.50/- towards postal charges is also sent with the cost of the books by money order.
6.2	The tender documents referred to in clause 2.2.1 above will govern the works done under this contract in addition to documents referred to in clause 6.1 above. Where there is any conflict between special tender conditions regarding instructions to tenderer/s, Special conditions relating to site data and specifications and the stipulations contained in the schedule of rates and quantities on the one hand and the Indian Railway Unified Standard Specifications (Works and Material)-2010 Volume-I & Volume-II, Indian Railways Standard General Conditions of Contract, July 2020 amended from time to time etc. and the Northern Railway Unified Standard Schedule of Rates (Works & Materials) 2010 on the other hand the former shall prevail.
7.0	<u>STUDY OF DRAWINGS AND LOCAL CONDITIONS</u>
7.1	The drawings for the works can be seen in the office of the General Manager/Projects, Haryana Rail Infrastructure Development Corporation, 5 th Floor, Railtel Tower, Plot No. 143, Sector 44, Gurugram, Haryana, 122003. It should be noted by tenderer/s that these drawings are meant for general guidance only and the HRIDC may suitably modify them during the execution of the work according to the circumstances without making the HRIDC liable for any claims on account of such changes.
7.2	The tenderer/s is/are advised to visit the site of work and investigate actual conditions regarding nature and conditions of soil, difficulties involved due to inadequate stacking space, due to built up area around the site, availability of materials water and labour probable sites for labour camps, stores, godowns, etc. They should also satisfy themselves as to the sources of supply and adequacy for their respective purpose of different materials referred in the specifications and indicated in the drawings. The extent of lead and lift involved in the execution of works and any difficulties involved in the execution of work should also be examined before formulating the rates for complete items of work described in the schedule.
7.3	<u>Fencing at work site</u> Contractor(s) while executing the work of gauge conversion/doubling, yard remodelling etc. shall provide suitable fencing/barricading to protect/segregate the existing Railway line from any damage and un-toward incident, as per the

	<p>directions or plan approved by Engineer-in-charge. The payment of barricading/fencing shall be paid under the relevant N.S. item if required. No work will be started till the fencing/barricading is provided and clearance in writing is issued by the Engineer-in-charge.</p>
7.4	<p><u>Safety Gear:</u> During execution of the work, Contractors shall ensure that all safety precautions are taken by their men to protect themselves and site to prevent any untoward incident. In this regard Contractor will ensure that adequate number of safety helmets, safety belts, safety jackets with reflective arm band, rope, ladders emergency light etc. are available at site before the work is actually started. The above list is only indicative and is not exhaustive and safety item will be arranged as per the requirement. HRIDC reserve the right to stop the work in the absence of proper safety gear and no claim shall be entertained in this regard. Decision of the Engineer-in-charge will be final and binding upon the Contractor. The cost of all the safety gear is deemed to have been included in the rates quoted and nothing extra is payable under this contract.</p> <p><u>Note:</u> In addition to the above, the Contractor shall also be required to comply with all the requirements mentioned in the section ‘Safety, Health and Environment (SHE) Protocol to be followed by the Contractor’ of this tender document.</p>
8.0	<p><u>PERIOD OF COMPLETION</u></p>
8.1	<p>The entire work is required to be completed in all respects within 30 (Thirty) months from the date of issue of Acceptance letter. Time is the essence of contract. The Contractor/s will be required to maintain speedy and required progress to the satisfactions of the Engineer to ensure that the work will be completed in all respects within the stipulated period failing which action may be taken by the HRIDC Administration in terms of Clause 17 and/or Clause 62 of the Indian Railways Standard General Conditions of Contract, July 2020 amended from time to time & up to date.</p>
8.2	<p>The Contractor/s shall arrange to execute the different items of works in close consultation with and as per directions of the Engineer so that other works being executed in the same area either departmentally or through another agency such as steel erection, P. Way earthwork in formation, etc. are also progressed concurrently. It may be noted, however, that any delay in the execution of departmental works, for whatsoever reason shall not be accepted as an excuse for non-performance of the contract.</p>

8.3	The Contractor/s will be required to give HRIDC a monthly progress report of the work done during the month on 4 th of the following month. He will also give to HRIDC the programme of work to be done in coming month by 25 th of the preceding month. The programme will be subject to alteration or modifications at the direction of the HRIDC, who may discuss such modifications or alterations with the Contractor as considered necessary. Approval of any programme shall not in any way relieve the Contractor from any of his obligations to complete the whole of the work by the prescribed time or extended time, if any.
8.4	Incentive Bonus payment Clause
8.4.1	<p>The Incentive Bonus Payment Clause will apply to the contracts for through put enhancement relating to “doubling” and “Traffic Facilities” works only. The contracts which are for works covering plan head other than “doubling” & “Traffic Facilities” the incentive bonus clause shall not apply.</p> <p>The Incentive Bonus Payment Clause will be regulated as follows;</p> <ol style="list-style-type: none"> 1) This Incentive Bonus payable shall not be more than 1% of the initial contract value or revised contract value whichever is less for every-one month of early completion ahead of the original completion period. 2) However, the maximum Incentive Bonus shall not be more than 6% of the original contract or revised contract value whichever is less 3) Period less than one month shall not be reckoned for the Incentive Bonus calculation. 4) This Incentive Bonus shall not apply if extension to the original completion period is given irrespective of on whose account (HRIDC’s account or Contractor’ account)
8.4.2	Proposed work in this tender document is not sanctioned under contracts for through put enhancement relating to “doubling” and “Traffic Facilities” works and hence, as such Incentive Bonus Payment Clause is not applicable for this tender.
9.0	<u>RATES FOR PAYMENT</u>
9.1	The rates given in the attached schedule of rates tendered by the Contractor and as accepted by HRIDC will form the basis of payment for such items under this contract.
9.2	No material price variation or wages escalation on any account whatsoever the

	<p>Compensation for `Force Majeure' etc. shall be payable under this contract except price escalation clause payable as per price escalation clause, if any, provided separately in the tender documents.</p>
9.3	<p>The rates for any item of work not included in the (Schedule of Items, Rates and Quantities) and which the Contractor may be called upon to do by HRIDC Administration shall be fixed by the supplementary written agreement between the Contractor and HRIDC before the particular item or items of work is/are executed.</p> <p>In the event of such agreement not being entered into and executed HRIDC may execute these works by making alternative arrangements. HRIDC will not be responsible for any loss or damages on this account.</p>
9.3.1	<p>The Contractor shall work in close co-operation with the Contractors, departmental staff working in the adjacent sections of HRIDC & local authorities.</p>
9.4	<p>It should be specifically noted by the tenderers that no separate loading, unloading and leading charges for materials (which are supplied by the HRIDC) shall be paid for by HRIDC and the rates quoted by the tenderer/s shall be inclusive of all these charges.</p>
9.5	<p>The item numbers, description, units and rates given in schedule of rates are as per Northern Railway Unified Standard Schedule of Rates, 2010 and any discrepancy during the execution of the work in the working rates, quantity and units etc. should be rectified by reference to the printed schedule of rates which be treated as authority and will be binding on the Contractor.</p>
9.6	<p>Should there arise any items which may be necessary for the completion of work but which does not appear in the Schedule of Items, Rates and Quantities attached, its rate will be fixed by analysis of actual inputs of all types including labour and material or derived from the labour and material rates given in the Northern Railway Unified Standard Schedule of Rates, 2010. The rates for such non-scheduled items occurring during the course of construction shall be payable subject to the approval of the competent authority. No items or work requiring non-schedule rates will be carried out unless ordered to do so by the Engineer. The rates derived from the Northern Railway Unified Standard Schedule of Rates, 2010 will be subject to percentage above or below tendered by the Contractor.</p>
9.7	<p>Payment for the work done will be made to the Contractor only when the formal</p>

	agreement has been executed between the parties.
9.8	The rates quoted by the Contractor as per Schedule of Items, Rates and Quantities shall form the basis of 'on account payment' or the various items under this contract.
9.9	In the course of execution of various items of work under schedule of Items, Rates and Quantities running bills payment for partly completed works will be made to the Contractor. The quantum of such work for payment shall be decided by the Engineer-in charge whose decision shall be final and binding on the Contractor.
9.10	No 'on account payment' by HRIDC shall protect the Contractor/s against or prevent HRIDC from recovering from the Contractor/s any over payment made to him/them.
9.11	Final payment of the balance amount due, exclusive of the security deposit required in terms of Clause-5 of these special conditions, will be made after the completion of the entire work and on the certification of the Engineer that work has been completed in all respects and found satisfactory. The security deposit will be refunded after the date of completion according to Clause 5.1 of these conditions.
9.12	<u>SUPPLEMENTARY AGREEMENT</u> After the work is completed and taken over by HRIDC as per terms and conditions of the contract agreement or otherwise concluded by the parties with mutual consent and full and final payment is made by HRIDC to the Contractor for work done under the contract the parties shall execute the supplementary agreement annexed here to as Annexure-B .
9.13	Measures to be taken in construction and repairs on roads, embankments, etc.
9.13.1	All borrow pits dug for and in connection with the construction and repairs of buildings, roads, embankments, etc. shall be deep and connected with each other in the formation of a drain directed towards the lowest level and properly sloped for discharge into a river, stream, channel or drain and no person shall create any isolated borrow pit which is likely to cause accumulation of water which may breed mosquitoes.

9.13.2	Non fulfilment of the provision in 9.13.1 above shall be a breach of the contract and Contractor/s shall be liable to pay by way of agreed liquidated damages to HRIDC at the rates of Rs.100/- for each breach and in addition to that Contractor further undertake to pay the amount incurred by HRIDC in getting the said job/s done at the risk and cost of the Contractor. Besides this, the Contractor will also be held responsible for any laws for contravening them.
9.13.3	Note: In addition to the above clauses, the Contractor shall also be required to comply with the relevant requirements mentioned in the section ‘ Safety, Health and Environment (SHE) Protocol to be followed by the Contractor ’ of this tender document.
10.0	<u>SETTING OUT WORKS</u>
10.1	The Contractor is to set out the whole of the work in consultation with the engineer or an official to be deputed by the Engineer and during the progress of works to amend on the requisition of the Engineer any errors, which may arise there in and provide efficient and sufficient staff and labour thereon. The Contractor shall also alter or amend any errors in the dimension lines on levels to the satisfaction of the Engineer or his authorized representative without claiming any compensation for the same.
10.2	The Contractor shall provide, fix and be responsible for maintenance of all stocks, templates, profiles, land marks, points, buries, monuments, centre line pillars, reference pillars, etc and shall take all necessary precautions to prevent their being removed altered or disturbed and will be responsible for the consequence of such removal, alterations or disturbance and for their efficient reinstatement.
10.3	The Contractor shall protect and support, as may be required or as directed by the Engineer, all building, fences, walls, towers, drains, road paths, waterways, foreshores banks, bridges, Railway ground and overhead electric lighting, the telegraphs/ telephones and crossing water service Main pipes and cables and wires and altogether matters and things of whatever kind not otherwise herein specified other than those specified or directed to be removed or altered which may be interfered with or which likely to be affected disturbed or endanger by the execution completion of maintenance of the works and shall support provided under this clause to such cases as directed by the Engineer. No payment shall be made by HRIDC to the Contractor for these works on account of delay for re-arrangement of road traffic or in the Contractor having to carry out the short lengths and, in such places, as per conditions and circumstances may warrant.

	These will not form the basis of any claim and or dispute for compensation of any kind.
11.0	<u>DRAWINGS FOR WORKS:</u>
11.1	The HRIDC Administration reserves the right to modify the plans and drawings as referred to in the special data and specifications as also the estimate and specifications without assigning any reasons as and when considered necessary by HRIDC. The rates for the schedule items and items rates for the non-schedule items quoted by the Contractor as may be accepted by HRIDC will, however, hold good irrespective of any changes, modifications, alterations, additions, omissions in the locations of structures and detailed drawings, specifications and/or the manner of executing the work.
11.2	It should be specifically noted that some of the detailed drawings may not have been finalized by HRIDC and will, therefore, be supplied to the Contractor as and when they are finalized on demand. No compensation whatsoever on this account shall be payable by the HRIDC Administration.
11.3	No claim whatsoever will be entertained by the HRIDC on account of any delay or hold up of the work/s arising out of delay in approval of drawings, changes, modifications, alterations, additions, omission and the site layout plans or details drawings and design and or late supply of such material as are required to be arranged by HRIDC or due to any other factor on HRIDC Accounts.
12.0	<u>SUPPLY OF MATERIALS BY THE HRIDC</u>
12.1	If at any time, material which the Contractor/s should normally have to arrange himself/themselves, are supplied by the HRIDC either at the Contractor's request or in order to prevent any avoidable delay in the execution of work due to the Contractor's inability to make adequate timely arrangements for supply thereof or for any other reason, recovery will be made from the Contractor's bill either at the market rate prevailing at the time of supply or at the book rate whichever is greater, plus fixed departmental charges viz. Freight at 5% (8.33% for items of Iron and G.I. pipe steel) incidental charges at 2% and added on total cost supervision charges at 12.50%. No carriage or incidental charges will be borne by the HRIDC. The Contractor cannot, however, claim as a matter of right the issue of such material by HRIDC which he/they is required to arrange himself/themselves in accordance with the terms and conditions of this contract.

12.1.1	<p>In case, cement and/or steel is issued to the Contractor/s free of cost or on cost to be recovered for use on the work, the supply thereof shall be made in stages limited to the quantity/ quantities computed by HRIDC according to the prescribed specifications and approved drawings as per the agreement. The cement and/or steel issued in excess of the requirements as above shall be returned in perfectly good conditions by the Contractor to HRIDC immediately after completion or determination of the contract. If the Contractor/s fail/s to return the said stores, then the cost of cement and/or steel issued in excess of the requirement computed by HRIDC according to the specifications and approved drawing will be recovered from the Contractor/s @ twice the prevailing procurement cost at the time of last issue viz. 2 X (purchase price + 5% freight only). This will be without prejudice to the right of HRIDC to take action against the Contractor/s under the conditions of the contract for not doing/completing the work according to the prescribed specifications and approved drawings. If it is discovered that the quantity of cement and or steel used is less than the quantity ascertained as herein before provided, the cost of the cement and/or steel not so used shall be recovered from the Contractor/s on the basis of the above stipulated formula.</p>
12.1.2	<p>The Contractor shall be responsible for the safe transport custody and storage of all HRIDC materials issued to him and he will be liable to make good the loss due to any cause whatsoever, that may be suffered by HRIDC on this account. Special precautions should be taken in respect of cement while transporting cement, steps should be taken to safeguard against cement becoming damp or wet due to moisture or rain. The Contractor will also be responsible for storing cement in damp proof conditions at site of work at his own cost in accordance with the standard specifications. The Engineer shall decide whether the cement stored in the godown is fit for the work and his decision shall be final and binding on the Contractor/s.</p>
12.2	<p>The Contractor should supply a schedule showing the requirements of explosives/materials required to be supplied to him by HRIDC based on detailed plans. The materials will be arranged by HRIDC according to this schedule unless otherwise modified by HRIDC due to additions or alterations in the approved plans. No claim whatsoever will be entertained by HRIDC on account of late supply of such materials as are required to be arranged by the HRIDC.</p>
12.3	<p><u>SUPPLY OF CEMENT AND STEEL BY HRIDC</u></p>
	<p>12.3.1 Cement, Mild Steel/H.Y.S.D./Bars/RSJ/MS Plate, etc. to be supplied by the HRIDC if available in the store of HRIDC to the extent as would become a part of the work involved in the tender schedule will be supplied by the</p>

	<p>HRIDC free of cost or on cost recovery basis as the case may be as per relevant clauses of special conditions relating to site data and specifications at construction store godown. The Contractor will be required to lead the same to the site of work at his own cost subject to payment at the rate as quoted against relevant item of N.S. Items in the Schedule of Items, Rates & Quantities.</p> <p>12.3.2 Cement and steel required for temporary works timbering, shuttering, centering, scaffolding, etc. will have to be arranged entirely by the Contractor at his own cost.</p> <p>12.3.3 The empty cement bags for the supply of cement by HRIDC shall be property of the Contractor and the cost of the same shall be recovered at the rate of Rupees 2 (Two) per empty cement bag from the 'on account bill' of the Contractor in case the cement is supplied in Jute bags. No recovery on account of empty cement bags shall be made from the Contractor, in case the cement is supplied in H.D.P.E. bags. HRIDC, however, reserves its right to take empty bags as are in good conditions and in that case no recovery will be made for bags so taken back. These rates will apply for bags deteriorated while in use and not found acceptable to the HRIDC so taken back from the Contractor.</p>
13.0	<p><u>SUPPLY OF MATERIALS BY THE CONTRACTOR/S</u></p>
	<p>13.1 Materials used in the work by the Contractor shall conform to the Northern Railway Standard Specifications and the relevant I.S.I./I.R.S Specifications and should be approved by the Engineer before utilizing them on works.</p> <p>13.2 It should be clearly understood that the tendered rates include wastage and wash away due to rains, storms, floods or any other cause whatsoever.</p> <p>13.3 No loading, unloading, lead, lift, stacking, octroi, sales tax, toll tax, royalty or any other charges will be paid for the materials, tools and plants and tools arranged and brought by the Contractor to the site of work.</p> <p>13.4 Stage payment for supply of steel by the Contractor (For works above Rs.15 Crores): Stage payment limited to 75% of the rate of steel awarded in the contract (as a separate NS item for the purpose) shall be made to the Contractor for steel physically brought by the Contractor to the site (even before its actual use in the work) subject to following:-</p>

	<p>(a) The material shall be strictly in accordance with the contract specifications.</p> <p>(b) The material shall be delivered at site and properly stored under covered sheds at Contractor's cost and protected against damage, deterioration, theft, fire etc. to the satisfaction of the engineer in charge. The Contractor shall store the bulk material in the measurable stacks.</p> <p>(c) The quantities of materials shall be brought to the site only in such instalments that would facilitate smooth progress of work and consumed in reasonable time. The decision of Engineer-in-charge regarding quantity of steel to be brought to the site shall be final and binding to the Contractor.</p> <p>(d) Proper accountal in the material registers to be maintained in the prescribed format at the site for the receipt and use of the material on day to day basis.</p> <p>(e) Submission of indemnity bond with validity up to the completion/extended period in the prescribed format at the Contractor's cost, vesting the ownership of such material with the HRIDC.</p> <p>(f) Submission of insurance policy with a validity up to the completion/extended period at the Contractor's cost, in favour of HRIDC against damage, deterioration, theft, fire etc.</p> <p>The balance payment shall be released only after material is actually consumed in the work. The price variation claim for steel would continue to be governed as per extant PV clause and with reference to delivery at site.</p>
14.0	<u>SERVICE ROADS</u>
	<p>14.1 The Contractor/s shall make his/their arrangements for service roads, paths etc for carrying his/their tools and plants, labour and materials, etc. and will also allow HRIDC use of such paths and service roads, etc for plying its own vehicles free of cost. The tenderer/s will be deemed to have included the cost of making any service roads, roads or paths, etc., that may be required by him/them for plying his/their vehicles for the carriage of his/their men and materials, tools, plants and machinery for successful completion of the work. Similarly, any other feeder road connecting any of the existing roads will be made by the Contractor at his/their own cost including any compensation that may be required to be paid for the temporary occupation and or usage of Govt. and or private land and without in any way involving HRIDC in any dispute for damage and/or compensation.</p>

	<p>14.2 In case HRIDC has its own paths, service roads, the Contractor/s will be allowed to use of such paths or service roads free of cost. He/They shall, however, in no way involve HRIDC in any claims or dispute of whatever kind due to the inaccessibility of such paths or service roads or due to their poor condition and or maintenance or their being to be blocked and/or closed.</p> <p>14.3 The rates quoted by the Contractor as per Schedule of Items, Rates and Quantities shall form the basis of 'on account payment' or the various items under this contract.</p> <p>14.4 In the course of execution of various items of work under schedule of Items, Rates and Quantities running bills payment for partly completed works will be made to the Contractor. The quantum of such work for payment shall be decided by the Engineer-in-charge whose decision shall be final and binding on the Contractor.</p> <p>14.5 No 'on account payment' by HRIDC shall protect the Contractor/s against or prevent HRIDC from recovering from the Contractor/s any over payment made to him/them.</p> <p>14.6 Final payment of the balance amount due, exclusive of the security deposit required in terms of Clause-5 of these special conditions, will be made after the completion of the entire work and on the certification of the Engineer that work has been completed in all respects and found satisfactory. The security deposit will be refunded after the date of completion according to Clause 5.1 of these conditions.</p>
<p>15.0</p>	<p><u>EMERGENCY WORK</u></p>
	<p>15.1 In the event of any accident or failure occurring in or about the work of arising out for or in connection with the construction completion or maintenance of the work which in the opinion of the Engineer require immediate attention, HRIDC may be with its own workmen or other agency execute or partly execute the necessary work or carry out repairs if the Engineer considers that the Contractor is not in a position to do so in time and charge the cost thereof, as to be determined by the Engineer incharge to the Contractor.</p> <p>15.2 In terms of Clause 32 of Indian Railways Standard General Conditions of Contract, July 2020 amended from time to time & up to date, the material and plants brought by the Contractor on the site or land occupied by the</p>

Contractor in connection with the works and intended to be used for execution thereof shall immediately, they are brought upon the sites of this said land be deemed to be the property of HRIDC, vehicles, equipment, plant and machinery of the Contractor can be drafted by HRIDC Administration at their discretion in case of accidents, natural calamities involving human lives, breaches, stoppage of train operations or any contingencies which require such requisitioning as essential. The decision in this regard of the Engineer-in-charge or his superiors shall be final and beyond the ambit of arbitration clause.

15.3 In terms of clause 2.3.2 (A) (iv), tenderer is required to submit the list of equipment, machinery, construction tools and plants available /deployed at site. The successful tenderer on receipt of acceptance letter and conveying their consent shall submit name, addresses, telephone numbers, Fax number/E Mail address of the persons to be contacted for requisitioning the above items as detailed in forgoing clause 15.2 and notify from time to time if any change in the list of equipment/machinery or the addresses/ individuals to the Engineer-in charge in writing. The name and address, telephone numbers and the Contractor officials name shall also be displayed at the site of work.

15.4 The manpower, consumable items and maintenance of the above tools and plants when requisitioned shall be the responsibility of the tenderer/Contractor so that the equipment, machinery, tools and plants shall be available for effective utilization at the accident sites, natural calamities, breaches sites etc.

15.5 The hire charges per annum shall be calculated at the following rates on the purchase cost of the plant as under:

(i) Depreciation charges at the following rates:

- a) Light plant 16% per annum
- b) Heavy plant 10% per annum
- c) Special plant 6% per annum

(ii) In additional 10% on the total of (i) above to meet contingencies

(iii) 10% Contractor profit on total cost as detailed (i) to (ii)

(iv) The hire charges per day shall be arrived at dividing the annual hire charges of total of (i) to (iii) above by 365 which shall be the assumed number of working days in year for this purpose. These hire charges will be payable from the date the plant is handed over to HRIDC to date on which it is returned to the Contractor by HRIDC.

	<p>(v) The Contractor manpower charge shall be payable @ minimum wages as notified by the State Govt. /local bodies /labour Dept. as the case may be for highly skilled, semi-skilled personnel drafted for operating the plant and machinery.</p> <p>(vi) The payment for the fuel cost shall be paid on the basis of the actual expenditure incurred by the Contractor for purchase + 10% Contractor's profit thereof which will be the payments towards his miscellaneous expenses too.</p>
16.0	<u>NIGHT WORK</u>
	16.1 If the Engineer is satisfied that the work is not likely to be completed in time except by resorting to night work, he may order without confirming any right on the Contractor for claiming any extra payment for the same.
17.0	<u>DISPOSAL OF SURPLUS EXCAVATED MATERIALS</u>
	<p>17.1 The Contractor shall at all time keep the site free from all surplus earth, surplus materials, and all rubbish which shall arise from the works and should dispose of the surplus excavated materials as ordered by the Engineer failing which it will be done at the cost of the Contractor and cost will be deducted from his dues.</p> <p>17.2 The Contractor shall within 15 days of completion of entire works remove all unused and surplus materials tools and plants staging and refuge or other materials produced by his operations and shall leave the site in a clear and tidy conditions.</p>
18.0	<u>SITE INSPECTION REGISTER</u>
	<p>18.1 A site inspection register will be maintained by the Engineer or his representative in which the Contractor will be bound to sign day to day entries made by the Engineer or his representative. The Contractor is required to take note of the instructions given to him through the site inspection register and should comply with the same within a reasonable time. The Contractor will also arrange to receive all the letters etc. issued to him at the site of works.</p> <p>18.2 The Contractor shall, from time to time (before the surface of any portion or the site is interfered with or the work thereon begun) take such levels as the</p>

	<p>Engineer may direct in his presence or any person authorised by him in writing. Such levels approved and checked by him or such authorised persons shall be recorded in writing and signed by the Contractor and shall form the basis of the measurements. Immediately before any portion of the work, below water level is started, the existing water levels are to be taken and recorded in a similar manner.</p>
19.0	<p>The Contractor shall have to make and maintain at his own cost suitable approach road and path, etc for proper inspection of the various works. He shall also provide all facilities as required by the Engineer such as Ladder and other appliances for satisfactory inspection of the works and places where materials for the work are stored or prepared.</p>
20.0	<p><u>OPENING UP OF WORK OR MATERIALS FOR INSPECTION OR TEST:</u> Should the Engineer, or any representative consider it necessary for the purpose of enabling inspection of tests analysis to be made to verify or ascertain the quality of any part of the works or of any materials, the Contractor shall as and when required by the Engineer or his representatives open up the work or materials for inspection or test or analysis, pull down or cut into any part of the work to make such openings, into under or through any part of the works as may be directed and shall/provide all things facilities which in the opinion of the Engineer or his representative are necessary and essential for the purpose of inspection or test or analysis of the works or of any part thereof or the materials, or of workmanship and the Contractor shall close up, cover, rebuild and made good the whole at his own cost, as and when directed by and to the satisfaction of Engineer provided always that of the work in the opinion of the Engineer is found to his satisfaction and in accordance with the contract. The excess expenditure in such examination, inspection or test shall, upon the certificate of the engineer, be borne by HRIDC.</p>
21.0	GENERAL
	<p>21.1 <u>PROVISION OF LIGHT SIGNALS ETC.</u> The Contractor/s shall make such provision for lighting the works, materials and plant and provide all such marks and lights, signals and other appliances as may be necessary or as may be required by the Engineer or other responsible authorities during the execution completion and maintenance of the work and shall provide all labour, stores, etc. required for their efficient working and use at any time of day or night. He/They shall also provide all arrangement of every description of watching and maintenance required in</p>

	<p>connection with the foregoing and all other services for protection of any securing all dangerous places whether to the Contractor's workmen or to other persons and or vehicular traffic until the work is certified by the engineer to have been completed and taken over in accordance with the contract.</p> <p>21.2 The Contractor/s will provide upon the works to the satisfaction of the Engineer and at such, places as he may nominate, proper and sufficient life saving, fire-fighting and first aid appliances which shall at all times be available for use.</p> <p>21.3 LABOUR CAMPS</p> <p>Land for setting up a workshop by the Contractor or for his labour camp or for any other purpose, shall have to be arranged by the Contractor at his own cost and under his own arrangements. The Contractor, however, will be permitted to make use of the railway land to the extent that can be made available to him free of cost, by HRIDC in the vicinity of the site of works. The Contractor/s shall at all times be responsible for any damage or trespass committed by his agent and workmen for carrying out the work.</p> <p>21.4 The HRIDC Administration may recommend to the concerned authorities the issue of necessary transport permits for the work. The Contractor shall, however, furnish full justification for the above facilities, to enable the HRIDC Administration to address the State Government or other authorities in this connection. The Contractor shall also maintain regular log book of receipts and issue of the materials to work, if so required by the Civil Authorities. No claim would, however, be entertained by the non-issue of any priority permits or owing to any interruption in supply.</p> <p>21.5 No claim for idle labour and or idle machinery etc. on any account will be entertained. Similarly, no claim shall be entertained for business loss or any such loss.</p> <p>21.6 Note: In addition to the above clauses, the Contractor shall also be required to comply with the requirements mentioned in the section 'Safety, Health and Environment (SHE) Protocol to be followed by the Contractor' of this tender document.</p>
22.0	<u>Extension of Time in Contracts</u>
	22.1 Attention is invited to Clause 17(B) of the G.C.C. July 2020 and Clause 8.1 of tender conditions according to which time is the essence of the contract.

The competent authority while granting extension to the currency of contract under 17 (B) of Indian Railways Standard General Conditions of Contract, July 2020 amended from time to time & upto date. However, in such cases the following clauses shall be applicable.

22.2 If the Contractor fails to 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 of Indian Railways Standard General Conditions of Contract, July 2020, HRIDC 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 of Indian Railways Standard General Conditions of Contract, July 2020) as the Engineer may decide. On such extension the HRIDC 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 following rates of the contract value of the works.

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 17-B	Rate of Liquidated Damages
(i)	Up to Twenty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC	As decided by Engineer, between 0.01% to 0.10% of contract value for each week or part of the week
(ii)	Above Twenty percent but upto Thirty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC	0.20% of contract value for each week or part of the week
(iii)	Above Thirty percent but upto Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC	0.30% of contract value for each week or part of the week

	<table border="1"> <tr> <td>(iv)</td> <td>Above Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC</td> <td>0.50% of contract value for each week or part of the week</td> </tr> </table> <p>Provided further, that if HRIDC 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, HRIDC 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 GCC (July 2020) of these Conditions, whether or not actual damage is caused by such default.</p>	(iv)	Above Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC	0.50% of contract value for each week or part of the week
(iv)	Above Forty percent of original period of completion including period of extension of DOC granted under Section 17A(i) of GCC	0.50% of contract value for each week or part of the week		
23.0	<p><u>TAXES</u></p> <p>The Contractor shall be governed by the Taxes applicable at the place of actual execution of work.</p>			
	<p>23.1 Taxes on works contract, octroi, royalty, toll tax, local tax on materials as well as services and any other tax levied by Central Govt /State Govt. or local bodies shall be borne by the tenderer. No part of such taxes on Contractor's labour/material or any other account will be paid by HRIDC. Therefore, the Contractor must ascertain the various taxes levied by the concerned Govt or local bodies at the place of execution of work and take into account for the same while quoting the rates. This should be kept in view before tendering.</p> <p>Note:</p> <ul style="list-style-type: none"> <li>(i) Works contracts shall be treated as supply of services as per Schedule –II GST Act. <li>(ii) GST Act and Rules issued from time to time by the Government/ concerned authorities shall be applicable. <li>(iii) Contractor/ suppliers/ service providers/ parties shall register their firms State wise under GSTIN (GST Identification Number) and submit at the time of opening of tender or before the signing the agreement and shall mention place of business, registered office address and email id. <p>23.2 If there is any increase/decrease/imposition of new tax/removal of existing tax by Central Govt/State Govt/Local bodies (including GST) in respect to any of the tax mentioned above, the same shall be borne by the Contractor and neither any additional payment will be made, nor any recovery will be made on this account. This should also be kept in view before tendering, as no subsequent changes will be made in the rates payable to the Contractor on this account.</p>			

	<p>23.3 HRIDC will deduct the taxes specified by the concerned Central Govt/State Govt/Local bodies if required to be deducted at source under the relevant laws as applicable on the date of making the payment. HRIDC will issue a certificate regarding tax so deducted. It will be responsibility of the Contractor to make further correspondence with concerned Govt or local bodies to ensure full deposition of the tax or for claiming a refund, if due, as is done in case of income tax.</p> <p>23.4 In case any tax is notified to be deducted at source from a specified date and certain payments have already been made in the period that lapsed between the date of applicability of tax and the actual date of implementation of the same, tax required to be deducted at source for this period will be recovered from the subsequent payment.</p> <p>23.5 Implementation of “The Building and Other Construction Workers (RECS) Act, 1996 and The Building and Other Construction Workers Welfare Cess Act, 1996 in HRIDC Contracts: “The tenderer for carrying out any construction work in Haryana (name of the State) must get themselves registered from the Registering Officer under Section-7 of the Building and other Construction Workers Act, 1996 and rules made thereto by the Haryana Govt. and submit certificate of Registration issued from the Registering Officer of the Haryana Govt. (Labour Deptt). As per this Act, the tenderer shall be levied a cess @1% (if applicable) of the cost of construction work, which would be deducted from each bill. Cost of material, when supplied under a separate schedule item, shall be outside the purview of cess.”</p>
<p>24.0</p>	<p>All payments in respect of the contract during the currency of the contract shall be made through National electronic Fund transfer (NEFT) or Real Time Gross Saving (RTGS). The successful tenderer on award of contract must submit RTGS/NEFT Mandate Form complete in all respects as detailed at Annexure-J of the tender document. However, if the facility of RTGS/NEFT is not available at a particular location, the payment shall be made by Cheque. In such case the successful tenderer on award of contract will have to furnish Contractor’s Bank Account Number and Name of the Bank against which all payments in respect of the contract during the currency of contract shall be made.</p>
<p>25.0</p>	<p><u>Damage to the Railway Property:</u> Contractor(s) executing the works adjacent to the existing Railway track for e.g. doubling, gauge conversion, yard re-modelling etc. will take all care for avoiding</p>

	<p>any damage to the underground/OH services such as S&T cables, electric cables/wires, pipelines/sewer lines etc. They must ensure that the work is started after obtaining clearance in writing from the Engineer-in-charge regarding the route for signalling/ Electrical cables/water supply/ sewer lines etc. However, if any damage occurs during execution, he will immediately report the same to the Engineer-in-charge and stop the work further till clearance for restarting the work is given by the Engineer-in-charge. It may be further noted that if it is proved that damage is occurred due to the negligence on the part of the Contractor, the cost of the damage will be recovered from him/them. The decision of Engineer-in-charge will be final and binding upon the Contractor(s).</p>
26.0	<u>Applicable for tender documents downloaded from internet</u>
26.1	<p>Master copy of the tender document, which shall be also available for Tenderers to download online, will be available in the office of Deputy General Manager (Projects), Haryana Rail Infrastructure Development Corporation Limited. The bid documents submitted by the Tenderer(s) should strictly match the requirements of the tender uploaded by HRIDC. In case of any discrepancy in the submissions by Tenderers, their offers shall be summarily rejected and no claim on this account will be entertained by HRIDC.</p>
27.0	DELETED
28.0	<p>Maintenance Period: The Contractor will have to maintain the work for a period of 06 (Six) months from the date of completion of work as certified by Engineer-in-charge of the work.</p>
29.0	Price Variation Clause:
	<p>29.1 Price Variation Clause shall be applicable only for tenders of value (Contract Agreement value) Rs 50 lakhs and more, irrespective of the contract completion period. Variation in quantities shall not be taken into account for applicability of PVC in the contract. Material supplied free of cost by HRIDC to the Contractors shall fall outside the purview of Price Variation Clause. If, in any case, accepted offer includes some specific payment to be made to consultants or some material supplied by HRIDC free or at fixed rate, such payments shall be excluded from the gross value of the work for the purpose of payment/recovery of price variation. Applicability of the PVC based on original contract is illustrated as under:</p>

If estimated value of a tender (NIT value) is Rs. 55 lakh, but value of the contract agreement is Rs. 45 lakh, then PVC shall not apply, even if the actual final value is Rs. 50 lakh or more due to variation in quantities during execution of the contract. Thus, variation in quantities after signing of the contract agreement is not relevant for deciding whether PVC is applicable to a contract or not.

29.2 The Base month for “Price Variation Clause” shall be taken as month 28 days prior to opening of tender including extensions, if any, unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following **Base month**. The Price Variation shall be based on the average Price Index of the quarter under consideration.

29.3 **Validity:** Rates accepted by HRIDC Administration shall hold good till completion of work and no additional individual claim shall be admissible except:

- (a) Payment/recovery for increase/decrease in GST on works contract or imposition/ removal of any tax/ cess on Works Contract as per Clause 37 of Indian Railways Standard General Conditions of Contract, July 2020.
- (b) Payment/recovery for overall market situation as per Price Variation Clause given hereunder.

29.4 Adjustment for variation in prices of material, labour, fuel, explosives, detonators, steel, concreting, ferrous, non-ferrous, insulators, zinc and cement shall be determined in the manner prescribed.

29.5 Component of various items in a contract on which variation in prices be admissible, shall be Material, Labour, Fuel, Explosives, Detonators, Steel, Cement, Concreting, Ferrous, Non-ferrous, Insulators, Zinc, Erection etc. However, for fixed components, no price variation shall be admissible.

29.6 The percentage of labour component, material component, fuel component etc. in various types of engineering works shall be as under:

SN	Component	E/Work & Minor Bridges Contracts, Ballast Supply Contracts, Tunneling	Tunneling Contracts (with explosives)	Major and Important Bridges Contracts	Building Contracts	Permanent Way linking Contracts (Manual)	Other Works Contracts

		Contracts (without explosive)					
1	Labour Component	20	20	20	40	50	20
2	Other Material Components	10	15	30	35	5	20
3	Plant Machinery & Spares	30	15	20	5	15	30
4	Fuel & Lubricants Component	25	15	15	5	15	15
5	Fixed Component*	15	15	15	15	15	15
6	Detonators & Explosive Component	-	20	-	-	-	-

* It shall not be considered for any price variation

Note: For present work, percentage of various components as applicable for major and important bridges contracts will be considered for calculation of PVC amount.

29.7 Formulae: The Amount of variation in prices in several components (labour material etc.) shall be worked out by the following formulae:

$$(i) \quad L = \frac{W \times (L_Q - L_B)}{L_B} \times \frac{L_c}{100}$$

$$(ii) \quad M = \frac{W \times (M_Q - M_B)}{M_B} \times \frac{M_c}{100}$$

$$(iii) \quad F = \frac{W \times (F_Q - F_B)}{F_B} \times \frac{F_c}{100}$$

$$(iv) \quad E = \frac{W \times (E_Q - E_B)}{E_B} \times \frac{E_c}{100}$$

$$(v) \quad PM = \frac{W \times (PM_Q - PM_B)}{PM_B} \times \frac{PM_c}{100}$$

$$(vi) \quad S = S_w \times \frac{(S_Q - S_B)}{S_B}$$

$$(vii) \quad C = C_v \times (C_Q - C_B)/C_B$$

Note: Formulae at (vi) & (vii) can be used directly for working out PVC payment for supply of Steel and Cement respectively where separate items for 'supply of Steel' and 'supply of Cement' are provided in the tender schedule. However, where combined/mix items including supply of steel and Cement' are provided in tender schedule, the amount of price variation for the component of supply of steel and Cement shall be adjusted (paid/recovered) separately using the above formulae at (vi) & (vii) with following stipulations:-

(a) Steel work items:

Price variation for the component of supply of steel shall be worked out from formulae at (vi) above based on the quantity of steel supplied i.e. S_w and for balance portion/component (labour, material, fuel), price variation shall be worked out using general PVC formulae for net gross value of combined/mix item obtained after deducting cost of steel supplied as $S_w \times S_B$.

(b) Concrete work items (MCC, RCC, PSC):

Price variation for the component of supply of Cement shall be worked out from formulae at (vii) above taking value of Cement supplied component i.e. C_v as **40%** of value of combined/mix item and for balance portion/component (labour, material, fuel), price variation shall be worked out using general PVC formulae for remaining **60%** of gross value of combined/mix item executed.

For Railway Electrification Works:

$$(viii) \quad T = [(C_s - C_o) / C_o \times 0.4136] \times T_c$$

$$(ix) \quad R = [(R_T - R_o) / R_o + (Z_T - Z_o) / Z_o \times 0.06] \times R_c$$

$$(x) \quad N = [(P_T - P_o) / P_o] \times N_c$$

$$(xi) \quad Z = [(Z_T - Z_o) / Z_o] \times Z_c$$

$$(xii) \quad I = [(I_T - I_o) / I_T] \times 85$$

Where,

	<p>L Amount of price variation in Labour</p> <p>M Amount of price variation in Materials</p> <p>F Amount of price variation in Fuel</p> <p>E Amount of price variation in Explosives</p> <p>PM Amount of price variation in Manufacture of machinery for mining, Quarrying and Construction</p> <p>S Amount of price variation in Steel</p> <p>C Amount of price variation in Cement</p> <p>T Amount of price variation in Concreting</p> <p>R Amount of price variation in Ferrous Items</p> <p>N Amount of price variation in Non-Ferrous Items</p> <p>Z Amount of price variation in Zinc</p> <p>I Amount of price variation in Insulator</p> <p>L_C % of Labour Component</p> <p>M_C % of Material Component</p> <p>F_C % of Fuel Component</p> <p>E_C % of Explosive Component</p> <p>PM_C % of Manufacture of machinery for mining, Quarrying and Construction Component</p> <p>T_C % of Concreting Component</p> <p>R_C % of Ferrous Component</p> <p>N_C % of Non-Ferrous Component</p> <p>Z_C % of Zinc Component</p> <p>W Gross value of work done by Contractor as per on-account bill(s), excluding cost of materials supplied by Railway at fixed price, minus the price values of cement and steel. This will also exclude specific payment, if any, to be made to the consultants engaged by Contractors (such payment shall be indicated in the Contractor's offer)</p> <p>L_B Consumer Price Index Number for Industrial Workers - All India: Published in R.B.I. Bulletin for the base period</p> <p>L_Q Consumer Price Index Number for Industrial Workers - All India: Published in R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration</p> <p>M_B Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the base period</p> <p>M_Q Wholesale Price Index: All commodities – as published in the R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration</p> <p>F_B Wholesale Price Index for the group Fuel & Power as published in the R.B.I. Bulletin for the base period</p>
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	<p>F_Q Index Number of Wholesale Prices – By Groups and Sub-Groups for Fuel and Power as published in the R.B.I. Bulletin for the average price index of the 3 months of the quarter under consideration</p> <p>E_B Index number of Monthly Whole Sale Price Index for the category ‘Explosive’ of (g). Manufacture of other chemical products under (J). MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.</p> <p>E_Q Index number of Monthly Whole Sale Price Index for the category ‘Explosive’ of (g). Manufacture of other chemical products under (J). MANUFACTURE OF CHEMICALS AND CHEMICAL PRODUCTS, published by Office of Economic Adviser, Govt. of India, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration</p> <p>PM_B Index number of Monthly Whole Sale Price Index for the category ‘k. Manufacture of machinery for mining, quarrying and construction’ under (R) MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the base period.</p> <p>PM_Q Index number of Monthly Whole Sale Price Index for the category ‘k. Manufacture of machinery for mining, quarrying and construction’ under (R) MANUFACTURE OF MACHINERY AND EQUIPMENT, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion (DIPP), for the average price index of 3 months of the quarter under consideration.</p> <p>S_w Gross value of steel supplied by the Contractor as per the ‘on-account’ bill for the month under consideration</p> <p>S_B Index number of Monthly Whole Sale Price Index for the relevant category of mild steel item as mentioned in Clause 46A.9, published by Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP); for the base period.</p> <p>S_Q Index number of Monthly Whole Sale Price Index for the relevant category of mild steel item as mentioned in Clause 46A.9, published by Office of Economic Adviser, Govt. of India,</p>
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	<p>Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP); for the average price index of the 3 months of the quarter under consideration.</p> <p>C_v Value of Cement supplied by Contractor as per on account bill in the quarter under consideration</p> <p>C_B Index No. of Wholesale Price of sub-group (of Cement & Lime) as published in RBI Bulletin for the base period</p> <p>C_Q Index No. of Wholesale Price of sub-group (of Cement & Lime) as published in RBI Bulletin for the average price index of the 3 months of the quarter under consideration</p> <p>C_S RBI wholesale price index for cement & lime for the month which is six months prior to date of casting of foundation</p> <p>C_O RBI wholesale price index for cement & lime for the month which is one month prior to date of opening of tender</p> <p>R_T IEEMA price index for Iron & Steel for the month which is two months prior to date of inspection of material.</p> <p>R_O IEEMA price index for Iron & Steel for the month which is one month prior to date of opening of tender.</p> <p>P_T IEEMA price for Copper wire bar for the month which is two months prior to date of inspection of material.</p> <p>P_O IEEMA price for Copper wire bar for the month which is one month prior to date of opening of tender.</p> <p>Z_T IEEMA price for Zinc for the month which is two months prior to date of inspection of material</p> <p>Z_O IEEMA price for Zinc for the month which is one month prior to date of opening of tender</p> <p>I_T RBI wholesale price index for the sub-group “other Portland and Ceramic product” for the month which is two months prior to date of inspection of material</p> <p>I_O RBI wholesale price index for the sub-group “other Portland and Ceramic product” for the month which is one month prior to date of opening of tender</p> <p>29.8 The demands for escalation of cost shall be allowed on the basis of provisional indices made available by Reserve Bank of India. Any adjustment needed to be done based on the finally published indices shall be made as and when they become available.</p> <p>29.9 Relevant categories of steel for the purpose of operating Price Variation formula as mentioned in this Clause shall be as under:</p>
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S.No.	Category of steel supplied in Railway work	Category of Steel Items as mentioned in Office of Economic Adviser, Govt. of India, Ministry of Commerce & Industry Department of Industrial Policy & Promotion (DIPP).
1	Reinforcement bars and other rounds.	'MS Bright Bars' individual commodity of group item (d) Mild Steel-Long Products under (N) MANUFACTURE OF BASIC METAL
2	All types and sizes of angles, channels and joists	'Angles, Channels, Sections, Steel' individual commodity of group item (d) Mild Steel-Long Products under (N) MANUFACTURE OF BASIC METAL.
3	All types and sizes of plates.	'e. Mild Steel – Flat Products' of (N) MANUFACTURER OF BASIC METAL.
4	Any other section of steel not covered in the above categories and excluding HTS	Average of price for the 3 categories covered under SL 1, 2 & 3 above

29.10 Price Variation During Extended Period of Contract

The price adjustment as worked out above, i.e. either increase or decrease shall be applicable up to the stipulated date of completion of work including the extended period of completion where such extension has been granted under Clause 17-A, of the Indian Railways Standard General Conditions of Contract July 2020. However, where extension of time has been granted due to Contractor's failure under Clause 17-B of the Indian Railways Standard General Conditions of Contract, July 2020 price adjustment shall be done as follow:

- (a) In case the indices increase above the indices applicable to the last month of original completion period or the extended period under clause 17-A, the price adjustment for the period of extension granted under Clause 17-B shall be limited to the amount payable as per the indices applicable to the last month of the original completion period or the extended period under Clause 17- A of the Indian Railways Standard General Conditions of Contract, July 2020 as the case may be.
- (b) In case the indices fall below the indices applicable to the last month of original/extended period of completion under clause 17-A, as the case may be, then the lower indices shall be adopted for the price adjustment

	for the period of extension under Clause 17-B of the Indian Railways Standard General Conditions of Contract, July 2020.
30.0	<u>Mobilization Advance:</u> (For Contract Value Rs. 25 Crores and Above) No mobilization advance shall be applicable for this contract.
31.0	<u>System of Measurement of work by Contractors in works Contract</u> (Applicable for works tender having value Rs.20 crore or more)
	<p>31.01 Measurement of work by Contractors shall be allowed only in works tender having value Rs.20 crore or more.</p> <p>31.02 Measurement recorded by the Contractor shall be test checked by HRIDC within 45 days of submission of measurements.</p> <p>31.03 While processing 75% provisional payment bill, concerned JGM/ HRIDC shall ensure that supply items given by Contractor are commensurate with requirement for execution of works.</p> <p>31.04 For such contracts, Contractor shall be responsible for carrying out measurements of work executed and recording of measurements for the release of on account/final payment. In such cases, the detailed procedure for recording of measurements, provisional payment, test check and final payment shall be as follows:</p> <p>Contractor's Measurement Book:</p> <p>31.1 HRIDC shall arrange Contractor's measurement book (CMB), each having sheet No.1A to 4A (Form E 1313), followed by 100 machine number pages (Form E 1313, sheet No.5A). On the top of each sheet of CMB, there shall be provision for recording the name of the work, agreement number, name of Contractor and CMB number.</p> <p>31.2 CMBs shall be printed in such a way so as to keep a clear margin of 50mm on the left side of page. Further, the left side shall have pinhole tear line at a distance of 15mm from edge for ease of taking out sheets from these books. The binding shall be within 15mm of the margin available between edge and pinhole tear line. This shall ensure availability of minimum 35mm clear margin to re-bind measurement books later on.</p> <p>Movement and upkeep of Contractor's Measurement Book:</p>

31.3 Joint General Manager (JGM)/ HRIDC shall hand over required No. of CMBs to Deputy General Manager (DGM)/ HRIDC after taking receipt of the same on sheet No.2A (Form E.1313) for further issuance to Contractor time to time as per progress of work.

31.4 CMB shall be registered with unique No. in the Register of Measurement Books (Form E.1314) maintained in the office of JGM/ HRIDC. Separate account of CMBs for each agreement shall be maintained in the office of JGM/ HRIDC and DGM/ HRIDC.

31.5 In case of change of 'Contractor's authorized engineer', fresh approval shall be taken from JGM/ HRIDC before recording of measurement.

31.6 While issuing the CMB to Contractor, DGM/ HRIDC shall take out sheet No.2A to 4A from the CMB, take receipt of CMB from Contractor on sheet No.3A (Form E 1313), and keep the same in safe custody.

31.7 Similar system as for CMB, shall be followed for issuing Field Book/Level Book (E.1317/A) to Contractor for recording of levels in the field book/level book.

Measurement:

31.8 The Contractor's authorized engineer shall record the measurements in CMB neatly in his own handwriting, without any use of eraser/overwriting, without use of any typing fluid or any such thing. All cuttings shall be initialled. No page shall be damaged/destroyed. No page shall be kept blank in between the measurement.

31.9 The Contractor shall communicate the date of measurement to DGM/ HRIDC in sufficient advance to witness any measurement. Witnessing of measurement by HRIDC is not compulsory except for initial levels in case of earthwork and hidden measurements. Initial levels of earthwork and hidden measurements are to be recorded in the presence of HRIDC officials and test checked as prescribed.

31.10 In on account contract certificate, measurement shall be recorded for the items and quantities to be paid in the concerned-on account contract certificate.

31.11 However, in every 4th on account contract certificate and final contract certificate, the recording of measurement for works executed shall include all the items and their quantity included in previous on account contract certificates, irrespective of whether to be paid or not in the current On Account Contract Certificate/Final Contract Certificate.

31.12 No payment shall be processed on Lump sum measurement taken by Contractor's authorized engineer except for earthwork. For earthwork, every 4th bill shall be based on actual levels taken and detailed calculations carried out for the work done.

31.13 The Contractor shall take out carefully from CMB the used pages of CMB with one extra blank page for processing the bill; staple them for submission to DGM/ HRIDC along with bill, duly signing the measurements. The Contractor shall keep a photocopy of the measurements with him for future reference.

31.14 At the time of submission of final bill, the Contractor shall submit all the remaining CMBs (unused as well as partially used) with him along with bill to DGM/ HRIDC.

31.15 The Contractor shall submit required copies of invoice and on account contract certificate/final contract certificate (similar to form E.1337 and Form E.1338) to the DGM/ HRIDC duly marking them – original or duplicate copy. Original shall be used for release of payment whereas duplicate copies shall be used for record purpose in different offices.

31.16 In case Contractor requires provisional payment of on-account bill, the Contractor shall submit his invoice and provisional on account contract certificate for 75% of amount of work done (before deduction of taxes). The Contractor shall write 'For Provisional Payment' on top of such on-account contract certificate.

31.17 DGM/ HRIDC while issuing receipt of stapled sheets of CMB to Contractor shall clearly record the same in sheet 4 (E.1314) of concerned CMB, kept in the office of DGM/ HRIDC.

Release of Provisional Payment

31.18 Assistant Manager with 5-year experience' (AM/HRIDC) and DGM/HRIDC shall sign and record a certificate on the original provisional 'on account contract certificate' as under:

“Certified that the payment being made is less than the amount due for the quantities of works executed by the Contractor”.

In case of payment of earthwork items in any contract, calculation of quantity of such items along with field book/level book must be enclosed. This shall be cross checked, as considered appropriate by AM/ HRIDC & DGM/HRIDC, to ensure that no excess payment is being made. At this stage no test check of measurements by HRIDC is required.

31.19 DGM/ HRIDC shall keep a copy of Contractor's invoice and provisional on account contract certificate in his office, and submit original invoice and original provisional on account contract certificate along with required number of duplicate copies, and used sheets of CMB to the JGM/ HRIDC unit for passing the bill and release of payment.

31.20 The provisional on account contract certificate shall be passed by JGM/HRIDC and payment shall be released by associate finance based on above certification of AM/ HRIDC and DGM/ HRIDC. After release of payment, blank sheet of CMB (if any) shall be crossed by JGM/ HRIDC before sending the measurement sheets back to DGM/ HRIDC for carrying out required test checks. At this stage measurements shall not be crossed.

31.21 No provisional payment shall be allowed in final contract certificate. Further, once provisional payment has been released in any on-account contract certificate, the next on account contract certificate can be raised by Contractor only when accounts of previous on account certificate (Provisional as well as remaining payment) has been finalized.

Test Check

31.22 Necessary test checks shall be carried out by the AM/ HRIDC and DGM/HRIDC for the works done before full payment of on-account contract certificate/final contract certificate. AM/ HRIDC and DGM/ HRIDC shall communicate the date of test checks to Contractor in advance. The Contractor can accompany during test check. The Contractor shall provide support staff and all required tools and plants to facilitate test check by HRIDC officials.

31.23 The stipulated test checks for DGM/ HRIDC and AM/ HRIDC Level is tabulated as under:

S.No.	Description of works	Test Check in term of % of value by	
		AM/ HRIDC	DGM/ HRIDC
(a)	Measurement of Ballast, pitching stone, Earthwork and hidden items	100%	100%
(b)	Measurement of all other items	100%	20%
(c)	Initial and Final levels along centre line for earthwork in embankment and cutting	100%	100%
(d)	Intermittent levels along centre line for earthwork in embankment and cutting	100%	20%
(e)	Initial, intermittent and final levels except centre line for earthwork in embankment and cutting	100%	20%

Note: The check regarding levels of earthwork invariably shall be carried out in cross sections having heavy cross slopes. Higher officials of HRIDC can test check the work at their discretion.

31.24 Contractor's recorded measurement sheets shall be checked for any corrections/over writing during test check. All the corrections/over writing shall be initialled by AM/ HRIDC.

31.25 The discrepancy noted (if any) during test check of recorded measurement shall be communicated by DGM/ HRIDC to the Contractor.

31.26 In case of discrepancy noticed during test check, the Contractor shall submit original and required copies of fresh invoice of amount corrected for discrepancy, and in case provisional payment has been released earlier, the required copies of fresh invoice of remaining amount corrected for discrepancy (if any), along with on account/final contract certificate to DGM/ HRIDC.

Full payment of On Account Contract Certificate/ Final Contract Certificate

31.27 DGM/ HRIDC shall submit original copy of invoice and on account contract certificate of remaining amount/Final Contract Certificate, along

with required number of duplicate copies and used sheets of CMB (all used/blank CMBs in case of final contract certificate), duly signed by AM/HRIDC and DGM/HRIDC to the JGM/HRIDC for passing the bill and release of payment.

31.28 Once the payment is released, JGM/HRIDC shall return back the used sheets of CMB to DGM/HRIDC for safe custody, duly crossing of measurements by finance officer.

31.29 Once all used sheets of a particular CMB is received back by DGM/HRIDC from JGM/HRIDC, the DGM/HRIDC shall re-bind all 100 pages of CMB along with sheet No.1A to 4A for submission of CMB to JGM/HRIDC office. JGM/HRIDC office shall record the receipt of same in sheet No.2A of CMB and Register of Measurement Books (Form E1314).

31.30 The final contract certificate shall be passed by JGM/HRIDC only after receipt of all CMBs (used/blank) from DGM/HRIDC.

31.31 The above provisions shall be applicable to all the departments of HRIDC and to be executed through equivalent authorities of respective departments.

31.32 **If any false entry is done by the Contractor in the measurement book then 5% of the running bill amount shall be deducted by HRIDC** and no reasoning in this regard shall be accepted from Contractor. This provision shall be applicable till the end of the contract period and shall also be applicable to the bills submitted by the Contractor in the past during the currency of the contract.

31.33 The officers for test checks and passing of bills shall be decided by HRIDC administration as per extant policy of HRIDC.

**E.1313
(Sheet 1A)**

Haryana Rail Infrastructure Development Corporation
CMB No.

CONTRACTOR’S MEASUREMENT BOOK

Department.....
Division/Construction Unit.....
Name of work.....
Agreement No.
Name of Agency

Name to whom issued.....
Designation

Date of issue

Date of return

**E.1313
(Sheet 2A)**

Haryana Rail Infrastructure Development Corporation
CMB No.

CONTRACTOR’S MEASUREMENT BOOK

Project Unit

Name of work.....

Agreement No.

Name of Agency

Issued to

(Name & Designation)

..... On.....

(station) (date)

Received by

.....

(Signature)

.....

(Designation) (Station)

On

(date)

Date of first entry.....

Date of last entry.....

Date received back in Project Unit

Office after completion of book

Certified that this Measurement Book contains 100 machine numbered pages fromto.....(both pages inclusive) which have been counted by me and are correct.

Date..... Signature.....

Designation.....

E.1313
(Sheet 3A)

Haryana Rail Infrastructure Development Corporation
CMB No.

CONTRACTOR'S MEASUREMENT BOOK

Name of work.....

Agreement No.
 Name of Agency
 Issued to
 (Contractor's name)
 on.....
 (station) (date)

Certified that this Measurement Book contains 100 machine numbered pages fromto..... (both pages inclusive) which have been counted by me and are correct. No sheet is torn.

I understand that the measurement book is very important document and hence I shall ensure its proper upkeep and safe custody.

Received by
 (Signature of Contractor)

 (Name) (Station) (Date)

Date of first entry.....

Date of last entry.....

Certified that this Contractor's Measurement Book pages returned by Contractor have been counted by me and are correct. The details of pages received by me is as under:

S.No.	On Account Bill No.	Page no. From..... To.....	No. of pages	Date of receipt in DGM/HRIDC office	Sign & Designation of HRIDC Official
1					
2					
3					
4					
5					

E.1313
(Sheet 4A)

Haryana Rail Infrastructure Development Corporation
 CMB No.

CONTRACTOR'S MEASUREMENT BOOK

Name of work.....
 Agreement No.
 Name of Agency

INDEX OF M.B.

S.No.	Particulars of entries – running or final	Agreement or work order ref.	Page		Remarks
			From	To	

E.1313
(Sheet 5A)

Haryana Rail Infrastructure Development Corporation
 CMB No.

Space for Machine
 numbering with six
 digits unique number

Project unit

CONTRACTOR’S MEASUREMENT BOOK

Name of work.....

Agreement No.

Name of Agency

INDEX OF M.B.

Particulars	No.	L.	B.	D.	Contents

32.0

SETTLEMENT OF DISPUTES

All disputes and differences of any kind whatsoever arising out of or in connection with the contract, whether during the progress of the work or after its completion and whether before or after the determination of the contract, shall be settled as under, provided that matters for which provision has been made in relevant clauses of Special Tender Conditions or in any clause of the Special conditions relating to site data, specification and Special conditions of Non-Schedule Items shall be deemed as ‘excepted matters’ (matters not arbitrable) and decision of the HRIDC thereon, shall be final and binding on the Contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of this clause.

32.1

Mutual Settlement

	All such disputes or differences shall in the first place be referred by the Contractor to HRIDC in writing for resolving the same through mutual discussions, negotiations, deliberation etc. associating representatives from both the sides and concerted efforts shall be made for reaching amicable settlement of disputes or differences.
32.2	Conciliation/Arbitration
32.2.1	It is a term of this contract that Conciliation/ Arbitration of disputes shall not be commenced unless an attempt has first been made by the parties to settle such disputes, within 120 days of submission of monthly statement of such claim, through mutual settlement.
32.2.2	<p>In the event of failure to resolve any dispute or difference between the parties hereto as to the construction or operation of this contract, or the respective rights and liabilities of the parties on any matter in question, dispute or difference on any account or as to the withholding by HRIDC of any certificate to which the contractor may claim to be entitled to, through mutual settlement, the Contractor may refer such matters to the Managing Director/HRIDC in writing within 60 days from the date of failure of amicable settlement of such disputes or differences for settlement through Conciliation.</p> <p>If the efforts to resolve all or any of the disputes through Conciliation fail, the Contractor may refer to the Managing Director of HRIDC for settlement of such disputes or differences through Arbitration. No disputes or differences shall be referred to Arbitration after expiry of 60 days from the date of notification of the failure of Conciliation.</p>
32.2.3	The demand for Conciliation or Arbitration shall specify the matters which are in question, or subject of the dispute or difference as also the amount of claim item wise. Only such dispute(s) or difference(s) in respect of which the demand has been made, together with counter claims or set off, given by HRIDC, shall be referred to Conciliation or Arbitration and other matters shall not be included in the reference.
(a)	The Arbitration proceeding shall be assumed to have commenced from the day, a written and valid demand for arbitration is received by HRIDC.

(b)	The claimant shall submit his claim stating the facts supporting the claim along with all relevant documents and the relief or remedy sought against each claim within a period of 30 days from the date of appointment of the Arbitral Tribunal
(c)	HRIDC shall submit its defence statement and counter claim(s), if any, within a period of 60 days of receipt of copy of claim from Tribunal thereafter unless otherwise extension has been granted by Tribunal.
(d)	Place of Arbitration: The conciliation/ arbitration proceedings shall be held at a place decided by Conciliator/ Arbitrator.
32.2.4	No new claim shall be added during proceedings by either party. However, a party may amend or supplement the original, claim or defence thereof during the course of arbitration proceedings subject to acceptance by Tribunal having due regard to the delay in making it.
32.2.5	If the contractor(s) does/do not present his/their specific and final claim in writing, within a period of 90 days of receiving the intimation from HRIDC that the final bill is ready for payment, he/they will be deemed to have waived his/their claim(s) and HRIDC shall be discharged and released of all liabilities under the contract in respect of these claims.
32.3	<p>No suspension of work</p> <p>The Obligations of HRIDC, the Engineer and the Contractor shall not be altered by reasons of conciliation / arbitration being conducted during the progress of works. Neither party shall be entitled to suspend the work on account of conciliation/ arbitration and payments to the Contractor shall continue to be made in terms of the contract.</p>
32.4 (a)	<p>i) Sole Conciliator/Sole Arbitrator:</p> <p>In cases where the total value of all claims/ counterclaims in question added together does not exceed INR 2.00 Crore (Rupees Two Crores), the Arbitral Tribunal shall consist of a sole arbitrator who shall be an officer of HRIDC not below GM level, nominated by the Managing Director.</p> <p>The sole arbitrator shall be appointed by the Managing Director of HRIDC within 60 days from the day when a written and valid demand for arbitration is received by HRIDC.</p> <p>ii) Arbitration Tribunal:</p>

In cases where the total value of all claims/counterclaims exceeds INR 2.00 Crore (Rupees Two Crores), the Arbitral Tribunal shall consist of a panel of three Officers not below GM level.

For this purpose, HRIDC will send a panel of more than 3 names to the contractor, within 60 days from the day when a written and valid demand for arbitration is received by HRIDC. Contractor will be asked to suggest to the Managing Director at least 2 names out of the panel for appointment as contractor's nominee within 30 days from the date of dispatch of the request by HRIDC. The Managing Director shall appoint at least one out of them as the contractor's nominee and will, also simultaneously appoint the balance number of arbitrators either from the panel or from outside the panel, duly indicating the 'presiding arbitrator' from amongst the 3 arbitrators so appointed. The Managing Director shall complete this exercise of appointing the Arbitral Tribunal within 30 days from the receipt of the names of contractor's nominees. While nominating the arbitrator sit will be necessary to ensure that one of them is from the Accounts Department. An officer of AGM rank of the Accounts Department shall be considered of equal status to the GM of the other departments of HRIDC for the purpose of appointment of arbitrator.

- iii) The minimum qualifications of Conciliator/ Arbitrator shall be graduate in the respective field. He will be a working officer with a minimum of 20 years' service. He should be clear from the vigilance angle and should be a person with reputation of high technical/ commercial ability and integrity. Also, he should not have associated with the contract to which the dispute pertains.
- iv) If one or more of the arbitrators appointed as above refuses to act as arbitrator, withdraws from his office as arbitrator or vacates his/their office/offices or is/are unable or unwilling to perform his functions as arbitrator for any reason whatsoever or dies or in the opinion of the Managing Director fails to act without undue delay, the Managing Director shall appoint new arbitrator/ arbitrators to act in his/their place in the same manner in which the / arbitrators had been appointed. Such reconstituted Tribunal may, at its discretion, proceed with the reference from the stage at which it was left by the previous arbitrator(s).
- v) The Arbitral Tribunal shall have power to call for such evidence by way of affidavits or otherwise, as the Arbitral Tribunal shall think proper, and it shall be the duty of the parties hereto to do or cause to be done all such things as may be necessary to enable the Arbitral Tribunal to make the award without any delay. The Arbitral Tribunal should record day-to-day proceedings. The proceedings shall normally be conducted on the basis of documents and written statements.

	<p>vi) While appointing arbitrator(s) under sub clause 32.4(a)(i), 32.4(a)(ii) and 32.4(a)(iv) above, due care shall be taken that he/they is/are not the one/those who had an opportunity to deal with the matters to which the contract relates or who in the course of his/their duties as HRIDC employee expressed views on all or any of the matters under disputes or differences. The proceedings of the Arbitral Tribunal or the award made by such Tribunal will, however, not be invalid merely for the reason that one or more arbitrator had, in the course of his service, opportunity to deal with the matters to which the contract relates or who in the course of his/their duties expressed views on all or any of the matters under dispute.</p>
32.4 (b)	<p>i) The arbitral award shall state item-wise, the sum and reasons upon which it is based. The analysis and reasons shall be detailed enough so that the award could be inferred there from.</p> <p>ii) A party may apply for corrections of any computational errors, any typographical or clerical errors or any other error of similar nature occurring in the award of tribunal within 60 days of the receipt of the award.</p> <p>iii) A party may apply to tribunal within 60 days of the receipt of award to make an additional award as to claims presented in the arbitral proceedings but omitted from the arbitral award.</p>
32.5	<p>In case of the Tribunal, comprising of three members, any ruling or award shall be made by a majority of members of Tribunal. In the absence of such a majority, the views of the Presiding Arbitrator shall prevail.</p>
32.6	<p>Where the arbitral award is for the payment of money, no interest shall be payable on whole or any part of the money for any period till the date on which the award is made.</p>
32.7	<p>The cost of arbitration shall be borne by the respective parties. The cost shall inter-alia include fee of the Conciliator/ Arbitrator(s) as per the rates fixed by HRIDC from time to time and the fee shall be borne equally by both the parties. Further, the fee payable to the arbitrator(s) would be governed by the instructions issued on the subject by HRIDC from time to time irrespective of the fact whether the arbitrator(s) is/are appointed by HRIDC or by the court of law unless specifically directed by Hon'ble court otherwise on the matter.</p>
32.8	<p>Settlement through Court:</p>

	It is a term of this contract that the Contractor shall not approach any Court of Law for settlement of such disputes or differences unless an attempt has first been made by the parties to settle such disputes or differences through clauses 32.1 and 32.2.
32.9	The Conciliation and/or Arbitration proceedings shall be governed by the provisions of the Indian Arbitration and Conciliation Act 1996 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force.
32.10	The language of proceedings, documents or communications shall be in English and the award shall be made in English in writing.
32.11	Award to be final and binding on all parties: An arbitral award shall be final and binding on all parties, as per provision of Arbitration and Conciliation Act, 1996 with latest amendment.
32.12	Exception: For settlement of disputes with central PSUs, the procedure as per existing orders of Permanent Machinery for Arbitration (PMA), Bureau of Public Enterprises, Govt. of India shall be followed.
32.13	JURISDICTION OF COURTS: In case of any legal dispute, Jurisdiction of Courts in Gurugram/Chandigarh, Haryana area only shall be applicable
	Deputy General Manager (Projects) HRIDC, SCO 17-18-19, 3 rd Floor, Sector-17A, Chandigarh - 160017
	Signature of the Tenderer/s Address _____

ANNEXURE - A

Name of the Bank:
 Managing Director,
 Haryana Rail Infrastructure Development Corporation Limited

Bank Guarantee Bond No.:**Date:****PERFORMANCE GUARANTEE BOND**

In consideration of the Haryana Rail Infrastructure Development Corporation (hereinafter called "HRIDC") having agreed under the terms and conditions of agreement/Contract Acceptance letter No. dated..... made between..... (Designation & address of contract signing Authority) and (here in after called "the said Contractor(s)" for the work..... (here in after called "the said agreement") having agreed for submission of a irrevocable Bank Guarantee Bond for Rs..... (Rs.....only)) as a performance security Guarantee Bond from the Contractor (s) for compliance of his obligations in accordance with the terms & conditions in the said agreement.

1. We.....(indicate the name of the Bank) hereinafter referred to as the Bank, undertake to pay to the Government an amount not exceeding Rs..... (Rs.....only) on demand by the Government.
2. We..... (indicate the name of the bank, further agree that (and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from the Government, stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the Government by reason of any breach by the said Contractor of any of the terms of conditions contained in the said agreement or by reason of the Contractor failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs..... (Rupees.....Only).
3. (a) We (indicate the name of Bank) further undertake to pay to the Government any money so demanded notwithstanding any dispute or dispute raised by the Contractor(s) in any suite or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

 (b) The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment
4. We, (indicate the name of bank) to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the Government under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged by (Designation & Address of contact signing authority) on behalf of the Government, certify that the terms and conditions of the said

agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.

5. (a) Notwithstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the Government or until (date of validity/ extended validity) whichever is earlier and no claim shall be valid under this guarantee unless notice in writing thereof is given by the Government within validity/ extended period of validity of guarantee from the date aforesaid.

(b) Provided always that we..... (indicate the name of the Bank) unconditionally undertakes to renew this guarantee on to extend the period of guarantee form year to year before the expiry of the period or the extended period of the guarantee, as the case may be on being called upon to do so by the Government. If the guarantee is not renewed or the period extended on demand, we (indicate the name of the Bank) shall pay the Government the full amount of guarantee on demand and without demur.

6. We, (indicate the name of Bank) further agree with the Government that the Government shall have the fullest liberty without our consent and without effecting in any manner out of obligations hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to the powers exercisable by the Government against the said Contractor (s) and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any bearance act or omission on the part of the Government or any indulgence by the Government to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties for the said reservation would relive us from the liability.

7. This guarantee will not be discharged by any change in the constitution of the Bank or the Contractor(s).

8. We, (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the Government in writing.

9. This guarantee shall be valid upto---- (date of Completion plus 60 days). Unless extended on demand by Government. Notwithstanding anything to the contrary contained hereinbefore, our liability under this guarantee is restricted to Rs..... (Rs.....only) unless a demand under this guarantee is made on us in writing on or before..... we shall be discharged from our liabilities under this guarantee thereafter.

Dated: the day of for
(indicate the name of bank)

Signature of Banks Authorised official
(Name) -----
Designation with Code No.-----
Full Address-----

Witness:

1. 2.

ANNEXURE – B**SUPPLEMENTARY AGREEMENT**

Articles of agreement made this day _____ in the year Two thousand and Twenty between the Managing Director, Haryana Rail Infrastructure Development Corporation having his office at SCO 17-18-19, 3rd Floor, Sector-17A, Chandigarh - 160017 herein after called HRIDC of the one part and _____ of the second part.

Whereas the party hereto of the other part executed an agreement with the party hereto of the first part being agreement Number _____ dated _____ for the performance _____ herein after called the 'Principal Agreement'.

And whereas it was agreed by and between the parties hereto that the works would be completed by the party hereto of the second part on _____ date last extended' and whereas the party hereto of the second part has executed the work to the entire satisfaction of the party hereto of the first part. And whereas the party hereto of the first part already made payment of the party hereto of the second part diverse sums from time to time aggregating to Rs. _____ including the final bill bearing voucher No. _____ dated _____ (the receipt of which is hereby acknowledged by the party hereto of the second part in full and final settlement of all his /its claims under the principal agreement.

And whereas the party hereto of the second part have received further sum of Rs. _____ through the final bill bearing voucher No. _____ dated _____ (the receipt of which is hereby acknowledged by the party thereto of the second part) from the party hereto the first part in full and final settlement of all his/its disputed claims under principal agreement.

Now, it is hereby agreed by and between the parties in the consideration of sums already paid (by the party hereto of the first part to the party hereto of the second part against all outstanding dues and claims for, all works done under the aforesaid principal agreement including/excluding the security deposit the party hereto of the second part have no further dues of claims against the party hereto the first part under the said Principal Agreement. It is further agreed by and between the parties that the party hereto of the second part has accepted the said sums mentioned above in full and final satisfaction of all its dues and claims under the said Principal Agreement.

It is further agreed and understood by and between the parties that in consideration of the payment already made, under the agreement, the said Principal Agreement shall stand finally discharged and rescinded all the terms and conditions including the arbitration clause. It is further agreed and understood by and between the parties that the arbitration clause contained in the said principal agreement shall cease to have any effect and/or shall be deemed to be non-existent for all purposes.

Signature of the Contractor/s
HRIDC

For and on behalf of MD/

Witness

1. _____

2. _____

ADDRESS: _____

PERFORMA
DECLARATION

I/We hereby solemnly declare that I/We visited the site of the work (as on top sheet) personally and have made myself/ourselves fully conversant of the conditions therein and particular the following:

1. Topography of area.
2. Soil strata at site of work.
3. Sources and availability of construction materials.
4. Rates for construction of material, water, electricity including all local taxes, royalties, octrois etc.
5. Availability of local labour (both skilled and unskilled) and relevant labour rates and labour laws.
6. The existing roads and approaches to the site of work and requirements for further service roads/approaches to be constructed by me/us.
7. The availability and rates of private land etc. that shall be required by me/us for various purposes.
8. Climatic conditions and availability of working days.

I/We have quoted my/our rates for various items in the schedule of items, quantities and rates taking into account all the above factors also.

Signatures of the Tenderer/s

ANNEXURE – D

(Refer: Clause 2.4.1 of “Special Tender Conditions & Instructions to tenderers” and clause No. 14 (i) Part-I of GCC-2020, with up to date correction slip)

Constitution of Firm

S.No.	Particular	Response
1	Constitution of the Firm (Tick as applicable)	Sole Proprietorship Firm/ Partnership Firm/ Company/ JV/ LLP/ Registered Society or Trust
2	Full name of the Sole Proprietorship Firm/ Partnership Firm/ Company/ JV/ LLP/ Registered Society or Trust (as the case may be)	
3	Year of formation/ incorporation	
4	PAN No.	
5	Registered Office Address	
6	Address on which correspondence regarding this tender should be done	
7	Names of the proprietor/ partners/ JV members etc.	

Undertaking:

We have uploaded along with the tender, all the requisite documents pertaining to the constitution of the firm/ concern/company. etc, as specified in clause 2.4.1 of “Special Tender Conditions & Instructions to tenderers”. **I/We understand that in the absence of these documents, offer shall be considered incomplete and shall be summarily rejected.**

Date:**Signature of Tenderer/s with Seal**

ANNEXURE – E

(Refer: Clause No.11 (iii) Annex-I of Part-I of GCC-2020,
with up to date correction slip)

Details of Plant and Machinery already available with the firm

S. No	Particulars of equipment, plant/ machinery	No. of Unit	Kind and make	Capacity	Date by which the plant/ machinery would be available for use on this work	Age & Conditions
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						

Date:**Signature of Tenderer/s with Seal**

ANNEXURE – F

(Refer: Clause No.11 (iii) Annex-I of Part-I of GCC-2020,
with up to date correction slip)

**LIST OF ENGINEERS/PERSONNEL ALREADY AVAILABLE/ PROPOSED TO BE
EMPLOYED FOR DEPLOYMENT ON THIS WORK:**

S. No	Name & Designation	Qualification	Professional experience	Organization with whom working	Date by which personnel will be available for this work.
(1)	(2)	(3)	(4)	(5)	(6)

Date:

Signature of Tenderer/s with Seal

ANNEXURE – G

(Refer: Clause No. 10.1(a), part I of GCC 2020)

**STATEMENT OF WORKS EXECUTED/COMPLETED BY THE CONTRACTORS
DURING LAST 7 (SEVEN) YEARS ENDING LAST DAY OF MONTH PREVIOUS TO
THE ONE IN WHICH TENDER IS INVITED**

(Details of works of similar nature physically completed in all respect as per contract agreement during last seven years, ending last day of month previous to the one in which tender is invited)

S. No	Name and place of work	Authority /agency for which work was carried out	Date of award & agreement No.	Date of completion (original /actual)	Agreemental cost/ completion cost.	Principal/ Technical features work in brief	S.No. at which relevant certificate /documents are attached.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Date:**Signature of Tenderer/s with Seal**

ANNEXURE – H**STATEMENT OF WORKS BEING EXECUTED/IN HAND BY THE CONTRACTOR/S**

S. No	Name and place of work	Authority /agency for which work was carried out	Date of award & agreement No.	Date of completion	Agreemental Cost	Principal/Technical features work in brief	S.No. at which relevant certificate /documents are attached.	Payment taken till date
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

Date:**Signature of Tenderer/s with Seal**

ANNEXURE – I

(Refer: Clause No.10.2 and 11(ii) Annex-I of Part-I of GCC-2020,
with up to date correction slip)

**Detail of contractual payment received in last 3 (three) financial year and current
financial year**

S. No	Name and place of work	Name of employer	Detail of payment.	For the financial year	Total contract amount received
(1)	(2)	(3)	(4)	(5)	(6)

**Date:
with Seal**

Signature of Tenderer/s

FORMS

FORM NO. E-5

Appendix-VIII

**Real Time Gross Saving (RTGS)/National Electronic Fund Transfer (NEFT)
Model Mandate Form**

(Investor/customer’s option to receive payments through RTGS/NEFT)

1. Investor/customer’s name

2. Particular’s of Bank Account:

A) Name of the Bank:

B) Name of the Branch.

Address

Telephone No.

C) RTGS/NEFT IFS Code.

D) Type of the account (S.B. Current or Cash Credit)

With code (10/11/13).

E) Ledger and Ledger folio number.

F) Account number (as appearing on the Cheque book) in lieu of the bank certificate to be obtained as under, please attach a blank cancelled cheque or a photocopy of a cheque or front page of your savings bank passbook issued by your bank for verification of the above particulars)

3. Date of effect

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, I would not hold the user institution responsible. I have read the option invitation letter and agree to discharge the responsibility expected of me as a participant under the scheme.

(.....)
Signature of the Investor/ Customer

Date:

Certified that the particulars furnished above are correct as per our records.

Bank’s Stamp

ANNEXURE – K

(Refer: Clause No. 17 of Annex-I Part-I of GCC-2020,
with up to date correction slip)

GUIDELINES FOR PARTICIPATION OF JOINT VENTURE (JV) FIRMS

(THE JV firms are allowed to participate only in the tenders of value more than Rs.10 crores).

1. Separate identity/name shall be given to the Joint Venture
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 up to 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%.
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**.
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.**
5. The Joint Venture Firm shall be required to submit Earnest Money Deposit (EMD) along with the tender through e-payment gateway in terms of the provisions contained in clause 3.0 (**Earnest Money**) of tender document.
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. (The MoU format for this purpose is enclosed as **Annexure-K1**.)
7. Once the tender is submitted, the MoU shall not be modified / altered / terminated during the validity of the tender. In case the Tenderer fails to observe/comply with this stipulation, the full Earnest Money Deposit (EMD) shall be liable to be forfeited.

8. Approval for change of constitution of JV shall be at the sole discretion of HRIDC. The constitution of the JV shall not be allowed to be modified after submission of the tender 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.
9. Similarly, after the contract is awarded, the constitution of JV shall not be 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.
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.
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 along with the tender, shall be got registered before the Registrar of the Companies under 'The Companies Act -2013' (in case of Company) or before the Registrar/Sub-Registrar under the 'The Indian Partnership Act, 1932' (in case of Partnership Firm) or under 'The LLP Act 2008' (in case of LLP). A separate PAN shall be obtained for this entity. The documents pertaining to this entity including its PAN shall be furnished to HRIDC 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, HRIDC shall be entitled to forfeit the full amount of the Earnest Money Deposit and other dues payable to the Contractor under this contract. **The entity so registered, in the registered documents**, shall have, inter-alia, following Clauses:
 - 11.1 Joint and Several Liability - Members of the **entity** to which the contract is awarded, shall be jointly and severally liable to HRIDC for execution of the project in accordance with General and Special Conditions of Contract. The JV members **of the entity** shall also be liable jointly and severally for the loss, damages caused to HRIDC during the course of execution of the contract or due to non-execution of the contract or part thereof.

- 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.
- 11.3 Governing Laws - The **Registered Entity** shall in all respect be governed by and interpreted in accordance with Indian Laws.
12. Authorized Member - Joint Venture members in the JV MoU shall authorize one of the 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.
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 HRIDC in respect of the said tender/contract.

14. Documents to be enclosed by the JV along with the tender:

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

- (a) A **notarized** copy of the Partnership Deed,
- (b) 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,
- (c) A **notarized or registered** copy of Power of Attorney (duly registered as per prevailing law) in favour of the individual to sign the MOU/JV Agreement on behalf of the partnership firm and create liability against the firm.

14.2 In case one or more members is/are Proprietary Firm or Hindu Undivided Family (HUF), the following documents shall be enclosed:

A copy of notarized affidavit on Stamp Paper declaring that 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 HUF and he/she has the authority, power and consent given by other partners to act on behalf of HUF.

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

- (a) A copy of resolutions of the Directors of the Company, permitting the company to enter into a JV agreement,

(b) A copy of Memorandum and Articles of Association of the Company.

(c) A copy of Certificate of Incorporation

(d) 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.

14.4 All the Members of JV shall certify that they are not blacklisted or debarred by HRIDC, 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 in which they were/are members.

14.5 All other documents in terms of explanatory notes in clause 10 of Railways GCC (July 2020).

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

15.1 Technical Eligibility Criteria:

The technical eligibility for the work as per Clause 3.1 of Tender Notice above, shall be satisfied by either the 'JV in its own name & style' or 'any member having min 26% share'. Each other member of JV shall have technical capacity of minimum 10% of the cost of work i.e., each JV member must have satisfactorily 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.

Note for Clause 15.1:

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.

15.2 Financial Eligibility Criteria

The JV shall satisfy the requirement of "Financial Eligibility" mentioned at Clause 3.2 of Tender Notice above. The "financial capacity" of the lead partner of JV shall not be less than 51% of the financial eligibility criteria mentioned in Clause 3.2 of Tender Notice 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.

15.3 Bid Capacity

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned in Clause 3.3 of tender notice above. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement.

ANNEXURE – ‘K-1’

(Refer: Clause No. 17.6 of Annex-I Part-I of GCC-2020,
with up to date correction slip)

MEMORANDUM OF UNDERSTANDING FOR JV

(The memorandum of understanding shall be submitted in following format on the non-judicial stamp of Rs.100/- duly notarized)

NOW THIS Memorandum of Understanding is executed at (Name of Place) on this date (DD/MM/YY) between M/s.....(Name of first constituent and address) as the first party represented by Shriand M/s..... (Name of 2nd constituent and address) represented by Shri as the second party and so on 3rd, 4th & 5th subsequent parties. (the expression and words of first and second and other shall mean and include their heirs successors, assigns, nominees, execution, administrators and legal representatives respectively).

WHEREAS all the parties are engaged mainly in the business of execution of Civil Engineering and general contracts for various Government Departments and organizations.

AND WHEREAS the parties herein above mentioned are desirous of entering into a joint venture for carrying out civil engineering and/or contract works in connection with Tender No. (Name of work)..... as mutually decided between members of Joint Venture Agreement.

1. That we M/s..... (JV firm) on behalf of all members of this joint venture agreement agreed that M/s will be “Lead Partner” of this Joint Venture.

2. That under this MOU, the work will be done jointly by M/s the first party and M/s the second and so onin the name and style of(Name) (joint venture firm).

3. That we JV firm M/s on behalf of all the members of JV firm shall be legally liable, severally and jointly responsible/ liable for the satisfactory/ successful execution/ completion of the works including maintenance period in all respects and in accordance with terms and conditions of the contract.

4. That we M/s JV firm..... on behalf of all the members of the JV firm to which the contract is awarded, shall be jointly and severally liable to the Employer (HRIDC) for execution of the project in accordance with General and Special Conditions of the Contract. The JV members shall also be liable jointly and severally for the loss, damages caused to HRIDC during the course of execution of the contract or due to non-execution of the contract or part thereof.

5. M/s(Name of Lead Firm) of JV firm shall be the lead member of the JV firm who shall have a majority% share of interest in the JV firm. The other (One/Two) members shall have following share: - M/s (Name of Second Firm) have % and M/s (Name of Third Firm if any) have% share of interest in the JV Firm.

6. That this JV 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.

7. That we all the Joint Venture members authorize M/sone of the members on behalf of the JV firm 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/ correspondence with respect to the contract would be sent to this authorized member (address) of the JV firm.

8. That no member of the JV 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 Employer (HRIDC) in respect of the said tender/contract.

9. That we all the members of the JV certify that we have not been black- listed or debarred by HRIDC or Railways or any other Ministry/Department /PSU (Public Sector Undertaking) of the Govt. of India/ State Govt. from participation in tenders/contract in the past either in our individual capacity or as a member of the JV firm or partnership firm in which they were members/partners.

10. That this Joint Venture MOU shall in all respect be governed by and interpreted in accordance with Indian Laws.

Now the parties have joined hands to form this MOU on this date (DD/MM/YY) with reference to and in confirmation of their discussions and understanding brought on record on date (DD/MM /YY).

In witness thereof all/both the above-named parties have set their respective hands on this MOU on the day, month and year first above mentioned, in the presence of the following witnesses:

1.First party (authorized signatory)

2.Second party (authorized signatory)

3.Third party (if any) (authorized signatory)

With Seal of parties

Witnesses with name & address:

1..... 2.....

Date.....

Place.....

NOTE: Should MOU be in more than one separate page, each page shall be signed by the authorized signatory.

ANNEXURE – ‘K-2’

(Refer: Clause No. 18 of Annex-I Part-I of GCC-2020,
with up to date correction slip)

Guidelines for submitting tenders by Partnership Firms and their Eligibility Criteria

1. The Partnership Firms participating in the tender should be legally valid under the provisions of the Indian Partnership Act.
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 prior to date of tender opening as per the Indian Partnership Act.
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.
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 HRIDC 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 HRIDC and the Tenderer shall have no claims what-so-ever. Any change in the constitution of Partnership firm after opening 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 EMD shall be forfeited.

If any Partner/s withdraws from the firm after opening of the tender and before the award of the contract, the offer shall be rejected **and EMD of the tenderer will be forfeited**. If any new partner joins the firm after opening 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 HRIDC 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 breach of the contract conditions liable for determination of the contract under Clause 62 of General Conditions of Contract **(July 2020)**.

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.
6. The tender form shall be submitted only in the name of partnership firm. The EMD shall be deposited by partnership firm through e-payment gateway or as mentioned in tender document. The EMD submitted in the name of any individual partner or in the name of authorized partner (s) shall not be considered.
7. One or more of the partners of the firm or any other person (s) shall be designated as the authorized person (s) on behalf of the firm, who will be authorized by all the partners to act on behalf of the firm through a “Power of Attorney”, specially authorizing him / them to submit & sign the tender, sign the agreement, receive payment, witness measurements, sign measurement books, make correspondences, 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 such action in respect of the said tender/ contract. Such “Power of Attorney” shall be notarized/ registered and submitted along with the tender. **The power of attorney shall be submitted even if such specific person is authorized for above purposes through partnership deed / Memorandum of Understanding / Article of Association or such other document, failing which tender is liable to be rejected.**
8. 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.
9. 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.
10. 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 HRIDC 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 HRIDC 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 HRIDC, shall constitute a breach of the contract, liable for determination of the contract under Clause 62 of the General Conditions of Contract (July 2020).

- (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 HRIDC.
11. 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:
- (a) A **notarized** copy of partnership deed.
 - (b) A **notarized or registered** copy of Power of Attorney (duly registered as per prevailing law) in favour of the individual to tender for the work, sign the agreement etc. and create liability against the firm.
 - (c) An undertaking by all partners of the partnership firm that they are not blacklisted or debarred by HRIDC, Railways or any other Ministry / Department of the Govt. of India / any State Govt. from participation in tenders / contracts as on the date of opening of bids, either in their individual capacity or in any firm in which they were / are partners. Concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract (**July 2020**).
 - (d) **All other documents in terms of explanatory notes in clause 10 of Railways GCC (July 2020).**

12. Evaluation of eligibility of a partnership firm:

Technical and financial eligibility of the firm shall be adjudged based on satisfactory fulfilment of the eligibility criteria laid down in Clause 3 of tender notice above by the partnership firm.

ANNEXURE – L**COMPLETION CERTIFICATE**

The work of “----- (Full name of the work) -----” has been Completed with following details:

1	Name & complete address of the Contractor.	
2	Nature of entity (sole prop/ partnership firm/ company / JV)	
3	a) In case of Sole proprietorship, the name of sole proprietor	
	b) In case of partnership firm/JV, the names & shares of various partners/ members.	
4	Date of Acceptance/LOA	
5	Agreement No. & date	
6	i) Original Agreement Cost ii) Final Agreement Cost	
7	Total payment made along with financial year-wise break-up	
8	Original date of completion (DOC)	
9	a) Actual date of completion (b) Whether extension to DOC given with penalty or without penalty	
10	Brief description of nature & scope of work	
11	Performance of Contractor (Satisfactory/ unsatisfactory)	

It is certified that the above work has been completed successfully in accordance with provisions of contract.

(-----)
Name & Signature
Issuing authority with seal

Date of issue of certificate: -----

Case File No.:-----

ANNEXURE – M

(Clause no. 2.2.6 of “Special Tender Conditions & Instructions to tenderers” and Clause No. 11(iv) Part-I of GCC-2020, with up to date correction slip)

**FORMAT FOR AFFIDAVIT TO BE SUBMITTED BY TENDERER
ALONG WITH THE TENDER DOCUMENTS**

(To be executed in presence of Notary public on non-judicial stamp paper of the value of Rs. 100/-. The stamp paper has to be in the name of the Tenderer) *

I (*Name and designation*)** appointed as the attorney/ authorized signatory of the Tenderer (including its constituents), M/s. _____ having its office at.....(hereinafter called the Tenderer) for the purpose of the Tender documents for the work of (*Name of work*)** as per the Tender No. _____ of Haryana Rail Infrastructure Development Corporation (HRIDC), do hereby solemnly affirm and state on 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 the website <https://etenders.hry.nic.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 HRIDC 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 understand that if the certificates regarding eligibility criteria 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 tender EMD besides banning of business for a period of up to 3 (three) years. Further, I/we (insert name of the tenderer) ** _____ and all my/our constituents understand that my/our offer shall be summarily rejected.

8. I/we also understand that if the certificates 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 EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for a period of up to 3 (three) years.

**DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER**

VERIFICATION

I/We above named Tenderer do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

**DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER**

Place:

Dated:

Note:

- i) Should affidavit be in more than one separate page, each page shall be signed by the authorised signatory*
- ii) The contents in Italics (marked with **) are only for guidance purpose. Details as appropriate are to be filled in suitably by Tenderer*

ANNEXURE – N

Break up of Maximum value of Contractual payment received in any one year during the last 3 (three) years and current financial year under Government/Semi-Government/PSU

S.No.	Financial Year	Cumulative contractual payment received	Breakup of individual values included in Cumulative payment (col.3)	Supporting documents (16A, 26As, Employer certificate)	Placed at S.No.
(1)	(2)	(3)	(4a)	(4b)	(4c)
			1.		
			2.		
			3.		
			4.		
			Cumulative value		

Date: _____

Signature of Tenderer/s with seal

ANNEXURE – O-1

AFFIDAVIT BY SOLE PROPRIETORSHIP FIRM

(To be executed non judicial stamp paper of appropriate value as per law of state concerned- Non-Judicial stamp paper should be purchased in the name of proprietor of the firm)

I.....S/o Shriaged aboutyears
R/o.....do hereby
solemnly affirm and declare as under:

1. That I am running a business in the name and style of M/S..... which is a sole proprietorship firm, and which has got GST registration No.....
2. That I am the sole proprietor of the said firm M/S
3. That the Head office of the above named firm is situated at

DEPONENT

Verification:

Verified at..... on thisday of.....that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed therefrom.

DEPONENT

(seal and signature of Notary Public)

- Notes:**
1. The document should be notarized at its place of execution (Place of signing the document).
 2. Each page of the document should be signed by executants

ANNEXURE – O-2**POWER-OF-ATTORNEY FOR SIGNING OF BID ON BEHALF OF
PARTNERSHIP FIRM**

**(To be executed non judicial stamp paper of appropriate value as per law of state concerned-
Non-Judicial stamp paper should be purchased in the name of partners of the firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE

(1)..... S/o Shri.....R/o.....

(2)..... S/o Shri.....R/o.....

(3)..... S/o Shri.....R/o.....

(4)..... S/o Shri..... R/o.....

all are the partners of a partnership firm namely M/S.....
(Name of firm) hereinafter referred to as 'firm', which is registered at Registration
No.....by Registrar of Firms..... The firm is having its head
office at..... (hereinafter
to be referred as the 'Firm').

AND WHEREAS we all the above named partners have on.....(date) given our
consent on behalf of firm to participate in the tender
No._____ issued by HRIDC for the work namely
“_____”

We the above named partners of above named firm do hereby irrevocably constitute, nominate,
appoint and authorize Mr./ Ms. _____S/o
Shri_____(address)_____ & Mr./ Ms. _____S/o
Shri_____(address)_____ as our true and lawful attorney
(hereinafter referred to as “Attorney”) of the firm to jointly or severally exercise all or any of the
following powers for and on behalf of M/S
..... (name of firm) in connection with aforesaid
bid:

1. To sign and submit Tender and participate in the aforesaid bid of HRIDC on behalf of the firm.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. on behalf of firm.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the firm in connection with completion of aforesaid tender work and to enter into liability against the firm.
4. To sign, execute the contract with HRIDC for and on behalf of the firm.

5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

We on behalf of firm undertake that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

We on behalf of firm hereby agree that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the firm and we hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

Specimen signatures of the Attorney are appended below.

IN WITNESS WHEREOF this deed has been signed and sealed by us the under named, on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature	Executants Partners
Name:	(Name) (Signature)
Address:	1.....
	2.
	3.
	4.

2. Signature
 Name:
 Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name..... Signature.....
(2) Name..... Signature.....

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

Notes:

1. In this format space has been provided for entering details of four partners & two attorney holders however if the numbers vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document).
3. Each page of the document should be signed by executants.
4. The power of attorney should be **duly registered**.

ANNEXURE – O-3

POWER-OF-ATTORNEY ON BEHALF OF THE JOINT VENTURE

(To be executed non judicial stamp paper of appropriate value as per law of state concerned- Non-Judicial stamp paper should be purchased in the name of the members of Joint Venture)

KNOW ALL MEN BY THESE PRESENTS THAT WE THE PARTIES whose details are given here under:

1. (name of constituent) (address) as the first party.

2. (name of constituent) (address) as the second party.

Have entered into a Joint Venture agreement for the purpose of securing the work advertised by HRIDC vide NIT No.....details of works are as under:

“ ”

The aforesaid Joint Venture shall be known by the name “.....” (Hereinafter called the Joint Venture which Expression shall unless repugnant to the context or meaning thereof, include its successors, administrators and assigns.

We the above said parties, through this power of Attorney do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. _____S/o Shri _____(address) who is presently holding the position of inthe firm/ company as our true and lawful attorney (hereinafter referred to as “Attorney”) of the Joint Venture to jointly or severally exercise all or any of the following powers for and on behalf of “ (name of JV) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of HRIDC on behalf of the Joint Venture.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. on behalf of Joint Venture
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the Joint Venture in connection with completion of aforesaid tender work and to enter into liability against the Joint Venture.
4. To sign, execute the contract with HRIDC for and on behalf of the Joint Venture.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above on behalf of Joint Venture.

The Joint Venture agrees and undertakes that in the event of any change in the constitution of the Joint Venture the rights and obligations of the Joint Venture shall continue to be in full force without any effect thereof.

We all the members of Joint Venture undertake that we shall not cancel or amend this Power of Attorney unilaterally and without prior written consent of HRIDC.

AND the Joint Venture hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Joint Venture and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF the members constituting the Joint Venture as aforesaid have executed these present, on this..... day of..... 20.... , under the common seal(s)/seals of their companies and/or firms(s), in presence of:

WITNESSES:

- | | |
|--|---|
| <p>1. Signature
Name:
Address:</p> | <p>Signature of authorized signatories & their
Seals:
1. First Party (Signature):
Name:
Seal:</p> |
| <p>2. Signature
Name:
Address:</p> | <p>2. Second Party (Signature):
Name:
Seal:</p> |

Specimen Signatures of Attorney Holder in token of acceptance:

Name.....Signature.....

Executed and Signed before me on this.....day of At
..... (place).

(seal and signature of Notary Public)

- Notes:**
1. In this format space has been provided for entering details of two constituents of the JV however if the number vary the details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document)..
 3. Each page of the document should be signed by executants.

ANNEXURE – O-4

CONSENT OF PARTNERS OF PARTNERSHIP FIRM FOR SIGNING JOINT VENTURE

(To be executed on non-judicial stamp paper as per tender conditions Non-Judicial stamp paper should be purchased in the name of partners of the firm)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE :

- (1)..... S/o Shri..... R/o.....
- (2)..... S/o Shri..... R/o.....
- (3)..... S/o Shri..... R/o.....
- (4)..... S/o Shri..... R/o.....

all are the partners of a partnership firm namely M/S(Name of firm) hereinafter referred to as ‘firm’, which is registered at Registration No.....by Registrar of Firms..... The firm is having its head office at.....

AND WHEREAS it has come to our knowledge that NIT No._____ has been issued by HRIDC for the work namely “_____”

We all the above named partners on behalf of the above named firm hereby give our consent to participate in the above tender in Joint Venture.

Further we all the above named partners on behalf of the above named firm hereby give our consent to enter in to Joint Venture agreement, with M/S_____ & M/S_____ (name of other constituent(s) of joint venture) and to participate in tender as Joint Venture aforesaid.

Date:

Place:

Executants Partners

(Name) (Signature)

- 1.....
- 2.....
- 3.....
- 4.....

(seal and signature of Notary Public)

- Notes:
- 1. In this format space has been provided for entering details of four partners and two JV constituents however if the number vary details may accordingly be entered.
 - 2. The document should be notarized at its place of execution (Place of signing the document).
 - 3. Each page of the document should be signed by executants.

ANNEXURE – O-5**POWER-OF-ATTORNEY FOR SIGNING JOINT VENTURE AGREEMENT ON
BEHALF OF PARTNERSHIP FIRM**

**(To be executed non judicial stamp paper of appropriate value as per law of state concerned-
Non-Judicial stamp paper should be purchased in the name of partners of the firm)**

KNOW ALL MEN BY THESE PRESENTS: WHEREAS WE

- (1)..... S/o Shri..... R/o.....
 (2)..... S/o Shri..... R/o.....
 (3)..... S/o Shri..... R/o.....
 (4)..... S/o Shri..... R/o.....

All are the partners of a partnership firm namely M/s.Name of firm) hereinafter referred to as 'firm', which is registered at Registration No.....by Registrar of Firms..... The firm is having its head office at..... (hereinafter to be referred as the 'Firm').

AND WHEREAS we all the above named partners have on.....(date) given our consent on behalf of firm to participate in the tender No. issued by HRIDC for the work namely “ ” in Joint Venture with M/S..... & M/S

We the above named partners of above named firm do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. _____ S/o Shri _____ (address) _____ & Mr./ Ms. _____ S/o Shri _____ (address) _____ as our true and lawful attorney (hereinafter referred to as “Attorney”) of the firm to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of firm) in connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, on behalf of our firm with M/S.....& M/S.....
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc. in connection with aforesaid bid.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the firm in connection with completion of aforesaid tender work and to enter into liability against the firm.

- 4. To sign, execute the contract with HRIDC for and on behalf of the firm.
- 5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above and to enter into liability against the firm.

We on behalf of firm undertake that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

We on behalf of firm hereby agree that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the firm and we hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

Specimen signatures of the Attorney are appended below.

IN WITNESS WHEREOF this deed has been signed and sealed by us the under named, on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature	Executants Partners
Name:	(Name) (Signature)
Address:	1
	2
	3.....
	4.....

2. Signature
 Name:
 Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

- (1) Name.....Signature.....
- (2) Name.....Signature.....

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

- Notes:
- 1. In this format space has been provided for entering details of four partners, two constituents of JV and two attorney holders, however if the number vary the details may accordingly be entered.
 - 2. The document should be notarized at its place of execution.
 - 3. Each page of the document should be signed by executants

ANNEXURE – O-6

AFFIDAVIT BY SOLE PROPRIETORSHIP FIRM WHEN PARTICIPATING IN JOINT VENTURE

(To be executed non judicial stamp paper of appropriate value as per law of state concerned- Non-Judicial stamp paper should be purchased in the name of proprietor of the firm)

I.....S/o Shri.....aged aboutyears R/o.....do hereby solemnly affirm and declare as under:

1. That I am running a business in the name and style of M/s..... which is a sole proprietorship firm and which has got GST registration No.....

2. That I am the sole proprietor of the said firm M/S.....

3. That the Head office of the above named firm is situated at.....

4. That I through my above named firm shall participate in the tender No..... issued by HRIDC for the work namely “.....”

in Joint Venture and for the purpose shall enter into and execute joint venture agreement with M/S..... & M/S..... (name of other constituent(s) of joint venture).

DEPONENT

Verification:

Verified at.....on thisday of.....that the contents of my above affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed therefrom.

DEPONENT

(Seal and signature of Notary Public)

- Notes:
1. In this format space has been provided for entering details of two constituents of the JV however if the number vary details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document).
 3. Each page of the document should be signed by executants.

ANNEXURE – O-7**BOARD'S RESOLUTION OF COMPANY FOR ENTERING INTO JOINT VENTURE
(To be printed on Company's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF (Company Name) _____
(CIN _____) (hereinafter referred to as company) HELD ON
(Date) _____ AT (Address) _____

Whereas the Board has been described about NIT No. _____
issued by HRIDC for the work namely “ _____ ”.

Board discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the company (company name) shall participate in the above tender in Joint Venture and for the purpose the company shall enter into and execute joint venture agreement, with M/S _____ & M/S _____ (name of other constituent(s) of joint venture).

Resolved further that the Board authorizes, Mr. /Ms. _____ & Mr./ Ms. _____ (name and designation) of the company, to jointly or severally, sign joint venture agreement, and to sign such other documents and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.

Resolved further that Board authorizes Mr./Ms. _____ (name and designation) of the company to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. _____ & Mr./Ms. _____ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the company.

For the Organization,

(Seal of company & Signature of authorized person)

Name: _____

Designation: _____

Place:

Dated:

Executed and Signed before me on this.....day ofAt
.....(place).

(Seal and signature of Notary Public)

- Notes:**
1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons however if the number vary details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document).
 3. Each page of the document should be signed by authorized signatory(s).

ANNEXURE – O-8**POWER-OF-ATTORNEY BY A COMPANY (incorporated under companies Act) for entering into JOINT VENTURE AGREEMENT**

(To be executed non judicial stamp paper of appropriate value as per law of state concerned Non-Judicial stamp paper should be purchased in the name of the company)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S
 (name of company & CIN number) is a
 Company registered under the Companies Act, 2013, and having its registered office
 at..... (Hereinafter called the 'Company').

AND WHEREAS by its resolution No..... passed in the meeting held
 on..... of the Board of directors of the company the company (company name) has
 decided to participate in the tender No._____ issued by
 HRIDC for the work namely “ _____ ”
 in Joint Venture and for the purpose the company shall enter into and execute joint venture
 agreement with M/S_____ &
 M/S_____ (name of other constituent(s) of joint venture) AND THAT
 M/S_____ (name of the lead member of joint venture) shall act as the
 lead member of above mentioned joint venture.

I.....(name and designation) the authorised
 representative of M/S
 (name of company) duly authorized in this behalf by aforesaid resolution do hereby irrevocably
 constitute, nominate, appoint and authorize Mr./ Ms.
 _____(designation)_____ (address)_____ & Mr./ Ms. Mr./
 Ms. _____(designation)_____ (address)_____ who is/are
 presently holding the above mentioned position in the company as our true and lawful attorney
 (hereinafter referred to as “Attorney”) of the company to jointly or severally exercise all or any of
 the following powers for and on behalf of M/S
 (Name of company & CIN number) in
 connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, draft of which has been approved by the company, on behalf of the company with above named constituents for participating in the aforesaid bid of the HRIDC on behalf of the company.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.
4. And generally, to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The company agrees and undertakes that in the event of any change in the constitution of the company the rights and obligations of the company shall continue to be in full force without any effect thereof.

The company undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri..... (name and designation), on this..... day of..... 20... , in presence of:

WITNESSES:

- | | |
|--|---|
| <p>1. Signature
Name:
Address:</p> | <p>Executants Signature & Seal of Company:
Name:
Designation:</p> |
| <p>2. Signature
Name:
Address:</p> | |

Specimen Signatures of Attorney Holder in token of acceptance:

- (1) NameSignature.....
- (2) NameSignature.....

Executed and Signed before me on this.....day of At (place).

(Seal and signature of Notary Public)

- Notes:
1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons/attorney holders however if the number vary the details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document).
 3. Each page of the document should be signed by executants

ANNEXURE – O-9**POWER-OF-ATTORNEY FOR SIGNING OF BID (when Tenderer is company incorporated under Companies Act)**

(To be executed non judicial stamp paper of appropriate value as per law of state concerned Non-Judicial stamp paper should be purchased in the name of the company)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S
..... (name of company & CIN number) is a
Company registered under the Companies Act, 2013, and having its registered office
at..... (Hereinafter called the 'Company').

AND WHEREAS by its resolution No..... passed in the meeting held
on..... of the Board of directors of the company the company (company name) have
decided to participate in the tender No._____ issued by
HRIDC for the work namely “_____”

I.....(name and designation) the authorised
representative of M/S
(name of company) duly authorized in this behalf by aforesaid resolution do hereby irrevocably
constitute, nominate, appoint and authorize Mr./ Ms.
_____(designation)_____(address)_____ & Mr./ Ms. Mr./
Ms. _____(designation)_____(address)_____ who is/are
presently holding the above mentioned position in the company as our true and lawful attorney
(hereinafter referred to as “Attorney”) of the company to jointly or severally exercise all or any of
the following powers for and on behalf of M/S
..... (name of company & CIN number) in
connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of HRIDC on behalf of the company.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.
4. To sign, execute the contract with HRIDC for and on behalf of the company.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The company agrees and undertakes that in the event of any change in the constitution of the company the rights and obligations of the company shall continue to be in full force without any effect thereof.

The company undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

AND the Company hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the Company and the Company hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri..... (name and designation), on this..... day of..... 20...., in presence of:

WITNESSES:

1. Signature
Name:
Address:

Executants Signature & Seal of Company:
Name:
Designation:

2. Signature
Name:
Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1) Name Signature.....

(2) Name..... Signature.....

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

- Notes:**
1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document)..
 3. Each page of the document should be signed by executants.

ANNEXURE – O-10**Board's Resolution of company incorporated under companies Act for submitting Tender by company (To be printed on company's letter head)**

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE BOARD OF DIRECTORS OF _____ (Company Name) _____ (CIN _____) (hereinafter referred to as company) HELD ON _____ (Date) _____ AT _____ (Address) _____

Whereas the Board has been described about NIT no. _____ issued by HRIDC for the work namely “_____”. Board discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the company (company name) shall participate in the above tender.

Resolved further that the Board authorizes, Mr./ Ms. _____ & Mr./ Ms. _____ (name and designation) of the company, to jointly or severally sign and submit all the necessary papers, letters, forms, quotes, bids etc, negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the company in connection with completion of aforesaid tender work and to enter into liability against the company.

Resolved further that Board authorizes Mr./Ms. _____ (name and designation) of the company to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. _____ & Mr./Ms. _____ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the company.

For the Organization,

(Seal of company & Signature of authorized person)

Name: _____

Designation: _____

Place:

Dated:

Executed and Signed before me on this.....day of At
.....(place).

(Seal and signature of Notary Public)

- Notes:**
1. In this format space has been provided for entering details of two authorized persons however if the number vary details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document)..
 3. Each page of the document should be signed by authorized signatory(s).

ANNEXURE – O-11**POWER-OF-ATTORNEY FOR SIGNING OF BID (when Tenderer is LLP Firm incorporated under LLP Act)**

(To be executed non judicial stamp paper of appropriate value as per law of state concerned Non-Judicial stamp paper should be purchased in the name of the LLP Firm)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S
 (name of LLP & LLPIN number) is a LLP Firm registered under the LLP Act, 2008, and having its registered office at..... (hereinafter called the 'LLP'). AND WHEREAS by its resolution No..... passed in the meeting held on..... of the Partners of the LLP the LLP..... (LLP name) have decided to participate in the tender No. _____ issued by HRIDC for the work namely “ _____ ”

I.....name and designation) the authorised representative of M/S (name of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./Ms. _____(designation)_____ (address)_____ & Mr./Ms./Mr./Ms. _____(designation)_____ (address)_____ who is/are presently holding the above mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as “Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of LLP & LLPIN number) in connection with aforesaid bid:

1. To sign and submit Tender and participate in the aforesaid bid of HRIDC on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To negotiate, discuss, agree to make any amendments, alterations or modifications thereto and to make representations, submit papers, affidavits and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. To sign, execute the contract with HRIDC for and on behalf of the LLP.
5. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof. The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri.....(name and designation), on this..... day of..... 20.... , in presence of:

WITNESSES:

1. Signature Name: Address:	Signatures of authorized representative & Seal of LLP: Name of authorized representative (Executant): Designation:
-----------------------------------	--

2. Signature
Name:
Address:

Specimen Signatures of Attorney Holder(s) in token of acceptance:

(1)Name Signature.....

(2Name).....Signature.....

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

- Notes:**
1. In this format space has been provided for entering details of two authorized persons/attorney holders however if the number vary details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document)..
 3. Each page of the document should be signed by executants.

ANNEXURE – O-12

Partner’s Resolution of LLP Firm for entering into Joint Venture (To be printed on LLP Firm’s letter head)

EXTRACT OF THE RESOLUTION PASSED AT THE MEETING OF THE PARTNERS OF _____ (LLP Name) having LLPIN _____ of 20.....) (hereinafter referred to as LLP) HELD ON (Date) _____ AT (Address) _____

Whereas the Partners have been described about NIT No. _____ issued by HRIDC for the work namely “ _____ ”

. Partners discussed the matter and after discussion following resolution was passed:

RESOLVED THAT the LLP..... (LLP name) shall participate in the above tender in Joint Venture and for the purpose the LLP shall enter into and execute joint venture agreement, with M/s _____ & M/s _____ (name of other constituent(s) of joint venture).

Resolved further that the LLP/Partners authorize(s), Mr./ Ms. _____ & Mr./ Ms. _____ (name and designation) of the LLP, to jointly or severally, sign joint venture agreement, and to sign such other documents and to do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.

Resolved further that LLP/Partners authorize(s) Mr./Ms. _____ (name and designation) of the LLP to execute Power of Attorney in terms of this resolution in favour of Mr./Ms. _____ & Mr./Ms. _____ the person(s) above named.

The acts done and documents executed by such above named authorized person(s) shall be binding on the LLP.

For the Organization,

(Seal of LLP & Signature of authorized person)

Name of authorized person: _____

Designation: _____

Place:

Dated:

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

- Notes: 1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons however if the number vary details may accordingly be entered.
2. The document should be notarized at its place of execution (Place of signing the document)..
3. Each page of the document should be signed by authorized signatory(s).

ANNEXURE – O-13**POWER of ATTORNEY BY AN LLP Firm (incorporated under LLP Act) for entering into JOINT VENTURE AGREEMENT**

(To be executed non judicial stamp paper of appropriate value as per law of state concerned Non-Judicial stamp paper should be purchased in the name of the LLP)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S
 (name of LLP & LLPIN number) is a LLP registered under the LLP Act, 2008, and having its registered office at.....
 (Hereinafter called the 'LLP')

AND WHEREAS by its resolution No..... passed in the meeting held on..... of the Partners of the LLP, the LLP..... (LLP name) has decided to participate in the tender No. _____ issued by HRIDC for the work namely “ _____ ” in Joint Venture and for the purpose the LLP shall enter into and execute joint venture agreement with M/S _____ & M/S _____ (name of other constituent(s) of joint venture) AND THAT M/S _____ (name of the lead member of joint venture) shall act as the lead member of above mentioned joint venture.

I.....(name and designation) the authorised representative of M/S (name of LLP) duly authorized in this behalf by aforesaid resolution do hereby irrevocably constitute, nominate, appoint and authorize Mr./ Ms. _____ (designation) _____ (address) _____ & Mr./ Ms. Mr./ Ms. _____ (designation) _____ (address) _____ who is/are presently holding the above mentioned position in the LLP as our true and lawful attorney (hereinafter referred to as “Attorney”) of the LLP to jointly or severally exercise all or any of the following powers for and on behalf of M/S (Name of LLP & LLPIN number) in connection with aforesaid bid:

1. To enter into and execute and sign JOINT VENTURE agreement, draft of which has been approved by the LLP, on behalf of the LLP with above named constituents for participating in the aforesaid bid of HRIDC on behalf of the LLP.
2. To sign and submit all the necessary papers, letters, forms, quotes, bids etc.
3. To do any other act and complete requisite formalities on behalf of the LLP in connection with completion of aforesaid tender work and to enter into liability against the LLP.
4. And generally to do all such acts, deeds or things as may be necessary or proper for the purposes mentioned above.

The LLP agrees and undertakes that in the event of any change in the constitution of the LLP, the rights and obligations of the LLP shall continue to be in full force without any effect thereof.

The LLP undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of HRIDC.

AND the LLP hereby agrees that all acts, deeds or things lawfully done by the said Attorneys or either of them under the authority of this power shall be construed as acts, deeds and things done by the LLP and the LLP hereby undertakes to confirm and ratify all and whatsoever the said Attorneys or either of them shall lawfully do or cause to be done by virtue of the powers hereby given.

IN WITNESS WHEREOF this deed has been signed and sealed by Shri.....(name and designation), on this..... day of..... 20... , in presence of:

Specimen Signatures of Attorney Holder in token of acceptance:

(1)NameSignature.....

(2)NameSignature.....

Executed and Signed before me on this.....day of At(place).

(Seal and signature of Notary Public)

- Notes:
1. In this format space has been provided for entering details of two constituents of the JV and two authorized persons/attorney holders however if the number vary the details may accordingly be entered.
 2. The document should be notarized at its place of execution (Place of signing the document).
 3. Each page of the document should be signed by executants.

INSTRUCTIONS REGARDING ELECTRONIC TENDERING SYSTEM

These conditions will over-rule the conditions stated in the tender documents, wherever relevant and applicable.

1. Registration of bidders on e-tendering Portal:

All the bidders intending to participate in the tenders process online are required to get registered on the centralized e-tendering Portal i.e. <https://etenders.hry.nic.in>. Please visit the website for more details.

2. Obtaining a Digital Certificate:

2.1. The Bids submitted online should be encrypted and signed electronically with a Digital Certificate to establish the identity of the bidder bidding online. These Digital Certificates are issued by an Approved Certifying Authority, by the Controller of Certifying Authorities, Government of India.

2.2. A Digital Certificate is issued upon receipt of mandatory identity (i.e. Applicant's PAN Card) and Address proofs and verification form duly attested by the Bank Manager / Post Master/ Gazetted Officer. Only upon the receipt of the required documents, a digital certificate can be issued. For more details please visit the website – <https://etenders.hry.nic.in>

2.3. The bidders may obtain Class-II or III digital signature certificate from any Certifying Authority or Sub-certifying Authority authorized by the Controller of Certifying Authorities or may obtain information and application format and documents required for the issue of digital certificate from.

2.4. The bidder must ensure that he/she comply by the online available important guidelines at the portal <https://etenders.hry.nic.in> for Digital Signature Certificate (DSC) including the e-Token carrying DSCs.

Ms Manju Aggarwal .

Technical Director,

Scientist-E, NIC.

Panchkula.

E - mail: a.manju@nic.in

Help Desk: 0172 – 584257, 0172-2700275, 0120-4200462, 0120-4001002, 94170-69017.

2.5. Bid for a particular tender must be submitted online using the digital certificate (Encryption & Signing), which is used to encrypt and sign the data during the stage of bid preparation. In case, during the process of a particular tender, the user loses his digital certificate (due to

virus attack, hardware problem, operating system or any other problem) he will not be able to submit the bid online.

Hence, the users are advised **to keep a backup of the certificate** and also keep the copies at safe place under proper security (for its use in case of emergencies).

- 2.6. In case of online tendering, if the digital certificate issued to the authorized user of a firm is used for signing and submitting a bid, it will be considered equivalent to a no-objection certificate/power of attorney /lawful authorization to that User. The firm has to authorize a specific individual through an authorization certificate signed by all partners to use the digital certificate as per Indian Information Technology Act 2000. Unless the certificates are revoked, it will be assumed to represent adequate authority of the user to bid on behalf of the firm in the department tenders as per Information Technology Act 2000. The digital signature of this authorized user will be binding on the firm.
- 2.7. In case of any change in the authorization, it shall be the responsibility of management/ partners of the firm to inform the certifying authority about the change and to obtain the digital signatures -7- of the new person / user on behalf of the firm / company. The procedure for application of a digital certificate however will remain the same for the new user.
- 2.8. The same procedure holds true for the authorized users in a private/Public limited company. In this case, the authorization certificate will have to be signed by the directors of the company.

3. Opening of an Electronic Payment Account:

For purchasing the tender documents online, bidders are required to pay the tender documents fees online using the electronic payments gateway service shall be integrated with the system very soon till then it will be submitted manually. For online payments guidelines, please refer to the Home page of the e-tendering Portal <https://etenders.hry.nic.in>

4. Pre-requisites for online bidding:

In order to operate on the electronic tender management system, a user's machine is required to be set up. A help file on system setup/Pre-requisite can be obtained from National Informatics Center or downloaded from the home page of the website - <https://etenders.hry.nic.in> the link for downloading required java applet & DC setup are also available on the Home page of the e-tendering Portal.

5. Online Viewing of Detailed Notice Inviting Tenders:

The bidders can view the detailed N.I.T and the time schedule (Key Dates) for all the tenders floated through the single portal e-tendering system on the Home Page at <https://etenders.hry.nic.in>

6. Download of Tender Documents:

The tender documents can be downloaded free of cost from the e-tendering portal <https://etenders.hry.nic.in>

7. Key Dates:

The bidders are strictly advised to follow dates and times as indicated in the online Notice Inviting Tenders. The date and time shall be binding on all bidders. All online activities are time tracked and the system enforces time locks that ensure that no activity or transaction can take place outside the start and end dates and the time of the stage as defined in the online Notice Inviting Tenders.

8. Online Payment of Tender Document Fee, eService fee & EMD fees & Bid Preparation & Submission (Technical & Commercial/ Financial Bid):

8.1. Online Payment of Tender Document Fee + e-Service fee: The online payment for Tender document fee, eService Fee & EMD can be done using the secure electronic payment gateway. The Payment for Tender Document Fee and eService Fee shall be made by bidders/ Vendors online directly through Debit Cards & Internet Banking Accounts and the Payment for EMD shall be made online directly through RTGS / NEFT & OTC.

The secure electronic payments gateway is an online interface between Contractors and Debit card/ online payment authorization networks.

8.2. Preparation & Submission of online Applications/Bids:

- i. Detailed Tender documents may be downloaded from e-tendering website (<https://etenders.hry.nic.in>) from **11.08.2020** at 05:00 PM to **02.09.2020** upto 03:00 PM and tender mandatorily be submitted online following the instruction appearing on the screen.
- ii. **Scan copy of Documents to be submitted/uploaded for Technical & Commercial bid under online Technical Envelope:** The required documents as indicated in this tender document shall be prepared and scanned in different file formats (in PDF /JPEG/MS WORD format such that file size is not exceed more than 10 MB) and uploaded during the on-line submission of PQQ or Technical Envelope.

A. Only Electronic Form (Refer Tender document).

Financial or Price Bid shall be submitted mandatorily online under Commercial Envelope and original not to be submitted manually.

NOTE:-

- (A) *Bidders participating in online tenders shall check the validity of his/her Digital Signature Certificate before participating in the online Tenders at the portal <https://etenders.hry.nic.in>.*
- (B) *For help manual please refer to the 'Home Page' of the e-tendering website at <https://etenders.hry.nic.in>, and click on the available link 'How to...?' to download the file.*

In the first instance, the online payment details of tender document fee + e-Service and EMD & PQQ/Technical Envelope shall be opened. Henceforth financial bid quoted against each of the item by the shortlisted bidder/ Agency wherever required shall be opened online in the presence of such bidders/ agency who either themselves or through their representatives choose to be present.

The bidder can submit online their bids as per the dates mentioned in the schedule/Key Dates above.

Other Information:

1. The Tenderers shall fill in the item rate in the online BOQ template of the tender.
2. Duly accepted power of Attorney in original along with its two certified copies in the name of tenderer or authorized representative to act on behalf of the agency.
3. Bidder must strictly abide by the stipulations set forth in detailed notice inviting tenders while tendering for the work.
4. In case any tenderer does not comply with procedure given in the tender document, it will be presumed that the tenderer is not interested in work and the work shall not be let out to him. Further he may be de-barred without further notice to him for failing to abide by the approved terms of detailed notice inviting tenders for this work.
5. The tenders which are not accompanied by the earnest money or do not strictly follow the technical requirement, are liable to be summarily rejected without arising any reason and no claim whatsoever on their account will be considered.
6. Tenders quotations which are dependent upon the quotations of another tender shall be summarily rejected.

ANNEXURE - Q**DECLARATION/UNDERTAKING**

I/We, _____ (name and Designation) on behalf of _____ (Name of the tendering firm) do hereby declare/undertake that I/We have not employed any retired Engineer or retired gazette officer, nor made any Partner/Director etc. in our firm who retires from Haryana Government Service in last one year as on the date of opening of tender in terms of Clause 2.2.12 of “Special tender Conditions and Instruction to Tenderer(s)” of tender document.

(authorized signatory)
Name of the tendering firm

Place:

Dated:

Drawings

The work shall be carried out as per approved railway drawings. **Following drawings/ documents** are available on the HRIDC website (<http://hridc.co.in>) and the same may be referred for broad idea regarding the work:

1. Key plan and L-Section (HRIDC-GGM001-F)
2. General Arrangement Drawing (HRIDC-GGM002-D)
3. **Straight portion** 18.3 m span PSC Girder (RDSO/B-10273 & RDSO/B-10273/ (1 to 4)
4. **Curved portion** 18.3 m span PSC Girder (CAO© JP/560 (3 to 6) & 5803) Jaipur-Sikar Detour
5. For span 12.2 m PSC Girder (RDSO/B- 10256/1 to 3)
6. Barricading drawing for NS item 11 (HRIDC-GGN-003-B)
7. Type plans for Km post, Gradient post, Hectometer post and bridge number plaque for NS item 13
8. Geotech Report
9. KMZ file for proposed alignment
10. Drone Survey

IMPORTANT CODAL PROVISIONS TO BE FOLLOWED BY THE CONTRACTOR

1.0	Earthwork												
1.1	<p>Earthwork in embankment/blanketing</p> <p>(a) For Earthwork in formation for Gauge conversion projects RDSO's guidelines for Earthwork in Railway projects GE G-1 with latest amendment will be applicable.</p> <p>(b) For earthwork in formation/ blanketing for New Line and doubling projects guidelines & specifications for design of formation for Heavy Axle Load GE-0014 will be applicable.</p> <p>(c) As per RDSO letter GE/Gen/ Comments/Formation Layer/185/ part 1 dated 25.07.19 and other instructions, guidelines issued thereafter.</p>												
1.2	<p>The soil classification shall be done as per IS: 1498. To formulate the thicknesses of formation layers, various soil groups have been combined together to simplify the classification based on % age fines, in Table-1 below:</p> <table border="1"> <thead> <tr> <th>Soil Group</th> <th>Description w.r.t %age Fines (size < 75 micron)</th> <th>Equivalent soil group as per IS classification</th> </tr> </thead> <tbody> <tr> <td>SQ1</td> <td>Soil containing fines > 50%</td> <td>CL, ML, CL-ML, CI, MI, CH, MH</td> </tr> <tr> <td>SQ2</td> <td>Soil containing fines from 12% to 50%</td> <td>GM, GC, SM, SC, GM-GC, SM-SC</td> </tr> <tr> <td>SQ3</td> <td>Soil containing fines < 12%</td> <td>GW, GP, SW, SP, GW-GM, GW-GC, GPGM, GP-GC, SW-SM, SP-SM, SP-SC</td> </tr> </tbody> </table>	Soil Group	Description w.r.t %age Fines (size < 75 micron)	Equivalent soil group as per IS classification	SQ1	Soil containing fines > 50%	CL, ML, CL-ML, CI, MI, CH, MH	SQ2	Soil containing fines from 12% to 50%	GM, GC, SM, SC, GM-GC, SM-SC	SQ3	Soil containing fines < 12%	GW, GP, SW, SP, GW-GM, GW-GC, GPGM, GP-GC, SW-SM, SP-SM, SP-SC
Soil Group	Description w.r.t %age Fines (size < 75 micron)	Equivalent soil group as per IS classification											
SQ1	Soil containing fines > 50%	CL, ML, CL-ML, CI, MI, CH, MH											
SQ2	Soil containing fines from 12% to 50%	GM, GC, SM, SC, GM-GC, SM-SC											
SQ3	Soil containing fines < 12%	GW, GP, SW, SP, GW-GM, GW-GC, GPGM, GP-GC, SW-SM, SP-SM, SP-SC											
1.3	<p>Earthwork in cuttings:</p> <p>For earthwork in cutting RDSO guidelines for cutting in Railway formation GE G-2 with latest amendment will be applicable.</p>												
1.4	Quality Control of Compacted Earth / Blanket layer												
1.4.1	<p>Compacted Earth: Degree of compaction of each layer of compacted soil should be ascertained by measurement of dry density /Relative Density of soil at locations selected in specified pattern. The method of sampling, frequency of tests, method of tests to be conducted and acceptance criteria to be adopted are as under.</p> <p>a) Method of Sampling: - Various methods of selection of sample points for check of in-situ dry density are in vogue. The sampling adopted has to be such that effectiveness of proper compaction having been done for the entire area under consideration can be judged. For this, the Engineer will lay down in detail the method to be adopted in detail depending on site conditions and accordingly records of checks done are to be properly maintained. However, in absence of such procedure laid down, following method should be adopted.</p> <p>Suggested Method of Sampling: For each layer, a minimum of one sample at a predetermined interval (in compliance with the requirement) along the center line of the alignment, would be taken in a staggered pattern so as to attain a minimum</p>												

	<p>frequency of tests as given in sub para 1.4.1 “b”. For subsequent layer, the stagger should be such that the point of sampling does not fall vertically on the earlier sampling points of the layer immediately below. Additional sampling points can be taken, as considered necessary.</p>
1.5	<p>QUALIFYING AND QUALITY ASSURANCE TESTS (Mandatory)</p> <p>Qualifying tests as part of pre-selection of good earth for track subgrade, embankment fill is required to be carried out. Also, quality of compaction is required to be ensured for good quality construction.</p> <p>i) Selection of soil: For selection of soil to be used as embankment fill CBR test is required to be conducted on material. CBR test is conducted on ground soil, embankment fill, prepared sub-grade & blanket material to ensure the minimum specified CBR value of these materials to be used in construction. This test is carried out on soil sample in laboratory as per procedure given in IS: 2720 (Part 16)-1987 & in field as per IS:2720 (Part 31)– 1969.</p> <p>ii) Quality Assurance Test on Compacted Layer: Quality Assurance Tests are required to be conducted on part completion stages of formation, prior to clearing for further earthwork, track linking work:</p> <p>Heavy Proctor test is required to be conducted to determine the Maximum Dry Density of soil as per IS: 2720 (part 8). In-situ density is measured in the field by Sand Replacement Method (IS: 2720 – part 28) or Core Cutter Method (IS: 2720 – part 29) to calculate the degree of compaction. This shall be determined in laboratory as per BIS procedure with the specified frequency of earthwork quantity, as envisaged in ‘Guidelines of Earthwork in Railway Projects, GE: G-,1July,2003. Brief procedure of these above tests has been given in Annexure-2 of GE-0014.</p> <p>The ground soil/ subsoil strata shall be checked and tested for following criteria:</p> <p>(i) Undrained Cohesion of soil (Cu) \geq 25KPa (ii) EV2(determined from PLT) \geq 20MPa (iii) N (determined from SPT) \geq 5</p> <p>Ground improvement is required, if any of the above parameters not complied with.</p> <p>Ev2 test as per DIN 18134- 2012 shall be conducted at frequency of one test per km over finished earthwork of embankment fill, prepared subgrade, blanket layer. The test procedure is also detailed in RDSO letter GE/Gen/ Comments/Formation Layer/185/ part 1 dated 25.07.19</p>
1.5.1	<p>Frequency of Quality Assurance Tests</p> <p>a) CBR test for selection of formation materials and other tests required for ensuring conformation of the materials (blanket, subgrade) as per specification e.g. size gradation, Cu, Cc, Los Angeles Tests, OMC/MDD etc. shall be conducted at following frequency:</p>

	<p>i) Embankment Fill & prepared subgrade: one set of tests for every 5000 cum. ii) Blanket material: one set of tests for every 500 cum.</p> <p>b) In-situ Degree of Compaction (or In-situ dry density measurement) test shall be conducted on each compacted layer in random pattern at following frequency for the different layers:</p> <p>i) Embankment fill: One density measurement at every 500 sqm surface area of each compacted layers. ii) Blanket and Prepared Subgrade: one density measurement at every 200 sqm surface area of each compacted layers. iii) In case of bank widening, sampling should be done at an interval of minimum 200 meters on widened side(s) of embankment.</p> <p>Ev2 test as per DIN 18134- 2012 shall be conducted at frequency of one test per km over finished earthwork of embankment fill, prepared subgrade, blanket layer</p>																																						
1.6	Requirement of Blanket Layer:																																						
1.6.1	<p>The provision of blanket layer shall not be needed when formation/ earth fill embankment have:</p> <p>(i) Rocky beds except those, which are very susceptible to weathering e.g. rocks consisting of shale and other soft rocks, which become muddy after coming into contact with water. (ii) Soil of GW, SW, GW-GM, SW-SM type. (iii) Soils conforming to specifications given in Para 1.6 below</p> <p>The provision of separate Blanker layer shall not be necessary when Coarse granular, well graded (Cu>7, Cc between 1 and 3) soil/quarry dust/crushed stones material of 300 mm thickness is laid as top layer.</p>																																						
1.6.2	For other conditions, the system of layered construction of embankment consisting of prepared subgrade shall normally be followed. The Prepared sub-grade should normally consist of good quality soils with fines less than 12%.																																						
1.6.3	<p>Thickness of prepared sub-grade and blanket layer has been rationalized based on UIC-719R calculation for ballast cushion as 350mm.</p> <p>Prepared subgrade and Blanket Layers: for 25 T axle Load</p> <table border="1"> <thead> <tr> <th rowspan="2">S.No.</th> <th rowspan="2">Soil type category in subgrade</th> <th colspan="2">Prepared subgrade</th> <th rowspan="2">Recommended blanket thickness</th> <th rowspan="2">Remarks</th> </tr> <tr> <th>Soil type</th> <th>Thickness</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SQ1</td> <td>SQ1*</td> <td>-</td> <td>550</td> <td>Single layer</td> </tr> <tr> <td>2</td> <td>SQ1</td> <td>SQ2</td> <td>500</td> <td>400</td> <td>Two layers</td> </tr> <tr> <td>3</td> <td>SQ1</td> <td>SQ3</td> <td>500</td> <td>300</td> <td>Two layers</td> </tr> <tr> <td>4</td> <td>SQ2</td> <td>SQ2*</td> <td>-</td> <td>400</td> <td>Single layer</td> </tr> <tr> <td>5</td> <td>SQ2</td> <td>SQ3</td> <td>350</td> <td>300</td> <td>Two layers</td> </tr> </tbody> </table>	S.No.	Soil type category in subgrade	Prepared subgrade		Recommended blanket thickness	Remarks	Soil type	Thickness	1	SQ1	SQ1*	-	550	Single layer	2	SQ1	SQ2	500	400	Two layers	3	SQ1	SQ3	500	300	Two layers	4	SQ2	SQ2*	-	400	Single layer	5	SQ2	SQ3	350	300	Two layers
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4	SQ2	SQ2*	-	400	Single layer																																		
5	SQ2	SQ3	350	300	Two layers																																		

	6	SQ3	SQ3*	-	300	Single layer
	The level of compaction of various layers of formation shall be ensured as defined in guidelines issued by RDSO.					
1.6.4	Selection of top layers for design of formation as well as for blanket material as given in above Paras and further deviation from these provisions can be finally decided on techno-economic considerations by Engineer incharge after recording the reasons.					
1.7	Specification of Blanket Material:					
1.7.1	<p>The material for blanket layer over prepared sub-grade should be well graded granular material. The following specifications shall be ensured at the time of laying.</p> <p>(i) $C_u > 7$ and C_c between 1 and 3</p> <p>(ii) Fines (passing 75 microns): 3% to 10%</p> <p>(iii) Los angles Abrasion Value < 40 %</p> <p>(iv) Minimum Soaked CBR value ≥ 25 (soil compacted at 100% of MDD in Lab)</p> <p>(v) Field Compaction: 100% of MDD* in field trial.</p> <p>(vi) Minimum $E_v^{2**} = 100\text{MPa}$</p> <p>(vii) Size Gradation – within specified range (as tor should lie more or less within specified enveloping curves</p> <p>(vii) Filter criteria should be satisfied with prepared sub-grade layer as given below.</p> <p>Criteria-1: $D_{15}(\text{blanket}) < 5 \times D_{85}(\text{Prepared sub- grade})$</p> <p>Criteria-2: $D_{15}(\text{blanket}) > 4 \text{ to } 5 \times D_{15}(\text{Prepared sub-grade})$</p> <p>Criteria-3: $D_{50}(\text{blanket}) < 25 \times D_{50}(\text{Prepared sub-grade})$</p>					
1.7.2	These values can generally be obtained by following the gradation as given in GE: G-0014.					
1.8	Method statement & QAP shall be submitted by the successful tenderer as per guidelines issued by RDSO, relevant IS Codes & Manuals and shall be got approved from HRIDC's Engineer- in charge.					
2.0	Cement Concrete work					
2.1	IRS code of Practice for plain, reinforced & Pre-stressed concrete and IRS Concrete Bridge Code will be apply for General Bridge construction					
2.2	For Road bridges, the construction shall comply with the standard specifications and Codes of Practices for Road Bridges issued by Indian Road Congress.					
2.3	For building & other construction works provisions of Plain and Reinforced Concrete Code of Practices IS-456-2000 will be followed.					
2.4	MATERIALS					

2.4.1	General: Water, cement, and fine aggregate shall conform to IS:383:1970 and as specified in Chapter 26 ‘Mortar’ of Unified Standard Specifications for Works & Materials.
2.4.2	Coarse Aggregate This shall conform to IS 383:1970 and as specified in Chapter 3 of unified standard specification for works and materials.
2.4.3	Construction Joints
2.4.3.1	<p>Construction joints for structures other than bridges will be provided as under (based on para 4.4.5 of Indian Railway Unified Standard Specifications (works & materials):</p> <p>(a) Concreting shall be carried out continuously up to the construction joints, the position and details of which shall be as shown in structural drawing as directed by the Engineer. Number of such joints shall be kept minimum. The Joints shall be kept at places where the shear force is the minimum. These shall be straight and shall be at right angles to the direction of main reinforcement.</p> <p>(b) In case of columns the joints shall be horizontal and 10 to 15 cm below the bottom of the beam running into the column head. The portion of the column between the stepping off level and the top of the slab shall be concreted with the beam.</p> <p>(c) When stopping the concrete on a vertical plane in slabs and beams an approved stop-board shall be placed with necessary slots for reinforcement bars or any other obstruction to pass the bars freely without bending. The construction joints shall be keyed by providing triangular or trapezoidal filler nailed on the stopboard. Inclined or feather joints shall not be permitted. Any concrete flowing through the joints of stop-board shall be removed soon after the initial set. When concrete is stopped on a horizontal plane, the surface shall be roughened and cleaned after the initial set.</p> <p>(d) When the work has to be resumed, the joint shall be thoroughly cleaned with wire brush and loose particles removed.</p> <p>(e) Fig. 4.2, in Chapter-4 of Indian Railway Unified Standard Specifications (Works & Materials) may be referred to comply with above details for construction joints.</p>
2.4.3.2	<p>Construction Joints shall be avoided as far as possible and in no case the locations of such joints shall be changed or increased from those shown on the drawings, except with express approval of the Engineer. The joints shall be provided in a direction perpendicular to the member axis.</p> <p>Location, preparation of surface and concreting of construction joints shall conform to the additional specifications given in Appendix-A of IRS – Concrete Bridge Code (Clause 8.5.3) which is reproduced below:</p> <p>(a) Construction joints should be positioned to minimize the effect of the discontinuity on the durability, structural integrity and appearance of the structure.</p> <p>(b) As far as possible, joints should be positioned in non-aggressive zones, but if aggressive zones cannot be avoided, joints should be sealed.</p>

<p>(c) Joints should be positioned where they are readily accessible for preparation and concreting, the preparation of the joints is more likely to be satisfactory where the cross section is relatively small and where reinforcement is not congested.</p> <p>(d) As far as possible, joints for fair faced concrete should be located where they conform to the architectural features of the construction. Unless they are masked in this way, the position of the joints are always obvious, even when the concrete is given a textured finish.</p> <p>(e) If substantial changes in the cross section of a member are necessary, the joints should be formed where they minimize stresses caused by temperature gradients and shrinkage.</p> <p>(f) Joints should be located away from regions of maximum stress caused by loading, particularly where shear and bond stress are high. Construction joints between slabs and ribs in composite beam should be avoided. As a general rule, joints in column are made as near as possible to the beam hunching, joints in beams and slabs should normally be made at the center or within the middle third of the span.</p> <p>(g) The minimum number of joints should be used and their construction should be simple. They should be either horizontal or vertical, because concreting sloping surfaces are usually unsatisfactory.</p> <p>(h) Where concrete is placed in vertical members e.g. walls, columns and the like, the lift of concrete shall finish level or at right angles to the axis of the member, the joint line matching the features of the finished work. Concreting shall be carried out continuously up to the construction joint.</p> <p>(i) Laitance, both on the horizontal and vertical surfaces of the concrete, should be removed before fresh concrete is cast. The surface should be roughened to promote good adhesion. Various methods for removal can be used but they should not dislodge the coarse aggregate particles. Concrete may be brushed with a stiff brush soon after casting while the concrete is still fresh, and while it has only slightly stiffened.</p> <p>(j) If the concrete has partially hardened, it may be treated by wire brushing or with a high-pressure water jet, followed by drying with an air jet, immediately before the new concrete is placed.</p> <p>(k) Fully hardened concrete should be treated with mechanical hand tools or grill blasting, taking care not to split or crack aggregate particles.</p> <p>(l) The best time for treating the joint is a matter of judgment because it depends on the rate of setting and hardening (which is itself dependent on the temperature of the concrete). Before further concrete is cast, the surface should be thoroughly cleaned to remove debris and accumulated rubbish, one effective method, being air jet.</p> <p>(m) Where there is likely to be a delay before placing the next concrete lift, protruding reinforcement should be protected. Before the next lift is placed, rust, loose mortar or other contamination should be removed from the bars and where conditions are particularly aggressive and there has been a substantial delay between lifts, the</p>

	<p>concrete should be cut back to expose the bars for a length of about 50mm to ensure that contaminated concrete is removed.</p> <p>(n) In all cases, when construction joints are made to essential it is to ensure that the joint surface is not contaminated with release agents, dust or curing membrane, and that the reinforcement is fixed firmly in position at the correct cover.</p> <p>(o) When the form work is fixed for the next lift, it should be inspected to ensure that no leakage can occur from the fresh concrete. It is a good practice to fix a 6mm thick sponge which seals the gap completely.</p> <p>(p) The practice of first placing a layer of mortar or grout is not recommended. The old surface should be soaked with water without leaving puddles, immediately before starting concreting, then the new concrete should be thoroughly compacted against it. When fresh concrete is cast against existing mature concrete or masonry, the older surfaces should be thoroughly cleaned and soaked to prevent the absorption of water from the new concrete. Standing water should be removed shortly before the new concrete is placed and the new concrete should be thoroughly vibrated in the region of the joint.</p>
3.0	REINFORCED CEMENT CONCRETE
3.1	<p>GENERAL</p> <p>Reinforced cement concrete work may be cast-in-situ or pre-cast as may be directed by the Engineer according to the nature of work. Reinforced cement concrete work shall comprise of the following which may be paid separately or collectively as per the description of the item of work.</p> <p>a) Form work (Centring and Shuttering)</p> <p>b) Reinforcement</p> <p>c) Concreting: (1) Cast-in-situ (2) Pre-cast</p>
3.1.1	<p>Selection and Preparation of Test Sample for steel reinforcement:</p> <p>This shall be done in accordance with provisions of IS: 1786 and IS 13920 (2016) All test pieces shall be selected by the Engineer or his authorized representative either –</p> <p>a) From cutting of bars</p> <p>or</p> <p>b) If he so desires, from any bar after it has been cut to the required or specified size and the test piece taken from any part of it.</p> <p>In neither case, the test pieces shall be detached from the bar or coil except in the presence of the Engineer or his authorized representative. The test pieces obtained in accordance with above shall be full sections of the bars as rolled and shall be subjected to physical tests without any further modifications. No reduction in size by machining or otherwise shall be permissible except in case of bars of size 28mm and above. No test piece shall be annealed or otherwise subject to heat treatment. Any straightening which a test piece may require shall be done cold.</p>

3.1.2	<p>Retest</p> <p>Should any one of the test pieces first selected fail to pass any of the tests specified above, two further samples shall be selected for testing in respect of each failure. Should the test pieces from both these additional samples pass, the materials represented by the test samples shall be deemed to comply with the requirement of the particular test. Should the test piece from either of these additional samples fail, the material represented by the test samples shall be considered as not having complied with standard.</p>								
3.1.3	<p>Guidelines for use of Steel Items in Railway Projects/Contracts</p> <p>(a) All Reinforcement Steel (TMT Bars) and Structural Steel shall be procured as per specifications mentioned in BIS's documents – IS: 1786 and IS 13920(2016) and IS: 2062 respectively. Independent tests shall be conducted, wherever required, to ensure that the materials procured conform to the Specifications.</p> <p>(b) 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 and duly approved by the RDSO TIME TO TIME LIST updated AND CIRCULATED BY RDSO. And can be downloaded from RDSO WEB SITE</p> <p>(c) 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 special authorized by the concerned officer of HRIDC on case to case basis for this purpose.</p> <p>(d) For the TMT reinforcement bars, produced using DRI-EIF process route of steel making, used in major/ safety structures, frequency of testing for chemical composition and Mechanical properties as per IS 1786, may be doubled as mentioned in Unified Standard Specification for Works & Materials (2010) and ACS No. 01 dated 29.07.2015.</p>								
3.2	FORM WORK (CENTERING AND SHUTTERING)								
3.2.1	<p>Removal of Form work (Stripping time)</p> <p>In normal circumstances and where ordinary Portland cement is used, forms may generally be removed after the expiry of the following periods. (Based on Clause 9.5.1 of IS: 14687-1999).</p> <table border="1"> <thead> <tr> <th>Type of Formwork</th> <th>Minimum Period before striking Form work</th> </tr> </thead> <tbody> <tr> <td>(a) Vertical formwork to columns, walls, beams</td> <td>16 – 24 hours</td> </tr> <tr> <td>(b) Soffit formwork to slabs (Props to be refixed immediately after removal of formwork)</td> <td>3 days</td> </tr> <tr> <td>(c) Soffit formwork to - beams (Props to be refixed immediately after removal of formwork)</td> <td>7 days</td> </tr> </tbody> </table>	Type of Formwork	Minimum Period before striking Form work	(a) Vertical formwork to columns, walls, beams	16 – 24 hours	(b) Soffit formwork to slabs (Props to be refixed immediately after removal of formwork)	3 days	(c) Soffit formwork to - beams (Props to be refixed immediately after removal of formwork)	7 days
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	(d) Props to slabs (1) Spanning up to 4.5m (2) Spanning over 4.5 m (e) Props to beams and arches: (1) Spanning up to 6m (2) Spanning over 6m	7 days 14 days 14 days 21 days
	<p>Note: For other cement and lower temperature, the stripping time Recommended above may be suitably modified.</p>	
3.3	SAMPLING AND ACCEPTANCE CRITERIA OF STRENGTH OF DESIGN CONCRETE MIX (Extract from IS: 456-2000)	
3.3.1	General: Samples from fresh concrete shall be taken as per IS: 1199 and cubes shall be made, cured and tested at 28 days in accordance with IS: 516.	
3.3.2	Frequency of sampling	
3.3.2.1	Sampling Procedure A random sampling procedure shall be adopted to ensure that each concrete batch shall have a reasonable chance of being tested that is, the sampling should be spread over the entire period of concreting and cover all mixing units.	
3.3.2.2	Frequency The minimum frequency of sampling of concrete of each grade shall be as shown in para 3.5 below.	
3.3.3	Test Specimen Three test specimens shall be made from each sample for testing at 28 days. Additional samples may be required for various purposes such as to determine the strength of concrete at 7 days or at the time of striking the formwork, or to determine the duration of curing, or to check the testing error. Additional samples may also be required for testing samples cured by accelerated methods as described in IS: 9013. The specimen shall be tested as described in IS: 516.	
3.3.4	Test Results of Sample The test results of the sample shall be the average of the strength of three specimens. The individual variation should not be more than ± 15 percent of the average. If more, the test results of the sample are invalid.	
3.4	ACCEPTANCE CRITERIA	
3.4.1	Characteristic Compressive Strength Compliance Requirement (Clause 16.1 and 16.3 of IS: 456)	

	Specified Grade (1)	Mean of the Group of 4 Non-Overlapping Consecutive Test Results in N/mm² Min. (2)	Individual Test Results in N/mm² Min. (3)
	M 15	$\bar{f}_{ck} + 0.825 \times \text{established standard deviation}$ (rounded off to nearest 0.5 N/mm ²) Or $f_{ck} + 3 \text{ N/mm}^2$, whichever is greater	$\bar{f}_{ck} - 3 \text{ N/mm}^2$
	M 20 or above	$\bar{f}_{ck} + 0.825 \times \text{established standard deviation}$ (rounded off to nearest 0.5 N/mm ²) Or $f_{ck} + 4 \text{ N/mm}^2$, whichever is greater	$\bar{f}_{ck} - 4 \text{ N/mm}^2$
NOTES -Attempt should be made to obtain results of 30 samples as early as possible to establish the value of standard deviation. In the absence of established value of standard deviation, the values given in Table-8 as per clause No. 9.2.4.2 of IS 456:2000 may be assumed.			
3.4.2	Quantity of Concrete Represented by Strength Test Results The quantity of concrete represented by a group of 4 consecutive test results shall include the batches from which the first and last samples were taken together with all intervening batches. Where the mean rate of sampling is not specified the maximum quantity of concrete that four consecutive test results represent shall be limited to 60cum.		
3.4.3	Structural adequacy of the parts affected shall be investigated and any consequential action as needed shall be taken to the satisfaction of Engineer-in-charge.		
3.4.4	Concrete of each grade shall be assessed separately.		
3.4.5	Concrete is liable to be rejected if it is porous or honey combed; its placing has been interrupted without providing a proper construction joint, the reinforcement has been displaced beyond the tolerances specified; or construction tolerances have not been met. However, the hardened concrete may be accepted after carrying out suitable remedial measures to the satisfaction of the Engineer-in-charge.		
3.5	RECOMMENDED LIST OF TESTS ON MATERIALS AND WORKS		

	Material	Test	Field/Lab	Test Procedure	Frequency of Testing (AS per site Requirement)	
					Quantity of concrete in the work (cum) or steel for RCC in MT.	No. of samples
	Cement Concrete	(a) Slump Test	Field / Lab	Annexure 3.5 of Chapter-3 of IRUSS.		
		(b) Cube Test	Lab	IR Concrete Bridge Code	1 – 5 6 – 15 16 – 30 31 – 50 51 & above	1 2 3 4 4 plus one additional sample for each additional 50 cum or Part thereof.
	Steel for Reinforcement in RCC	High Strength Deformed Steel Bars/ TMT (a) Nominal Mass (b) Tensile test (c) Bend Test (d) Rebend Test	Lab/Field Lab/Field Lab/Field Lab/Field	IS: 1786:2008 and IS 13920:2016 IS:1608 IS:1599 IS:1786:2008	For Casts/ Heats Below 100 tones 2 Per Cast	For Casts/ Heats of 100 tones or More 3 Per Cast
4.0	Bridge Works: Super Structure-Concrete This is additional requirement as mentioned in para 2 & 3.					

4.1	CONCRETE FOR SUPERSTRUCTURE
4.1.1	<p>Additional Requirements Concrete shall meet with any other requirements as specified on the drawing or as directed by the Engineer. Additional requirements shall also consist of the following overall limits of deleterious substances in concrete:</p> <p>a) The total chloride content of all constituents of concrete as a percentage of mass of cement in mix shall be limited to values given below: - Prestressed Concrete: 0.1 per cent - Other reinforced concrete construction: 0.3 per cent</p> <p>b) The total sulphuric anhydride (SO₃) content of all the constituents of concrete as a percentage of mass of cement in the mix shall be limited to 4 per cent.</p>
4.1.2	<p>Construction Joints Construction joint for bridge work will be provided as per para 2.4.3.2</p>
4.2	Method statement & QAP shall be submitted by the successful tenderer as per guidelines issued by RDSO, relevant IS Codes & Manuals and shall be got approved from Engineer- in charge.
5.0	Bridge Works: Superstructure-Steel
5.1	FABRICATION OF STEEL WORK
5.1.1	<p>Codes of Specifications: The work shall be done in accordance with the following Codes and specifications and any other requirements that may be prescribed in special cases.</p> <p>(a) Bridge Work</p> <ol style="list-style-type: none"> 1. IRS Steel Bridge Code 2. IRS Specification No. B-1-2001 for Steel Girder Bridges 3. IRS Specification No P-31 Zinc Chromate red oxide primer. <p>The fabrication and erection of the steel work shall be in accordance with IRS: B1-2001 supplemented by relevant provisions of this Specifications.</p> <p>(b) Iron and steel tanks and staging: IRS Specification No. B-3-61 Part 4</p>
5.1.2	Quality of Steel: - The structural steel will be used as per IS Code 2062 – 2011 as required grade & Quality.
5.1.3	HSFG Bolts: - HSFG Bolts may also be used in lieu of rivets with the approval of Engineer incharge of HRIDC. However, RDSO guidelines No.BS-111(Revision-2) Nov-13 shall be strictly followed.
5.1.4	<p>Tolerances Tolerances in dimensions of components of fabricated structural steel work shall be specified on the drawings and shall be subject to the approval of the Engineer before fabrication.</p>

	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 0.5m
5.1.5	Guidelines for procurement of Steel Items in HRIDC Projects/ Contracts. Procurement of steel items in HRIDC Projects/Contracts for bridge works will be as per para 3.1.3.
6.0	Bridge Works-Miscellaneous
6.1	POT BEARINGS AS PER RDSO GUIDELINES. (As per para 22.4 of IRUSS (W&M) Vol.II-2010)
6.1.1	<p>General</p> <p>Pot type bearings shall consist of a metal piston supported by a disc or reinforced elastomeric confined within a metal cylinder to take care of rotation. Horizontal movement, if required, shall with a system of sealing rings be provided by sliding surfaces of PTFE pads sliding against stainless steel mating surfaces. The pot bearings shall consist of cast steel assemblies or fabricated structural steel assemblies.</p> <p>Provisions of IRC-83 (Part I) shall be applicable for all metallic elements. Provisions of IRC: 83 (Part II) shall be applicable for all elastomer elements. When any item is not covered by IRC: 83 (Parts I and II), the same shall be as per guidelines given hereunder and BS: 5400 (Sections 9.1 and 9.2), except that no natural rubber shall be permitted. If there is any conflict between BS on the one hand and IRC on the other, the provisions of IRC will be guiding.</p>
6.1.2	<p>Acceptance test on Bearing</p> <p>i) All bearings shall be checked for overall dimensions.</p> <p>ii) All bearings shall be load tested to 1.1 times maximum design capacity including seismic force. Bearing tested at higher loads cannot be used.</p> <p>iii) A pair of bearings selected at random will undergo testing in order to determine the coefficient of friction “μ”. The coefficient of friction shall be < 0.05 at the design load.</p> <p>iv) Two bearings selected at random shall be tested for permissible rotation.</p>
6.1.3	<p>Installation of POT/PTFE/NEOPRENE Bearings</p> <p>a) General</p> <p>i) Care shall be taken during installation of the bearings to permit their correct functioning in accordance with the design scheme.</p> <p>ii) To prevent contamination, dismantling of the bearings at site shall not be done.</p> <p>iii) The load shall be transferred on to the bearings only when the bedding material has developed sufficient strength. The props for the form work shall be removed only after lapse of appropriate time. In special cases, this can be ensured by suitable devices like jacks etc.</p>

- iv) Temporary clamps and shims (introduced to maintain working clearance) shall be removed at an appropriate time, before the bearing is required to permit movement.
- v) Permitted installation tolerance of the bearing from plane of sliding shall be maintained.
- vi) Cement based non-shrink grout with air releasing additive and epoxy-based grout, whichever is specified, shall be first tried at the site. For the proprietary grout mixes, appropriate instructions from the manufacturer shall be followed especially with regard to the following:
 - a) Preparation ® concrete cleaning, roughening, pre-soaking, etc.
 - b) Forms ® sturdiness, leak proofing, shape, header funnel vents, etc.
 - c) Bearing Base ® cleaning, etc.
 - d) Placement ® mixing, consistency, time period, finishing etc.
 - e) Protection ® curing, ambient température, etc.

b) In-situ Casting of Superstructure

- i) Form work around the bearing shall be carefully sealed to prevent leakage.
- ii) Sliding plates shall be fully supported and care taken to prevent tilting, displacement or distortion of the bearings under the weight of wet concrete.
- iii) Bearings shall be protected during concreting operation. Any mortar contaminating the bearing shall be completely removed before it sets.

c) Seating of bearing

A. Using Template

- i) Template with required rigidity and matching holes corresponding to the base of the bearing shall be used.
- ii) All the anchors shall be fitted to the lower face of the template using the anchor screws but with steel washer replacing the elastomer washers. Separate screws may be used in case of inconvenience in the length of the original anchor screws.
- iii) The template assembly shall be located with regard to level and alignment. It shall be ensured that the top of the anchors lie in a horizontal plane at the required elevation. The anchors shall be tied / welded to reinforcements to avoid displacement during concreting.
- iv) Concreting of the pedestal / pier cap shall be done to a level leaving a gap of 25-50mm below the template.
- v) The template and steel washers shall be removed prior to placement of the bearing assembly with temporary clamps. The bearing assembly shall be fitted to the anchors with the help of anchor screws and elastomer washers. Level at the bearing shall be checked.
- vi) The gap below the bearing assembly shall be grouted with cement-based grout. Reference may be made to Para 22.4.6 (a) (vi)

	<p>B. Without Template with Gap</p> <p>i) Pockets commensurate with the sizes of the anchors shall be kept in pedestals during concreting of the same. The pedestal shall be cast approximately 25mm short of the required finished level.</p> <p>ii) Anchors shall be fitted to the bearing bottom with elastomer washers and anchor screws. The bearing assembly shall be seated in the location on steel chairs / packs. The anchors fitted below the bearing shall go into pockets in the bed block. Level and alignment of the bearing shall be checked. It shall be ensured that the bearing sits in a horizontal plane.</p> <p>iii) The gap below the bearing assembly including anchor pockets shall be grouted with cement-based grout.</p> <p>C. Without Template without Gap</p> <p>Elongated pockets commensurate with the sizes of the anchors shall be kept in pedestals during concreting of the same. The geometry and location of the anchor pockets (with tapered funnel extension, if required) shall be such that after placement of the bearing the pockets can be successfully grouted. The pedestal shall be cast 5mm to 15mm short of the required finished level. The required level shall be achieved by chipping before placement of the bearing. Careful control shall be exercised to cast at the exact finished level or 1mm to 3mm down from the required finished level.</p> <p>D. Seating of bearings shall be as per manufacturer's instructions.</p>
6.1.4	<p>Inspection and Testing</p> <p>Where any patents are used, the manufacturer's certificate with test proofs shall be submitted along with the design and got approved by the Engineer before their use in work.</p>
6.1.5	<p>Tests and Standards of Acceptance</p> <p>The materials shall be tested in accordance with these specifications and shall meet the prescribed criteria. The work shall conform to these specifications and shall meet the prescribed standards of acceptance.</p>
6.2	<p>Method statement & QAP shall be submitted by the successful tenderer as per guidelines issued by RDSO, relevant IS Codes & manuals and shall be got approved from Engineer-in charge.</p>
7.0	SPECIFICATIONS FOR SUPPLYING AND STACKING STONE BALLAST
7.1	DELETED
7.1.1	DELETED

7.2	SPECIFICATION FOR STONE BALLAST:
7.2.1	GENERAL
7.2.1.1	Basic Quality: - Ballast should be hard durable and as far as possible angular along edges/corners, free from weathered portion of parent rock, organic impurities and in organic residues.
7.2.1.2	Particle Shape: - Ballast should be cubical in shape as far as possible, individual pieces should not be flaky and should have generally flat faces with not more than two rounded/sub-rounded faces.
7.2.1.3	Mode of Manufacture: - Ballast shall be machine crushed.
7.2.2	PHYSICAL PROPERTIES:
7.2.2.1	Ballast sample should satisfy the following physical properties in accordance with IS: 2386 part-IV-1963, when tested as per the procedure given in Annexure-1-2 of specifications for track ballast from RDSO Geo-Technical Engineering Directorate. Aggregate abrasion value .....30% maximum. Aggregate impact value .....20% maximum.
7.2.2.2	The water absorption tested as per IS: 2386 part-III-1963 (when tested as per the procedure given in Annexure-3 of RDSO Geo-Technical Engineering Directorate) should not be more than 1%.
7.3	The track ballast shall be procured confirming to specifications for Track Ballast-IRSGE-I (Jan 2004) issued by RDSO with amendments up to the date of opening of tender.
8.0	Training of HRIDC Personnel & Contractors Engineers (Applicable for Tenders costing above Rs.20 Cr.): To achieve good quality work, a good working knowledge and experience is required. Practical training in important field of work covering major items included in scope of work in the subject tender (such as concreting, steel fabrication, earthwork as per GE-0014 specification etc.) should be imparted by the contractor at his own cost through trainer duly approved by concerned Engineer Incharge/HRIDC to all engineers i.e. Contractor's and HRIDC. What constitutes the major items of the work will be decided by the HRIDC's Engineer in Charge in consultation with the Contractor. No extra payment will be made to the contractor on this account.

**SPECIAL CONDITIONS RELATING TO SITE DATA & SPECIFICATION AND
SPECIAL CONDITIONS OF NON-SCHEDULE ITEMS**

1.0	SCOPE OF WORK:
1.1	<p>Proposed Location and Scope of Work in brief: The proposed elevated track is to be constructed on diverted alignment for elimination of 5 nos. of manned level crossings in Kurukshetra city on Kurukshetra-Narwana Railway Line from Km 79/6 to Km 85/5. The diverted alignment will be on right side of the existing track. The diverted alignment will start from Km 79/6 and will run on earthen embankment from Km 79/6 to 80/7 on ascending the side and from Km 84/8 to 85/5 descending side. From Km 80/7 to 84/8 the proposed elevated line shall be on Viaduct. The work involves construction of substructure including Pile foundation, RCC pile cap, RCC Pier, Pier caps and PSC Girder/ slab in superstructure for the proposed single line BG track. The proposed work also includes supply and spreading of ballast, linking of proposed railway track on PSC sleepers including transportation of P-way materials (the P-way materials required for linking of track i.e. rails, sleepers, rail fittings and sleeper fittings, etc. will be supplied by HRIDC). The work also includes dismantling of existing BG track after commissioning of the proposed elevated track and stacking of the released P-way materials as directed by the Engineer-in-Charge. The work shall be carried out along the existing electrified (in operation) Narwana - Kurukshetra Railway line for which safety has to be ensured as per extant instructions of Railway.</p>
1.2	The superstructure of proposed elevated track viaduct shall consist of PSC spans of 18.30m & 12.2m as per the approved drawings issued by HRIDC. The substructure of proposed elevated track will have pile foundation, RCC pile caps, RCC piers/abutments and RCC pier/abutment caps as per approved drawings issued by HRIDC.
1.3	Approaches of Viaduct: The approaches of viaduct shall comprise of construction of earthen embankment including blanketing and construction of retaining walls wherever required as per drawings issued by HRIDC.
1.4	Casting yard for Precast PSC girder/slab and RMC plant: Pre-cast PSC girder/ PSC slabs shall be used for super-structure work. Railway land available in Thanesar station area on left side of existing track between LC No. 62 & 63 may be used for developing casting yard and installing RMC plant. This land will be provided by the HRIDC free of cost. Contractor shall prepare the casting bed for PSC girder/slab on Railway land at their own cost. After completion of work, Contractor shall immaculate the site and handover the land to HRIDC as per Engineer Incharge satisfaction otherwise recovery will be made by Engineer Incharge.

1.5	Providing and fixing inspection pathway of approximately of 1m width on side of proposed deck slab with provision of trolley refuges and Ladder for inspection at adequate distances.
1.6	Making provision for fixing OHE mast at adequate distances.
1.6	Marking of alignment - Marking out the detailed layout with the help of total station including centre line of the viaduct, location of centre of each pier, abutment, wing wall, earthwork etc. including construction of permanent reference pillars (<i>mattam</i>) if required, transfer of level from benchmark provided near Kurukshetra Station. The maintenance of reference points during the construction work will be the responsibility of the Contractor.
1.7	Designing of concrete mix for various grades of concrete and getting it approved from HRIDC, well in time before starting the work and it should be ensured to bring the same quality of concrete and materials as detailed in design mix.
1.8	Construction of elevated Passenger Platform, Station Building, booking office, PF shed, circulating area and other passenger amenities at Thanesar Halt Station.
1.9	Levelling of surface below elevated track with adequate drainage system. Fencing of Railway land to prevent encroachment and trespassing.
1.10	Testing of various building materials as laid down in respective BIS/Railway Codes at frequent intervals, from Laboratory approved by Engineer in Charge.
1.11	Any other item/activity of work, not mentioned above/included in tender schedule, but considered essential for the successful completion of the works/Project.
2.0	GENERAL & BRIEF DESCRIPTION OF SITE:
2.1	Brief details of the site are as under:
2.1.1	The site of bridge is situated in Kurukshetra- Narwana section of Northern Railway from KM 79/6 to KM 85/7. The proposed elevated track is to be constructed parallel to existing railway track. At both the ends and also in between road network is available. However, for approaching to the site from these roads, approach roads including dewatering may have to be provided by the Contractor at his own cost to facilitate leading of material/ men/ machinery. The Contractor is advised to visit the site comprehensively before quoting the offer.
2.1.2	The proposed work is located along existing Kurukshetra-Narwana Railway Line. Vicinity of Railway track will require caution on the part of the tenderer/Contractor while constructing the foundation, sub-structure & super-structure for new work. The tenderer will ensure and make arrangements for the safety of the existing track and foundation of existing minor bridges. All safety precautions for execution of work under train traffic blocks and caution orders shall be taken for ensuring safety of train traffic. Similarly, road traffic blocks, diversion of road traffic may be required for

	execution of work in the present level crossing locations. Tenderers are required to visit the site and acquaint themselves with the ground features, availability of link roads, and vicinity of the existing structures, traffic regulations regarding plying of heavy and commercial vehicles during day and night-time. Hence, while quoting rates, tenderer is supposed to take care of all such constraints and any claim whatsoever due to any such issue will not be considered later on.
2.1.3	Design and drawings of foundations and sub-structures is being finalized/will be finalized and quantities of items are calculated on the basis of tentative drawings, however quantity of some items relating to foundation work may vary as per actual strata met with during execution of work. Therefore, tenderers are requested to quote their most reasonable rates keeping in view possibility of variation in quantity of these items of work. The variation in quantity shall be paid as per approved rates but any claim whatsoever due to variation in quantities will not be entertained on this account.
2.1.4	For smooth execution of work, if required, the tenderers shall take permission/approval from the local bodies/ authorities. HRIDC will give recommendatory letters to help the Tenderers in this issue but responsibility to obtain such permission will be that of the tenderer.
2.1.5	Shifting of Railway signalling cables & OFC shall be done by HRIDC. Contractor shall do their own survey for identification of other unforeseen utilities if any, before starting the work and the same shall be informed to Engineer Incharge. HRIDC shall facilitate permissions from the concerned authorities.
2.1.6	The Contractor/s shall make his/their own arrangements for electric power supply as may be required for the work.
2.1.7	The Contractor shall ensure that no damage is caused to the existing track during construction.
2.1.8	The other agencies for execution of the other works i.e. Electric and Signal & Telecom etc. shall also be at site after some time. It is expected that the Contractor is to work in close coordination with other agencies. No additional claim for any restriction of space etc. by working of other agencies would be entertained.
2.1.9	The above information is only for general guidance of the tenderer(s) and they are advised to visit the site and acquaint himself/themselves fully with the site conditions especially in regard to the approaches for transporting the materials/ machinery, storage area, local conditions etc.
3.0	<u>SPECIFICATIONS AND CODES:</u>
3.1	“Indian Railways Unified Standard Specifications-2010 Vol. I & II” with latest correction slips shall govern the specifications of all items of USSOR-2010 appearing in the Tender Schedule. In case, specifications of any item are not covered in above document, the relevant IRS/BIS Code shall be applicable.

3.2	All materials to be used in the works shall be in conformity with the requirement laid down in the "Indian Railways Unified Standard Specifications-2010, Vol. I & II" or the relevant BIS Code/or any other relevant code applicable.			
3.3	The decision of the GENERAL MANAGER /PROJECTS/HRIDC shall be final and binding regarding the interpretation of various provisions of the Codes and Specifications as well as the provisions/Clauses of the contract and no claim whatsoever shall be entertained on this account.			
4.0	<u>EMPLOYMENT OF TECHNICAL STAFF:</u>			
4.1	The Contractor(s) shall employ following Qualified Engineers during the execution of the allotted work as per table below:			
	SN	Personnel	Qualification	Total Experience for each person (in years)
	1	Project Manager (1 no)	Graduate Degree in Civil Engineering	20 (including 10 years' experience of working on Railways Infrastructure Projects with Indian Railways/Metros/Railway PSUs or Project Management Consultant or construction agencies)
	2	Resident Engineer (Civil) (1 no)	Graduate Degree in Civil Engineering	15 (including 5 years' experience of construction/supervision of Railway Infrastructure Projects in Indian Railways/ Metros/ Railway PSUs or with Project Management Consultant or construction agencies)
	3	Resident Engineer (PSC Bridges) (1 no)	Graduate Degree in Civil Engineering	15 (including 5 years' experience of construction/supervision of Railway/ Metro Bridges with PSC superstructure in Indian Railways/Metros/Railway PSUs or with Project Management Consultant or construction agencies)
	4	Resident Engineer (Substructure) (1 no)	Diploma in Civil Engineering	15 (including 5 years' experience of construction/supervision of Railway/ Metro Bridges with pile foundation in Indian Railways/Metros/Railway PSUs or with Project

			Management Consultant or construction agencies)
5	Survey Engineer (1 no)	Diploma in Civil Engineering	5 years' experience of working as surveyor on Railway Infrastructure Projects
6	Auto CAD/ Estimate Expert/ Billing Engineer (1 no)	Diploma in Civil Engineering	5 years' experience of preparation of detailed estimates/ drawings/ billing for construction of railway infrastructure projects
7	Quality Control Expert (1 no)	Diploma in Civil Engineering	5 years' experience in quality control in railway infrastructure projects involving PSC construction
8	P. Way Expert (1 no)	Diploma in Civil Engineering	5 years' experience of track linking in railway infrastructure projects
9	Site Engineers (2 no)	Diploma in Civil Engineering	5 years' experience of supervision of civil engineering works
4.2	Further, for this work in case the Tenderer/ Contractor fails to employ the Qualified Engineer, as aforesaid in Clause 4.1 above, he shall be liable to pay an amount indicated in the table below against each Qualified Engineer for each month, or part thereof, for the default period for the provisions, as contained in Clause 4.1 above.		
	S.No.	Personnel	Amount to be recovered from running bills each month for default period
	1	Project Manager	INR 75,000
	2	Resident Engineer (Civil)	INR 60,000
	3	Resident Engineer (PSC Bridges)	INR 60,000
	4	Resident Engineer (Substructure)	INR 60,000
	5	Survey Engineer	INR 25,000
	6	Auto CAD/ Estimate Expert/ Billing Engineer	INR 25,000
	7	Quality Control Expert	INR 25,000
	8	P. Way Expert	INR 25,000
	9	Site Engineers	INR 25,000
4.3	The Contractor shall submit the copy of bio-data and Degree/ Diploma certificate of the above technical staff employed by him for the scrutiny by HRIDC and the same will be approved by HRIDC and shall be available during the currency of work execution. for record purpose. HRIDC reserve the right to scrutinise the records of the		

	Contractor to ascertain as to whether the qualified staff has been actually employed by him and is paid for.
4.4	While passing each “on” account bill, the DGM/HRIDC in-charge will certify the availability of technical staff as above otherwise the recovery as above shall be made from every bill.
4.5	The decision of the Engineer in-charge, whether the required Technical staff was not employed by the Contractor shall be final and binding upon the Contractor.
5.0	APPROVED RAILWAY DRAWINGS:
5.1	The work shall be carried out as per approved railway drawings. GAD, Key plan and L-Section of the proposed work are available on the HRIDC website (www.hridc.co.in) and same may be referred. RDSO Drg. No. RDSO/B-10273 PSC girder of span 18.30M is also uploaded on the above website.
5.2	In addition to the drawings, if any, enumerated above, copies of various drawings may be supplied on application by the tenderer(s) at the under noted rates as applicable, subject to availability:
a)	Copies of Standard Northern Railway type plans as prepared for the work- Rs. 200.00 per copy.
b)	Copies of plans prepared especially for project of major works like major building, L-sections, longitudinal plan etc. @ Rs 200.00 per copy.
c)	All plans which are prepared especially on account of tenderer(s)' request like copies of cross section etc @ Rs 400.00 per copy.
5.3	Additional information as required by tenderers may be obtained from the office of GM/Projects/HRIDC during office hours on any working day by prior appointment
5.4	GM/Projects/HRIDC., shall have full power to make any alteration in the drawings and to give such further instructions and directions as may appear to him necessary or proper for the guidance of Contractor(s) and for the efficient execution, completion and maintenance of the work. The Contractor(s) should plan the execution of various works in close co-ordination with the Engineer or his authorized representative.
5.5	The design of foundations including depth of foundations below the bed level as well as other drawings may have to be varied during the progress of the work according to actual site conditions. The drawings already prepared and which may be prepared afterwards are not to be taken as final or binding on the HRIDC in any respect. The Contractor(s) shall have no claim on HRIDC, if any change is made in the approved drawings. Also, his inability to make timely arrangement for necessary plant and machinery due to any such change which the Engineer may make will not be taken as an excuse for slow performance or non-performance of the work
6.0	<u>SUPPLY OF CEMENT:</u>

6.1	Ordinary Portland Cement of 43 grade/53 grade conforming to IS: 8112 & IS: 12269 respectively will normally be used.
6.2	Cement shall be procured by the Contractor from the main producers or their authorised dealer of approved make such as Ultratech, Ambuja, A.C.C., JK Super & Birla cement or any other reputed make as approved by Engineer in charge.
6.3	To improve the workability of concrete and cement grout, admixture (Plasticiser/super-plasticiser) conforming to IS: 6925 and IS: 9103 in accordance with clause 5.5 and clause 10.3.3 of IS 456:2000 may be permitted as directed & approved by Engineer-in-Charge subject to satisfactory proven use, manufacturer's certificate and laboratory tests as applicable. The decision of Engineer-in-Charge shall be final in this regard. Plasticiser/super-plasticiser generating hydrogen, nitrogen etc. shall not be permitted.
7.0	<u>STRUCTURAL STEEL FOR HRIDC PROJECTS/CONTRACTS:</u>
7.1	General: All structural steel shall be procured as per specifications mentioned in BIS's document- IS 2062. The steel shall conform to the specifications in the relevant drawing regarding grade designation and quality. Independent tests shall be conducted, wherever required, to ensure that the materials procured confirm to the specifications. 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 steels guidelines.
7.2	The structural steels for HRIDC projects/ contracts is to be procured from approved primary producers having integrated steel plants namely SAIL, TISCO, RINL, IISCO, JINDAL, ESSAR Ispat Industries Limited, BHUSAN Steels and M/s Shyam Steel Industries Limited and shall confirm to stipulated BIS/IRS specifications applicable.
7.3	However, only on certain isolated section 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 can be ensured by an officer not below the rank of junior scale specially authorized by the concerned authority of HRIDC on case to case basis for the purpose.
7.4	Before use, Contractor(s) will be required to get the test certificate from the manufacturer pertaining to the various quality tests on steel as specified in the relevant BIS Code.
7.5	In addition, HRIDC will also take samples during the course of work at requisite frequency and get the steel tested to ascertain its conformity to the laid down Specifications at Contractor's cost. Frequency of testing shall be as prescribed by the relevant Code.

7.6	For railway bridge steel super structure, the Quality Assurance Plan (QAP) and Welding Procedure Specifications Sheet (WPSS) shall have to be got approved from RDSO before starting the work. However, for ROB/RUB/FOB steel super structure, the QAP & WPSS will be got approved from HRIDC. All welds shall be done by SAW process (automatic/semi-automatic), MIG welding or SMAW may be done only for welds of very short run or of minor importance or where the access of the locations of welds does not permit automatic/semi-automatic welding.
8.0	<u>REINFORCEMENT STEEL:</u>
8.1	All reinforcement steel shall be procured as per specification mentioned in BIS document – IS: 1786. Independent test shall be conducted, wherever required to ensure that the material procured confirm to the specifications. These steel shall be procured from only those firms, which are established, reliable, indigenous and 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 steels guidelines. The reinforcement steel for HRIDC projects/ contracts is to be procured from approved primary producers having integrated steel plants namely SAIL, TISCO, RINL, IISCO, JINDAL, ESSAR ispat industries limited, BHUSAN Steels & M/s Shyam Steel Industries Limited/their authorized dealers/ authorized stock yard which should confirm to latest relevant BIS specifications and also as per Approved list of reinforcement steel supplier by RDSO circulated time to time on their web site
8.2	Reinforcement steel bars shall normally be the TMT steel bars or cold twisted deformed bars of grade Fe 500/Fe 500-D (as per design and drawings)
8.3	Before use, Contractor(s) will be required to get the test certificate from the manufacturer pertaining to the various quality tests on steel reinforcement as specified in the relevant BIS Code (IS:1786).
8.4	In addition, HRIDC will also take sample during the course of work at requisite frequency and get the steel tested to ascertain its conformity to the BIS Specification at Contractor's cost. Frequency of testing shall be as prescribed by the relevant BIS Code.
9.0	<u>USE OF RMC (READY MIXED CONCRETE):</u>
9.1	MCC/RCC for Pile, Pile cap, Pier, Pier cap, Pedestal. PSC Girder, Deck Slab, Wearing coat, Elevated Platform, Building slab, Footpath slab etc. will be done by automatic RMC plant with satisfaction of Engineer Incharge.
9.2	Lean concrete/PCC will be laid by automatic RMC plant at site.
9.3	In case of minor bridge.: 9.3.1 Reinforcement of the bridge will be laid/bind at the site.

	<p>9.3.2 Shuttering plate 3-5mm thick will be used for construction.</p> <p>9.3.3 Ready Mixed concrete (RMC) produced at Contractor's plant or taken from outside, shall be approved by Engineer-in-charge for the concreting. The Contractor shall preferably set up his own RMC plant at site or shall make suitable arrangement, close to the site to ensure high quality RMC supply. The RMC Plant shall be inspected and approved by JGM/HRIDC. The accepted rate for RCC/PSC/CC items shall deem to be for RMC. Nothing extra shall be payable for use of RMC.</p>
9.4	<p><u>In case of viaduct on New Line:</u></p> <p>9.4.1 Procedure will be the same as clause 9.1 & 9.2 mentioned above.</p> <p>9.4.2 Minor bridges will be precast in the casting yard and lead to the site. Ready Mixed concrete (RMC) produced at Contractor's plant or taken from outside, shall be approved by Engineer-in-charge for the concreting of minor bridges. The Contractor shall preferably set up his own RMC plant at site or shall make suitable arrangement, close to the site, to ensure high quality RMC supply. The RMC Plant shall be inspected and approved by JGM/HRIDC. The accepted rate for RCC/PSC/CC items shall deem to be for RMC. Nothing extra shall be payable for use of RMC.</p>
9.5	<p>However, if precast Minor Bridge is not possible at certain location, Cast-in-situ Minor Bridge with RMC Plant Concreting can be allowed with the approval of GM/Projects/HRIDC in such isolated locations/portions.</p> <p>The specifications of RMC shall conform to IS: 4926-2003. The RMC plant shall be got inspected and approved by the JGM/HRIDC concerned.</p>
9.6	<p>Other Concrete Structure i.e. Major Bridges/Important Bridges/Retaining Walls etc.: While lean concrete/PCC will be laid by Weigh Batching/RMC. Other concrete i.e. RCC/MCC will be done with RMC. However, if RMC is not feasible in certain locations, then Weigh Batching Plant Concreting can be allowed with the approval of GM/Projects/HRIDC in such isolated locations/portions.</p>
10.0	<p><u>CONTRACTOR'S RESPONSIBILITY FOR TEMPORARY WORKS/MATERIALS, SITE OFFICE AND FIELD LABORATORY:</u></p>
10.1	<p>The Contractor(s) shall from time to time provide at his own cost all dams, cofferdams and all other temporary works of whatever nature and temporary materials necessary for the construction, completion and maintenance of the works which are the subject of the contract and shall from time to time submit for the information of the Engineer, drawing showing in detail, the type and construction of temporary embankment and other works which he proposes to adopt and construct and the exact position in which he proposes to construct and employ them during the progress of the works as directed by the Engineer, furnish particulars and drawings of any other temporary works and</p>

	<p>details of other temporary materials in use for the sufficient security and safety of all embankment, temporary railway connections and other temporary works or temporary materials which he may construct and/or employ and for all claims for damage to property or injury to persons arising out of any failure or accident to such materials from whatever cause such damage, injury, failure or accident may arise or happen and shall replace, construct, repair and maintain the whole or such embankment or other temporary works or temporary materials until they are certified by the Engineer to be no longer required for the purpose of the contract.</p>
10.2	<p>Dewatering or any other suitable arrangements may be required for carrying out the foundations of works and part of the sub structures up to water level. It should be clearly noted that nothing extra shall be paid for all these arrangements and rates are deemed to be inclusive of all labour and materials and working under water etc. including timbering, shoring, strutting etc., if required. However, extra rate, wherever applicable as per USSOR, might be paid for items of works executed below water level.</p>
10.3	<p>The Contractor should construct the temporary site offices right at the outset of work comprising of 03 well-furnished office rooms with attached toilets (total approximate 75 sqm area) for GM/Projects/HRIDC, DGM/HRIDC, JGM/HRIDC, AM/HRIDC, a conference room of reasonable size, office space for concerned engineer in-charge. and allied staff along with a small pantry for the proper working of HRIDC officials at required location as per the approval of the site Engineer. The Contractor shall provide all necessary furniture, almirah, clock, display boards, phones, 4 Nos. Mobile sets/ Walkie-talkie, curtains, 02 Nos, computer with printers (all in one) HP make or any other approved brand with internet facilities, electricity along with standby arrangement if required , fans, AC etc. for the use of HRIDC staff. Failure to provide site office within 03 months shall attract a penalty of Rs 1.00 lacs per month, for the period till he constructs the office subject to maximum of completion period of the contract, recoverable from running bill. No payment for providing above facilities will be made by HRIDC. Contractor may please note this and take into account while quoting their rates. The site being in the heart of the city of Kurukshetra and Railway land being available only in a limited and constricted width for the execution of work, HRIDC shall not be under obligation to provide land for the above temporary site office until and unless conveniently possible.</p>
10.4	<p>The Engineer shall be at liberty to modify any or all of the drawings submitted by the Contractor(s) in connection with any of the aforesaid temporary works and the execution of such temporary works shall not be commenced until the said drawings or modified drawings have been approved. But examination by the Engineer of the Contractor's drawings or any approval expressed by him with regard to the rate, or to the materials, thereof or there for either with or without modification shall not absolve or relieve the Contractor(s) from any of his liabilities in connection there with under the contract.</p>

10.5	The Contractor(s) shall before handing over the works or any part thereof to HRIDC, shall dismantle and remove all temporary works and temporary materials but such removal shall not be effected without the previous written approval of the Engineer and the Contractor(s) shall comply with the directions, if any, given by him as to the method of removal and/or disposal.																																								
10.6	<u>SETTING UP OF FIELD LABORATORY:</u>																																								
	<p>For works costing above Rs 5.00 crore, the Contractor(s) shall be required to set up a well-equipped field laboratory size in proportion to the magnitude of work and to suit the nature of work, at his own cost at the work site which shall be open for use and inspection by HRIDC at any time. The laboratory shall be equipped with necessary equipment as directed by Engineer, to carry out the various tests required based on nature of work involved & their conforming to relevant Codal provisions and specifications. All the pressure gauge, machines, equipment and other measuring equipment of the laboratory shall be of BIS approved makes and will be got checked/calibrated regularly as directed by the Engineer and necessary certificate furnished to the Engineer by the Contractor(s). The Contractor(s) shall render all reasonable assistance and help in carrying out the checks and tests.</p> <p>An indicative list of equipment is shown below:</p> <table border="1"> <tr> <td>IS sets of sieves with base and top lid.</td> <td>3 sets</td> </tr> <tr> <td>Pan balance – 10 Kg. capacity (with 1.0gm. least count)</td> <td>3 No.</td> </tr> <tr> <td>Electronics balance – 500 gm capacity (with 0.1gm least count)</td> <td>1 No.</td> </tr> <tr> <td>Core cutter with dolly as per IS:2720</td> <td>5 sets</td> </tr> <tr> <td>Apparatus of sand replacement method as per IS:2720.</td> <td>2 Nos.</td> </tr> <tr> <td>Rammer for cutter</td> <td>2 Nos.</td> </tr> <tr> <td>Liquid limit apparatus hand operated with counter and grooving tools.</td> <td>2 Nos.</td> </tr> <tr> <td>Shrinkage limits apparatus.</td> <td>1 No.</td> </tr> <tr> <td>Stainless steel spatula.</td> <td>3 Nos.</td> </tr> <tr> <td>Wash bottle 1 litre capacity</td> <td>2 Nos.</td> </tr> <tr> <td>Compaction needle</td> <td>1 No.</td> </tr> <tr> <td>Enamelled trays</td> <td>6 Nos.</td> </tr> <tr> <td>Enamelled plates</td> <td>15 Nos.</td> </tr> <tr> <td>Glass plates</td> <td>4 Nos.</td> </tr> <tr> <td>Moisture meter.</td> <td>1 No.</td> </tr> <tr> <td>Procter's compaction apparatus with rammer</td> <td>1 No.</td> </tr> <tr> <td>Physical balance with wt. box 200 gm.</td> <td>1 No.</td> </tr> <tr> <td>Frying pans.</td> <td>2 Nos.</td> </tr> <tr> <td>Oven</td> <td>1 Nos.</td> </tr> <tr> <td>Cube mould of approved manufacturer duly calibrated from NABL lab</td> <td>30 Nos. 1No.</td> </tr> </table>	IS sets of sieves with base and top lid.	3 sets	Pan balance – 10 Kg. capacity (with 1.0gm. least count)	3 No.	Electronics balance – 500 gm capacity (with 0.1gm least count)	1 No.	Core cutter with dolly as per IS:2720	5 sets	Apparatus of sand replacement method as per IS:2720.	2 Nos.	Rammer for cutter	2 Nos.	Liquid limit apparatus hand operated with counter and grooving tools.	2 Nos.	Shrinkage limits apparatus.	1 No.	Stainless steel spatula.	3 Nos.	Wash bottle 1 litre capacity	2 Nos.	Compaction needle	1 No.	Enamelled trays	6 Nos.	Enamelled plates	15 Nos.	Glass plates	4 Nos.	Moisture meter.	1 No.	Procter's compaction apparatus with rammer	1 No.	Physical balance with wt. box 200 gm.	1 No.	Frying pans.	2 Nos.	Oven	1 Nos.	Cube mould of approved manufacturer duly calibrated from NABL lab	30 Nos. 1No.
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	<p>Cube testing machine with calibration certificate Any other equipment as directed by Engineer-in-charge. Note: (i) Experience site Lab in -charge shall be deputed by the Contractor at his own cost. (ii) Electrical/water connection for Lab shall be arranged by the Contractor on his own cost, nothing shall be paid by the HRIDC on this account.</p> <p>In contracts having quantity of earth work more than 2 lakh cum, the Contractor(s) will be required to arrange the nuclear testing gauge of approved make to measure the in situ moisture content and field density. All the equipment's, machinery, etc. shall be kept in good working conditions.</p> <p>The cost of setting up the laboratory, equipping and maintaining the same including the cost of electricity/lights & conducting of tests on materials and cubes shall be borne by the Contractor(s).</p> <p>Failure to provide field laboratory within 2 months of commencement of work, shall attract a penalty of Rs 25,000/- per month, recoverable from the running bill.</p>	1 No.
11.0	<p><u>APPROVED BRANDS (Except Cement & Steel):</u> The Contractor(s) shall use the following items of approved makes only as given below:</p> <ol style="list-style-type: none"> Admixture – BASF, MYK, SIKAMENT, CICO, PROTECT, FOSROC, MBT or any other similar brand or as approved by Engineer- in- charge. HT Strands-TATA, Usha Martin or as approved by Engineer- in- charge. Electrodes/Wires/Flux– Advani -Oerlikon, D&H, Manglam, Ador, Welding Electrodes (India) Ltd and Esab India or as approved by Engineer- in- charge. Bolts, Nuts and Washers- Unbraco, Precision Fasteners Ltd, Deepak Fasteners, GKW, Laxmi Precision Screw, Pooja Forge Ltd. or as approved by Engineer-in-charge. 	
12.0	<p><u>ROUTINE TESTS AND ADDITIONAL TESTS:</u> Routine tests on various materials shall be carried out as per “IR Unified Standard Specifications for Works & Materials” or as per the relevant BIS Codes. In addition to the tests required under clauses thereof, the Engineer or his representative may order tests to be carried out by an independent person appointed by him at such place or in such laboratory as he may determine in accordance with the appropriate clauses of relevant Standard Specifications and the cost of such tests shall be borne by the Contractor(s).</p>	
13.0	<p><u>INSPECTION OF MATERIALS:</u></p>	

13.1	Whenever the Engineer or his representative gives notice to the Contractor(s) that materials are to be inspected at the site, the Contractor(s) shall having regard to the inspection, test or examination required give to the Engineer or his representative sufficient notice of such materials being ready for inspection.
13.2	Delay to works arising from the late submission of such notice will not be acceptable as reason for delay in the completion of the works.
14.0	<u>REJECTION OF MATERIALS:</u>
14.1	Factory made material shall have to be tested before leaving the manufacturer's premises. However, appropriate materials may also be tested at the site and they may be rejected if found not suitable or not in accordance with the specifications, notwithstanding the result of tests at manufacturer's works or elsewhere or test certificate.
14.2	The Engineer or his representative shall have the right to order, at any time, that any construction materials which do not meet with his approval shall not be used in the works. Such rejected materials shall be removed from the site by the Contractor(s) at his own expenses, notwithstanding any prior approval which might have been given earlier. Once a particular material is rejected by Engineer, an entry to that effect should be made in material passing register.
14.3	The instructions to the Contractor(s) to remove the rejected material within reasonable time as given by the Engineer should be complied by the Contractor(s) at his own cost
14.4	In case of default on the part of the Contractor(s) in removing rejected materials within the time specified in notice, the Engineer shall be at liberty to have them removed by other means at the cost of the Contractor(s). In addition, a penalty of upto Rs 50,000/- per case for above default may also be levied on the Contractor(s).
14.5	<u>MISCELLANEOUS:</u> HRIDC shall not be responsible for any loss or damage to the Contractor/s men, materials, equipment, tools and plants etc. from any cause whatsoever. No claim for idle labour, idle machinery and plant etc., on any account will be entertained. Similarly, no claim shall be entertained for business loss or any such loss.
15.0	<u>TIMELY NOTICE FOR INSPECTION OF FOUNDATIONS ON WORKS TO BE COVERED UP:</u>
	The Contractor(s) shall give notice to the Engineer when and as soon as the excavation of any portion of site for obtaining foundation or bottom, whether above or below water has reached the depth and width shown on the drawings. The Contractor(s) shall also give further notice to the Engineer, whenever any foundation or bottom is ready for inspection and whenever it is necessary to cover up a work in respect of which previous inspection is desired by the Engineer, so that the Engineer may inspect the same before it is covered up. No foundation or bottom of work shall be covered up or

	filled or built upon without the previous consent of the Engineer in writing. In default of such notice and consent in writing aforesaid, the foundation or bottom of work shall on the order of the Engineer in writing, be uncovered and any filling put in or work built thereon be removed or pulled down by the Contractor(s) at his own cost.
16.0	<u>GENERAL:</u>
16.1	HRIDC shall not be responsible for any loss or damage to Contractor's men, material, equipment, tools and plants, etc. due to any cause whatsoever.
16.2	If any work (whether temporary or permanent) or materials, the value of which has been included in an on account bill is destroyed or damaged or has/have for any other reasons to be replaced or restored by the Contractor(s), the value of the work or other materials as destroyed may be recovered by HRIDC administration from any payment due to the Contractor(s) or may be recovered at any time from the Contractor(s) as debit due to the Contractor(s) and no payment made by the HRIDC to the Contractor(s) after the aforesaid amount becomes due and recoverable shall in any way prejudice HRIDC's right for lawful recovery.
16.3	The Contractor(s) will ensure that if minimum water way of the bridge is blocked during the course of construction, then such blockage is removed by him at his own cost before the middle of June every year or as directed by the Engineer. Any damage to the bridge on this account will be the Contractor's responsibility.
16.4	In any case, in which by virtue of section 20(a) and 21(4) of the Contract Labour Regulation and Abolition Act-1970, HRIDC is obliged to provide amenities and/ or pay wages to labour employed by the Contractor(s) directly or through petty Contractor(s) or sub-Contractor(s) under this contract, then the Contractor(s) shall indemnify the HRIDC fully and HRIDC shall be entitled to recover from the Contractor(s), the expenditure incurred on providing the said amenities and/or wages so paid by deducting it from the Security Deposit or from any sum due to the Contractor(s) provided that if any dispute arises as to the expenditure incurred by HRIDC or provision of the said amenities, the decision of the Engineer thereof shall be final and binding.
16.5	The Contractor(s) shall arrange for effective technical supervision of the work and shall be represented by the authorized representative at the site of work during the currency of the contract. He will arrange to receive all the correspondences at the site of work during execution of work.
16.6	No claim for extra payment shall be entertained on account of interruption to work due to rain, floods or delay in arranging closure of water channels, etc.
16.7	The pathways for the piers in water and elsewhere will have to be made and maintained by the Contractor(s) and nothing extra shall be payable on this account.

16.8	There may be a water supply/sewerage/any other underground/overhead line passing at the site of work and any delay in its shifting/adjusting will not entitle the Contractor(s) to any claim whatsoever.
16.9	Work will have to be done in close co-operation with the other Departments/Agencies, if any.
16.10	<p>NOTICE TO PUBLIC BODIES</p> <p>The Contractor/s shall give to the municipality, police and other authorities, all Notices that may be required by law and obtain all requisite licenses for temporary obstructions, enclosures and pay all fees, taxes and charges, which may be levied on account of his operations while executing the contract. He should make good any damage to adjoining premises whether public or private and supply and maintain any lights etc. required at night. Nothing extra shall be payable on any such account and accepted rates of various items in the schedule of items, rates and quantities shall be deemed to cover any such aspect.</p>
17.0	<u>SAFETY MEASURES/ PRECAUTIONS AND PENALTIES FOR VIOLATIONS:</u>
17.1	<p>The Contractor(s) shall take all precautionary measures in order to ensure the protection of his own personnel, machinery and equipment moving about or working on the railway yard/premises and shall have to conform to the rules and regulations of the HRIDC. If any unforeseen accident or injury happens at site of work, the Contractor(s) shall be solely responsible for the same. This work is being executed in close vicinity of running line and the Contractor shall deploy day and night continuously minimum 02 flagmen/patrol men with necessary equipment per km as per requirement during different stages of construction. Besides this if necessity arises, if and when in the course of the work, there is likely to be any danger to persons in the employment of the Contractor(s) due to running traffic while working in the railway yard/ premises, the Contractor(s) shall apply in writing to HRIDC to provide flagmen or lookout men for protection of such persons. HRIDC will, however, decide as to whether it is necessary to post such flagmen for various types of work and also the number of such men required to protect the gang or gangs of the Contractor(s) working at site. HRIDC shall remain indemnified by the Contractor(s) in the event of any accident occurring in the normal course of work, arising out of the failure of Contractor(s) or his men to exercise reasonable precautions at all places of work whether or not HRIDC decides to post flagmen at any particular site of work.</p> <p>Notwithstanding the above provision, it should be clearly understood that the safety of men and material at the worksite will be the sole responsibility of the Contractor(s).</p>
17.2	The Contractor(s) shall abide by the HRIDC regulations in force for the time being and ensure that the same are followed by his representative, agents or sub-Contractor(s) or workmen. He shall give due notices and training to his employees and workers about provision of the above Para.

17.3	While working within station limits especially on passenger platforms, the Contractor(s) shall ensure that at all time sufficient space is left for free movement of passenger traffic. He must cover and/or barricade the excavations carried out in such areas and continue to maintain these till the work is completed with a view to avoid any accident to public or to HRIDC staff or his own workmen, machinery and equipment.
17.4	The work must be carried out most carefully without any infringement of the Indian Railway Act or the General and Subsidiary Rules in force on HRIDC in such a way that they do not hinder railway operation or affect the proper functioning or damage any railway equipment, structure or rolling stock except as agreed to by HRIDC provided that all damages and disfiguration caused by the Contractor(s) to any railway property must be made good by the Contractor(s) at his own cost failing which cost of such repairs shall be recovered from the Contractor(s). The work must be carried out in the yard without any infringement to the Schedule of Dimensions applicable for BG as issued by the Railway Board. It will be responsibility of the Contractor(s) to ensure that there is no infringement to the track which will affect the smooth and efficient running of traffic.
17.5	Moreover, if at any time the works to be carried out directly concern the safety to trains & locos, the Contractor's staff must comply fully with the railway regulations given to him by authorized HRIDC staff. The Contractor's employee and workers may for no reasons operate an installation concerning train safety or train movement. They shall notify the authorized representative of HRIDC who will take all necessary steps in this regard. Special attention of Contractor(s) is drawn to relevant clauses of Indian Railways Standard General Conditions of Contract, July 2020 and advised to take all precautions for the safety of public, HRIDC staff and his own personnel.
17.6	If the work is to be executed in proximity of the running railway track, the Contractor(s) will be required to follow all precautions and carryout all works that may be necessary to ensure the safety of the running track/trains, without imposition of any speed restriction thereon as may be directed by the Engineer or his authorized representative. No claim whatsoever will be entertained for either any inconvenience or interruption caused to the Contractor(s) or for the rescheduling of the operations or for any other reasons on this account.
17.7	The Contractor(s) shall be responsible for safe custody of tools and for the safety of his labour. He should ensure that labour on work removes their tools clear of the track on the approach of any trains. After the day's work, the Contractor(s) should ensure that the tools are deposited in proper toolbox before the labourers proceed for their home. Tools issued should not be allowed to fall in unwanted hands that can tamper with the railway track. The Contractor(s) shall employ suitable supervisor to supervise the work at site.

	Though all the work relating to the safety of running trains shall be executed under railway supervision, presence of qualified supervisor from the Contractor's side is a must at the site of work.
17.8	In case of failure to adhere to above provisions or if unsafe practices/ safety violation by Contractor(s)/his staff are noticed at the site of work, the Contractor(s) shall be levied with a penalty of Rs 20,000/- for the 1st incident, Rs 50,000/- for the 2nd incident and Rs 1,00,000/- for subsequent such incident. Repeated safety violations shall become a valid ground for initiating the contract termination proceedings under Clause-62 of Indian Railways Standard General Conditions of Contract, July 2020.
17.9	In the event of occurrence of an accident at the work site, a departmental enquiry shall be held and in case it is established that the accident has occurred on account of Contractor's negligence or the negligence of his men, penalties up to an upper limit of 10% of the total cost of the work shall be imposed on the Contractor(s). Further, the HRIDC administration reserves the right to terminate the contract with immediate effect if the Contractor(s) is found responsible for causing an accident after giving "show cause notice/notices" to the Contractor(s) in addition to lodging criminal case under Railway Act/IPC.
17.10	In the event of Contractor(s) not completing the work or leaving it unsafe at the end of day's work, warranting speed restrictions to be imposed, track shall be attended by HRIDC immediately at the Contractor's cost without any further notice. In addition to the labour charges recoverable from the Contractor(s), supervision charges @ 12½% and train detention charges @ Rs.5,000/- every half an hour of delay or part thereof shall also be recovered.
17.11	In case of any damage to OFC/Cable occurred due to fault of Contractor(s), a flat penalty of Rupees One lakh will be imposed (Ref:- CAO/C's letter No. 74-W/O/WA/Pt.X/CP dated 02.08.2007).
17.12	<p>Following annexures enclosed with these Special Conditions, Site Data & Specifications will form an integral part of the contract.</p> <ul style="list-style-type: none"> • Annexure-1: Attached (Para 826 of IRPWM, correction slip No. 69 dated 23.05.2001) • Annexure-2: Attached (Training to Supervisors and Operators of Contractor) • Annexure-3: Joint procedure for undertaking Digging work in the vicinity of Underground Signalling, Electrical and Telecommunication cables
17.13	Note: In addition to the above clauses, the Contractor shall also be required to comply with the requirements mentioned in the section ' Safety, Health and Environment (SHE) Protocol to be followed by the Contractor ' of this tender document.
18.0	<u>GENERAL RESPONSIBILITY AND LIABILITY OF CONTRACTOR:</u>

18.1	The Contractor(s) shall be responsible for any type of structural damage to property or injury caused by work or his workmen to persons, animals, or things and shall indemnify the HRIDC in respect thereof and shall be held entirely responsible for all works carried out by him until it is finally taken over by HRIDC and he will be liable to be called upon to make good any damage or loss which may occur to the bridge work by inclemency of weather, flood, etc. or due to any other cause during entire period until the work is taken over.
18.2	Examination or approval by HRIDC of any drawings or other documents submitted by the Contractor(s) shall not relieve the Contractor(s) of his responsibilities and/or liabilities under this contract.
18.3	Notwithstanding the specifications and conditions stated in the contract, the Contractor(s) shall keep HRIDC authorities fully indemnified and free from all liabilities and risks consequential to any lapse on his part in respect of material quality, standard of workmanship, accuracy of fabrication and the like. He shall provide all labour and material required for execution of the work as per listed standards and in absence of any IRS & BIS specifications to the relevant British/American Standards.
18.4	Latest edition of relevant Codes including upto date correction slips, on date of submission of tender/negotiated rates shall govern. These Codes of Practice are available from the Manager, Government of India publication Branch, Patiala House, New Delhi and Director, Indian Standards Institution, Manak Bhawan, Bahadur Shah Zafer Marg, New Delhi.
18.5	The Contractor(s) must have one copy of each relevant Code at site as applicable for ready reference of Site Engineer/other inspecting officials.
19.0	<u>SCHEDULE FOR TIMELY COMPLETION OF WORK AND PENALTY FOR DELAYS:</u>
19.1	The whole work shall be completed within the stipulated completion period from the date of issue of acceptance letter.
19.2	The sequence in which the various works & activities are programmed & scheduled to be carried out shall be prepared by Contractor(s) in the form of PRIMAVERA/ MS PROJECT and will be submitted to HRIDC within 30 days from the allotment of the work and the same shall be got approved from the Contract Signing Authority. The various works and activities should be detailed with respect to nos. of man and machinery required to be deployed to complete each activity.
19.3	Mid-term progress review and token penalty for slow progress: The Contractor shall be required to maintain proportional progress in accordance with programme submitted by the Contractor duly approved by HRIDC. During the course of work, the progress will be reviewed every 3 months, and if the progress achieved by the Contractor is found to be significantly lagging behind the proportional progress shown in the approved programme due to reasons entirely attributable to the

	Contractor, then a token penalty of up to Rs.10,00,000/- per month of delay, can be imposed by the contract signing authority on the Contractor after issuing a 15 days “show cause notice”. Decision of HRIDC in this regard will be final and binding on the Contractor. However, the penalty so imposed, shall be waived off, if the Contractor achieves the scheduled progress as per approved programme in the subsequent quarters.
20.0	<u>RECORDS OF CONSTRUCTION WORK:</u>
20.1	The Contractor(s) is required to take and supply to Engineer-in-Charge, coloured photographs and films on construction activities including the one prior to the work. The Contractor shall provide the photographs/films as documented of all activities at the time of submission / approval of on account bills to JGM/HRIDC office as directed by the site engineer. A recovery of Rs. 10000/- shall be made in case of failure to do this.
20.2	The coloured photographs shall be taken by the Contractor(s) of all the construction activities pertaining to the work at regular intervals as directed by Engineer-in-Charge. Three sets of 5” x 7” prints of each snap shall be supplied. Out of the above, the Contractor(s) shall be required to supply, as directed by Engineer-in-Charge, blow up size colour prints of up to 36” x 36” size up to 5 photographs of each important site (minimum 03 copies of each). The negatives of all the photographs taken shall also be supplied to the Engineer-in-Charge. The Contractor(s) shall show extreme promptness in supplying of the photographs on directions of Engineer-in-Charge.
20.3	All the cost of reels, taking and recording, developing and printing, etc. shall be deemed to have been included in rates quoted against various items and nothing extra shall be paid for the items of work under this Clause as above.
20.4	HRIDC shall have full ownership and copy right of all these photographs and the Contractor(s)/tenderer(s) shall indemnify HRIDC against any claim of any sort. The Contractor(s) shall maintain accurate plans and charts showing the dates and progress of all main operations and the Engineer shall have access to this information at all reasonable times. Records of tests shall be handed over to the Engineer’s representative after carrying out the tests.
21.0	<u>SITE REGISTERS:</u>
21.1	The following registers will be maintained at site by the Contractor(s): <ul style="list-style-type: none"> i) Site Order Register: The Contractor(s) shall promptly sign orders given therein by the Engineer or his representative or his superior officers and comply with them. The compliance shall be reported by the Contractor(s) to the Engineer in reasonable time so that it can be checked/verified ii) Cement Register: This register will be maintained to record daily receipt and issue of cement, thus indicating the balance quantity. The quantum of work done for the cement issued on particular date will also be mentioned.

	<ul style="list-style-type: none"> iii) Steel Register: This register will be maintained to record the receipts of steel items and details of reinforcement and members wherever steel is used. iv) Labour Register: This register will be maintained to show daily strength of labour in different categories employed by the Contractor(s). v) Plant and Machinery Register: This register will record daily particulars of machinery with the Contractor(s) and will be signed jointly by the Engineer's representative and the Contractor(s). vi) Compaction Register (for earthwork in filling) vii) Soil samples test register (for earthwork in filling) viii) Quality control register for various materials ix) Cube testing register x) Daily progress register xi) Hindrance register: This register will maintain the number of days when work could not progress/remained suspended and reason thereof. This list given above is not exhaustive. xii) Contractor(s) may be asked to maintain additional registers, if required by Engineer-in-Charge. Any other register instructed by engineer in charge HRIDC time to time will also be prepared by contractor
22.0	<u>INTERRUPTION OF WORKS DURING MONSOONS:</u> The stipulated completion period is inclusive of the monsoon/rainy season. The Contractor(s) should, therefore, plan and prepare his work keeping this fact in mind.
23.0	<u>CONSTRUCTION EQUIPMENT:</u>
23.1	The Contractor(s) shall arrange and operate at his own cost, all necessary tools, plants, machineries and equipment necessary for successful and timely completion of work.
23.2	If in the opinion of the Engineer, equipment/plants brought by the Contractor(s) are not suitable for the work concerned, the Engineer shall have the right to order the Contractor(s) to replace them by suitable plants/ equipment. In the interest of public convenience, the Engineer may insist on a specific way of execution of the work.
23.3	The Contractor(s) shall be required to give a trial run of the equipment for establishing their capacity to achieve the laid down specifications and tolerance to the entire satisfactions of the Engineer before commencement of any work.
23.4	All equipment provided shall be of proven efficiency and shall be operated and maintained in a manner acceptable to Engineer-in-Charge.
23.5	No equipment shall be removed from the site without prior permission of the Engineer-in-Charge.
24.0	<u>MACHINERY AND PLANT:</u>

24.1	The Contractor(s) will be entirely responsible to arrange all necessary machinery including automatic RMC plant , vibrators, compressors, pumps, pneumatic equipment, dredges, derricks, cranes, service girders, staging, motor vehicles, trailer, tools and plants and their spare parts required for sufficient and methodical execution of work and transport them to the site of work. Delay in procurement of such items due to their non-availability on account of import difficulties or any other cause whatsoever, will not be taken as an excuse for slow or non-performance of the work. Safety of plants and machinery will be the responsibility of the Contractor(s) and for any loss due to any cause or wash away in flood or otherwise, no claim will be entertained on this account whatsoever.
24.2	HRIDC may give on hire to the Contractor(s) any plant or equipment, if available. But it will not entertain any claim due to the HRIDC 's failure to do so nor can the HRIDC's inability to supply such plant taken as an excuse for slow progress or non-performance of the work.
24.3	If, any plant is loaned by HRIDC to the Contractor(s) on hire, charges will be levied, as detailed below and separate agreement will have to be entered into before the plant is issued.
(A)	The cost of the plant for the purpose of calculating the hire charges shall be its book value plus freight charges and all other incidental charges to which supervision charges at the rate of 12½% on total cost will be added.
(B)	<p>The charges per annum will be calculated at the following rates on the cost of plant as per (A) above:</p> <ul style="list-style-type: none"> i) Ordinary repair and maintenance charges 5%. ii) Interest on the capital cost at the ruling rate, dividend payable by HRIDC to the General Revenue iii) Special repair and maintenance charges at 10%. iv) Depreciation charges at the following rates: <ul style="list-style-type: none"> a. Light plant – 16% per annum b. Heavy plant – 10% per annum c. Special plant – 6% per annum <p>The classification of the plants shall be as per Para 1202 of Indian Railway Bridge Manual – 1998.</p>
(C)	<p>An additional 10% on the total (i) to (iv) above to meet contingencies.</p> <p>The hire charges per day shall be arrived at by dividing the annual hire charges vide (B) above by 250 which shall be assumed number of working days in a year for this purpose. These hire charges will be payable from the day, the plant is handed over till it is returned by the Firm/Contractor(s) to HRIDC. However, during this period if the plant remains out of order for reasons beyond the control of the hirers or is sent for periodical overhaul, such periods shall not be counted for levy of hire charges</p>

	provided a certificate to that effect is given by the Engineer. In case of any difference of opinion between the Engineer and the Contractor(s), the decision of the JGM/HRIDC will be final and binding.
24.4	Running expenses including fuel, lubricants and stores and labour if supplied by the HRIDC will also be paid by the Contractor(s) at the cost to be determined by the HRIDC. In general, the Contractor(s) should make his own arrangements for the fuel, transporting to the site of work and storing for the use as per prescribed rules.
24.5	Staff and stores for running the plant may be supplied by the Contractor(s) with approval of Engineer. The staff must be properly skilled to operate the plant concerned.
24.6	Items of plant leased to the Contractor shall be handed over to him at the HRIDC workshop or at any place convenient to HRIDC. Carriage charges, hire charges and other incidental charges including leading, loading and unloading etc. to the place of work as also back to the place of delivery or the railway workshop at nominated place, as required by HRIDC , when a plant is no longer required by the Contractor, will be borne by the Contractor
24.7	The Contractor may fabricate the steel work at his workshop at the site of the work or at any of his other workshops. The tenderer must inspect the approach roads right upto/from site of the workshop and should ensure that it would be possible for him to transport the materials by Road. The site, layout and details/ composition of the workshop(s) for fabrication works must be passed/ approved by Engineer/RDSO/Inspection agency as authorized by DGM/HRIDC, before commencing fabrication works.
24.8	The workshop staff shall have requisite experience, proven skill and experience in the technique of fabricating large components. Accuracy of fabrication shall be realized and ensured through controlled high precision jigs, fixtures and templates, which shall be inspected and passed by Engineer/ Any other inspection agency/officer (herein after called I.O) as nominated/ approved by HRIDC.
24.9	The Contractor(s) shall deploy 01 nos. experienced Auto CAD operator and 01 nos. computer operator in the office of DGM/HRIDC till completion of work else recovery shall be made @ Rs 20,000/- each per month for the period of absence. After completion of work, the computer will be the property of the Contractor.
24.10	The Contractor (at his own cost) will keep deployed at least one survey teams, the survey team consisting of one competent surveyor , Auto CAD Operator, two competent survey staff and a TOTAL STATION SURVEY INSTRUMENT of approved configuration WITH ALL OTHER ACCESSORIES for exact and precise setting out of the all the works. Contractor shall also have to make/maintain adequate numbers of secondary reference survey pillars/points/towers of suitable dimensions.

24.11	The Contractor shall provide one good quality Digital Camera of NIKON/CANON make e.g. Model No. Cool Pix P-520 from NIKON or similar for the use of site Engineer. The Camera will be property of the Contractor after the completion of work. The Contractor shall undertake project monitoring by Drone Survey right from project inception stage to the completion of work at different stages as per direction of Engineer-in-charge. Further, the Contractor will have to compulsorily submit a Drone Survey Report at the end of every month to HRIDC without fail.
25.0	<u>Method Statement:</u>
25.1	<p>Method statement for execution planning of the work including quality assurance plan (QAP) shall be submitted by Contractor for approval of GM/Projects/HRIDC, before execution of work and followed strictly.</p> <p>The Contractor should identify the various major activities required for successful completion of the work and submit the method statement for each major activity before start of activity for approval of HRIDC. The method statement shall be submitted activity-wise and should broadly contain the following:</p> <ol style="list-style-type: none"> 1. Purpose 2. Scope 3. List of references used for preparation of method statement and that required during execution of activity. 4. The responsibilities of its staff involved in execution. 5. The detailed methodology of execution for the activity including its sub activities Step by step along with sketches/drawings/ photographs/ other relevant details, as required. 6. List of various equipment/tools/plants, their capacity and numbers required. 7. List of technical persons to be deployed for supervision. 8. List of type of other staff along with their numbers. 9. Tests required/to be carried out, if any, before start of activity, during activities or after completion of activity, if any, duly referring to various IS, IRS, IRC, other codes as applicable along with acceptance criteria for various tests. 10. Quality Assurance Plan with Quality Control measures. 11. Various Performa's required for recording of data/tests results/observations during the activity for ensuring proper Quality Control. 12. Check list to be observed at various stages of activity as applicable. 13. Safety measures to be adopted at site. 14. Any other details as considered necessary for specific activity. <p>Contractor should submit method statement well in advance of likely start of activity. Contractor shall not have any claim for extension of time of completion due to delay in approval of method statement</p>
26.0	Sand Island

26.1	For the locations which are low lying for pile and pile cap execution, if waterlogged, an earthen/sand island shall be constructed. Island should be large enough to accommodate construction equipment, material stacks and other machinery free of cost.																																																							
26.2	Sand island, where provided, shall be protected against scour and the top level shall be sufficiently above the prevailing water level so that it is safe against wave action.																																																							
27.0	<p>Mix Design of concrete</p> <p>Prior to execution of design mix concrete, Contractor shall submit mix design for the required strength from a reputed consultant /laboratory to DGM/HRIDC for his approval. The Contractor should modify/carryout mixing design to the satisfaction of the Engineer and get his final approval before carrying out the actual work. Such approval, however, will not relieve the Contractor of his/their responsibilities, obligations regarding minimum strength required. The minimum number of specimens to be cast and standard of acceptance for all kinds of concrete shall be in accordance with relevant IS/IRS codes (latest edition). The cost of mix design is to be included in the relevant items of concreting & nothing extra will be paid to the Contractor on account of designing of concrete mix.</p>																																																							
28.0	<u>Cement Concrete/RCC:</u>																																																							
28.1	<p>In case of NS items of reinforced cement concrete/PSC inclusive of cement and admixture, minimum cement content, maximum permissible water cement ratio and desired slump to ensure proper pumping of concrete for different type of members shall be as per following:</p> <table border="1"> <thead> <tr> <th>SN</th> <th>Item</th> <th>Minimum cement content (kg)</th> <th>Max water cement ratio</th> <th>Slump (mm)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Road over Bridge</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Piles</td> <td>400</td> <td>0.4</td> <td>150-200</td> </tr> <tr> <td></td> <td>Substructure & Superstructure</td> <td>380</td> <td>0.4</td> <td>100-120</td> </tr> <tr> <td>2</td> <td>Railway Bridge</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Piles</td> <td>400</td> <td>0.4</td> <td>150-200</td> </tr> <tr> <td></td> <td>Substructure & Superstructure (RCC)</td> <td>400</td> <td>0.4</td> <td>100-120</td> </tr> <tr> <td></td> <td>Superstructure (PSC)</td> <td>430</td> <td>0.4</td> <td>100-120</td> </tr> <tr> <td>3</td> <td>Building</td> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td>Piles up to 600mm dia & 10m length</td> <td>350</td> <td>0.4</td> <td>150-200</td> </tr> <tr> <td></td> <td>Structure</td> <td>320</td> <td>0.45</td> <td>100-120</td> </tr> </tbody> </table>	SN	Item	Minimum cement content (kg)	Max water cement ratio	Slump (mm)	1	Road over Bridge					Piles	400	0.4	150-200		Substructure & Superstructure	380	0.4	100-120	2	Railway Bridge					Piles	400	0.4	150-200		Substructure & Superstructure (RCC)	400	0.4	100-120		Superstructure (PSC)	430	0.4	100-120	3	Building					Piles up to 600mm dia & 10m length	350	0.4	150-200		Structure	320	0.45	100-120
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	The quantity of cement and admixture should be adjusted to ensure proper strength, durability and workability as per site requirement.
28.2	Being a composite item of RCC/PSC, acceptance criteria for the concrete is of paramount importance and provision of clause 18.6 of IRC-112-2011 (as amended from time to time) should be strictly adhered to. Accordingly, all relevant tests as per the specified sampling frequency in the above noted clause shall be strictly adhered to. In case, concrete is not found to comply with acceptance criteria, the tenderer will demolish the affected part at his own cost and recast it. Nothing extra shall be paid for it, including the cost of reinforcement required to be replaced in such process.
28.3	The tenderer is supposed to estimate the cement consumption at his end before submitting his offer and accommodate the cost of any alteration in cement content over the minimum cement content specified as nothing extra is payable for any increase in cement content during design mix.
28.4	Material ingredients of concrete shall be as per clause 18.4 of IRC-112-2011 (as updated from time to time).
28.5	Detail report along with sketches about the work done will have to be submitted by Contractor in two (2) copies duly incorporating photographs and video recording of the work done at various stages. Completion drawing prepared in AutoCAD is also to be submitted in 6 BP copies along with the original tracing and in CD.
29.0	<p>DISCREPANCIES</p> <p>In case of discrepancies in the description or conflicting interpretation of provisions kept in different sections of contract or among various specifications/codes, following order of preference shall be followed:</p> <p>Technical Matters:</p> <ol style="list-style-type: none"> Description of the item of BOQ. The specifications mentioned in this document including specifications of USSOR shall be prime governing. Codes/specifications specifically mentioned in this document shall have overriding preference over other codal provisions. Where there is conflict between provisions in IRS & IS specifications, provisions in IRS specifications shall prevail. Where there is no provision of specifications in IRS, provisions in IS specifications should be adopted. Where there are no provisions in IRS and IS Specifications, provisions in IRC Specifications should be followed. The decision of Engineer shall be final and binding in the interpretation of the clause of the codes of practice and specifications of this tender and no claim whatsoever shall be entertained on this account from the Contractor. <p>General/Other than Technical Matters -For general matters, order of preference shall be as follows:</p> <ol style="list-style-type: none"> Description in the item of BOQ. Provisions contained in “site data and specifications section of the tender document”

	(c) Provisions contained in special tender conditions and instructions to tenderer. (d) General Conditions of Contract. (e) Provisions contained in code of practice for Engineering department
30.0	PILE FOUNDATION
30.1	GENERAL
30.1.1	Work shall be done in accordance with IS: 2911 Parts 1 to 4 unless otherwise specified herein or in Drawings and Contract specifications. Multiple piling rigs are mandatory for execution of piling work.
30.1.2	<p>Concrete in Piles:</p> <p>Grade of concrete to be used in cast-in-situ piles shall be as specified and the Cement content shall not be less than 400 kg per cubic metre of concrete. The minimum slump of concrete for bored cast-in-situ piles 150mm to 200mm. The slump should not exceed 200mm in any case.</p> <p>Suitable and approved admixtures may be used in concrete mix where necessary The minimum clear cover for piles will be 40mm over all reinforcement including binding wire. Where piles are exposed to action of harmful chemicals or severe conditions of exposure due to presence of sulphate, chloride etc, higher grades of concrete, restricting water cement ratio to 0.40 shall be used. Special types of cement, such as sulphate resistant cement may be used where considered appropriate by Engineer-in-Charge.</p>
30.1.3	Test Piles
30.1.3.1	The piles shall be load tested in accordance with provisions laid down in IS 2911: Part 4.
30.1.3.2	Test piles which are shown on the drawings or specified in the contract or installed by the Contractor on his own to determine the lengths of piles to be furnished shall conform to the requirements for piling as indicated in these specifications, if they are to be incorporated in the completed structure.
30.1.3.3	Test piles which are to become a part of the completed structure shall be installed with the same type of equipment that is proposed to be used for piling in the actual structure. Test piles which are not to be incorporated in the completed structure shall be cut off at atleast 600mm below the proposed soffit level of pile cap and head finished properly with cover concrete and the remaining hole shall be back filled with earth or other suitable material. If any test pile in a cluster fails, an additional pile will be provided and incorporated in the Cluster at the position approved by the Engineer.
30.1.4	CAST-IN-SITU CONCRETE PILES
30.1.4.1	Deleted

30.1.4. 2	Concreting and reinforcement work will be done in accordance with clause 30.1.2
30.1.4. 3	Deleted
30.1.4. 4	Any liner or bore-hole which is improperly located or shows partial collapse that would affect the load carrying capacity of the pile, shall be rejected or repaired as directed by the Engineer at the cost of the Contractor.
30.1.4. 5	Bored cast-in-situ piles in soils which are stable may often be installed with only a small casing length at the top. A minimum of 2.0m length of top of bore or as desired by HRIDC engineer in-charge at site shall invariably be provided with casing to prevent any loose soil falling into the bore. In cases in which the side soil lower down can fall into the hole, it is necessary to stabilise the side of the bore hole with drilling mud, or a suitable steel casing. The casing may be left in position permanently specially in cases where the aggressive action of the ground water is to be avoided, or in the cases of piles built in water or in cases where significant length of piles could be exposed due to scour.
30.1.4. 6	For bored cast-in-situ piles, casing / liner shall be driven open ended with a pile driving hammer capable of achieving penetration of the liner to the length shown on the drawing or as approved by the Engineer. Materials inside the casing shall be removed progressively by air lift, grab or percussion equipment or other approved means. Boring shall be carried out using rotary rig type equipment. Unless otherwise approved by the Engineer, the diameter of the bore-holes shall be not more than the inside diameter of the liner.
30.1.4. 7	Where bored cast-in-situ piles are used in soils liable to flow, the bottom of the casing shall be kept enough in advance of the boring tool to prevent the entry of soil into the casing, thus preventing the formation of cavities and settlements in the adjoining ground. The water level in the casing should generally be maintained at the natural ground water level for the same reasons. The joints of the casing shall be made as tight as possible to minimise inflow of water or leakage of slurry during concreting. Where mud flow conditions exist, the casing of cast-in-situ piles shall not be allowed to be withdrawn. Prior to the lowering of the reinforcement cage into the pile shaft, the shaft shall be cleaned of all loose materials. Cover to reinforcing steel shall be maintained by suitable spacers, tied in advance to the reinforcement.
30.1.4. 8	Wherever practicable, concrete should be placed in a clean dry hole. Where concrete is placed in dry condition and there is casing present, the top 3m of the pile shall be compacted using internal vibrators.
30.1.4. 9	Before concreting under water, the bottom of the hole shall be cleaned of drilling mud and all soft or loose material very carefully. In case a hole is bored with use of drilling mud, concreting should not be taken up when the specific gravity of bottom slurry is

	more than 1.2. The drilling mud should be maintained at 1.5m above the ground water level.
30.1.4.10	Where the casing is withdrawn from cohesive soils for the formation of cast-in-situ pile, the concreting should be done with necessary precautions to minimise the softening of the soil by excess water. Care shall be taken during concreting to prevent as far as possible the segregation of the ingredients. The displacement or distortion of reinforcement during concreting and also while extracting the tube shall be avoided.
30.1.4.11	The concrete shall be properly graded, shall be self-compacting and shall not get mixed with soil, excess water, or other extraneous matter. Special care shall be taken in silty clays and other soils with the tendency to squeeze into the newly deposited concrete and cause necking. Sufficient head of green concrete shall be maintained to prevent inflow of soil or water into the concrete.
30.1.4.12	The placing of concrete shall be a continuous process from the toe level to the top of the pile. To prevent segregation, a tube or tremie pipe as appropriate shall be used to place concrete in all piles.
30.1.4.13	To ensure compaction by hydraulic static heads, rate of placing concrete in the pile shaft shall not be less than 6m (length of pile) per hour. Under water concreting should be done with tremie.
30.1.4.14	<p>Concreting under water: General requirements and precautions for concreting under water shall be as given in concreting chapter supplemented by following instructions:</p> <ul style="list-style-type: none"> a) The concreting of a pile must be completed in one continuous operation. Also, for bored holes, the finishing of the bore, cleaning of the bore, lowering of reinforcement cage and concreting of pile for full height must be accomplished in one continuous operation without any stoppage. b) The concrete should be coherent, rich in cement with high slump and restricted water cement ratio. c) The tremie pipe will have to be large enough with due regard to the size of aggregate. For 20mm aggregate the tremie pipe should be of diameter not less than 150mm and for larger aggregate, larger diameter tremie pipes may be necessary. d) The first charge of concrete should be placed with a sliding plug pushed down the tube ahead of it to prevent mixing of water and concrete. e) The tremie pipe should always penetrate well into the concrete with an adequate margin of safety against accidental withdrawal if the pipe is surged to discharge the concrete. f) The pile should be concreted wholly by tremie and the method of deposition should not be changed part way up the pile to prevent the laitance from being entrapped within the pile. g) All tremie tubes should be scrupulously cleaned after use.

	h) In special circumstances, the Engineer may permit use of any other proved method of concrete placement designed for under water concrete. In such cases, a detailed method statement should be prepared and got approved by the Engineer.
30.1.4. 15	The diameter of the finished pile shall not be less than that specified, and a continuous record shall be kept by the Engineer as to the volume of concrete placed in relation to the pile length cast.
30.1.5	<p>Pile Cap</p> <p>i) The minimum embedment of cast-in-situ concrete piles into pile cap shall be 150mm. Any defective concrete at the head of the completed pile shall be cut away and made good with new concrete. The clear cover between the bottom reinforcement in pile cap from the top of the pile shall be not less than 25mm. The reinforcement in the pile shall be exposed for full anchorage length to permit it to be adequately boned into the pile cap. Exposing such length shall be done carefully so as to avoid damaging the rest of the pile. In cases where the pile cap is to be laid on ground, a levelling course of M 15 or as stipulated nominal mix concrete as per drawing thick shall be provided. Defective piles shall be removed or left in place as judged convenient without affecting the performance of adjacent piles or pile cap. Additional piles shall be provided to replace the defective piles.</p> <p>ii) Pile caps shall be of reinforced concrete of minimum grade of concrete as per stated in drawings or work specifications or directed by the Engineer. A minimum offset of 150mm shall be provided beyond the outer faces of the outer most piles in the group. If the pile cap is in contact with earth at the bottom, a levelling course of minimum grade of concrete as per stated in drawings or work specifications or directed by the Engineer</p> <p>iii) The attachment of the pile head to the cap shall be adequate for loads and forces. The top of concrete in a pile shall be brought above cut-off level to permit removal of all laitance and weak concrete before pile cap is laid. This will ensure good concrete at the cut-off level.</p> <p>iv) Concreting of the pile cap shall be carried out in dry conditions. The bottom of the pile cap shall be laid preferably as low as possible taking into account the water level prevalent at the time of casting. Suitable leak-proof floating form work shall be used for casting caps over piles in water.</p>
30.2	Deleted
30.3	<p>Pile Tests</p> <p>a) The bearing capacity of a single pile may be determined from test loading a pile. The load test on a concrete pile may not be carried out earlier than 28 days from the time of casting of the pile. The methodology of carrying out load tests and at safe load on piles shall conform to IS 2911 (Part 4).</p>

	<p>b) There shall be two categories of tests on piles, namely, initial tests and routine tests. Initial tests should be carried out on test piles which are incorporated in the work. Routine tests shall be carried out as a check on working piles. The number of initial and routine tests on piles shall be as determined by the Engineer depending upon the number of foundations span length, type of superstructure and uncertainties of founding strata. In any case, the initial load tests shall not be less than 2 in number, while the routine load tests shall not be less than 2 per cent of the total number of piles in the structure and nor less than 2 in number.</p> <p>c) The above stipulations hold good for both vertical as well as lateral load tests on pile foundations. However, both initial and routine tests may be suitably increased for important structures or cases with large variation in the subsurface strata.</p> <p>d) In case of any doubt of workmanship or load carrying capacity of working piles not subjected to routine tests, or when ordered by the Engineer, or when provided in the contract, Load tests on working piles may be supplemented by non-destructive testing. Such tests may include “Integrity Testing” of concrete in the installed pile and utilisation of “Pile Driving Analyser” which gives an indication of pile capacity in end bearing and side friction as per IS14893:2001 or as per latest IS code/extant instructions.</p>
30.4	<p>IMPORTANT CONSIDERATIONS, INSPECTION / PRECAUTIONS: Bored Cast-in- Situ Piles</p> <p>i) While concreting uncased piles, voids in concrete shall be avoided and sufficient head of concrete shall be maintained to prevent inflow of soil or water into the concrete. It is also necessary to take precautions during concreting to minimise the softening of the soil by excess water. Uncased cast-in-situ piles shall not be permitted where mudflow conditions exist.</p> <p>ii) The drilling mud such as bentonite suspension shall be maintained at a level sufficiently above the surrounding ground water level to ensure the stability of the strata which is being penetrated all through the boring operation and until the pile has been concreted.</p> <p>iii) Where bentonite suspension is used to maintain the stability of the bore-hole, it is essential that the properties of the material be carefully controlled at stages of mixing, circulating through the bore-hole and immediately before concrete.</p> <ol style="list-style-type: none"> a) The density of bentonite suspension to 1.05 g/cc and maintain it. b) The marsh cone viscosity between 30 and 40. c) The pH value between 9.5 and 12. is placed. It is advisable to limit: d) The silt content less than 1 per cent e) The liquid limit of bentonite not less than 400 per cent

	<p>These aspects shall act as controlling factors for preventing contamination of bentonite slurry by clay and silt.</p> <p>iv) The bores shall be washed by bentonite flushing to ensure clean bottom at two stages viz. (a) after completion of boring and (b) prior to concreting after placing of reinforcement cage. Flushing of bentonite shall be done continuously with fresh bentonite slurry till the consistency of inflowing and outflowing slurry is similar. Tremie of 150mm to 200mm diameter shall be used for concreting. The tremie should have uniform and smooth cross-section inside and shall be withdrawn slowly ensuring adequate height of concrete outside the tremie pipe at all stages of withdrawal. Other precautions to be taken while tremie concreting are:</p> <ol style="list-style-type: none"> a) The sides of the bore-hole have to be stable throughout. b) The tremie shall be watertight throughout its length and have a hopper attached at its head by a watertight connection. c) The tremie pipe shall be large enough in relation to the size of aggregates. For 20mm aggregate the tremie pipe shall be of diameter not less than 150mm and for larger size aggregate tremie pipe of larger diameter is required. d) The tremie pipe shall always be kept full of concrete and shall penetrate well into the concrete in the bore-hole with adequate margin of safety against accidental withdrawal if the pipe is surged to discharge the concrete. e) For very long or large diameter piles, use of retarding plasticiser in concrete is desirable.
<p>30.5</p>	<p>Tolerances for Installation of Piles</p> <p>a) Permissible Tolerances for Pile</p> <p>i) Bored Piles</p> <ol style="list-style-type: none"> a) Variation in cross-sectional dimensions: + 50mm, - 10mm b) Variation from vertical or specified rake: 1 in 50 c) Variation in the final position of the head in plan: 50 mm d) Variation of level of top of piles: ± 25 mm <p>ii) Permissible Tolerances for Pile Caps</p> <ol style="list-style-type: none"> a) Variation in dimensions: + 50mm – 10mm Misplacement from specified position in plan: 15mm c) Surface irregularities measured with 3m straight edge: 5mm d) Variation of levels at the top: ± 25mm
<p>30.6</p>	<p>i) The Engineer shall decide on what depth of excavation is to be made and the level at which the top of pile is to be placed before boring is started. Such excavation shall be paid for at rate specified for excavations for foundations. Rates applicable to driving / casting pile will be paid for the depth below cut-off level only. Reinforcement in cast-in-situ concrete piles shall be paid for separately unless otherwise specified in work contract.</p>

	<p>(ii) For bored concrete piles of specified cross-section, the measurement shall be the length in metres of the accepted pile that remains in the finished structure complete in place. Reinforcement in cast-in-situ driven and bored concrete piles shall be measured for payment as per relevant USSOR-2010 item.</p> <p>iii) Routine and Initial Pile Load Tests shall be measured for payment as per item of the agreement.</p> <p>iv) For installation of the pile by boring in the case of cast-in-situ bored piles the measurement shall be the length in metres that remains in the finished structure complete in place, limited to that shown on drawings or as ordered by the Engineer. No distinction shall be made for penetration through hard strata or rock and socketing into rock.</p> <p>v) For steel liners / casing shown on the drawings to be permanently left in place, the measurement shall be by weight in ones (or in metre lengths of specified thickness as specified in the schedule) that remains in the finished structure complete in place, limited to that shown on drawings or ordered by the Engineer.</p>
<p>30.7</p>	<p>Rate</p> <p>i) The contract unit rate for cast-in-situ bored piles shall include the cost of concrete and all other items.</p> <p>ii) Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p> <p>iii) The contract unit rate for installation of piles shall include full compensation for furnishing all labour, materials, tools and equipment, and incidentals for doing all the works involved in making bores for cast-in-situ bored concrete piles, cutting off pile heads, all complete in place to the specified penetration of piles. Providing temporary casing and its withdrawal and lowering of cage in position shall also be deemed to be included in the rate for installation of piles and no additional payment shall be made for the same.</p> <p>iv) Steel liner including fabrication if used as a permanent measure and retained in position shall be paid under relevant items of USSOR: 2010</p> <p>v) The contract unit rate for concrete in pile cap shall cover all costs of labour, materials, tools, plant and equipment including placing in position, sampling and testing and supervision. Reinforcement in the pile cap including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p>

	vi) Non-destructive test is mandatory to be conducted on each pile as per IS 14893:2001 (or as per latest IS code). No extra payment will be paid for this test.
31.0	TOOLS AND PLANTS:
31.1	Necessary tools and plants required for handling, assembling and linking shall be arranged by the Contractor himself at his own cost. T & P on hire basis will be provided by the HRIDC if readily available with HRIDC and necessary hire charges will be recovered from the Contractor.
31.2	These tools shall be returned to HRIDC at the end of maintenance period i.e. after successful completion of the contract. Only normal wear and tear shall be accepted and the same shall be decided by the Engineer in charge and shall be final, binding on the Contractor. The Contractor shall have to pay for the tools damaged or lost
31.3	The Contractor shall be required to arrange for safe custody of tools & plants at the times, when the same are not being used and even when these are being used the Contractor shall ensure that labour does not use these tools and plants carelessly and or infringes the running line in any manner. For this, the Contractor shall construct suitable tools boxes at suitable locations to be decided by the Engineer. Nothing extra on this account shall be payable to the Contractor.
32.0	Responsibility for any mishap, derailment, accident arising out of this work:
32.1	In the event of any accident during handling, assembling and linking of P. Way materials or any accident on existing running lines arising on account of Contractor or his own staff not observing safety precautions to various operations required for the execution of this P. Way work, the Contractor shall be fully responsible the damages and also have to pay for the accident relief train arranged, if any at the following rates:
32.2	Accidents involving use of accident relief train Rs.100,000/- per 24 hrs. or part thereof.
32.3	Accidents not involving use of accident relief train Rs.10,000/- per 24 hrs. or part thereof.
33.0	GENERAL:
33.1	The Contractor shall provide communication facility at the work site for effective means of communication like VHF or mobile telephone service etc. between HRIDC office and site of work during the period of validity of contract in order to have effective monitoring of planning and progress of work. However, nothing extra will be paid to the Contractor for such a facility.
33.2	Contractor will have to produce license for labour to be engaged on for this work from the concerned Labour Enforcement Officer under Contractor Labour Regulation and Abolition Act-1970 prior to the commencement of the work failing which payment for the work done will not be made.

33.3	Tenderer(s) are required to observe all safety precautions at all time as contained in Annexure attached with the tender documents. Nothing shall be paid on this account.
33.4	The Contractor will have to arrange Electric connection if required at his own cost. However, necessary assistance in arranging Electric connection will be given by HRIDC on the written request of Contractor. In case, HRIDC is unable to arrange Electric connection, HRIDC will not be responsible at all and the Contractor will have to make his own arrangements.
33.5	If proper approach road for transporting the various material are not available, the Contractor may have to handle the material involving head lead etc. Proper space for stacking the material may not be given in the yard and it may be away from the yard. The Contractor will be required to stack the material at the specified area nominated by the Engineer In-charge.
33.6	The work is to be completed on a strict time bound schedule. The Contractor(s) who have sound experience and necessary resources, requisite tools and plants, equipment and finance to handle the job shall be considered. Tenderer(s) are required to submit credentials about the experience of having executed these kinds of various works.
33.7	After the acceptance letter is issued, Contractor will be required to submit the detailed programme for completion of work.
34.0	SPECIAL CONDITIONS OF NS ITEMS OF SCHEDULE - "B"
34.1	NS – 1 Earth work in excavation in bridges 34.1.1 Earth work in excavation for foundations and floors of the bridges, retaining walls etc., including setting out, dressing of sides, ramming of bottom, getting out the excavated material, back filling in layers with approved material and consolidation of the layers by ramming and watering etc. incl. all lift, disposal of surplus debris/muck/malba or any other similar material with all labour and material complete as per drawing and technical specification as directed by Engineer in charge. Work should be executed as shown in this item.
34.2	NS-2 Pile Foundation 1200mm Dia: 34.2.1 Refer Clause 30.0 PILE FOUNDATION (Para 30.1 to 30.7) of the section titled 'Special conditions relating to Site data & Specification' of the tender document
34.3	NS-3 Cement concrete M-35 for item 3(A) Pile Cap, 3(B) Pier, 3(C) Pier Cap, 3(D) Retaining Wall, 3(E) Footpath Slab, 3(F) RCC Box. 34.3.1 Providing and laying in position RMC concrete , machine vibrated and Design Mix Cement Concrete of M35 grade (Cast - in Situ) for execution of Pile Cap , Pier, Pier Cap, Abutment, Abutment cap , Retaining Wall , Footpath Slab and RCC Box by using 20 mm and down gauge graded crushed stone aggregate and coarse sand of approved quality and using Admixtures in recommended proportions (as

	<p>per IS 9103), if approved in Mix design to accelerate or retard setting of concrete and/or improve workability without impairing strength and durability complete as per specifications and direction of the Engineer in charge of HRIDC. Rate of Payment for cement including in this item. Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by Contractor and payment of reinforcement steel will be made separately under relevant items of USSOR-2010.</p> <p>Shuttering will be paid separately in relevant USSOR items.</p>
34.4	<p>NS-4 P S C Girder M-45: Providing controlled reinforcement concrete in M-45 grade with 53 Grade OPC cement with clean well graded 6mm to 20mm size broken stone aggregate cast-in-situ in PSC I/Box Girder/Slab with diaphragm & super-structure.</p> <p>34.4.1 Main girders:</p> <p>The various levels at which concreting shall be done in each shift on each day, shall be indicated, for the purpose of acceptance and the work shall be carried out as approved. The girder span shall be cast as one single item. Tender shall specify the method of casting of the girders and subsequent fabrication, erection and launching, provision shall be made for visual inspection of all parts of the girder whether inside or outside and accesses shall be provided accordingly for this purpose. There shall be adequate drainage of the surface as well as the inside, so that no water can accumulate and stagnate on the surface of the girder or inside the girder. Plasticizers /super plasticizers of approved quality to enable to obtain required workability for the concrete to be placed shall be permitted with the approval. Arrangements in the girder for holding sheathing getting damaged during placement of concrete or vibration shall be envisaged and adequate protective measures taken. I section type girders have to be cast in one piece so as to have monolithic construction, and segmental construction will not be allowed.</p> <p>34.4.2 Service ducts and facilities:</p> <p>Service ducts and facilities to carry telephones/ electrical cables, small diameter Pipelines and such other service facilities have to be provided in the foot-path area as indicated in the drawing. The recess below the foot-path slabs shall be utilized for this purpose. Support facilities for inspection during maintenance. Suitable supporting studs/ capstans (noncorrosive) shall be provided at suitable intervals so that a platform can be hung from these for facilitating inspection of the inside and the outsides of the main girder.</p>

The pre-stressed concrete girder shall be constructed as Single section over track as per approved design & drawings. The cement concrete shall conform to the specifications laid down elsewhere and shall not be of a strength less than M-45. Contractor will submit the mix design for grade M- 45 done by reputed Engineering College/ Institution, and this will be checked by Engineer-in charge, then it will be checked by trial mix at site. Construction work will be allowed as per approved design Mix by HRIDC. The form work shall be accurate and fine to give proper and neat finished surface without any honeycombing, void, gaps, projections and such other deleterious effects. The form work shall also be rigid and shall be true during the most severe operations in the manufacture of the girders. The vibration of the concreting shall be carried out with adequate suitable capacity form vibrators at various levels aided by needle vibrators to be handled from top and for internal vibration. Inspection windows shall be provided in the form work of suitable levels to ensure inspection of the quality of the concrete work as well as the vibration which is going inside the girders. The concreting shall be continued in one single operation in one layer for the entire manufacture of the girder/voided and no construction joint will be allowed. It is reiterated that the tenderer/s must spell out and submit the details of his/their scheme for construction and launching of PSC Girder/superstructures. The scheme for construction and launching shall be adopted only after obtaining the HRIDC approval.

A manual entry with a steel ladder shall also be provided as indicated in the plan to enable approach to the top of the pier and carry out inspection of the ends of the girders as well as facilitate inspection of inside of the main girders boxes and outside of the main girders.

Contractor shall make sufficient lighting arrangements inside each girder during progress of work to enable inspection of girder from inside. After completion of work, the Contractor shall provide permanent electrical fixtures, fittings and appliances etc. inside each girder to enable routine inspection of girders.

The rate will also include the cost of sheathing, anchor for locking, cone and steel bearing for stressing etc. with fixing as per drawing and satisfaction of Engineer In charge

34.4.3 Pre-stressed concrete work or other highly technical work - quality assurance:

- i) The Contractors shall have to engage and get the service of the reputed specialists in the line for supervision and quality control so as to ensure proper

quality of materials use of proper equipment methods of construction, checks of quality control, quality of finished job and its workmanship.

- ii) The Contractor/s shall have to obtain prior approval of department before engaging such agencies.

34.4.4 Facilities for maintenance and inspection:

- i) End diaphragms of all PSC girders shall be provided with openings for internal inspection of PSC girders pier caps shall facilitate easy access to the same. A sturdy GI steel ladder of approved design shall be provided from top of girder to provide easy access to the top of each pier cap and vice versa. All openings for inspection in the end diaphragms of the PSC 'I' Girders shall be provided with watertight covers of approved make with suitable locking arrangements. Steel components of the cover.
- ii) The scheme of jacking up of superstructure shall be spelt out in detail by the tenderer/s. Adequate numbers of jacks of required lifting capacity and approved quality to lift two girder ends independently at a time shall be provided. Suitable provision shall be made for jacking points in the end diaphragms as per the approved design.

34.4.5 Tenderer/s should establish quality assurance system having followed essential features among others needed for quality control during the execution of the work.

34.4.6 A separation within the tenderer/s organization of the responsibility for execution and quality.

34.4.7 i) 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.

- ii) For supporting inspection platform of mobile inspection units for inspection of PSC girders it is mandatory to provide: (a) openings at 3 meters interval in the and provided with 50mm. Dia (internal) Stain-less steel pipes on one side only of each girder i.e. on the cantilever end of the foot-path. (b) Embedment of fixtures and or rail sections in for suspending module inspection units. The provision of openings and embedment of fixtures/rail sections shall be subject to HRIDC's prior approval. The embedment should be such that metal parts on the outside of structure do not make electrical contact with the internal reinforcement. The metal inserts shall be electrically isolated by means of a plastic layer and grouting with the epoxy-mortar of the surrounding area.

34.4.8 There must be a quality manual defining procedures of material acceptance and testing, method of execution and testing finished product. This manual shall name individually who are trained and authorized to carry out specific tasks, for example stressing, testing etc.

34.4.9 The system must ensure tractability of materials from acceptance to delivery and be a system of self certification ensuring that the work described in the manual is carried out correctly.

34.4.10 There must be a system of audit carried out in house to ensure procedure as being adhered to paperwork is up-to-date and changes in the execution procedures are being recognized with the system being modified to accommodate them.

34.4.11 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 the target is met.

34.4.12 Ensuring the required standard of quality for this work is a must. The important factors to be ensured by the Contractor in this connection are:

- a) Deputing qualified personnel for /at all stage construction.
- b) Testing and inspection of the various materials selected for use.
- c) Proper cantering, staging and form work.
- d) Accurate stressing procedures.
- e) Proper location of anchors.
- f) Proper control of dimensions and tolerance.
- g) Proper proportioning and adequate mixing of concrete.
- h) Proper handling, placing and consolidation of concrete.
- i) Proper curing.
- j) Proper handling, storing, transporting and erection of members.
- k) Through documentation.

34.4.13 Cambers

- i) Camber is the upward deflection which occurs in pre-stressed concrete flexural members due to eccentricity of pre-stressing forces. It does not include dimensional inaccuracies due to errors in manufacture, improper bearing or other deficiencies of construction.
- ii) The anticipated camber due to pre-stressing has been shown in the detailed working drawings. Actual camber shall be measured and compared with the values shown. The variation in camber shall be within the permissible value.

34.4.14 Cracks:

The principal objective of pre-stressing is the application of sufficient forces to concrete so that member can be cast and placed in service without cracks.

i) The principal objective of pre-stressing is the applications of sufficient forces to concrete so that members can be cast and placed in service without cracks, some hair line cracks which may form during casting or curing if superficial and not detrimental and have no effect on the structural capacity of the members may be permitted by the Engineer after detailed examination and study. Cracks occurring in members should be sealed with an effective sealer.

34.4.15 i) Tenderer/s shall submit full details of the quality assurance system to the HRIDC and shall obtain the HRIDC's approval prior to its introduction.

ii) The following precautions shall be taken by Contractor/s to avoid cracking:

a) Ensure proper curing.

b) Release side forms as soon as practicable.

c) Use hoop steel around tendons near ends of beams.

d) Handle only from designated pickup points.

e) Take adequate care during storage, transporting and erections.

34.4.16 Inspection & Records:

In general, the scope of inspection to be performed in pre-stressing work shall include the following.

i) Identification, examination, acceptance and laboratory testing of materials.

ii) Inspecting and recording of tensioning.

iii) Inspection of beds and forms prior to concreting.

iv) Checking of dimension of members, position of tendons, reinforcing steel, other incorporated materials, openings, blackout etc.

v) Continual inspection of batching, mixing, conveying, placing, compacting, finishing, and curing of concrete.

vi) Preparation of concrete specimens for tests and performing of tests for slumps, cube, strength etc.

vii) General observation of casting site, equipment, working conditions, weather and other items affecting product.

viii) Final inspection of finished members.

ix) Any other items receiving direction for ensuring quality of work.

34.4.17 Record keeping:

In order to establish evidence of proper manufacture and quality of pre-stressed concrete members, a system of records as mentioned below shall be maintained by the Contractor /s besides such records as may be directed by the Engineer during the progress of work.

Two copies of the records shall be made and one copy duly signed by the Contractor and site Engineer shall be handed over to the Engineer.

- i) Each pre-stressed concrete member shall be identified by bed and date case and an identification number which is in reference to design calculation drawings, tensioning records, concreting record, cube strength, keeping these records shall be the responsibility of the Contractor/s.
- ii) Submission of certified test reports, for materials, such as HYSD bars, M.S. rounds, high tensile steel brought by the Contractor/s is the responsibility of the Contractor/s. These shall show that the materials comply with the applicable specifications.
- iii) An accurate record of tensioning operation shall be kept. This record shall include, but not be limited to the following:
 - (a) Date of tensioning.
 - (b) Casting bed identification.
 - (c) Description and Number of members.
 - (d) Manufacturer, size and class of tendon.
 - (e) Identification of jacking equipment.
 - (f) The actual net elongation of each tendon with allowance made for elastic shortening of member.
 - (g) Date of testing and date of grouting.
 - (h) Any unanticipated problems encountered during tensioning such as wire breakage, excessive slippage or other factors having an influence of the net stress.
- iv) Records of concrete operation and test shall be kept so that the following data will be recorded for each member of each group of members cast on one bed:-
 - (a) Date time and duration of casting.
 - (b) Mix proportion.
 - (c) Mixing water corrections. .
 - (d) Identification of casting bed and members.
 - (e) Cube identification.
 - (f) Ambient temperature, weather condition and concrete temperatures.
 - (g) Slumps.
 - (h) Strength of concrete at each stage of pre-stressing.
 - (i) 28 days cube strength.
- v) All jacking and load measuring equipment shall be calibrated to the satisfaction of Engineer in charge at HRIDC.
Calibration date shall show the following:

- (a) Date of calibration.
- (b) Agency or laboratory performing calibration.
- (c) Method of calibration with gauge readings plotted against actual lead.
- (d) A curve showing the full range of calibration.

At the time of 1st stage of stressing, stressing should be done on wooden block

34.4.18 Rate:

Rates including M-45 grade as per approved plan and mix design with coarse sand and stone aggregate of 20mm and down gauge in precast PSC girder/T-girder/Slab of any span as per drawing in straight/skew in casting yard for all heights and depths including compaction of concrete by electrical/mechanical vibrator, providing and using admixture in recommended proportion as per IS456, IRC-112, IS-9103 & concrete bridge code applicable as per approved mix design meeting the conditions of minimum cement content, maximum water cement ratio and slump as specified in the special conditions, produced by automatic RMC plant and placed using concrete pump including designing of concrete mix, finishing the exposed surface of concrete, curing of concrete as required in IRC-112, including all lead by transit mixer (crossing of stream, nallahs, railway tracks, level crossings or any other obstruction such as traffic jam etc.), lift, pumping, ascend, descend, loading, unloading, handling, re-handling of material at all height including design & provision of scaffolding, centering, shuttering with all incidental works, fixing of ducts or any fixer etc wastages if any, cost of all safety works and safety precautions with all labour, arrangements for cold weather and hot weather concreting as applicable, taxes and royalty etc. as a complete job as per specifications and directions of engineer in charge. Nothing extra will be paid on any account. The rate will also include the cost of grouting sheathing, anchor for locking, cone etc. required for PSC girder as per RDSO approved drawing. The rate will also include cost of OPC cement, admixture (plasticizer, super plasticizer, or retarder etc.) as per approved mix design. Work will be executed as per Indian Railway Unified standard specifications applicable for RCC/PSC works contained in chapter 4&20. Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by Contractor and payment of reinforcement steel will be made separately under relevant items of USSOR-2010. Binding wire for maintaining reinforcement in position will be included in the item and no separate payment will be made for binding wire.

Payment of H.T.S Cables including cutting, straightening, binding, placing and keeping and maintaining in position will be arranged by contractor and payment will be made separately under relevant items of USSOR-2010.

	<p>The rate will also include the cost of sheathing, anchor for locking, cone and steel bearing for stressing etc. complete and all respect and completion of stressing work as per drawing and satisfaction of Engineer In charge.</p> <p>34.4.19 Casting yard for Precast PSC girder/slab and RMC plant</p> <p>Pre-cast PSC girder/ PSC slabs shall be used for super-structure work. Railway land available in Thanesar station area on left side of existing track between LC No. 62 & 63 may be used for developing casting yard and installing RMC plant. This land will be provided by the HRIDC free of cost. Contractor shall prepare the casting bed for PSC girder/slab on Railway land at their own cost. After completion of work, Contractor shall immaculate the site and handover the land to HRIDC as per Engineer Incharge satisfaction otherwise recovery will be made by Engineer Incharge.</p>
34.5	<p>NS-5 Launching of Girder:</p> <p>34.5.1 In the process of launching of girder, provision of lifting by belt and appropriate capacity crane should be used as per HRIDC's Engineer In-charge's satisfaction for safety purpose. At both ends of girder, brackets of steel are to be provided to retain the verticality of the girder. The bracket should be supported on pier cap so as to prevent the fall of girder at any cost. This condition is provided from the start to end of erection of PSC Girders in all spans.</p> <p>There are two girders in 18.3 m span and four girder in 12.2 m span in each span. After launching each girder, there should be a provision of suitable number of brackets connecting both of the girders from top web so that at the time of storm or heavy winds, girder can be prevented from falling. The brackets should be remaining upto casting of cross girders. All of these things should be done by contractor free of cost.</p> <p>After Launching of 18.3m Girders on sufficient size of wooden block and then casting of Deck slab will be done and getting the required strength of Deck slab with satisfaction of Engineer In charge, 2nd stage of stressing will be done as per design and drawing.</p> <p>After second stage of stressing, span should be raised by jacks and neoprene bearings should be properly adjusted on pedestal. The vertical centre line of diaphragm, centre line of neoprene bearing and centre line of pedestal should be perfect match in same vertical alignment.</p> <p>Refer to all conditions of clause 34.4 NS-4 also.</p>
34.6	<p>NS-6 Deck Slab M-40, Retainer:</p>

<p>Providing reinforcement cement concrete of mix design M-40 Grade with clean well graded 6mm to 20mm size stone aggregate cast-in-situ complete.</p> <p>34.6.1 This item includes providing cement concrete of mix design M-40 grade in super-structure, parapet wall, crash barrier etc.</p> <p>34.6.2 In no case hand mixing is allowed only centralized fully automatic and computerized batching and mixing plant of adequate capacity shall be used during entire work. Concreting shall be placed by suitable capacity of pump.</p> <p>34.6.3 The concrete work under this item shall be cast in situ or precast units to be casted as per drawings and as directed by Engineer-in-charge. Nothing extra shall be paid for placing precast member in position as rate includes cost of casting and placing both.</p> <p>34.6.4 The rate quoted shall be inclusive of the following: -</p> <ul style="list-style-type: none">(i) Cost of all Labour, plants & equipment, cantering, shuttering, scaffolding, mechanical vibration, curing etc. for successful completion of the item in all respect.(ii) Cost of all materials, such as sand, stone aggregates, admixtures and water. Size of stone aggregate will be 6mm to 20mm.(iii) Cost of carrying out design Mix from Government Engg. College/ Institution or Government approved laboratories.(iv) Cost of formwork including shuttering, propping, wedging, easing, striking, removal etc. complete. Allow for forming grooves, drops, throats, chamfers, cut-outs, openings etc where called for and for coating with approved shuttering oil to prevent adhesion.(v) Only machine crushed hard broken stone aggregate shall be used. <p>34.6.5 No concrete will be allowed till reinforcement and shuttering work are properly checked and approved by Engineer or his representative.</p> <p>34.6.6 Removal or de-shuttering of form work shall be done as IRS / IS: 456 – 2000 and in the presence of site Engineer and no patch repair and finishing of surface should be done without the approval of Engineer-in-charge. Any such rectification will be done by the Contractor at his own risk and expenses.</p> <p>34.6.7 Contractor has to ensure proper vibration at the time of placement of concrete.</p> <p>34.6.8 Measurement: Dimensions of length, breadth and thickness shall be measured correct to nearest cm. Areas shall be worked out to nearest 0.01 sqm and the cubic contents of consolidated concrete shall be worked out to nearest 0.001 cum.</p>

	<p>Any work done in excess over the specified dimensions or sections shown in the drawing shall be ignored.</p> <p>34.6.9 If the grade of concrete changes to M-35 in design of deck slab instead of M-40, then the rate will be reduced with factor of 0.90 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>34.6.10 If the grade of concrete changes to M-45 in design of deck slab instead of M-40, then the rate will be increased with factor of 1.10 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>34.6.11 Rate: The rate inclusive of the cost of materials, plant & machineries and labour involved in all the operations described above including cost of cement.</p> <p>Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by Contractor and payment of reinforcement steel will be made separately under relevant items of USSOR-2010.</p>
34.7	<p>NS-7 Expansion joints:</p> <p>34.7.1 Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge as per approved drawings and latest MOST/IRC specifications. The rates are inclusive of supplying, fixing with Contractor's own materials e.g. inserts, bolts, sockets, tubes, Neoprene sheets/caps etc., equipment, machineries, labour, all taxes, royalty, all lead & lifts, transportation, testing, surface preparation, complete. The rate is for finished item complete and shall be paid after fixing in all respect. Up to 80 mm expansion.</p>
34.8	<p>NS-8 Laying of 150mm Dia Drainage spout:</p> <p>34.8.1 Providing and laying 150mm dia. drainage spout with grating as per approved drawing including bends & other fitting as per technical specification and direction of HRIDC's Engineer-in-Charge's instructions.</p>
34.9	<p>NS-9: Cement concrete M-35 wearing coat</p> <p>34.9.1 The ratio of cement, sand and stone aggregate shall be as per mix design of specified grade of concrete.</p> <p>34.9.2 This item shall be used for construction of Wearing coat in superstructures etc.</p> <p>34.9.3 The rate also includes laying of temperature reinforcement steel. However, cost of reinforcement shall be paid separately under relevant USSOR item.</p>

	<p>34.9.4 The rate quoted shall be inclusive of the following:</p> <p>(i) Cost of all Labour, plants & equipment, mechanical vibration, vacuum dewatering, curing etc. for successful completion of the item in all respect.</p> <p>(ii) Cost of all materials, such as sand, stone aggregates, admixtures and water. Size of stone aggregate will be 6mm to 20 mm</p> <p>34.9.5 No concrete will be allowed till reinforcement and form work are properly checked and approved by Engineer or his representative.</p> <p>34.9.6 All concrete to be done shall be mechanically mixed by use of concrete mixer and properly compacted by use of suitable vibrators</p> <p>34.9.7 Only machine crushed hard broken stone aggregate shall be used.</p> <p>34.9.8 If the grade of concrete changes to M-40 in design of wearing coat instead of M-35, then the rate will be increased with factor of 1.10 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>34.9.9 If the grade of concrete changes to M-30 in design of wearing coat instead of M-35, then the rate will be reduced with factor of 0.90 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>34.9.10 Rate: The rate inclusive of the cost of materials, plant & machineries and labour involved in all the operations described above including cost of cement.</p> <p>Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by Contractor and payment of reinforcement steel will be made separately under relevant items of USSOR-2010).</p> <p>Shuttering will be paid separately in relevant USSOR Item.</p>
34.10	<p>NS-10: Fixing Rainwater pipe (150mm Dia):</p> <p>34.10.1 Providing and fixing 150mm dia (B) class GI rainwater pipe including the cost of all fittings welding, clamps etc. with all labour and material as a complete job. Work will be executed as per HRIDC's Engineer In-charge's satisfaction.</p>
34.11	<p>NS-11: Temporary Steel Barricading:</p> <p>34.11.1 Providing temporary steel barricading 2.0mtr. High and making arrangement for traffic diversion such as traffic plan during construction period at site for day and night as per requirement and as per HRIDC type drawing. This item will be payable only once during the entire construction period till completion of work. The arrangement of barricading and traffic diversion has to be kept continuously. This shall include repositioning and repainting of barricading and provision of suitable reflectors and red lamps at night. The dimensions of barricades as given in drawing with all labour and material as a complete job. Nothing extra will be paid for fixing and other arrangements. (The released</p>

	barricades will be the property of the Contractor). Work will be executed as per HRIDC's Engineer In-charge's satisfaction.
34.12	<p>NS-12: Laying of 150mm to 1000mm thick blanket layer in embankment/cutting:</p> <p>34.12.1 The item is for supplying and spreading of blanketing material in top upto 1.00 m. layer on bank (as required at site) and mechanically compaction the work is to be done as per RDSO/G-0014 latest addition/Guidelines and specification for design of formation for heavy axle load issued in Nov.-2009 or latest updated version. No shrinkage allowance will be deducted. The material should conform to specifications mentioned in RDSO's guidelines no. GE-0014 Nov.-2009/latest revisions. The blanket should generally cover the entire width of the formation from shoulder to shoulder. 0.50 metres should be done extra for proper compaction at the end of edges free of cost by the Contractor. This 0.50 m blanketing can be removed after proper compaction. Work should be executed as per HRIDC's Engineer in-charge's satisfaction.</p>
34.13	<p>NS-13: Providing and fixing hectometer/ gradient post/boundary pillar:</p> <p>34.13.1 This item is for providing and fixing along the railway track Hectometer/Km/gradient post in M-25 grade RCC and M-10 grade base concrete as per Railway/HRIDC drawings.</p> <p>34.13.2 All posts shall be precast as per approved plan at a centralized place and transported to site to ensure the quality.</p> <p>34.13.3 All posts/ marks shall be engraved/ painted with approved type of paint and write the various details as per drawing or as directed by Engineer-in-charge.</p> <p>34.13.4 The rates are inclusive of cost of all materials such as cement, shuttering, aggregate, water, paint etc. excavation for foundation concrete and back filling, transportation of posts to site and fixing in position etc. with Contractor's own tools and plants, equipment Consumables, labourers etc., inclusive of all lift & lead, taxes, royalties etc. complete.</p> <p>34.13.5 Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position and arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR-2010.</p> <p>34.13.6 Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p>
34.14	<p>NS-14: Supplying and stacking 65mm gauge stone (Ballast)</p> <p>Ballast should be supplied as per latest Railway Ballast specification (IRS-GE-1, June 2016):</p> <p>SPECIFICATIONS FOR SUPPLYING AND STACKING STONE BALLAST</p> <p>1. DELETED</p>

	<p>1.1 DELETED</p> <p>2. SPECIFICATION FOR STONE BALLAST:-</p> <p>2.1 GENERAL:</p> <p>2.1.1 Basic Quality:- Ballast should be hard durable and as far as possible angular along edges/corners, free from weathered portion of parent rock, organic impurities and in organic residues.</p> <p>2.1.2 Particle Shape:- Ballast should be cubical in shape as far as possible, individual pieces should not be flaky and should have generally flat faces with not more than two rounded/sub-rounded faces.</p> <p>2.1.3 Mode of Manufacture:- Ballast shall be machine crushed.</p> <p>2.2 PHYSICAL PROPERTIES:</p> <p>2.2.1 Ballast sample should satisfy the following physical properties in accordance with IS: 2386 part-IV-1963, when tested as per the procedure given in Annexure-1-2 of specifications for track ballast from RDSO Geo-Technical Engineering Directorate.</p> <p style="padding-left: 40px;">Aggregate abrasion value .....30% maximum.</p> <p style="padding-left: 40px;">Aggregate impact value .....20% maximum.</p> <p>2.2.2 The water absorption tested as per IS: 2386 part-III-1963 (when tested as per the procedure given in Annexure-3 of RDSO Geo-Technical Engineering Directorate) should not be more than 1%.</p> <p>2.3 The track ballast shall be procured confirming to specifications for Track Ballast-IRSGE- 1(June 2016) issued by RDSO with amendments up to the date of opening of tender.</p>
34.15	<p>NS/15: DISMANTLING OF EXISTING BG TRACK</p> <p>34.15.1 Prior to dismantling, the complete accountal of the materials existing in track will be taken jointly after carrying out foot by foot survey by Contractor and HRIDC representative and duly signed by both. The Contractor shall take the complete inventory of track as per joint survey prior to dismantling of track and shall be responsible for proper accountal.</p> <p>34.15.2 Existing BG track will be dismantled and released rails & sleepers will be placed on cess or in Railway land so as not to interfere with other operation of work.</p> <p>34.15.3 This item shall include dismantling of block joints, trap points, guard rails, level crossing with check rails and dead ends for which no additional payment will be made.</p>

	<p>34.15.4 The rates will also be inclusive of cutting 2 Rail/3 Rail/5 Rail panel or any length for ease of handling, transportation and stacking.</p> <p>34.15.5 Payment shall be made per RM of track measured along the center line of track.</p> <p>34.15.6 Released small fittings like keys, cotter, loose jaws, dog spikes, screw/rail spikes, tie bars, fish plates, bolts, Pendrol clips/ ERC rubber pads liners etc. will be transported to representative of HRIDC Depot and stacked properly. The released wooden/CST-9/ST sleepers shall also be transported to the representative of HRIDC depot & U/S & S/S sleepers bifurcated and stacked separately with proper accountal.</p> <p>34.15.7 The released rails & PSC Sleepers will be transported to nearest crossing station/Yard and stacked separately after segregation into S/S & U/S. The rates will be inclusive of cutting of rails/rail panels. <i>The lead for released material is inclusive upto the nearest station yard for leading other than nearest station, lead shall be paid under relevant NS item. The weighment of material, which cannot be accounted in number/ by standard weight, shall be done in the relevant NS item.</i></p> <p>Notes:</p> <p>(a) 60% payment against this item will be made after dismantling of track and making space for BG alignment.</p> <p>(b) 30% payment against this item will be made after the released material are lifted from site to respective location, sorted out and stacked properly & handed over to representative of HRIDC depot.</p> <p>(c) Balance 10% payment against this item will be made along with final bill when proper accountal is given.</p>
34.16	<p>NS-16: PREPARATION OF BALLAST BED ON NEW FORMATION</p> <p>34.16.1 Preparation of ballast bed on new formation /diversion suitable for BG track including rolling of ballast carpet up to 150mm thickness with 8/10 tonne self-propelled roller, tools & plants, equipment consumables, labours etc. including all lead and lift complete as per special condition of contract and as directed by Engineer in charge. Putting in of fresh ballast will be paid separately under relevant item.</p>
34.17	<p>NS-17: PICKING UP STONE BALLAST FROM STACKS</p> <p>34.17.1 Generally, the required quantity of ballast shall be available within a distance of 150m, measured along the centre line of the track on MG/BG Rail Line. The Contractor is required to lift the ballast from the ballast stacks, lead them to the proposed alignment of the track and spread it uniformly to provide 150mm thick clean ballast bed initially and subsequently to recoup the ballast including Dressing & Boxing to make standard B.G. ballast profile, as laid down in the</p>

	<p>IRPWM (Corrected up to date) and as directed by the Engineer in charge, after linking of the track with his own labour and T & P. <i>Compaction shall be done in relevant item of preparation of formation/preparation of ballast bed formation.</i> The ballast toe line should be marked with lime on both sides.</p> <p>34.17.2 The work includes all lift, ascent / descent, crossing of tracks and drains and lead up to 150m, measured along the centre line of the track. The project site is located in the area of Kurukshetra. Putting of ballast shall generally be under no traffic condition but some of the quantity may be required to be put after opening of the traffic, for which no extra payment shall be made under any circumstance, whatsoever the case may be. Excess ballast, if put in the track, has to be removed by the Contractor at his own cost.</p> <p>34.17.3 At few of the locations, for some unavoidable reasons, if it is not possible to supply the ballast along the track, extra ballast for the same shall be available at some other location, may be in station yards or in mid sections. In such cases, when the lead exceeds 150m, extra payment shall be made under relevant NS item. The lead will be measured along the track. No lead will be payable for leading ballast for the distance at right angle to the track.</p> <p>34.17.4 Ballast from stacks shall be lifted only after the Contractor is authorized to do so, in writing, by the authorized HRIDC representative. Quantity of ballast for payment under this item shall be the quantity as recorded in MB for supply of ballast.</p> <p>34.17.5 The Contractor will take all safety precautions while leading & spreading of ballast and doing dressing/ boxing or making ballast profile in running traffic condition.</p> <p>34.17.6 The Contractor may have to lift only part quantity of ballast from one stack, for which the payment shall be done on lump sum basis as assessed by the Officer in charge and final payment shall be made only after the complete stack is lifted.</p> <p>34.17.7 Ballast should be taken from the stacks in manner that earth is not mixed with the ballast. Bottom layer of ballast of stacks shall be put in the track after screening with the 20mm sieve.</p> <p>34.17.8 <u>Payment Schedule:</u> As per tender schedule, Contractor shall deploy sufficient labour and T & P to achieve adequate progress of this activity, so that other connected activities may not suffer. 80% payment against this item will be made on putting the ballast in track as per required profile/in stages & 20% payment against</p>
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	<p>this item will be made on dressing & boxing. In case Contractor fails to complete boxing, dressing in some stretches as per required profile, recovery @Rs.10.00 per RM of track will be made.</p>
34.18	<p>NS-18: CUTTING OF RAILS</p> <p>34.18.1 The item includes cutting of all types of rails including new/ SH rails with mechanically or electrically operated rail cutting machine using hacksaw blades or abrasive rail cutting machine with Contractor's own labour, T&P and consumables. Cut shall be square & within specified tolerance in both vertical and horizontal directions. Cut which is out of square, will not be paid. The cutting of rail shall be done as per direction of Engineer in charge or his representative. The Contractor shall maintain complete record of the total number of cuts done on each day and get it certified from the SSE/ P. Way on day-to-day basis. Unnecessary cutting of rails will not be permitted. For each avoidable/undesired cut, recovery at the rate of double the rate payable for the cut shall be made.</p> <p>Cut section/ scrap shall be deposited to representative of HRIDC in respective station yard/ adjoining station yard as directed by Engineer in charge or his representative.</p> <p>Since linking of Track, SEJ, glued joint, points & crossing, etc. includes necessary cutting of rails under the respective item, no payment under this item shall be made therefore. Wherever cutting is included in the respective item itself, no extra payment will be made against this item. Cutting work through this item shall be executed where cutting of rail is not included in the item or isolated cutting in existing track.</p>
34.19	<p>NS-19: DRILLING OF 26.5MM / 31.75 MM DIA HOLES IN RAILS (not included in the item or isolated cutting in existing track)</p> <p>34.19.1 The work includes drilling of holes of 31.75 mm dia holes in all types of rails including new / SH rails with Contractor's own tools, plants, equipment, labour etc. The drilling shall be done correctly as per template for standard fish plated joints of corresponding rail sections. For rail end joining with CMS crossing drilling of hole will be done of 26.5mm dia to ensure gap less joints at CMS Crossings.</p> <p>Chamfering of bolt holes shall also be done under this item as per procedure laid down in para 251 (5) of IRPWM (Second reprint 2004 corrected up to date) with Contractor's own chamfering kit, for which no extra payment will be made. 70% payment shall be made after correct drilling; balance 30% payment shall be made after correct chamfering. Any hole made at incorrect distance will not be paid.</p>

	<p>Such rails shall be cut and holes drilled again. No extra payment will be made for the same. Recovery of Rs.50/- shall be made for each incorrect drilled hole. The drilling of holes will be done as per requirement of track linking as directed by Engineer or his representative. The drilling of new rails is not permitted unless specifically directed by Engineer in charge or his representative. Drilling work through this item shall be executed where drilling of rail is not included in the item or isolated drilling in the track.</p>
34.20	<p>NS-20: TAKING OUT OF OLD BALLAST FROM EXISTING DISMANTLED BG TRACK</p> <p>34.20.1 Existing ballast of dismantled BG track will be removed after Ploughing manually/ mechanically and same will be screened with 20mm square mesh sieve. Screened ballast shall then be stacked properly in Railway land for re-use. Height of stacks so formed should not be less than 60cm. Muck may be used in formation preparation to the extent required and rest disposed-off outside railway land and no extra payment shall be made for the same.</p>
34.21	<p>NS-21: ASSEMBLING, LINKING OF NEW BG TRACK</p> <p>Existing ballast of dismantled BG track will be removed after Ploughing manually/ mechanically and same will be screened with 20mm square mesh sieve. Screened ballast shall then be stacked properly in Railway land for re-use. Height of stacks so formed should not be less than 60cm. Muck may be used in formation preparation to the extent required and rest disposed off outside railway land and no extra payment shall be made for the same.</p> <p>Handling and pairing of rails/ rail panels of any type of rails (New or SH) should be done carefully so as to ensure squaring of joints and to avoid unnecessary cutting of the rails. SEJs and Glued joints should be laid at desired location and exactly opposite to each other. The linking shall be done as per the methodology given in IRPWM (Second reprint 2004 corrected up to date). Extracts of relevant paras are reproduced below for guidance.</p> <p><u>Par 313 (2) (b):</u></p> <p>(i) New sleepers are spread out to correct spacing with the help of tapes/ spacing rods on which the sleeper spacing is marked. The new rails are then linked over the sleepers, using correct expansion liners, giving correct expansion gaps.</p> <p>(ii) Only two bolts per joint are put and tightened lightly. The rails are then straightened up and roughly aligned and the sleepers adjusted to the correct spacing as per making on the new rails. They keys and spikes are than fixed to the rails. It is essential that the base rail is aligned first and fixed in position before the other rails is linked to correct gauge.</p> <p><u>Para 313:</u></p>

After the above operations the new track is attended by different packing parties and suitable intervals. These parties generally attend to the track in all respect paying special attention to:

- (a) Squaring of sleepers
- (b) Tightening of fittings
- (c) Gauging
- (d) Packing of sleepers
- (e) Correcting cross-levels
- (f) Providing correct super elevation and providing curve boards and pillars for each curve
- (g) Aligning and surfacing
- (h) Boxing and providing full ballast section
- (i) Making up cess to correct depth.

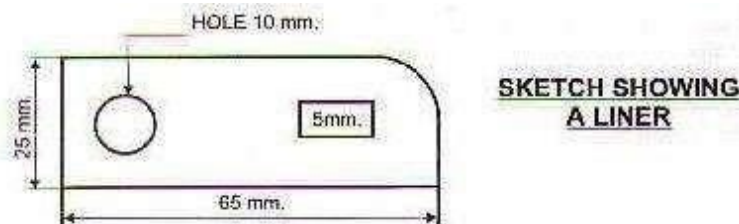
Para 315 Essential points to be observed during the linking:

34.21.1 Laying of rails

- (a) Correct expansion gap should be provided according to the temperature at the time of laying, in accordance with the existing instructions as contained in para 508 in the case of SWR. In the case of free rails (single rails) the recommended initial laying gap for 12/13 meter rails length for various temperature ranges is as below:-

Rail temperature range	Recommended initial laying gap for 12/13m rail length.
0 to 10 Degree Celsius	10mm
10 to 25 Degree Celsius	08mm
25 to 40 Degree Celsius	06mm
40 to 55 Degree Celsius	04mm
55 to 70 Degree Celsius	02mm
Above 70 Degree Celsius	Zero

The liners shall be made of steel and so shaped that the wheels of a train can pass over them. Each liner must have stamped on it the corresponding expansion space in millimetres. Details of a suitable pattern are given below.



- (i) The expansion liners should be kept in position at the joints for at least six rail lengths at a time and the rails butting against expansion pieces.
- (ii) Fishing surfaces of rail and fishplates should be greased before putting the fishplates in position.
- (iii) Bent rails shall on no account be put into the road. These should be straightened with a jim crow, before laying.
- (iv) Rails should be laid with a cant of 1 in 20 towards the centre of the track.
- (v) The shortest length of rails to be used in track shall not be less than 5.5m except as a temporary measure, when cut pieces can be used, with suitable speed restrictions. Short rails should be laid in yards except where required for approaches of Bridges and level crossings.
- (vi) Rails of the same length should be used in pairs

34.21.2 Rail joints

- (a) Rail joints shall be laid square to track. Provisions of paras 424 and 425 will apply while laying track on curves.
- (b) Provision of rail joints in level crossings and approaches will be governed by provision in para 921.
- (c) Provision of rail joints on bridges and approaches will be governed by provisions in paras 272 and 277

34.21.3 Spacing of sleepers: Para 244(2) lays down the standard spacing to be adopted in the case of fish plated track, SWR and LWR

34.21.4 Gauge on straights and Curves: - The standards laid down for gauge as in Para 403 may be followed while relaying is carried out.

34.21.5 Provisions of Creep posts: - Provision in Para 242 (5) may be followed.

Para 508 Laying of short welded rails (SWR):

The gaps to be provided for SWR at the time of laying shall be in accordance with Table-1 depending on the installation temperature (ti) and the Zone in which the rails are laid: -

Table-1: Initial laying gaps for SWR for various installation temperatures:

	Rail temperature at the time of installation (ti) (in centigrade)					
	tm-22.5 to tm- 17.6	tm-17.5 to t-12.6	Tm-12.5 to tm-7.6	Tm-7.5 to tm- 2.5	Tm-2.4 to tm+2.5	Tm+2.6 to tm +7.5

Initial laying gaps	12mm	10mm	08mm	06mm	04mm	02mm
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Note- Values are for three rail panels.

If the laying has to be done outside the temperature range given in table above, or wherever joint gaps could not be provided as per the table, readjustment of gap shall be carried out within two days of laying before the track consolidates. Along with the gap adjustment, any replacing of sleepers, if required, must be carried out.

Para 424 of IRPWM:

Rails are usually laid with square joints on curves. On curved track the inner rail joints gradually lead over the outer rail joints. When the inner rail of the curve is ahead of the outer rail by an amount equal to half the pitch of bolt holes, cut rails should be provided to obtain square joints. Cut rail is a rail which is shorter than the standard length of rail by an amount equal to the pitch of the bolt holes. The excess length 'd' by which the inner rail gains over the outer rail is calculated by the formula -

$$d = LG/ R$$

Where 'd' is the length in mm, by which the inner rail joint is ahead of the outer rail joint over the entire length of the curve, if cut rails are not provided.

L = Length of the curve in m

R = Radius of the curve in m

G = The gauge + width of the rail head in mm

The number of cut rails for a particular curve is worked by the formula-

$$N = d/ \text{pitch of the bolt hole in mm}$$

It must be ensured that rail joints are square at beginning and at the end of the curve.

Para 425 of IRPWM:

Rail joints on curves normally be laid square. On the sharp curves less than 400m on the Broad Gauge and 300m on the Meter Gauge the rail joints may be staggered, where elbows and kinks are likely to develop if rail joints are laid square.

Para 921 (3) of IRPWM:

Rail joints should be avoided in check rails and on the running rails, within the level crossings and three meters on either side.

Spreading of sleepers for main line to be done by crane with a suitable arrangement to place 6 – 7 PSC sleepers at a time in correct position /spacing. Placement of sleeper and spreading may be carried out manually / through cranes

but in no case shall disturb the ballast between sleepers. Contractor shall have to make good ballast bed if it gets disturbed during leading of material, linking etc.

Manual handling and spreading of sleepers in station yards may be permitted depending upon site conditions. The rails and sleepers shall be laid and checked for parameters as per Railway standard.

The Linking of track on wooden sleeper in small stretches will be paid against this item. Linking on channel sleepers on girder bridges is excluded from this item.

The item includes setting of curves, alignment of curves, provision of super elevation, marking of station at 10 m interval for S.E., versions and nothing extra shall be paid on his account.

The rails and PRC sleepers for linking loop lines will be supplied in respective yard and rates will be inclusive of handling, re-handling, leading, loading and unloading & pairing of rails for which nothing extra will be paid.

The item includes correction of longitudinal levels, alignment & cross levels with reference-to- reference pegs/post.

The item includes re-alignment of curves and correction of curve parameters as required. The yard will be defined as outer most to outer most point for this item.

The linking of BG track will normally be done under non-traffic conditions. However if linking of BG track is required to be done under traffic conditions as directed by Engineer-in-charge, no extra payment will be admissible.

The lead will be calculated along the track. No lead will be payable for leading the distance at right angle to the track.

Track-linking standards shall be followed as per Para 316 of Indian Railways P. Way manual, which are indicated below:

a)		Over Average gap worked out by recording 20 successive gaps.	+ 2mm - 2mm
b)	Joints	Low joints not permitted. High joints	- 2mm + 2mm
c)	Spacing of sleepers	(a) With respect to theoretical spacing. (b) Out of square.	+20mm +10mm
d)	Cross level	To be recorded on every 4 th sleepers	+ 3mm
e)	Alignment	On straight on 10 M chord	+ 2mm

		(a) On curves of radius more than 600M on 20M chord Variation over theoretical versines. (b) On curves of radius less than 600 M on 20M chord Variation over theoretical versines.	5mm 10mm.
f)	Longitudinal level	Sags & humps should be removed and longitudinal profile made to the satisfaction of Engineer in charge.	

34.22 NS-22: Through Rail Renewal of BG Running Track

34.22.1 Site Inspection

The Tenderer must inspect the site before quoting the rates of work to acquaint himself with approach roads, if any, near station on either side of the site of work, height of embankment. depth of cutting in the section where the work is to be done, leading, lift, ascent, descent, crossing of Nallah / Track involved, availability of labour, camping facility and all other factors which will have bearing on the works and tendered rates should include all such charges incidental to the works. No extra charges what-so-ever will be payable.

34.22.2 Procedure to carry out the work

The work will be executed as per detailed procedure laid down in IRPWM 1986 amended from time to time and as per the instructions contained in CE's Circulars (P. Way) issued from time to time on the subject matter.

34.22.2.1 Speed restriction as required will be arranged by Engineer In charge.

34.22.2.2 No work shall be commenced until the Engineer In-charge at HRIDC has either obtained temporary block or has imposed the 1 Speed restriction as required and erected the temporary engineering signals. HRIDC Engineer in-charge or his authorized representative concerned shall also remain present during the execution of work and permit to commence daily work.

34.22.2.3 The Contractor should deploy a competent person to supervise the work and he must possess a competency certificate for the purpose to be issued by Assistant/Executive Engineer of the section. Such certificate shall be issued by the Assistant/Executive Engineer only after examining counselling and satisfying himself of the fact that the said person has good knowledge of the work to be executed.

In this matter opinion of the HRIDC will be final and binding upon the Contractor.

	<p>34.22.2.4 HRIDC Engineer in-charge or his authorized supervisor not below the rank of PWI will supervise all the operations in his personal supervision and will be responsible for safety of track and standard quality of work and his orders be followed by the contractor and his supervisor at site of work. </p> <p>34.22.2.5 The contractor should progress the work in a systematic manner with sufficient labour so as to keep the length of track under speed restriction to the minimum. The caution man Flagman during the day and the night will be arranged by the HRIDC of cost to the contractor.</p> <p>34.22.2.6 The work will be undertaken between sunrise to sunset.</p> <p>34.22.2.7 The Contractor shall not allow any road vehicle belonging to him or his suppliers etc. to ply in railway land next to the running line. If for execution of certain works viz. Earth work for parallel railway line and supply of ballast for new or existing rail line, gauge conversion etc. road vehicles are necessary to be used in Railway land next to the railway lines. the contractor shall apply to the Engineer-In-charge for permission giving the type and No. of individual Vehicles. names and license particulars of the drivers' location. duration and timings for such work / movement. The Engineer in charge or his authorized representative will personally counsel. & examine the road vehicle drivers, contractor's flagmen and supervisor and after satisfying himself will give specific written permission giving names of road vehicle drivers, contractor's flagmen and supervisor to be deployed on the work. location, period and timing of the work. This permission will be subject to the following obligatory conditions:</p> <ol style="list-style-type: none"> i) The road vehicles will ply only between sunrise and sunset. ii) Nominated vehicles & drivers will be utilized for work in the presence of at least one (layman and one supervisor certified for such work. iii) The vehicles shall ply 6m clear of track. Any movement work at less than 6 m and up to minimum 3.5m clear of track centres shall be done only in the presence of Railway employee authorized by the Engineer In charge. No part of the road vehicle will be allowed at less than 3.5m from track centre. iv) The Contractor shall remain fully responsible for ensuring safety and in case of any accident shall bear cost of all damages to this equipment & men and also damages to Railway and its passengers. Engineer In charge may impose any other condition necessary for a particular work or site.
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	<p>34.22.3 Quality Control: The finished track shall have to correspond to the limits laid down in IRPWM 1986 amended from time to time & Chief Engineer's Circulars issued from time to time on the subject matter.</p> <p>34.22.4 Any damage caused to the track, during the execution of the work both in normal and abnormal condition will have to be repaired by the contractor at his cost.</p> <p>34.22.5 All the operation of the above work will be done on running/non running track and nothing extra shall be paid to the contractor on this account.</p> <p>34.22.6 Penalties</p> <p>In the event of accident at the work site the departmental enquiry will be held and in case it is established that the derailment has occurred on account of the Contractor's negligence or the negligence of his men damages at the following rates will be recovered from Contractor -</p> <p>(a) Accident involving use of accident Relief train = Rs.1,00,000/-</p> <p>(b) Nominal accident not involving use of accident relief train Rs.25.000/-</p> <p>In the event of Contractor not completing the work as per CE circulars on leaving it unsafe at the end of day's work. The work will be got done to make it fit for any particular speed with some other agency's labour at the risk and cost of the contractor. In addition to the cost of labour + supervision charges @ 12%, a penalty of Rs.10,000/- will be imposed on the Contractor.</p>
34.23	<p>NS-23: TWO ROUNDS OF SYSTEMATIC THROUGH PACKING</p> <p>34.23.1 The scope of work under this item includes one rounds of through packing including picking up of slacks in the newly laid track with PSC sleepers as per Para 224 and 1408 of IRPWM (Second reprint 2004, amended up to date) so as to make the track fit for the speed of 30 Kmph. The Contractor shall arrange adequate labour and T & P, which include off track tampers, non- infringing track jacks of 8/10 Ton capacity etc. in such a way that the packing work is completed well within the laid down time schedule or as desired by the Engineer in charge.</p> <p>Through-packing of the track shall be done for Main Line, Loop Lines, Sidings, Turn Outs, Derailing Switches, and track at Level Crossings, SEJs, Glued Joints and track over ballasted deck bridges. Nothing extra will be paid for the packing of the special lay outs except that the turn outs shall be paid in equivalent length of plain track of 120m for 1 in 12 turn out, 100m for 1 in 8.5 turn out and 20m for derailing switches.</p> <p>If, even after making one rounds of through packing desired track standards are not achieved, the Contractor will have to arrange for</p>

	additional rounds of packing for which nothing extra will be paid, whatsoever the case may be.
34.24	<p>NS-24: SLEWING OF BG TRACK UPTO CONNECTING PROPOSED ALIGNMENT:</p> <p>34.24.1 This item includes slewing of track to the required location with putting back the released track ballast from the slewed track to the new location of track with proper squaring of sleeper at proper spacing.</p> <p>34.24.2 Aligning of track to the required alignment with proper curvature if any, levelling & gauging of track and all other track parameter within tolerances as per IRPWM.</p> <p>34.24.3 Putting of additional ballast and packing shall be done through relevant NS item.</p>
34.25	<p>NS-25: LAYING OF GLUED INSULATED JOINTS</p> <p>34.25.1 The scope of work includes laying of Glued Insulated Joints as per the instructions contained in the “Manual for Glued Insulated Rail Joints, 1988” issued by RDSO.</p> <p>Glued joints shall be made available in the concerned yard only and further leading thereof shall be done by the Contractor at his cost, for which nothing extra shall be paid. Fitting and fastening shall be supplied at HRIDC/C depot or any other suitable place and payment of leading to the site of work shall be made under relevant NS item. The item includes cutting of rails and drilling of holes, required for laying of the Glued Joints and nothing extra shall be paid for it whatsoever the case may be.</p> <p>The released rails and fittings shall be handed over to SSE/ P. Way / C at the nearest station, free of cost by the Contractor.</p>
34.26	<p>NS-26: LAYING OF SEJ</p> <p>34.26.1 The scope of work includes laying of Switch Expansion Joints including fixing of reference posts as per the instructions contained in the “Manual Of Instructions On Long Welded Rail”, 1996, amended up to date, issued by RDSO. Rail pieces for the reference posts shall be provided by the HRIDC free of cost at the nearest station. Reference post shall be fixed at nominated locations as per LWR manual 1996 amended up to date. Nothing extra shall be paid for fixing and painting of reference post.</p> <p>SEJs and Special sleepers for SEJs shall be supplied at the nearest station and further leading thereof shall be done by the Contractor at his cost, for which nothing extra shall be paid. Fitting and fastening shall be supplied at HRIDC depot or any other suitable place and payment of leading to the site of work shall be made under relevant NS item. The item includes cutting of rails and drilling of holes, if required, for laying of the Switch Expansion Joints and nothing extra shall be paid for it whatsoever the case may be.</p>

	<p>While linking SEJs, the required gap for AT welding shall be maintained and joint shall be properly clamped. Whenever the work is to be done under traffic conditions, the Contractor will take necessary safety precaution for safe passage of trains. 25% extra payment shall be paid for this item in case the work is done under running traffic condition.</p> <p>Note:</p> <ol style="list-style-type: none"> 1. 80% payment shall be made after laying of SEJs as a complete set. 2. 10 % payment shall be made after gap adjustment & reference post fixing. 3. 10% payment shall be made after CRS inspection
34.27	<p>NS-27: CONSOLIDATION OF TRACK BY ONE OR MORE ROUND OF DGS TRACK MACHINE</p> <p>34.27.1 Consolidation of track by one or more round of DGS track machine including all labour for pre runs, post run operation of DGS machine & tightening of fittings & fastenings etc. The diesel, cotton waste will be provided by the Contractor and all other consumables and repair to machine will be arranged by HRIDC/Railway. HRIDC/Railway will provide DGS machine and crew free of cost. Other labour for working with DGS for pre/ during and post run activities shall be provided by Contractor.</p>
34.28	<p>NS-28: DESTRESSING OF LWR / CWR TRACK USING RAIL TENSOR OR CONVENTIONAL METHOD:</p> <p>34.28.1 The scope of work includes distressing of newly laid 60 Kg./52 Kg LWR/ CWR track, using rail tensor or manually as per Para 5.7.3 of the Manual Of Instructions On Long Welded Rail, 1996, amended up to date.</p> <p>Sequence of operations: The procedure to be adopted for de-stressing consists of the following steps:</p> <ol style="list-style-type: none"> i) Remove impediments to free movement of rail such as rail anchors, guard rails, check rails etc. ii) Create gap of about 1 meter at the centre of LWR during a traffic block and insert a closure rail there, at a restricted speed. iii) Mark anchor lengths at either end of the proposed LWR in accordance with para 1.15 of the manual. <p>Notes:</p> <ol style="list-style-type: none"> (a) Anchor length shall be determined on the basis of the fewest value of tp at which de-stressing is likely to be carried out. (b) Anchor length shall be increased suitably if the fastenings, rubber' -pads, liners or ballast conditions are poor. iv) Erect marker pillars at the ends of anchor lengths on either side and at 100 meter intervals thereafter.

- v) Obtain a traffic block when t_p is less than the desired installation temperature (t_o), remove the closure rail at the centre and unfasten the full length of rails leaving only the anchor lengths at either end. Mount the rails on the rollers.

Notes: Side-rollers shall also be used while under taking de-stressing on curved track. Side supports on the inside of curve should be spaced at every n th sleeper.

$$\text{Where } n = \frac{\text{Radius of Curve (R)} \times \text{No. of sleepers per rail length}}{50 \times (t_o - t_p)}$$

Outside supports shall be used in addition at the rate of one for every three inside supports.

- vi) Fix rail tenseser across the gap at the centre and apply tension so as to get the required amount of extension as provided in Annexure -VII.

ANNEXURE VII

(Para 5.7.2 & 5.7.3)

EXTENSION TABLE

(Extension in mm, based on formula $e = L \{ (t_o - t_p) \}$)

(0 °C) $t_o - t_p$	L in meters													
	10	20	30	40	50	60	70	80	90	100	200	300	400	500
1	..	..	..	..	1	1	1	1	1	1	2	3	5	6
2	..	..	1	1	1	1	2	2	2	2	5	7	9	11
3	..	1	1	1	2	2	2	3	3	3	7	10	14	17
4	..	1	1	2	2	3	3	4	4	5	9	14	18	23
5	1	1	1	2	3	3	4	5	5	6	11	17	23	29
6	1	1	2	3	3	4	5	6	6	7	13	21	28	34
7	1	2	2	3	4	5	6	6	7	13	20	24	32	40
8	1	2	3	4	5	6	6	7	8	9	18	28	37	46
9	1	2	3	4	5	6	7	8	9	10	21	31	41	52
10	1	2	3	4	6	7	8	9	10	11	23	35	48	57

11	1	3	4	5	6	7	9	10	11	13	25	38	50	63
12	1	3	4	5	7	8	9	11	12	14	28	41	55	69
13	1	3	4	6	7	9	10	12	13	15	30	45	60	75
14	2	3	5	6	8	10	11	13	14	16	32	48	64	80
15	2	3	5	7	9	10	12	14	16	17	34	52	69	86
16		4	6	7	9	11	13	15	17	18	37	55	74	92
17	2	4	6	8	10	12	14	16	18	19	39	59	78	98
18	2	4	6	8	10	12	14	17	19	21	41	62	83	103
19	2	4	6	9	11	13	15	18	20	22	44	66	87	109
20	2	5	7	9	11	14	16	18	21	23	46	69	92	115
21	2	5	7	10	12	14	17	19	22	24	48	73	97	121
22	3	5	8	10	13	15	18	20	23	25	51	76	101	126
23	3	5	8	11	13	16	19	21	24	26	53	79	106	132
24	3	6	8	11	14	17	20	22	25	28	55	83	110	138
25	3	6	9	12	14	17	20	23	26	29	57	86	115	144
26	3	6	9	12	15	18	21	24	27	30	60	90	120	149
27	3	6	9	12	16	19	22	25	28	31	62	93	124	155
28	3	6	10	13	16	19	23	26	29	32	64	96	129	161
29	3	7	10	13	17	20	23	27	30	33	67	100	133	167
30	3	7	10	14	17	21	25	28	31	34	69	103	138	172

vii) Re-fasten the rails starting from the anchor lengths at either end after removing the rollers progressively and adjusting tension at the rail tensor to make sure that the required extension has been achieved at each marker pillar.

viii) Put paint marks on either side of the gap at the centre, spanning over the gap at a distance of 6.5 meter. Insert a closure rail of a length equal to (6.5 meter

- 2 gaps for welding +1 mm for saw cut ends) and clamp as per arrangements shown in Fig. 4.4.3 (a) & (b) or (c).
- ix) Release and remove the rail tensor.
 - x) During another traffic block, weld both the joints of the closure rail at the centre.
 - xi) Equalise stress at the centre and at the anchor lengths

Para 5.7.3 of LWR manual: DESTRESSING OPERATION-OF LWR WITH THE USE OF RAIL TENSORS

For destressing of LWR with the use of rail tensor, the following procedure shall be adopted:

- i) During the first traffic block, create a gap of meter at location B i.e. centre of LWR (**Fig. 5.7.3 of LWR manual**) Introduce rail closure as required and fasten with special fishplates and clamps. Allow traffic at restricted speed.
- ii) Mark the anchor length A1 A2 and C1 C2 each equal to l_a at either end or the length A2 C2 to be de-stressed (**Fig. 5.7.3(a) of LWR manual**).
Note: The anchor length 'la' should be determined on the basis of the lowest value of t_p at which the Destressing is likely to be carried out.
- iii) Erect marker pillars W_0 W_1 etc., on each of the length A2B. and C2B. Transfer the marks W_0 onto the rail foot (Fig. 5.7.3(a) of LWR manual).
Note: The distances W_0W_1 , $W_1 W_2$ etc. shall be marked at about 100 meter intervals, the distance from the previous pillars and the last pillar W_B may be less than 100 meter.
- iv) During the second traffic block, when t_p is less than the desired T_0 (**Fig. 5.7.3 (b) of LWR manual**), de-stressing operation shall be carried out for the lengths A2 B and C2 B as described below.
 - (a) Remove the closure rail from location B. Unfasten and mount on rollers the portion from A2 C2
 - (b) Fix the rail tensor across the gap at B and apply tension so as to obtain some movement at W_0 to remove any kinks or misalignment and to minimize the friction in the rollers etc. Release the tension and note the movement Y_0 at W_0 .
 - (c) Transfer marks W_1 , W_2onto the rail foot and note temperature t_p .
 - (d) Calculate the required movement at W_1 as under:-
 - (e) Movement at $W_1 = Y_0 + \text{elongation of length } W_0 W_1 (L) \text{ due to temperature difference } (t_0 - t_p) = Y_0 + L (t_0 - t_p)$

Calculate the required movement at W_2 as under:
Movement $W_2 = \text{Movement at } W_1 \text{ elongation of length } W_1 W_2 (L) \text{ due to temperature difference } (t_0 - t_p).$

	<p>Similarly, calculate the required movements successively at each of the remaining points. Mark the above calculated extensions with respect to the transferred marks referred at (c) above on the rail foot on the side away from the tensesr.</p> <p>Apply the tension by means of rail tensesr till the mark of required extension comes opposite to the mark on the marker pillar W1. Fasten down the segment WoW1.</p> <p>Then check at W2, bring the mark of required extension at this location opposite to the mark on the marker pillar W2, by adjusting the tensesr either by reducing or Increasing tension and fasten down the segment W1W2 Similarly, check the remaining marks, adjust the tension as required and fasten down each segment before proceeding to the next.</p> <p>Note:</p> <p>(a) Annexure VII gives the value of $L(to - tp)$ for different values of L and $(to - tp)$.</p> <p>(b) Only one value, of tp has to be taken at the time of marking W1W2 etc. on the rail foot. The value of tp is not required to be taken thereafter. The variation of temperature, if any during the destressing operation shall automatically be taken care of by reducing or increasing the tensile force from the tensesr, while coinciding the reference mark on rail with the corresponding mark on pillars.</p> <p>(c) If for any reason, both the lengths A2B and C2B cannot be fastened down simultaneously, the final adjustment in pull and fastening down of the individual segments may be done in series, first from A2 to B and then, from C2 to B.</p> <p>(d) After the fastening down of the last length A2B and C2B is completed, make a paint mark near free end of one rail at a distance of $(6.5 \text{ meter} + 2 \times 25 \text{ mm} - 1 \text{ mm})$, measured from the end of, the other rail across - the gap spanned by the rail tensesr.</p> <p>(e) Remove the tensesr, close the 1 meter gap temporarily and allow traffic at restricted speed (Fig. 5.7.3 (c) of LWR manual)</p> <p>v) During another traffic block, cut the rail at the paint mark, insert a rail closure of length exactly equal to 6.5 meter and weld one end thereof (Fig. 5.7.3 (d) of LWR manual). If the gap at the other end is also 25 mm, it can be welded in the same block. Otherwise, fasten with special fishplates and clamps and allow traffic at restricted speed. In the latter case during a subsequent block, when tp is not greater than to release rail fastenings on either side to the required extant and pull the rails with rail tensesr to get the desired gap of 25mm (Fig. 5.7.3 e); refasten the rail and</p>
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	<p>weld the joint. Release the tensor after a lapse of a minimum of 20 minutes after pouring of the weld metal.</p> <p>vi) During subsequent traffic block, when t_p is less than t_d, equalise the forces in the rail by releasing the fastenings over a length of 100 meter on either side of location B and tapping with wooden mallets etc. (Fig. 5.7.3 f). Fasten down the rail and allow traffic.</p> <p>vii) During another traffic block, when t_p is within the range of temperature specified for t_d in para 1.11, de-stress end 100 meter from SEJ. Thereafter, weld the closure rail next to SEJ duly ensuring setting of the SEJ as per para 5.6.1.</p> <p>The work shall be carried out under no traffic condition/ traffic condition. In case the work is required to be carried out after opening of the track for traffic, adequate traffic block shall be arranged by the HRIDC. The Contractor shall be responsible to take all safety precautions, necessary protection of the track during block period.</p> <p>All impediments to free movement of rail such as rail anchors, guard rails, check rails etc. shall be removed by the Contractor before starting the distressing operations and these shall be re-fixed in position, after the work is over.</p>
34.29	<p>NS-29: LOADING AND LEADING OF STONE BALLAST FROM STACKS AND SPREADING</p> <p>34.29.1 The lead shall be measured by the shortest rail route. If the material gets lost / damaged during transit recovery shall be made from the Contractor. The rate of recovery for new material shall be twice the procurement price plus 7% freight charges along with 12½% supervision charges.</p> <p>34.29.2 Ballast from stacks will be lifted only after it is handed over specifically.</p> <p>34.29.3 Quantity for payment of ballast leading will be as recorded in MB for supply of ballast only.</p> <p>34.29.4 Spreading of ballast shall be done to BG profile as per IRPWM, other guidelines and as directed by Engineer-in-charge.</p> <p>34.29.5 The Contractor will take all safety precautions while dumping/ spreading ballast into running track</p> <p>34.29.6 Putting and spreading ballast will be done in stages as per requirement, excess ballast to be removed by the Contractor at his own cost.</p>

34.30	<p>NS-30: TAMPING OF TRACK</p> <p>The newly linked track shall be subjected to one round of systematic through packing to make the track fit for 30 kmph speed. Thereafter the track shall be given two/more rounds of tamping by On Track Tampers with HRIDC machine and machine staff. Scope of work includes pre-tamping and post-tamping operation to be given before/after each round of tamping by the machine.</p> <p>The scope of work under these items include tamping of track with HRIDC/Railway's tie tamping machines with crews to give two or three rounds of packing as directed by Engineer-in-charge.</p> <ol style="list-style-type: none"> i) HRIDC will provide tie-tamping machines, Hydraulic oil, grease, lube oil along with operators free of cost. ii) The Contractor shall arrange for Diesel, cotton waste, re-conditioning to tamping tools required for day-to-day operation of machine. iii) The Contractor shall arrange for all the labours for doing pre-tamping, during tamping and post tamping works as per IRPWM and for working along with the machine for tamping and for works such as picking up of slacks to raise the speed to sectional speed. iv) Tamping of track will be required to be done for BG main line, loop lines, Turn outs, SEJs, GJs LCs, ballasted deck bridges etc. v) The item includes tamping with special tie tamping machines (UNIMAT) for points & crossings. For payment purpose, 1 in 12 points and crossings, BG/MG diamond crossings, BG/MG special lay outs will be considered as of 120m & 1 in 8 ½ points & crossing will be considered as of 100m length of normal track. Length of points and crossing will be taken from stock joint to heel of crossing. Tamping of switch expansion joints, traps, Glued joints and level crossings, bridges shall be considered as tamping of ordinary track and no extra payment shall be made. vi) The tamping shall be done only after sufficient ballast as required has been put in the track. Contractor shall also ensure sufficient labours for recoument of ballast after each round of tamping and rolling of tracks. vii) The items includes opening and re-fixing of check rails, guard rails etc. wherever required and picking up of slacks, recouping of loss/open fittings, removal of excess ballast to avoid infringement of wire, etc. <p>34.30.1 PRE-TAMPING WORKS:</p> <ol style="list-style-type: none"> i) The guard rails at the approach of the bridges and check rails of level crossing should be removed to enable the machine to pack the bridge approaches and level crossings and fix it after tamping with all fittings as before, for which no extra payment shall be made. ii) Any infringement/ obstruction coming in the way of machine working shall be removed, like excess ballast etc.
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	<p>iii) Taking of levels and alignment of the newly laid track along with centre line marking of the track, laying curves, transition etc. with the help of TS by a trained surveyor before the first round of tamping. Plotting of levels and alignment on graph sheets and submitting to HRIDC for approval. On approval of graph sheets, proposed rail level and alignment shall be marked with the help of pegs along the track at suitable distance. This is required for design mode working of track machines. If Contractor fails to take the levels & alignment as mentioned above, a penalty of Rs.5000/- per Km.</p> <p>iv) 1st round of tamping shall be done with double insertion mode. Second & Third round of tamping shall be done with single insertion mode except for in curved portion or else, where tamping with double insertion mode may be necessary as per requirement and will be paid separately.</p> <p>34.30.2 POST TAMPING WORKS:</p> <p>i) The fittings, which has either fallen or became loose, shall be re fixed/ correctly tightened using the ERC applicator.</p> <p>ii) Any sleeper, which has gone out of square or got shifted from the correct position shall be respaced and squared correctly.</p> <p>iii) Guard rails, check rails etc. removed for tamping shall be re-fixed properly.</p> <p>iv) The ballast in the cribs and shoulders shall be rammed with the help of wooden rammers.</p> <p>v) Track linking standards shall be followed as per para 316 of Indian Railways P. Way Manual.</p> <p>vi) Contractor shall make good the deficiency of fittings in the track after tamping.</p>
34.31	<p>NS-31: AT Welding portion for 60kg/90UTS rails in-situ/Cess with compressed air petrol</p> <p>34.31.1 SCOPE OF WORK</p> <p>i) The scope of work consists of A.T. welding of 60kg./52kg 90 UTS new/SH rails in Main Line, Points & crossing, SEJs, Glued Joints, bridges & 52 Kg (72 UTS/90UTS) new/ SH rails in loop line, on cess/ in situ under no traffic/running traffic condition, with Railway Thermit portions, pre fabricated moulds and Contractor`s other consumables and T & P, as directed by the Engineer in charge or his representatives.</p> <p>ii) The works shall conform to IRS specifications No. T-19-1994 & “Manual for fusion welding of rails by SKV AluminoThermit process-Revised 2012” with latest correction slips/ addendum/corrigendum issued till the date of opening of tender. Only RDSO certified supervisor and welders shall be permitted to carry out the work.</p>

- iii) The work of Thermit welding of rail joints shall be generally done either outside the track on the cess or in situ under no traffic conditions but a part of the work may be required to be executed under traffic condition, for which adequate traffic block shall be arranged by the HRIDC. Extra payment, as detailed in the tender schedule, shall be made for the work done under traffic conditions. The rails required for welding will be either laid in track or supplied on cess/ toe of the bank, along the alignment of the proposed track.
- iv) The distribution of the work between cess and situ will be as per the site condition and HRIDC's requirement. The Contractor shall have no claim on this account. However for work under traffic condition, extra payment shall be made as detailed in the tender schedule.
- v) Welding is to be done for conversion of free rails in to 3/5/10 rail panels and 3/5/10 rail panels to LWR as well as at scattered locations such as for insertion of SEJs, Glued joints, Points & Xings, Rail closures etc.
- vi) The scope of work includes supply of consumable items, entire welding equipment and T&P such as generator, Weld trimmer, Profile Grinder of approved quality along with grinding stone/ files as required, all the raw material, skilled/ unskilled labour, welder, supervisor, adjustment of welding gap, putting rails on wooden block/gutkas/ wedges in case of cess welding and doing the welding work by the RDSO approved welders and supervisors of the Contractor as a complete job including all stores, lead, lift, ascent, descent, crossing of nallahs/ track etc.
- vii) Transportation of men & material viz. thermit welding equipment, tools & plants, portions, mould etc. required for welding and transportation of released P. Way material will be the responsibility of Contractor for which no extra payment will be made as the rates are all inclusive for the finished work.
- viii) Sale Tax, octroi, royalty, toll Tax or any other tax/ taxes levied by the Central or State Govt or Local Bodies shall be borne by the Contractor. No part of such taxes on Contractor's labour/ materials or any other amount will be paid by the HRIDC.
- ix) Contractor shall carryout the work between Sunrise to Sunset unless otherwise permitted by site in charge. Adequate lightning arrangements are to be made by the Contractor at his own cost in case welding is executed after sunset to make up the shortfall in the required progress of work. No extra payment shall be made for the purpose, whatsoever the case may be.
- x) Contractor should make his own arrangement to protect the work & work site against rail traffic, wind and weather during the execution of the work.
- xi) Contractor shall organize the work at a sufficient number of locations with adequate plants and equipment so as to obtain the required progress of welding per day. The welding work shall be carried out by the self-contained units at

	<p>each location so that all types of work concerning each location i.e. lifting, levelling, aligning, packing, moulding, welding, chipping, grinding and final finishing shall be done by the same party.</p> <p>The supervisors as well as welders must be trained and certified by RDSO/ Lucknow to execute the welding work. The Contractor is required to submit, to the HRIDC, attested photocopies of competency certificates, issued to his supervisors/ welders by RDSO, well before taking up the work. It will be the responsibility of the Contractor's supervisor to fill up the checklist and get it certified from the HRIDC representative, before executing the weld.</p> <p>xii) Suitable temporary accommodation for storage of the Contractor's plant, tools, portions, pre-fab moulds and consumable storage shall be arranged by Contractor at his own cost. However if the same is available with the HRIDC, it can be utilized by the Contractor at free of cost.</p> <p>xiii) The Contractor shall provide to each welding party metallic straight edges of 1 m and 10 cm length, one set of feeler gauge in units of 0.1mm to 2mm & stopwatch.</p> <p>xiv) For welding a panel longer than 5 rails or for welding in falling temperature, adequate care to be taken to obtain/ maintain requisite gap with Contractor's own labour, T & P and consumables etc; for which no extra payment shall be made.</p> <p>xv) On every day after completion of welding work, welding team will collect all released fish plates, fish bolts and cut rail pieces (up to 6.00 m length) and lead from site to nearest Railways station by his own means and labour and hand over to site in charge or his representative under clear acknowledgement.</p> <p>xvi) Generally, the work shall be done under no traffic condition but a part of the work may be required to be executed under traffic condition, for which all out efforts will be made to arrange adequate traffic block. The Contractor shall have no claim on the HRIDC even if adequate traffic block/ caution order is not available on some day/ days for any reason. However, appropriate extension of time of completion on this account will be given by the HRIDC, if necessary.</p> <p>xvii) Whenever the work is required to be done under traffic condition, it should be done without any hindrance to the train operations. The Contractor is required to follow the safety rules and to coordinate with the concerned HRIDC authorities for smooth execution of work. Contractor will have to remove all material from the site simultaneously to avoid any hindrance in the working of yard and inconvenience to traveling public.</p> <p>xviii) The Contractor shall not directly or indirectly use any invention which for the time being is the subject of patent and should not infringe any such patent, so as to involve the HRIDC in any infringement thereof. The Contractor shall hold harmless and keep the HRIDC indemnified against all cost, damages,</p>
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charges and expenses arising out of and in connection with any such infringement.

- xix) Wooden blocks /gutkas for the welding on cessis to be arranged by Contractor at his own cost. If requested by Contractor & available with HRIDC, the Scrap/ SH wooden sleepers will be supplied by HRIDC from the available location and shall be carted/ transported to site of work and cut into pieces to make wooden blocks/ gutkas at Contractor's own cost. Recovery for wooden sleepers shall be done at the rate of Rs.5/- per Kg. HRIDC however do not guarantee supply of the scrap/ SH wooden sleepers and Contractor shall have no claim on this account.

34.31.2 Activities involved in welding of joints

- i) Contractor shall remove all kinks and twists in the rails within 2.0m at ends by mechanical/ hydraulic Jim-crows of appropriate capacity. Suitable gap of 25+ 1mm shall then be created (after removing fastenings in case the welding is done in situ). The gap should be uniform throughout the depth of the rail section. The rail ends shall then be aligned in horizontal and vertical planes to the dimensional limits as per welding manual.
- ii) Gap between rail ends should be re-checked after completion of alignment. Adequate fastenings shall then be provided to keep the rail ends in position.
- iii) The rail end face and adjacent sides at foot (top and bottom), web and head up to 50mm shall be thoroughly cleaned using K. oil and brushing with wire brush to remove all dirt, grease and rust. Each pair of pre-fab moulds shall be examined for defects, dampness, cracks, blocked vents etc. before fixing at joint.
- iv) After fixing the moulds, the gap between mould and the rail shall be packed firmly with luting sand to prevent leakage of liquid weld metal.
- v) Only dry luting sand shall be used for welding for which sufficient quantity of dry luting sand manufactured by using high silica white sand conforming to IS: 1987-74 Gr. A and inorganic binder and wetting agent shall have to be supplied/ arranged by the Contractor.
- vi) The rail ends shall be uniformly pre-heated by compressed air blower/ compressed Air- Petrol/Oxy -LPG or any other RDSO/LKO approved technique subsequently throughout the rail section for specified pre-heating time.
- vii) After completion of pre-heating i.e. after removal of burner, pouring of molten metal shall be done and molten metal shall be allowed to cool and solidify with mould intake for the stipulated mould waiting time and then trimming of extra metal of weld should be done. For new rails, trimming should be done by weld trimmer of approved design only. In the eventuality of sudden failure of weld trimmer, manual chipping may be resorted to with specific approval of Engineer-in-charge. In case of welding of old rails, if it is not possible to use

weld trimmer due to flow of metal at rail head, manual trimming may be resorted to with the specific approval of Engineer in charge.

- viii) After the excess metal is trimmed off, the grinding of the remaining metal on the rail table and the sides of the rails head (both faces) shall be carried out preferably with rail profile guided grinding trolley of approved design. Use of hand files should not be resorted to except in unavoidable circumstances. Rough grinding should be done immediately after the weld is executed.
- ix) It should be ensured by the Contractor that the work of filing and finishing of welding joints keep pace with the progress of welding. The Contractor shall be responsible for ensuring that the filing is within prescribed tolerances as per manual.
- x) All the finished joints shall be checked to ensure that joint geometry is within the tolerances as per “Manual for fusion welding of rails by SKV AluminoThermit process-1998 “with latest correction slips.
- xi) Shifting of sleepers for ease of welding & their re-shifting at original sleeper spacing after welding of joints and re-fixing the opened fittings & fastenings after removal of wedges used for aligning are included in scope of work and rates are inclusive of the same.
- xii) After completion of welding work and tightening of fitting & fastenings, 6 sleepers of joints should be thoroughly packed with correction of X-level, gauging, boxing, dressing of ballast on joint sleepers by the Contractor at his own cost, as the rates are inclusive of same.
- xiii) The details of geometry of each joint shall be jointly signed by the firm’s and HRIDC’s representative and kept as record. Any joint found not conforming to the prescribed tolerances as per “Manual for fusion welding of rails by SKV AluminoThermit process 1998 with latest correction slips, shall be treated as defective weld and shall be dealt with accordingly.
- xiv) TRACEABILITY OF WELDS:

MARKING: - Each joint shall have a distinctive mark indicating month, year of welding, agency and welder/supervisor identification code number (as appearing on his competency certificate) at non-gauge face side of AT weld on head as given below:- Figure: Location of marking on non-gauge face of welds.

MM YY

Month Last two digits of year

Identification code

A	A	B	B	B	C	C	C
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Where,

A	A
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00 for AT portion manufacturing firms

01 for departmental welders

02-99 for welders of welding Contractors. The codes shall be allotted for different contractual agencies undertaking AT welding of rails (other than portion manufacturers)

B	B	B
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Specific person number (from 001 to 999). The specific person number will be continuous for a Zonal Railway firm.

C- For welders/supervisors of Zonal Railways: First two/three initials of the Railway to which the supervisor or welder belongs or

For welders/supervisors of portion manufacturing firms and welding Contractors: Code allotted for the portion-manufacturing firms, for whom welders/supervisors of portion manufacturing firms and welding Contractors are approved.

Alphabetic codes allotted to the portion manufacturing firms are given below:

ITC=T, HTI=H, QTPL=O, STI=S, RMPL=R, IFA=F, TPP (NR)=N

In case of welders belonging to the welding Contractors, this code will signify the portion manufacturing firm for which the competency certificate of welder is valid.

The marking should be embossed on the non-gauge face side of AT weld by punching after finishing of the weld in letters/digits of 6mm height located as indicated in figure.

In addition to this, alphabetic code allotted to portion manufacturing firm as per a) above e.g. T.H.N etc. and year of manufacture (last two digits of the year) shall also be embossed on the mould to appear on web collar.

For example, 01001Eco would indicate a departmental welder/supervisor of East Coast Railway with specific person number 001. Similarly, 0000IT would indicate a welder/supervisor with specific person no. 001 of portion manufacturer whose code is "T" i.e. ITC, 02001H would indicate a welder, belonging to welding Contractor whose code is 02, having specific person number of 001 and having competency for welding with portion/technique of portion manufacturing firm with code "H".

- xv) All welds shall be painted by the Contractor using paint to specification No. IS-9862-1981 or bituminous emulsion to IRS-P-30 Gr. I or equivalent as accepted by the HRIDC & specified in the procedure for painting of weld collars of Thermit welded joints as per relevant codes and specifications.
- xvi) Each completed weld joints shall be checked by HRIDC welding in-charge with Contractor or his representative jointly for visual examination and straightness, alignment and finishing, longitudinal leveling by using one meter long and 10cm long straight edge and feeler gauge. The permissible tolerances as per I.R. specifications shall be accepted, otherwise HRIDC

reserve the right to reject the weld joint and same rejected welded joints will be cut and rewelded by the Contractor free of cost. Checking instruments/ gauges will be arranged by the Contractor at his own cost.

- xvii) USFD testing will be carried out by HRIDC with their own machine along with Contractors representative.
- xviii) A comprehensive register in the proforma prescribed in Annexure -5 of “Manual for Fusion Welding of Rails by the Alumino-Thermic Process-1988” shall be maintained by the HRIDC wherein the records of acceptance test including USFD tests as prescribed in the specifications shall be kept. The record shall be jointly signed by the Contractor and the HRIDC representative.
- xix) If mould box clamp space between joint sleepers is not available, joint sleepers should be shifted either side to create required space and required welding gap shall be obtained by pulling or cutting end of rails, opening of fitting & fastenings of rails.
- xx) All P. way fitting removed to facilitate welding are to be re-fixed by Contractor at his own cost. An HRIDC representative deputed at site will ensure that the fittings removed by you are put back in the same position again and for fittings not placed in position/ damaged recovery @ 1.5 times the cost of fitting including freight charges @ 7% will be made from the Contractor.
- xxi) Any scrap material generated by Contractor from his own material can be collected by Contractor like used polythene bags, packing case, cotton bags, used and un-used equipment, used and un-used rail files and scrap metal (chipping metal) but any rail pieces generated due to cropping of rail joints will be the property of HRIDC.

Regarding employment of civil/graduate engineers/ diploma holders by Contractors for HRIDC work: Agency has to provide welding supervisor at site duly approved by the RDSO.

34.31.3 GUARANTEE PERIOD FOR SATISFACTORY PERFORMANCE

- i) Relevant clauses of IRS T-19-1994 & “Manual for fusion welding of rails by the Alumino. Thermit process - Revised 2012” with latest amendments issued till the date of opening of tender pertaining to execution guarantee and acceptance test shall be strictly followed.
- ii) Any welded joints which is found defective or fails, during USFD testing/during currency of contract, shall be re-welded with one/two new welds free of cost by Contractor using their labour, consumables and equipment. Portion shall be supplied by the HRIDC free of cost. A recovery shall be made from the Contractor’s bill @ Rs.500.00 per joint towards the cost of supervision and wastage of the rail. If Contractor do not remove the defective welds or repair the failed joints, recovery will be made @ twice

	<p>the accepted rates in this item plus penalty of Rs.500/- per defective/failed joint.</p> <p>34.31.4 General</p> <ul style="list-style-type: none"> i) The HRIDC will issue Form - D for concessional sales tax purpose and road permit for transport of material to site of work. ii) The HRIDC will supply free of cost 02 mtr. rail length for every 100 joints ordered for test welding. The rails supplied shall have similar metallurgical properties as required for rails to be welded for test welding. Cost for transportation of rail pieces will be born by Contractor. iii) The HRIDC shall only pay for one joint even in case where it becomes necessary to make two joints for eliminating the defective/ failed weld. No payment shall be made for the failed/ defective weld. iv) All cuts required for replacement of defective joints is to be made by Contractor at his own cost.
34.32	<p>NS-32: FABRICATION, SUPPLYING AND FIXING MS BOARD</p> <ul style="list-style-type: none"> i) The scope of work is fabrication, supplying and fixing MS board for curves, LWR bridges, Gang beats, RAT, “D” class station name board etc. ii) The MS sheet shall be of 16 SWG duly painted (with one coat of red oxide primer and two coats of synthetic enamel paint of approved colour) and lettering with approved colour of enamel paint. iii) The board shall be fixed on MS angle iron post of suitable size and length with MS bolts/ welding as decided by engineer-in charge. iv) The post along with board are to be fixed in to ground/ on formation with concrete (1:2:4) of suitable size after excavation. iv) The payment for angle iron frame, post, MS bolts will be made separately under relevant USSOR item. However, no extra payment will be made for welding. v) The payment of excavation and concrete (1:2:4) will be made separately under relevant USSOR item. vi) Rate includes cost of MS sheets, paints, tools and plants, equipment, consumables, labourers etc., inclusive of all lift and lead, transportation arrangements, taxes etc. complete.
34.33	<p>NS-33: FIXING OF JOGGLED FISH PLATE ON DEFECTIVE/OTHER RAIL WELD JOINTS</p> <ul style="list-style-type: none"> i) This item includes the removal of existing ballast and putting & packing of wooden block placed below the weld joint. ii) Jogged fish plate, nuts, bolts, clamps and wooden block will be supplied by the HRIDC at nearest store of representative of HRIDC. Nothing extra will be paid for leading of these items. iii) Drilling of holes if required, will be paid separately under relevant NS item

34.34	<p>NS-34: PUSHING OF PUSH TROLLEY</p> <p>The item required for pushing of inspection push trolley as per instruction of Engineer in charge and keep / maintain the push trolley in running condition.</p>
34.35	<p>NS-35: FABRICATING, BENDING, CUTTING, DRILLING, NOTCHING, FIXING OF GUARD RAILS OVER BRIDGES</p> <p>34.35.1 The scope of work under this item includes cutting of rails to required length, bending of flare portion of guard rails (1 left and 1 right for each bridge), fabrication & notching of guard rails for fixing to sleepers including vertical bend. The guard rails shall extend beyond the Bridge from abutment face and flaring shall start at a specified distance from face of abutment. The whole work shall be as per specification given in the IRPWM.</p> <p>34.35.2 Rails shall be supplied at nearest station. Wooden blocks, fittings shall be supplied at representative of HRIDC. Carting of material to bridge site shall be done by Contractor with his own arrangement and nothing extra shall be paid for the same.</p> <p>34.35.3 For the purpose of payment, track length of guard rail will be considered from one tapering end to the other tapering end excluding embedded portion of guard rail.</p> <p>34.35.4 Rails and fitting will be supplied by HRIDC free of cost. The rail section to be used for fabricating guard rail shall be of 60/52Kg / 90R and fixing of the same can be on bridge timbers / channel sleepers or special PSC sleepers.</p>
34.36	<p>NS-36: LOADING/ UNLOADING OF PSC SLEEPERS, UNLOADING OF P.WAY MATERIAL/ FITTINGS & STACKING ETC.</p> <ol style="list-style-type: none"> 1. These items includes transportation of various new/ released P. way material including rail, Sleepers, fittings, fastenings, SEJs, Glued Insulated joints, switches, crossings and PSC sleepers(ordinary/special), loading, leading and unloading at the location as desired by the Engineer in charge or his authorized representative with Contractor's own labour, T & P, consumables and transport. 2. There may be sand dunes in some stretches of the site and some of the locations may be away from main road and may require construction of service road at Contractor's own cost. Moreover vehicles with special arrangements including four wheel drive may be required for negotiating the sandy area, even then re-handling and further transportation through tractor/light vehicles/other arrangements are required to reach near the proposed track. Hence tenderers are advised to visit site and see availability of service roads before quoting up the rates and may decide construction of service roads and if there is need to provide

	<p>such service roads then these shall be provided and maintained by Contractor/ tenderer at his own cost and no extra payment/claim be entertained.</p> <ol style="list-style-type: none"> 3. Contractor shall pay at his own expenses unless otherwise specified or provided all fees, toll, taxes, octroi etc. and other charges payable to the Government or the municipal committee or other local authorities in connection with the execution of the work. He shall also satisfy all claims arising out of the non-compliance with any law's etc. Nothing extra shall be payable over & above quotes rates. 4. The sleeper shall transported by the Contractor as per the allotment received from each sleeper factory without any delay. He shall engage sufficient number of trucks/trailers to transport the allotted quantity within the allotted time period. 5. Material led out at site is to be directly handed over to the site/depot in charge. The weighment will be done inside the depot /godown where such facility exists, otherwise quantity may be weighed outside or weight calculated based on specified weight. 6. The rate includes all elements of handling, re-handling crossing of nallahs, streams, channels, other obstructions all ascend and descend, including all other incidental charges. 7. .No payment will be made for the haulage of empty truck; payment will be made on the basis of net quantity transported. 8. The Contractor shall be responsible to see that leads carried on his motor vehicles do not infringe any local or other standard regulations. 9. In case any material if found short at destination, the Contractor will be held responsible for the same and the cost including all departmental charges will be recovered as per extent rules. 10. Lead shall be paid as per shortest Rail/Road route available between starting and destination station whichever is less.WBM and black topped surface will be considered as road for this purpose. 11. The 90 UTS RAILS, SWITCHES, STOCK RAILS, TONGUE RAILS, GLUED JOINTS, SEJs etc. are required to be handled carefully to prevent damage "Manual of instruction for Handling of Rails" July-2000 issued by RDSO/Lucknow is to be followed. Safety precautions as laid down in IRPWM with up to date correction slips and other safety precautions are required to be followed for safety of trains as well as for work force, while working in vicinity of Railway tracks/station yards. 12. Payment shall be released only after the material is stacked at the required location within a distance of 150Mtr from centre line of track. 83 No. of sleepers at every 50M distance (along the track) shall be required. It may please be noted that no part payment shall be made for the sleepers stacked at other than the prescribed place.
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13. No claim for compensation will be entertained from the Contractor, if at any time for any period the is HRIDC unable to offer sufficient material for the full utilization of his transport. Contractor should arrange transport according to actual requirement to be given by the Engineer from time to time.
14. Wherever road vehicle and/or machinery are required to work in close vicinity of Railway line the work shall be so carried out that there is no infringement to the Railway schedule of dimensions. Special care will be taken for turning/reversal of road vehicle/machinery without infringing running traffic/safety of running trains.
15. The supervisors/workmen should be counselled about safety measures. A competency certificate to Contractor's supervisors as per Performa annexed to Para 826 of IRPWM will be issued by in charge of the work at HRIDC, which will be valid only for the work for which it has been issued.
16. Unloaded P. Way materials after unloading along railway track should be kept clear off moving dimensions and stacked as per specified height and distances from running tracks.
17. Supplementary site-specific instructions wherever considered necessary issued by Engineer-in charge will be followed by Contractor.
18. The HRIDC will not entertain any claim for any detentions at level crossings during transit and no extra payment will be made for crossing of track obstructions, Nallahs, descents, ascents, or any other incidental charges.
19. The Contractor should arrange proper type of transport well in time for transporting the railway materials. It will be the responsibility of the Contractor to maintain and bear all the cost in connection with the operation of the proper means of transport and other services required for the purpose of executing the contract.
20. No claim for compensation will be entertained from the Contractor if at any time for any period the Railway is unable to offer-to-offer sufficient materials for the full utilization of his transport. He should arrange transport according to actual requirement to be given by the Engineer from time to time.
21. The Contractor shall transport and carry the materials expeditiously when required by the Railway so that works of Railway and other Contractors do not suffer.
22. The Contractor shall take such precautions as are necessary to ensure that the materials is firmly secured during transit, it will be on the Contractor accounts. He will be required to compensate the Railway for damage or losses, if any.
23. No claim of any kind whatsoever will be entertained if the execution of the work is held up or delayed on any account. The Contractor should plan the execution of the various works in close co-ordination with Engineer or his authorized representative.
24. The Contractor shall be responsible to safeguard the railway material's unloaded from railway wagons, trucks/trailers till such time, it is handed

	<p>over to the consignee at his depot or site as directed by the Engineer or his representative.</p> <p>25. Any shortage/damage of P. way material during handling/ transportation will be recovered from the Contractor at actual cost or market value whichever is higher for any other materials plus 3% incidental charges and 12.5% supervision charges.</p> <p>26. Railway will not entertain any claim from the Contractor on account of damage to his vehicles/cranes due to poor conditions of the roads and delay in unloading, leading of PRC sleepers at Railways stations goods platform /yards, Railway stores or any other connected place of work. Contractor shall have no claim for any delay due to no-entry restrictions at originating point, en-route or destination or any delay/detention at level crossings.</p> <p>27. The HRIDC Administration may recommend to the concerned authority to issue necessary transport permit for the works. The Contractor shall however furnish full justifications for the facilities to enable the HRIDC Administration to address the Government or other Authorities in this connection. The Contractor shall also maintain regular log book of receipt or any delivery of the material of Railway, which the Contractor are asked to load/ unload, lead to work, if so required by the Civil Authority. No claim would however be entertained by the HRIDC in case of delay in issue of permit, non-issue of any priority permit or any interruption in supply. The Contractor shall protect and support as the case may be or as directed by the Engineer, all buildings, fences, wells, tower, drains, road, paths, waterways, banks, Railway ground and Earthwork. Electric lights, telegraphs, telephone lines and water service main pipes, cabins wires, specified/other than those specified or directed to be removed or altered which may interfere with and which are likely to be affected, disturbed or engaged for execution, completion of the work. No payment shall be made by the HRIDC to the Contractor for these works.</p> <p>28. The Contractor shall be responsible for all structural and decorative damage to property or injury caused by works or his workmen to person, animal or things and shall indemnify the HRIDC in respect thereof and shall be held entirely responsible for all works carried out by him, until it is finally taken over by the HRIDC. He will be liable to carried upon to make good any damages or loss which may occur to the buildings and works by inclemency of weather, floods etc. or due to any other cause during the entire period until work is taken over.</p> <p>29. The HRIDC shall not be responsible for any loss or damage to Contractor's men, materials, equipment, tools and plants etc. from any course whatsoever.</p> <p>30. The material in carts or trucks for road transport will be entered in a challan to be prepared by a HRIDC official in five copies and will have to sign by the authorized agent of the Contractor. These will be verified by the HRIDC representative at the destination. For any shortage en-route, the Contractor will be responsible and will be required to compensate the HRIDC for that. Only</p>
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those agents, who are authorized by the transport Contractor in writing, shall be empowered to sign on the challan in token of their acknowledgement and receipt of materials included in the challan.

31. Materials loaded in carts or trucks for road transport will be entered in a challan to be prepared by a HRIDC official in five (5) copies and will have to be signed by the authorized agent of the Contractor. These will be verified by the HRIDC representative at the destination. For any shortage en-route, Contractor will be held responsible and will be required to compensate the HRIDC. Only agents who are authorized by the Contractor in writing shall be empowered to sign on the challan in token of their acknowledgement and receipt of materials included in the challan. Accountal of material shall be as under:
New/SH P. Way materials will be transported, and the challan prepared in numbers and weight. For preparing bills/ payment weight will be taken as per the following standards duly catering for wear tear in second-hand materials.

(i)	All new P.Way material	:	Standard geometric weight fo P.way material unless specified otherwise
(ii)	PRC mono block sleepers, Level Crossings and Guard rail sleepers for Bridges	:	Nos.
(iii)	PRC for turnout, SEJ trap	:	Per meter
(iv)	Rails second hand	:	Standard weight reduced by 4%
(v)	Others ferrous/ non-ferrous material	:	Actual weight

32. Standard weight of BG 60 Kg PRC sleeper is 286.5 Kg, for turn out, SEJ, L-xing, guard rail sleepers standard weight and length is as per RDSO standard drawings, which may vary within prescribed range. However for payment against relevant NS item, the length of PSC sleepers will be taken as under:-

(i)	Normal line sleeper	:	2.75 m.
ii)	Level crossing sleeper	:	2.75 m.
(iii)	Bridge proper /approach sleepers	:	2.75 m.
(iv)	SEJ sleeper	:	2.75 m.
(v)	Sleepers for 1:85 fan shaped turnout	:	225.84 m/set
(vi)	Sleepers for 1:12 fan shaped turnout	:	326.29 m/set
(vi)	Sleepers for derailing switch	:	88.50 m/set

33. No other materials shall be carried along with railway materials by the HRIDC in the same trucks/trailers/carriage.

34. The Contractor shall not ply trucks/tractor/trailers on the new embankments to avoid any danger to running traffic.

35. Since the consignments to be unloaded and the materials to be lead/transported may/require use of crane/trucks/trolley block etc. hence the Contractor will have to make suitable timely arrangement by his own efforts, cost and the HRIDC will not assist in making these arrangements. This will be purely Contractor's responsibility.
36. The road vehicle in which material is loaded for leading should normally not be changed. If there is any break down and defect/damaged/out of order, the road vehicle required to be changed for transporting the Railway material to the destination, prior approval has to be obtained from the Engineer in charge for changing the transport vehicle.
37. The Contractor has to unload the P. Way materials by mechanical/ manual means with special precautions so as not to damage the materials. The Rails, P. Way materials etc. should not be thrown with impact, but should be unloaded gently using the Contractor's own road cranes or by other mechanical means by slowly sliding the rail panels, Rails & other P. Way materials etc. The handling of rails and P. Way material should be proper, as directed by Engineer-in charge. The unloading of rails, P. Way material etc. should be done without any infringement to track and standard moving dimensions.
38. Since the work is required to be done in the proposed alignment, Contractor may have to cross the tracks at appropriate locations for taking his cranes/trucks to load/unload and stack the sleepers, as per direction of site in charge. The Contractor is therefore required to follow the traffic, rules and to co-ordinate with the concerned HRIDC authorities for smooth execution of the work. The tenderer is advised to quote the rate accordingly keeping above factor in view.
39. In case the Contractor at anytime fails to load/unload and lead the P. Way materials as and when asked for by the HRIDC and to maintain efficient services as required, it shall be lawful for the HRIDC to make alternative arrangements for the loading/unloading and carriage of the materials by any other means and to recover the expenses thus incurred by way of penalty that maybe due to this Contractor and to determine the contract.
40. Contractor shall ensure all precautionary measures so as not to endanger the safety of running of trains, trolleys and protect all men and materials, which shall be the responsibility for the Contractor. The Contractor should make a special note of this clause as safety of train is of utmost importance. Nothing extra shall be payable on this account.
41. At some time, Contractor maybe required to bring men/material etc. from the other side of the existing tracks, and as such the rates quoted by him will be inclusive and all protection measures has to be taken for men and materials as well as safety of trains.
42. In the event of any train accident during the work on the existing running line, arising on accounts of Contractor or his men not observing necessary safety

precautions for the various operations required for the execution of this work the Contractor shall be fully responsible for all damages and also he will have to pay charges of the accident/relief train arranged if any, In addition, the Contractor would be responsible for payment on actual compensation for loss of any life or property of Railway and Railway users.

43. RESPONSIBILITY FOR ANY MISHAP, DERAILMENT, ACCIDENT ARISING OUT OF THIS WORK.

- i) Contractor shall ensure all precautionary, measures so as not to endanger the safety of running traffic therein protect all men and materials, which shall entirely be the responsibility of the Contractor. The Contractor should make a special note of this clause as safety of train is of importance. Nothing extra shall be payable on this account.
- ii) HRIDC shall not be responsible for any loss or damage to Contractor man, materials, equipment, tools and plants etc. from any course whatsoever.
- iii) At some place, Contractor may be required to bring men material etc. from/ through the other side of the existing tracks and as such rates quoted by him will be inclusive of all protection measures required to be taken, to protect men and materials as well as safety of trains.
- iv) In the event of any train accident during the work on the existing running line, arising on accounts of Contractor or his men not observing necessary safety pre-cautions for the various operation required for the execution of this work the Contractor shall be fully responsible for all damages and also he will have to pay charges of the accident/relief train arranged, if any, at the following rates.
 - (a) Accident involving use of accident relief train - Rs. 25000/- .
 - (b) Accident not involving use of accident relief Rs. 10,000/-.
 - (c) In addition, the Contractor would be responsible for payment of actual compensation for loss of any life or property of Railway / Railways users and public.
- v) Payment shall be released only after the material is stacked at the required location within a distance of 150 Mtr from centre line of track. 83 No. of sleepers at every 50M distance (along the track) shall be required. It may please be noted that no part payment shall be made for the sleepers stacked at other than the prescribed place.

44. Additional Safety at Work site: (ADVANCE CORRECTION SLIP NO.69 Dated 23.05.2001)

Para no.826 of Chapter VIII of the IRPWM, 1986 : Safe working at site should be ensured by the Contractor as per instruction laid down in IRPWM-2004(Corrected up to date). Instructions contained in the Para 826 of the IRPWM are reproduced below for strict adherence.

Safe working of Contractors: A large number of men and machinery are deployed by the Contractors for track renewals, gauge Conversions, doubling,

	<p>bridge rebuilding etc. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted.</p> <ol style="list-style-type: none"> i) Contractor shall not start any work without the presence of HRIDC supervisors at site. ii) Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. For this purpose the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the Contractor. Special care shall be taken for turning/reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions. iii) Look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains. iv) Supervisor/workmen should be counselled about safety measures. A competency certificate to the Contractor's supervisor as per prescribed Performa shall be issued by in charge which will be valid only for the work for which it has been issued. v) Unloaded ballast/rails/sleepers/other P.Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track. vi) Supplementary site-specific instructions, wherever considered necessary, shall be issued by the Engineer in charge.
34.37	<p>NS-37: Loading, Leading, unloading & stacking of all type of sleepers. Refer conditions given in Clause 34.36 above (PARA 1 TO PARA 44)</p>
34.38	<p>NS-38: Unloading and stacking of rails 1/3/10/20 rail panels from rake of BFR / BRN</p> <ol style="list-style-type: none"> 1. The scope of work is of discontinuous nature. Contractor will have to arrange for unloading & stacking of material as and when received. 2. The contractor shall be responsible for the unloaded material till the material is handed over to the consignee at site. 3. The contractor shall unload & stack the material at his own risk & responsibility. He should take such precautions those are necessary to ensure that material is not damaged during unloading & stacking. Contractor will be responsible fully for damages and losses. If there is any loss to the railway material, same will be recovered from the running bills of contractor @ 1.5 times the cost of material inclusive of freight @ 7%. 4. For shortage & damages if any, recovery will be made from contractor's running bills @ 1.5 times the cost of material inclusive of freight @ 7%.

	<ol style="list-style-type: none"> 5. No re-handling charges will be paid, if re-handling is required due to negligence of instructions of Engineer-in-charge by the contractor. 6. Contractor will remain touch daily with the Engineer-in-charge or his authorized representative in person / on phone so as to inquire about the expected arrival of material. In case of material received through railway BFR/ Wagons, unloading of material is to be started immediately after placement. Unloading of material has to be completed within the free time permitted by the HRIDC as per the prevailing rules. In case of any delay on contractor's account, he will be responsible for the demurrage charge finalized by the HRIDC and same will be recovered from the running bills of contractor. 7. The working hours will normally be from 8.00 Hrs to 18.00 Hrs or as decided by Engineer –in charge considering safety point of view. 8. There will be no holiday for the purpose of this contract and material has to be unloaded as and when received. 9. Rate also includes removal and re-fixing of sign boards, kilometre post, gradient post if coming on the way including digging and refilling of road surface on level crossing.
34.39	<p>NS-39: Painting of rails outside / inside of any section the track / on cess / block section with two coats of bituminous emulsion, confirming to IRS : P- 30 - 1996 to dry film thickness of 350 microns (each coat to minimum thickness of 175 microns) after applying one coat of ready mixed priming coat of read oxide zinc chromate primer to IS : 2074 of approved quality as per IRPWM . The painting will be done after removing the rust & dust and loosening the scales by brushing / scraping etc. All the application will be done in uniform brushing. The work shall be complete in all respects with all labour & material misc. and incidental works related to the job as per direction of HRIDC's Engineer in charge at site to his entire satisfaction.</p>
34.40	<p>NS – 40 Painting of one coat of anti-corrosive black bituminous paint on ERC new/ old with approved quality of paint, prior to applying the paint over ERC, proper cleaning of any dust/ rust etc with wire brush/sand paper and brushing for good quality of work and washing of pandrol clips by K. Oil by keeping them dipped in k. Oil for at least 12 hour, drying them and then dipping for short period in bituminous paint of ISI approved mark as per instructions of the Engineer in charge at HRIDC including the cost of all material, labour and T & P as a complete job.</p>

Deputy General Manager (Projects)
HRIDC, SCO 17-18-19, 3rd Floor,
Sector-17A, Chandigarh – 160017

I/We am/are to abide by the terms and conditions mentioned on all pages of Tender Documents as well as the Indian Railways Standard General Conditions of Contract, July 2020, Standard, Northern Railway Unified Standard Schedule of Rates 2010 (Works & Materials) and Indian Railway Unified Standard Specifications (Works & Materials) Vol.1 & 2- 2010 to the extent the latter three books are applicable as corrected up to date.

Signature of the Tenderer(s)

Address

Annexure-1

IRPVMC/S No. 69 dated 23.05.2001	
(Authority RB letter No. 98/CE-II/PRA/32 dated 23.05.2001)	
A new Para No.826 be added to Chapter VII of the IRPWM, 1986 to read as under:	
826	Safe working of Contractor(s) – A large number of men and machinery are deployed by the Contractors for track renewals, gauge conversions, doublings, bridge rebuilding, etc. It is, therefore, essential that adequate safety measures are taken for safety of the trains as well as that of the work force. The following measures should invariably be adopted:
(i)	The Contractor(s) shall not start any work without the presence of HRIDC Supervisor at site.
(ii)	Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's Schedule of Dimensions. For this purpose, the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the Contractor(s). Special care shall be taken for turning/ reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions
(iii)	The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.
(iv)	The Supervisor/Workmen should be counselled about safety measures. A Competency Certificate to the Contractor(s) as per performa annexed shall be issued by DGM/HRIDC, which will be valid only for the work for which it has been issued
(v)	The unloaded ballast/rails/sleepers/other P. Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
(vi)	Supplementary site-specific instructions, wherever considered necessary shall be issued by the Engineer-in-Charge.
Competency Certificate	
Certified that Shri..... P. Way Supervisor of M/s..... has been examined regarding P.Way working on Work. His knowledge has been found satisfactory and he is capable of supervising the work safely.	
Signature of Tenderer(s)	Signature and designation of the Officer

Annexure-2**Training to Supervisors and Operators of the Contractor(s):**

The Supervisors and Operators of the Contractor(s) proposed to be deployed at the work site, which is close to the running track, shall be imparted mandatory training by the Railway about the safety measures to be adopted while working in the vicinity of running track. Engineer-in-Charge of the work shall decide the scale, extent & adequacy of training. In case training is imparted at a recognized Railway Training Institute, the charges for the same, as decided by Railway shall be recovered from Contractor(s). A Competency Certificate to this effect to the individual Supervisor/ Operator shall be issued as given below, by a Railway Officer not below the rank of Assistant level. No Supervisor/Operator of the Contractor(s) shall work or be allowed to work in the vicinity of running track who is not in possession of valid Competency Certificate.

All the labour, materials, tools, plants, etc. required for ensuring safe running of trains shall be provided by Contractor(s) at his own cost.

Competency Certificate

Certified that Shri..... Supervisor/Operator of M/s..... has been has been trained and examined in safety measures to the followed while working in the vicinity of running railway track for the work
His knowledge has been found satisfactory and he is capable of supervising the work safely.

This Certificate is valid only for the work mentioned in this Certificate.

Signature of Tenderer(s)

Signature and designation of the Officer

Annexure-3

JOINT PROCEDURE FOR UNDERTAKING DIGGING WORK IN THE VICINITY OF UNDERGROUND SIGNALLING, ELECTRICAL AND TELECOMMUNICATION CABLES:

A	A number of Engineering works in connection with gauge conversion/ doubling/third line are in progress on various Railways, which require extensive digging work near the running track, in close vicinity of the working S&T cables carrying vital safety circuits as well as electrical cables feeding the power supply to cabins, ASM room, RRI cabin, Intermediate Block Huts (IBH) etc. Similarly, engineer In-charge organisation under open line or construction units under CAO/C, are executing various Signalling and Telecom works requiring digging of earth for laying of cables or casting of foundations for the erection of signal posts etc. Rail Tel is also executing the work of laying of quad cable and OFC on various Railways as a part of sanction works for exclusives use of Railways for carrying voice and data i.e. administrative and control communication, PRS, FOIS etc. or shared by Rail Tel Corporation of India Ltd. On certain sections digging is also required for laying of electrical cable and casting of foundation for the erection of OHE masts by Electrical Deptt. generally, these works are executed by Contractors employed by these organisations.
B	However, while carrying out these works in the vicinity of working signalling, telecommunication and electrical cables, at times cable cut take place due to JCB machines working along the track or during the digging work being done by Contractors carrying out the Civil Engineering works. Similarly, such cable cuts are also resulting due to works undertaken by engineer in-charge. Such cable faults results in the failure of vital signalling and telecommunication circuits installations.
C	Henceforth, the following joint procedure shall be followed by engineer In-charge of the HRIDC organisation, while carrying out any digging work near to existing signalling and telecommunication and electrical cables, so that the instances of cable cut due to execution of works, can be controlled and minimized.
1.	Concerned Engineer In-charge shall provide a detailed cable route plan showing exact location of cable at an interval of 200m or wherever there is change in alignment so that the same is located easily by the Engineering official/Contractor. In addition, concerned engineer In-charge shall also provide cable markers along the alignment of the cable. These cable route plans shall be made available to the DGM/HRIDC or JGM/HRIDC, as the case may be, by DGM/S&T/System or JGM/Electrical within 15 days in duplicate. DGM/HRIDC or JGM/HRIDC, will send copies to their field unit i.e. concerned engineer In-charge and works.
2.	Before taking up any digging activity on a particular work by any agency, DGM/S&T/System or JGM/Electrical or the section shall be approached in writing by the concerned Engg. or SD&T or Electrical Officer for permitting to undertake the

	work. DGM/S&T/System or JGM/Electrical, after ensuring that the concerned execution agencies including the Contractor have fully understood the concerned engineer In-charge and Electrical cable route plan, shall permit the work in writing within 07 days of the request by concerned department.
3.	After getting the permission from concerned engineer In-charge or Electrical Department as the case may be, the relevant portion of the cable route plan shall be attached to the letter through which permission is issued to the Contractor by concerned Engg. official for commencement of work and ensuring that the Contractors have fully understood the cable route plan and precautions to be taken to prevent damage to the underground cables. The Contractor shall be asked to study the cable plan and follow it meticulously to ensure that the safety of the cable is not endangered. Such a provision, including any penalty for default, should form part of agreement also. It is advisable that a suitable post of SE/Sig. or SE/Tele or SE/Electrical (TRD or G) shall be created chargeable to the estimates of doubling/gauge conversion, who can help Engg. agencies in the execution of the work. However basic responsibility will be of the department executing the work and the Contractor. Creation of posts is not mandatory.
4.	The SE/P. Way or SE/Works shall pass on the information to the concerned SE/Sig. or SE/Tele or SE/Electrical (TRD or G) about the works being taken up by the Contractors in their sections at least 03 days in advance of the day of the work. In addition Engineering control shall also be informed by concerned engineer In-charge, who in turn shall pass on the information to the test room/network operation centre of Rail Tel/TPC/Electrical Control.
5.	On receiving the above information, SE/Sig or SE/Tele or SE/Electrical (TRD or G) shall visit the site on or before the date of taking up the work and issue permission to the Contractor to commence the work after checking that adequate precautions have been taken to avoid the damage to the cables. The permission shall be granted within 03 days of submission of such requests.
6.	The name of the Contractor, his contract telephone number, the nature of the work shall be notified in the Engineering control as soon as the concerned Engineering officials issue the letter authorizing commencement of work to the Contractor. Test room shall be given copies. Test room shall collect any further details from the Engineering control and shall pass it on to the concerned engineer In-charge regularly. In case the supervisors of concerned departments do not turn up on the day as advised in terms of para 4 and 5 above, the works of Contractor should not be stopped on this account.
7.	In case of works being taken up by the State Government, National Highway Authority etc., the details of the permission given i.e the nature of work, kilometre etc. be given to the Engineering control person's number so that the work can be done

	in a planned manner. The permission letter shall indicate the contact number of Test room/Network Operating Centre of Rail Tel/TPC/Elect. Control.
8.	Where the nature of the work taken up by the Engineering Department is such that the OFC or other S&T cables or Electrical cables is to be shifted and relocated, notice of minimum one week shall be given so that the Division/Rail Tel/Construction can plan the works properly for shifting. Such shifting works shall be in addition, for security and integrity of the cables, be supervised by concerned engineer In-charge.
9.	The concerned engineer In-charge supervising the work of the Contractor shall ensure that the existing emergency sockets are not damaged in view of their importance in providing communication during accident/emergency.
10.	In case of minor nature of works where shifting of cable is not required, in order to prevent damage to the cable, the Engineering Contractor shall take out the concerned engineer In-charge of HRIDC or optical fibre cable or Electrical cable carefully from the trench and place it properly alongside at a safe location before starting the earthwork under the supervision of SE/Sig. or SE/Tele or SE/Electrical (TRD or G). The cable shall be reburied soon after completion of excavation with proper care including placement of the brick over the cable under the supervision of concerned engineer In-charge. However, the work will be charged to the concerned engineering works. The responsibility for ensuring availability of SE (Signal), SE (Electrical) as per para 4 and 5 above lies with the respective department. The Contractor will go ahead with the shifting of cables as per the program decided and he will not be held responsible for any cable cut.
11.	In all the sections where major project are to be taken up/going on concerned engineer In-charge shall deploy their official to take preventive/corrective action at site of work. As regards Electrical Department, the official may be deputed on need basis.
12.	No new OFC or quad cable shall be laid close to the existing track. It shall be laid close to the Railway boundary on one side of the Railway track to the extent possible to avoid any interference with the future works (doubling etc.). It shall be ensured in the new works of cable laying that the cable recute is properly identified with electronic or concrete markers. Wherever multiple cables are laid in a trench, RFID markers may be provided for easy identification of the cable. Henceforth, wherever cable laying is planned, before undertaking the cable laying work, the cable route plan of the same shall be prepared by concerned department of HRIDC/Railway to avoid possible damage in future. Such approval shall be granted within 15 days of the submission of the request.
13.	The works of excavating the trench and laying of the cable should proceed in quick succession, leaving a minimum time between the two activities.

14	In case damage is caused to OFC/Quad cable during execution of the work, the Contractor is liable to pay a penalty for damaging the cable. Penalty shall not be levied in case of the following.										
14 (a)	Detailed cable route plan as per clause C-1 not provided by concerned department or cable is not protected as per laid down procedures.										
14 (b)	The alignment of the cable does not tally with the information provided to the Contractor.										
14 (c)	The cable depth is found to be less than 800mm from normal ground level.										
14 (d)	No engineer In-charge was available at site guarding the cables on the fixed pre - determined date and time.										
15.	<p>Penalty to be imposed for damages to cable shall be as under:</p> <table border="1"> <thead> <tr> <th>Cable damaged</th> <th>Penalty per location</th> </tr> </thead> <tbody> <tr> <td>Only Quad cable or Signalling Cable</td> <td>Rs 1.0 Lakh</td> </tr> <tr> <td>Only OFC</td> <td>Rs. 1.25 Lakh</td> </tr> <tr> <td>Both OFC & Quad</td> <td>Rs. 1.5 Lakh</td> </tr> <tr> <td>Electrical Cable</td> <td>Rs 1.0 Lakh</td> </tr> </tbody> </table> <p>Necessary debit in this regard shall be raised on the department undertaking the shall be in turn levy the penalty on the defaulting Contractor. Department be raise the debits in case of damage to OFC or Quad or Signalling cable electrical department shall raise the debits in case of damage to Electrical cable.</p>	Cable damaged	Penalty per location	Only Quad cable or Signalling Cable	Rs 1.0 Lakh	Only OFC	Rs. 1.25 Lakh	Both OFC & Quad	Rs. 1.5 Lakh	Electrical Cable	Rs 1.0 Lakh
Cable damaged	Penalty per location										
Only Quad cable or Signalling Cable	Rs 1.0 Lakh										
Only OFC	Rs. 1.25 Lakh										
Both OFC & Quad	Rs. 1.5 Lakh										
Electrical Cable	Rs 1.0 Lakh										
16.	<p>HRIDC will not lodge FIR with RPF in cases of works being executed by authorized Contractors of HRIDC who have been duly permitted to execute the works in accordance with this JPO. Joint note by the supervisors of the concerned department shall be prepared and the responsibility of the cable cut should be decided without involving RPF. The joint note deciding the fact whether the Contractor should be penalized shall be completed in a day's time from the occurrence of cable cut.</p> <p>In all other cases, when the cable is cut by an agency that was not permitted to execute any work, FIR should be lodged with RPF.</p>										
17.	While giving permission for taking up the works, concerned departments may note that earthwork by engineering Contractors will normally be done by machines except in a few isolated locations where the quantity of earth work is very less.										
18.	HRIDC shall make necessary correction in their future contract so that this Joint Procedure can also be enforced contractually.										

19.	In case of damage to OFC, Rail Tel should be paid 5/6 th of the penalty recovered. Rail Tel shall raise demands on the concerned engineer In-charge in this regard.
20.	All types of signalling & OHE bonds i.e, rail bond, cross bond and structure bond shall be restored by the Contractor with a view to keep the rail voltage low to ensure safety of personnel.
21.	Above joint circular shall be applicable for construction as well as all concerned departments of this work.
22.	S&T cable and electrical cable route plan should be prepared by the concerned engineer In-charge respectively and got approved as stipulated in para C-12 before undertaking the work. The completion cable route plan should be finalized block section by block section as soon as the work is completed.
23.	All cable laying works shall be executed as per laid down technical specifications, such as protection measures/protective cover, compaction of refilled material etc.

Safety, Health and Environment (SHE) Protocol to be followed by the Contractor

Safety, Health and Environment (SHE) Protocol to be followed for this work

1.0 Introduction

1.1 Scope: This document defines the principal requirements of the HRIDC on Safety, Health and Environment (SHE) associated with the Contractor / sub-Contractor and any other agency to be practiced at construction worksites of Haryana Rail Infrastructure Development Corporation (HRIDC) at all time. Since HRIDC is the Principal HRIDC for all work men / women at all its work sites, applicability of HRIDC's SHE Manual is very important.

1.2 Application of this document: This document applies to all aspects of the Contractor's scope of work, including all aspects conducted by sub-Contractors and all other agencies. There shall be no activity associated to the contract, which is exempted from the purview of this document.

1.3 Purpose of this document: The objective of these guidelines is to ensure that adequate precautions are taken to avoid accidents, occupational illness and harmful effects on the environment during construction.

2.0 SHE targets and goals

2.1 The SHE targets, goals and aim for the Works are to achieve:

- i) Zero total recordable injuries.
- ii) Zero reportable environmental incidents
- iii) All personnel inducted in accordance with the approved Contractor SHE plan
- iv) Total compliance of conducting inspections and audits as per approved SHE plan
- v) 100% incident recording and reporting
- vi) 100% adherence of usage of appropriate PPEs at work.
- vii) Executing construction work with least disturbance to the environment, adjoining road users and traffic

3.0 Compliance

3.1 Memorandum of Understanding (MOU): A MOU placed at **Annexure-4** shall be executed before the award of contract by the Contractor with regard to various provisions on Safety, Health and Environment to be practiced during the construction work.

3.2 Statutory requirements

3.2.1 Primary Statutory Regulations: Contractor shall develop thorough understanding about Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act 1996 (i.e. BOCWR), Central Rules 1998, Building and Other Construction Workers' Welfare Cess Act, 1996 and Central Rules, 1998 and Haryana Building and Other Construction Workers' Welfare Board Rules, not only to satisfy the Inspectors' perspective

but the use of legislation as the strong tool for effective SHE management at construction worksites. Contractor is strongly advised to practice the principle of voluntary compliance.

3.2.2 In addition, the construction works shall be undertaken in accordance with all applicable legislation and Indian statutory requirements listed below but not limiting to:

- a) Indian Electricity Act 2003 and Rules 1956
- b) National Building Code, 2005
- c) Factories Act, 1948
- d) Motor Vehicles Act as amended in 1994 and The Central Motor Vehicles Rules, 1989.
- e) Indian Road Congress Code IRC: SP: 55-2001 'Guidelines on Safety In Road Construction Zones.
- f) The Petroleum Act, 1934 and Rules 1976
- g) Gas Cylinder Rules, 2003
- h) Indian Explosives Act. 1884, along with the Explosives substance Act 1908 and the Explosives Rules 1983
- i) The (Indian) Boilers Act, 1923
- j) The Public Liability Insurance Act 1991 and Rules 1991
- k) Minimum Wages Act, 1948 and Rules 1950
- l) Contract Labour Act, 1970 and Rules 1971
- m) Child Labour (Prohibitions & Regulations) Act, 1986 and Rules 1950
- n) Environment Protection Act, 1986 and Rules 1986
- o) Air (Prevention and control of Pollution) Act, 1981
- p) Water (Prevention and Control of Pollution) Act, 1974
- q) The Noise Pollution (Regulation & Control) Rules, 2000
- r) Manufacture, Storage & Import of Hazardous Chemicals Rules, 1989
- s) The Hazardous Waste (Management & Handling) Rules, 1989
- t) Hazardous Waste Management Rules 1989 (as amended in 1999)
- u) Workman Compensation Act, 1923 along with allied Rules
- v) Fly ash utilization notification, Sept 1999 as amended in August 2003

3.2.3 **International Standards, Guidelines & ISO Certifications:** The works should be undertaken in accordance with the applicable international guidelines, standards and specifications on SHE and every contract shall aim to achieve ISO certifications listed below during the currency of the contract:

- a) OHSAS 18001-1999: Occupational Health and Safety Management System.
- b) ISO 14001-2004: Environmental Management Systems

4.0 General instructions for personnel working at the site

4.1 The Contractor shall ensure that all personnel working at the site receive induction training explaining the nature of the work, the hazards that may be encountered during the site work and the particular hazards attached to their own function within the operation.

- 4.2 All personnel shall be issued a photo identity card of size 85mm x 55mm duly signed by the authorized representative of the Contractor before they are engaged for any work and the format of the photo identity card should be approved from HRIDC.
- 4.3 Contractor shall also issue a safety handbook to all the personnel in a language known to the workers, which provides information on safety, health and emergency procedures that all personnel working on the contract are required to know and the need to follow. Contractor shall ensure that this is distributed, and its content introduced to all personnel working at the site.

5.0 Safety Protocols

5.1 Housekeeping:

- 5.1.1 Contractor shall understand and accept the importance of housekeeping. The working environment shall be kept clear of all unnecessary waste, thereby providing a first line of defense against accidents and injuries.
- 5.1.2 General Housekeeping shall be carried out by the Contractor and ensured at all times at Work Site, Construction Depot, Batching Plant, Labour Camp, Stores, Offices and toilets/urinals.
- 5.1.3 The Contractor shall be responsible to provide segregated containers for disposal of debris at required places and regular cleaning of the same.
- 5.1.4 Full height fence, barriers, barricades etc. shall be erected around the site in order to prevent the surrounding area from excavated soil, rubbish etc., which may cause inconvenience to and endanger the public. The barricade especially those exposed to public shall be aesthetically maintained by regular cleaning and painting as directed by the HRIDC. These shall be maintained in one line and level.
- 5.1.5 All surplus debris should be removed/disposed-off from the working areas to officially designated dumpsites
- 5.1.6 No parking of trucks/trolleys, cranes and trailers etc. shall be allowed on roads, which may obstruct the traffic movement.
- 5.1.7 Roads shall be kept clear and materials like pipes, steel, sand boulders, concrete, chips and brick etc. shall not be allowed on the roads to obstruct free movement of road traffic.
- 5.1.8 Proper and safe stacking of material are of paramount importance at yards, stores and such locations where material would be unloaded for future use. The storage area shall be well laid out with easy access and material stored / stacked in an orderly and safe manner.
- 5.1.9 Flammable chemicals / compressed gas cylinders shall be safely stored.
- 5.1.10 Empty cement bags and other packaging material shall be properly stacked and removed.

5.2 Working at Height:

- 5.2.1 The Contractor shall ensure that work at height is properly planned for any emergencies and rescue, appropriately supervised, and carried out in a manner, which is reasonably practicable safe.

- 5.2.2 The Contractor shall ensure that work at height is carried out only when the weather conditions do not jeopardize the health or safety of persons involved in the work.
- 5.2.3 The Contractor shall ensure that no person at work passes across or near, or working on, from or near, a fragile surface (i.e. surface, which would be able to fail if any reasonably foreseeable loading were to be applied to it) where it is reasonably practicable to carry out work safely and under appropriate ergonomic conditions without his doing so. Prominent warning notices should be placed near such surfaces.
- 5.2.4 The Contractor shall, where necessary to prevent injury to any person, take suitable and sufficient steps to prevent, so far as is reasonably practicable, the fall of any material or object.
- 5.2.5 Where a workplace contains an area in which, owing to the nature of the work, there is a risk of any person at work falling a distance or being stuck by a falling object, which is liable to cause personal injury, the workplace shall be reasonably equipped with devices preventing unauthorized persons from entering such area.
- 5.2.6 Every workman shall use any work equipment or safety device provided to him for work at height by the Contractor
- 5.2.7 Requirements for collective safeguards for arresting falls:
- a) Collective safeguard are a safety net, airbag or other collective safeguard for arresting falls
 - b) A safeguard shall be suitable and of sufficient strength to arrest safely the fall of any person who is liable to fall.
 - c) Suitable and sufficient steps shall be taken to ensure, so far as practicable, that in the event of a fall by any person the safeguard does not itself cause injury to that person.
- 5.2.8 Requirement for Ladders:
- a) Every Contractor shall ensure that a ladder is used for work at height only if a risk assessment has demonstrated that the use of more suitable work equipment is not justified because of the low risk.
 - b) Only metal ladders shall be allowed. Bamboo ladders are prohibited

5.3 Overhead Protection: All Contractors shall provide overhead protections as per Rule 41 of BOCWR

5.4 Slipping, Tripping, Cutting, Drowning and Falling Hazards: As per Rule 42 of BOCWR

5.5 Lifting Appliances and Gear

- 5.5.1 Lifting appliances means a crane, hoist machinery, derrick, winch, gin pole, sheer legs, jack, hoist drum, slewing machinery, slewing bearing fasteners, lofting machinery sheaves, pulley blocks, hooks or other equipment used for lifting materials, objects or building workers and lifting gears means ropes, chain slings, shackles, hooks, lifting lugs, wire ropes, lifting eyebolts and eyenuts and other accessories of a lifting appliance.
- 5.5.2 No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered properly against various parameters.

5.5.3 The Contractor shall ensure that a valid certificate of fitness is issued and available for all lifting appliances including synchronized mobile jacks, pre-stressing hydraulic jacks, jacks fitted with launching girders etc. and HRIDC's approval is taken before inducting any such appliance to the site.

5.5.4 Contractors shall ensure testing and periodical examination of lifting appliances and gears.

5.5.5 The Contractor shall ensure that the operator of lifting appliances is well qualified and trained

5.6 Launching Operation

5.6.1 As launching operation is one of the riskiest job, the Contractor shall take utmost precaution at all stages like planning, establishing casing yard, casting segments, transporting segments, fabrication and erection of launching girders, launching of segments, pre-stressing, auto launching of girders and dismantling of launching girders.

5.6.2 The Contractor shall prepare a comprehensive Method Statement for the launching operation, adhering to the SHE conditions laid down in conditions of contract on SHE. Particular reference shall be made to the provisions on working at height. As the entire process of launching has to be undertaken at an elevated level the safety of workers and the girder is paramount important. Necessary general guidelines shall be adhered to throughout the launching operation by the Contractor.

5.7 Construction machinery

5.7.1 Construction machineries may include dumpers and dump trucks, lift trucks and telescopic handlers piling rigs, vibro hammers, rail welding equipment, mobile elevating work platforms, cranes, tipper lorries, lorry loaders, etc.

5.7.2 Every construction equipment shall be in sound mechanical working condition and certified by either competent person under Factories Act or manufacturers' warranty in case of brand new equipment or authorized persons/firms approved by HRIDC before induction at site.

5.7.3 All Vehicles shall be fitted with audible reverse alarms and maintained in good working condition. Reversing shall be done only when there is adequate rear view visibility or under the directions of a banksman.

5.8 Machine and general area guarding

5.8.1 The Contractor shall ensure at the construction site all motors, cogwheels, chains and friction gearing, flywheels, shafting, dangerous and moving parts of machinery are securely fenced or legged. The fencing of dangerous part of machinery is not removed while such machinery is in motion or in use.

5.9 Manual lifting and carrying of excessive weight

5.9.1 The Contractor shall ensure at the construction site that no building worker lifts by hand or carries overhead or over his back or shoulders any material, article, tool or appliances exceeding in weight as per Rule 38 of BOCWR (Max lifting weight for: Adult man = 55 kg and Adult woman = 30 kg), unless aided by another building worker or a device.

5.10 Lighting

5.10.1 The Contractor shall provide sufficient site lighting, of the right type and at the right place for it to be properly effective. Lighting ought not to introduce the risk of electric shock. Therefore, 230V supplies should be used for those fittings, which are robustly installed, and well out of reach e.g. flood lighting or high-pressure discharge lamps.

5.11 Hand Tools and Power Tools

5.11.1 The Contractor is wholly responsible for the safe condition of tools and equipment used by his employees and that of his sub-Contractors

5.11.2 Use of short / damaged hand tools shall be avoided, and the Contractor shall ensure all his hand tools used at his worksite are safe to work with or stored and shall also train his employees (including his sub-Contractors) for proper use thereby.

5.11.3 All hand tools and power tools shall be duly inspected before use for safe operation.

5.12 Dangerous and harmful environment

5.12.1 Exposure of building workers to dangerous and harmful environment shall be avoided unless suitable measures are taken and provided by the Contractor

5.12.2 Provisions of BOCWR Rule 40 shall be strictly followed by the Contractor in this regard

5.13 Fire prevention, protection and fighting system

5.13.1 The Contractor shall ensure that construction site is provided with fire extinguishing equipment sufficient to extinguish any probable fire at construction site. An adequate water supply is provided at ample pressure as per national standard.

5.13.2 Recharging of fire extinguishers and their proper maintenance should be ensured and as a minimum should meet Indian National Standards.

5.13.3 All drivers of vehicles, foreman, supervisors and managers shall be trained on operating the fire extinguishers and fire-fighting equipment.

5.14 Corrosive substances

5.14.1 As per BOCWR Rule 44, corrosive substances including alkalis and acids shall be stored and used by a person dealing with such substances at a building / construction site in a manner that it does not endanger the building worker and suitable PPE shall be provided by the Contractor to the worker during such handling and work. In case of spillage of such substances on building worker, the Contractor shall take immediate remedial measures.

5.15 Demolition works

5.15.1 The Contractor shall ensure that all demolition works be carried out in a controlled manner under the management of experienced and competent supervision.

5.15.2 No person other than building workers or other persons essential to the operation of demolition work shall be permitted to enter a zone of demolition and the area be provided with substantial barricades

5.16 Traffic management

- 5.16.1 The basic objective of such guidelines is to lay down procedures to be adopted by Contractor to ensure the safe and efficient movement of traffic and also to ensure the safety of workmen at construction sites.
- 5.16.2 All construction workers should be provided with high visibility jackets with reflective tapes and other necessary items
- 5.16.3 The Contractor shall make use of regulatory signs, warning signs, delineators (traffic cones, cylinder, drums, etc.) and barricades with sufficient visibility during the night hours also.

5.17 Personal Protective Equipment (PPEs)

- 5.17.1 The Contractor shall provide required PPEs to workmen to protect against safety and / or health hazards. Primarily PPEs are required for various protections such as Head Protection (Safety helmets), Foot Protection (Safety footwear, Gumboot, etc.), Body Protection (High visibility clothing (waistcoat/jacket), Apron, etc.), Personal fall protection (Full body harness, Rope-grip fall arrester, etc.), Eye Protection (Goggles, Welders glasses, etc.), Hand Protection (Gloves, Finger coats, etc.), Respiratory Protection. (Nose mask, SCBAs, etc.), and Hearing Protection (Ear plugs, Earmuffs, etc.).
- 5.17.2 The PPEs and safety appliances provided by the Contractor shall be of the standard as prescribed by Bureau of Indian Standards (BIS). If materials conforming to BIS standards are not available, the Contractor as approved by the HRIDC shall procure PPE and safety appliances.
- 5.17.3 All construction workers should be provided with high visibility jackets with reflective tapes conforming to the requirement specified under BS EN 471: 1994.
- 5.17.4 The Contractor shall at all time maintain a minimum of 10% spare PPEs and safety appliances and properly record and show to HRIDC during the inspections.
- 5.17.5 **Ensure Visitor's security:** It is always the duty of the Contractor to provide required PPEs for all visitors. Towards this required quantity of PPEs shall be kept always at the security post of the construction site.

5.18 Visitors to site

- 5.18.1 No visitor shall be allowed to enter the site without the permission of HRIDC. All the authorized visitors should report at the site office. Contractor shall provide visitor's helmet (White helmet with visitor sticker) and other PPEs like Safety Shoe, reflective jacket, respiratory protection etc. as per requirement at the site.
- 5.18.2 All Visitors shall always be accompanied by a responsible member of the site personnel.
- 5.18.3 The Contractor shall be fully responsible for all visitors' safety and health within the site.

6.0 Occupational Health and Welfare

6.1 Physical fitness of workmen

- 6.1.1 The contractor shall ensure that his employees/workmen subject themselves to such medical examination as required under the law or under the contract provision and keep a record of the same.

6.1.2 The contractor shall not permit any employee/workmen to enter the work area under the influence of alcohol or any drugs.

6.2 Medical facilities

6.2.1 **Medical Examination:** The contractor shall arrange a medical examination of all his employees including his sub-contractor employees employed as drivers, operators of lifting appliances and transport equipment before employing, after illness or injury, if it appears that the illness or injury might have affected his fitness.

6.2.2 **Occupational Health Centre:** The Contractor shall ensure at a construction site an occupational health centre, mobile or static is provided and maintained in good order.

6.2.3 **Ambulance van and room:** The contractor shall ensure at a construction site of a building or other construction work that an ambulance van and room are provided at such construction site or an arrangement is made with a nearby hospital for providing such ambulance van for transportation of serious cases of accident or sickness of workers to hospital promptly and such ambulance van and room are maintained in good repair and is equipped with standard facilities.

6.2.4 **First-aid boxes:** The contractor shall ensure at a construction site one First-aid box for 100 workers provided and maintained for providing First-aid to the building workers. Every First-aid box is distinctly marked "First-aid" and is equipped with sufficient articles.

6.2.5 The Contractor shall compulsorily adopt necessary measures for HIV/AIDS prevention & control, prevention of mosquito breeding, and prevention of smoking/alcohol/drugs consumption at the site.

6.2.6 **Noise:** The Contractor shall consider noise as an environmental constraint in his design, planning and execution of the Works and provide demonstrable evidence of the same on Employer's request. The Contractor shall, at his own expense, take all appropriate measures to ensure that work carried out by the Contractor and by his sub-Contractors, whether on or off the Site, will not cause any unnecessary or excessive noise which may disturb the occupants of any nearby dwellings, schools, hospitals, or premises with similar sensitivity to noise.

6.2.7 **Ventilation, illumination and radiation:** The Contractor shall take proper measures to:

- a) Ensure proper ventilation system is provided at site for various construction works
- b) Sufficient illumination at the work site
- c) The use of radioactive substances and radiating apparatus, if any used, shall comply with the Govt. regulatory requirements and all subsidiary legislation

6.2.8 **Welfare measures for workers:** The Contractor shall ensure that the following welfare measures for workers are provided for at the construction site:

- a) Sufficient latrine and urinal accommodation for workers
- b) Canteen for workers as per provisions of Section 37 of BOCWA and Rule 244 of BOCWR
- c) Effective arrangements to provide sufficient supply of wholesome drinking water with minimum quantity of 5 litres per workman per day (as per BOCWR). Quality of the drinking water shall conform to the requirements of national standards on Public Health.

- d) A free of charge temporary living accommodation to all workers conforming to provisions of Section 34 of BOCWA. These accommodations shall have cooking place, bathing, washing and lavatory facilities.

6.3 Guidelines to be followed with respect to COVID-19 situation and other similar epidemics: The Contractor shall ensure that the latest guidelines issued by Ministry of Health and Family Welfare (MoHFW), local government and the district administration are strictly followed at the construction works site. Following guidelines should be strictly adhered for safety of construction site workers:

- a) On day 0, before resuming the work on sites post lockdown period, mandatory medical check-up will be arranged for all workers.
- b) The workers coming from outside should observe home-quarantine for at least 14 days as per the guidelines issued by MoHFW.
- c) Only medically fit workers will be deployed at site and medical assistance will be arranged for unfit workers.
- d) A unique photo identity card with serial number will be issued to all the workers and their family members staying at site.
- e) All the essential items will be made available to them at site only. If necessary, they can go out wearing face masks, after informing the supervisor.
- f) No outside worker will be allowed to stay at site without following proper procedure and instructions.
- g) Start time on site will be staggered to avoid congestion at the entry gates.
- h) As in most cases, workers reside at the Sites, hence no travel arrangements are required for them.
- i) The workers staying outside (which are always nearby) should reach the site either by walking or by their individual mode of transport (bicycle, two-wheeler etc.).
- j) During attendance, training and other sessions, social distancing guidelines will be followed along with provision of no-touch attendance.
- k) All workers may be advised to take care of their own health and look out for respiratory symptoms/fever and, if feeling unwell, should leave the workplace immediately after informing their reporting officers.
- l) They should observe home-quarantine as per the guidelines issued by MoHFW and should immediately inform the nearest health centre or call 011-23978046.
- m) Workers should not shake hands when greeting others and while working on the site.
- n) Mandatorily wear face masks while working on site. While not wearing masks, cover your mouth and nose with tissues if you cough/sneeze or do so in the crook of your arm at your elbow.
- o) Avoid large gatherings or meetings. Maintain at least 1 metre (3 feet) distance from persons, especially with those having flu-like symptoms, during interaction.
- p) Not more than 2/4 persons (depending on size) should be allowed to travel in lifts or hoists.
- q) Use of the staircase for climbing should be encouraged.

- r) Workers should clean hands frequently by washing them with soap and water for at least 40 seconds.
- s) Workers should not share their belongings like food, water bottles, utensils, mobile phones etc. with others.
- t) The utensils should be washed properly post use at designated places.
- u) Post work, workers should change their clothes before leaving the site and clothing should not be shook out.
- v) Avoid touching your eyes, nose, or mouth with unwashed hands.

7.0 Environmental management

7.1 The Contractor shall ensure that sufficient environmental management checks and measures are in place and followed regularly. Some of these measures are listed in the sections below.

- 7.1.1 **Air quality** - Necessary precautions to minimize fugitive dust emissions, use of construction equipment designed and equipped to minimize or control air pollution, water down construction sites as required to suppress dust, etc.
- 7.1.2 **Water quality** - Comply with the Indian Government legislation and other State regulations in existence in Haryana in so far as they relate to water pollution control and monitoring.
- 7.1.3 **Accommodate archaeological and historical preservation concerns** that may arise due to the construction of the project and consult Archaeological Survey of India (ASI) and other parties, on the advice of HRIDC whenever required.
- 7.1.4 **Landscape and Greenery:** Maintain ecological balance by preventing deforestation and defacing of natural landscape
- 7.1.5 **Falling of trees:** HRIDC has identified the trees falling in the project alignment and processed the case for cutting of trees with the Haryana State Forest department.
- 7.1.6 **Waste:** The Contractor is required to develop, institute and maintain a Waste Management Programme (WMP) during the construction of the project for his works covering identification of disposal sites, quantities to be excavated/ disposed-off, split between waste & inert material, amounts intended to be stored temporarily on site location of such storage, and obtaining permission, wherever required, for disposal. Further, the Contractor shall handle waste in a manner that ensures they are held securely without loss or leakage thus minimizing potential for pollution. Also, he shall maintain and clean waste storage areas regularly. **The provision of Construction and Demolition Waste Management Rule 2016 issued by Ministry of Environment Forest and Climate Change dated 29.03.2016 and published in the Gazette of India, Part – II, Section -3, Sub-section (ii) are binding upon the Contractor. Contractor shall implement these provisions at worksites, for which no extra payment will be payable.**

- 7.1.7 **Hazardous waste management:** If encountered or generated as a result of Contractor's activity, then waste classified as hazardous under the "Hazardous Wastes (Management & Handling) Rules, 1989, amendments 2000, 2003" shall be disposed-off in a manner in compliance with the procedure given in the rules under the aforesaid act.
- 7.1.8 **Energy management:** The Contractor shall use and maintain equipment so as to conserve energy and shall be able to produce demonstrable evidence of the same upon HRIDC's request. Measures to conserve energy include but not limited to the following:
- Use of energy efficient motors and pumps
 - Use of energy efficient lighting, which uses energy efficient luminaries
 - Adequate and uniform illumination level at construction sites suitable for the task
 - Proper size and length of cables and wires to match the rating of equipment
 - Use of energy efficient air conditioners

Additional important safety guidelines for the Contractor

The Contractor shall be required to diligently follow the guidelines and instructions mentioned in the Clauses 8, 9 and 10 below.

8.0 Compendium of instructions on safety at work sites

Contractor shall also follow the following instructions on safety at work sites:

1.0	The Contractor(s) shall not allow any road vehicle belonging to him or his suppliers, etc. to ply in railway land next to the running line. If for execution of certain works viz. earthwork for parallel railway line and supply of ballast for new or existing rail line, gauge conversion, etc. road vehicles are necessary to be used in railway land next to the railway line, the Contractor(s) shall apply to the Engineer-in-Charge for permission giving the type and number of individual vehicles, names and license particulars of the drivers, location, duration and timings for such work/movement. The Engineer-in-Charge or his authorized representative will personally counsel, examine and certify the road vehicle drivers, Contractor(s)' flagmen and supervisors and will give written permission giving names of road vehicle drivers, Contractor(s)' flagmen and supervisors to be deployed on the work, location, period and timing of the work. This permission will be subject to be following obligatory conditions:
1.1	The road vehicles will ply only between sunrise and sunset.
1.2	Nominated vehicles & drivers will be utilized for the work in the presence of at least one flagman and one supervisor certified for such work.
1.3	The vehicles shall ply 6m clear of track. Any movement/work at less than 6m and up to minimum 3.5m clear of track centre shall be done only in the presence of a HRIDC employee authorized by the Engineer-in-Charge. No part of the road vehicle will be allowed at less than 3.5m from track centre. Cost of such HRIDC employee shall be borne by the HRIDC.

1.4	The Contractor(s) shall remain fully responsible for ensuring safety and in case of any accident, shall bear cost of all damages to his equipment, men and also damages to Indian Railway and its passengers.
2.0	Engineer-in-Charge may impose any other condition necessary for a particular work or site. (Ref. Railway Board's letter No. 98/CE-I/CT/15 dated 13.08.98, Annexure-VIII)
2.1	Assistant Officer/Sr. Scale Officer shall be the overall in-Charge for the safety at the site of work. It will be personal responsibility of the Inspectors (both in- Charge and supervisory) to ensure safety.
2.2	Contractor(s) shall provide 150mm thick white line with lime at a distance of 3.5m from the centre of existing track. This white line shall be in the entire length where work is going on and/or the vehicles/machineries are plying along the track. Nothing extra shall be paid for this.
2.3	Barricading with the help of portable fencing shall be provided in the length where the day's work is to be done in close vicinity of the track. The fencing shall consist of self-supporting steel column connected with at least 20mm thick red nylon rope. The columns shall be of 1.2m height. This will be placed at a distance of 3.5m, from centre line of the nearest track. This shall be paid.
2.4	Assistant Officer/Sr. Scale Officer shall issue Competency Certificate after checking license and their working to all drivers of nominated vehicle/machinery. Inspector at site shall ensure that the driver who does not possess Competency Certificate will not work at site.
2.5	The area between running line and white line shall not be permitted to become slushy and adequate drainage must be ensured at all times.
2.6	Machine/vehicles shall ply 6m clear of track and movement/work at less than 6m and upto 3.5m clear of track centre, shall be done in the presence of HRIDC employee authorized by Engineer-in-Charge. The HRIDC employee so deputed shall ensure safety of the track, with banner flags, hand signal lamps and detonators.
2.7	If vehicle/machinery/materials are to come within 3.5m of the existing track, work must be done under the presence of a HRIDC Inspector authorized to do safety works. A caution order shall be issued, and track will be protected with the banner flags, hand signal lamps and detonators.
2.8	Normally, night working shall be avoided. However, in certain areas like Delhi, the night working is unavoidable. The night working shall be permitted by DGM/HRIDC in writing. One Inspector shall be specifically deputed to supervise the night working. The site/area where night working is to be done shall be adequately lit. Nothing extra shall be paid for this. (Ref. CAO/C's letter No. 62-W/0/T/3/0/W.Spl/Gen. dated 22.05.2000, Annexure-V)

3.0	An authorized OHE staff should invariably be present, when relaying work or any major work on track is carried out in order to ensure the following points:
3.1	Power Block is correctly taken and “Permit to Work” (PTW) is issued
3.2	The structure bonds, track bonds, cross bonds, longitudinal rail bonds, etc. are not disturbed and if disconnected for the work, they are reconnected properly when the work is completed.
3.3	The return feeder connections to the rails at the feeding posts are proper and not disturbed.
3.4	The setting distance of the structures is not disturbed/ affected during the slewing.
3.5	The track level is not raised beyond the permissible limits during the work.
3.6	Excavation or digging near a mast foundation is done in such a manner that the foundation is not exposed.
3.7	The clearance particularly at over line structure is maintained to the required standards.
3.8	Precautions for the safety of staff working under the OHE are taken correctly.
3.9	The Engineering Officials-in-Charge of such major works shall ensure that intimation to their counterpart for OHE maintenance work is given with adequate notice. (Ref. Para 20714 of AC Traction Manual, Vol.-II, Part.)
3.10	All staff should be warned that contact within 2 metres (unless protected by the screen) to live portion of 25 KV traction OHE is dangerous and shall be strictly avoided. (Ref. G.R. 17.04 and S.R. 17.04 (I/a).
3.11	No work on overhead lines or in the zone within two metres of any live equipment shall be carried out unless a regular "Permit to Work" is obtained from the authorized traction staff and line is made dead and earthed. (Ref. G.R. 17.04 and their S.R.A.C.T.M. Chapter-X).
3.12	Before any overhead equipment bonding is disturbed, provisions of G.R. 17.05 and their SRs shall be complied with.
4.0	During the execution of works, unless otherwise specified the Contractor(s) shall at his own cost provide materials for and execute all shoring, timbering and strutting works as is necessary for the stability and safety of all structures, excavation and works and shall ensure that no damage, injury or loss is caused or likely to be caused to any person or property. (Ref. Clause 34.1 of Indian Railways Standard General Conditions of Contract, July 2020)
5.0	Existing roads or water courses shall not be blocked, cut through, altered, diverted or obstructed in any way by the Contractor(s), except with the permission of the Engineer. All compensation claimed for any unauthorized closure, cutting through, alteration, diversion or obstruction to such roads or water courses by the Contractor(s) or his agent

	or his staff shall be recoverable from the Contractor(s) by deduction from any sums which may become due to him in terms of the contract or otherwise according to law. (Ref. Clause 34.2 of Indian Railways Standard General Conditions of Contract, July 2020)
6.0	During progress of work in any street or thorough fare, the Contractor(s) shall make adequate provision for the passage of traffic, for securing safe access to all premises approached from such street or thorough fare and for any drainage, water supply or means of lighting which may be interrupted by reason of the execution of the works and shall erect and maintain at his own cost barriers, lights and other safeguards as prescribed by the Engineer for the regulation of the traffic, and provide watchmen necessary to prevent accidents. The work shall in such cases be executed night and day if so ordered by the Engineer and with such vigour so that the traffic way is impeded for as short a time as possible. (Ref. Clause 34.3 of Indian Railways Standard General Conditions of Contract, July 2020)
7.0	The Contractor(s) shall be responsible to take all precautions to ensure the safety of the public whether on public or railway property and shall post such lookout men as may in the opinion of the Engineer be required to comply with the regulations appertaining to the work. (Ref. Clause 34.4 of Indian Railways Standard General Conditions of Contract, July 2020)
8.0	The Contractor(s) shall be responsible for the safety of all employees directly or through petty Contractor(s) or sub-Contractor employed by him on the works and shall report serious accidents to any of them, however, and wherever occurring on the work to the Engineer or the Engineer's Representative and shall make every arrangement to tender all possible assistance. (Ref. Clause 56 of Indian Railways Standard General Conditions of Contract, July 2020)
9.0	The Contractor(s) shall be responsible for all risk to the works and for trespass and shall make good at his own expense all loss or damage whether to the works themselves or to any other property of the Railway or the lives, persons or property of others from whatsoever cause in connection with the works until they are taken over by the Railway and this although all reasonable and proper precautions may have been taken by the Contractor(s), and in case the Railway shall be called upon to make good the costs, loss or damages, or to pay any compensation, including that payable under the provisions of the Workmen's Compensation Act or any statutory amendments thereof to any person or persons sustaining damages as aforesaid by reason of any act, or any negligence or omissions on the part of the Contractor(s), the amount of any costs or charges including costs and charges in connection with legal proceedings which the Railway may incur in reference thereto, shall be charged to the Contractor(s). The Railway shall have the power and right to pay or to defend or compromise any claim of threatened legal proceedings or in anticipation of legal proceedings being instituted consequent on the action or default of the contractor(s), to take such steps as may be

	considered necessary or desirable to ward off or mitigate the effect of such proceedings, charging to Contractor(s) as aforesaid, any sum or sums of money which may be paid and any expenses whether for reinstatement or otherwise which may be incurred and the propriety of any such payment, defence or compromise, and the incurring of any such expenses shall not be called in question by the Contractor(s). (Ref. Clause 24 of Indian Railways Standard General Conditions of Contract, July 2020)
10.0	Vulnerable locations where construction work adjacent to running line can cause accident should be protected by suitable strong barrier which should be included as a paid item in contract schedule. These locations should be decided by Executive Engineer-in-Charge of the work at the beginning of construction and intimated to Contractor(s) in writing. The barrier should be painted with retro reflective paint at suitable intervals to give warning at night. (Ref. Railway Board's letter No. 99/WI/S/Accident – Mangla Express dated 23.08.1999, Annexure-VII)
11.0	No work adjacent to running track should be carried out at night without express written authority from the Executive Engineer-in-Charge of the work. In fact, no Contractor(s) should do any kind of night working unless the Executive Engineer- in-Charge of the work gives the specified spots according to priority of work where night working has to be done. These spots should be well lit at night. In addition, the work should always be done under supervision of railway supervisors in addition to Contractor(s)' supervisors. Suitable railway personnel should be posted at site with safety equipment like banner flags, hand signal flags, hand signal lamps and detonators to arrange protection of trains. The railway Supervisor-in-Charge of such work should also give suitable message to adjacent stations as well as through control for issuing caution orders to the trains approaching the work site. For this purpose, he should be equipped with field telephone/walkie-talkie set. (Ref. Railway Board's letter No. 99/WI/S/Accident – Mangla Express dated 23.08.1999, Annexure-VII)
12.0	The training to the operators and supervisors of the work executing agencies in safe working along and on the track should be provided by HRIDC. The training could be imparted to such supervisors at Zonal/Divisional training schools or even by existing Officers and staff of the Construction Organization itself. The intention is to ensure that the supervisors of the work executing agencies get acquainted with the safety practices that are required to be taken while executing all those works which have bearing on the safety of the running tracks. The cost of training shall, however, be borne by the Contractor(s). (Ref. Railway Board's letter Nos. 99/CE-II/PRA/32(CRS) dated 05.07.2000, Annexure-IV & 99/CE-II/PRA/32 dated 20.04.2000, Annexure-VI)
13.1	Drivers of train must be served with caution orders to look on for any obstructions at the place of work
13.2	Arrangements should be made to protect the track in case of emergency at work sites

13.3	The area of work should be demarcated by providing barricades and sign board which will enable the workmen posted at site and also the lorry drivers to have clear guidelines for movement of vehicles.
13.4	Movement of lorries near the track should be prohibited during night. In case it is unavoidable, adequate protective measures including lighting must be ensured.
13.5	Work should not be allowed to progress without the prior approval of the Engineer-in-Charge in case movement of vehicles close to the track is involved.
13.6	Machines and vehicles should ply 6 metres clear of track. In case movement at less than 6 metres away from track is inescapable, it should be permitted in the presence of railway employee authorized by the Engineer-in-Charge.
13.7	Contractor(s)' representative should be issued a certificate by DGM/HRIDC to the effect that they have acquired sufficient knowledge about the safety precautions that are needed to be followed while working near the track. (Ref. Railway Board's letter No. 99/CE-II/PRA/32(CRS) dated 21.07.2000, Annexure-III)
14.1	All permissible or sanctioned infringements should be consolidated for each Division traffic section wise. The consolidated list should be in possession of DRM, ADRM, Sr. DSO or DSO, Construction Officers-in-Charge of Division and relevant extracts with each Divisional and other Officers. These should be checked once a year at Assistant Officer's level and it should be ensured that there is no aggravation of any permitted infringement.
14.2	All works planned for execution close to the running lines and fixed structures, on bridges, inside tunnels, cuttings, constructed areas, etc. should be carried out only after preparation of detailed plans for the same, getting clearances from the Engineering Department of the Open Line and approval of Competent Authority to ensure that the execution of the works will not in any way infringe the prescribed Schedule of Dimensions or aggravate existing permissible infringements.
14.3	Special training and counselling should be imparted to all field staff engaged in maintenance of railway assets regarding the safety at work sites and all of them should be in possessions of a compendium.
14.4	Similar training should also be organized for HRIDC's Associates and Contractors working in close proximity of the running track and specific Para to this effect should also be included in all future contracts requiring execution of work in the near vicinity of running lines.
14.5	All the work inside a tunnel, deep cuttings, on bridges, constructed areas, etc. should be carried out in accordance with the provisions in Chapter-VIII of IRPWM and Para-1009 of Bridge Manual-1998 and preferably under block protection. (Ref. Railway Board's letter No. 2000/CE-II/PRA/12 dated 16.05.2002, Annexure-II)

15.0	<p>Wherever it is difficult to ply the trucks on road during day light hours for bringing building materials such as chips, sand, supply of ballast and bringing out earth in case of suburban sections, the additional staff should be posted during night working duly properly lighted to ensure safety of the running tracks. In order to ensure that no short cuts or unsafe practices are adopted at construction site, Sr. Officials should inspect the safety aspect in detail during their inspection and guide the staff in adopting safe practices. They should record corrective action to be taken in site order books/ inspection books and their compliance followed up. In addition, periodic drives should be carried out to ensure safety at construction sites. In order to ensure safety, provision of mobile phones based on the needs of the individual work sites and keeping the provision in the estimate may be provided.</p> <p>(Ref. Railway Board's letter No. 2001/CE-II/PRA/10 (CRS) dated 16.05.2002, Annexure-I)</p>
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9.0 Safety precautions and measures to be observed during execution of ROB/ RUB/ Viaduct/ any other works in Railway and adjoining areas:

9.1 The Contractor(s) shall not allow any road vehicle belonging to him or his suppliers, etc. to ply in railway land next to the running line. If for execution of certain works viz. earthwork for parallel railway line and supply of ballast for new or existing rail line gauge conversion, etc. road vehicles are necessary to be used in railway land next to the railway line, the Contractor(s) shall apply to the Engineer-in-Charge for permission giving the type and number of individual vehicles, names and license particulars of the drivers, location, duration and timings for such work/movement. The Engineer-in-Charge or his authorized representative will personally counsel, examine and certify the road vehicle drivers, Contractor(s)' flagmen and supervisors and will give written permission giving names of road vehicle drivers, Contractor(s)' flagmen and supervisors to be deployed on the work, location, period and timing of the work. This permission will be subject to be following obligatory conditions:

9.2 Construction Activities and Safety:

- (a) The 'Methodology of Working' shall be incorporated in GAD and Temporary Arrangement Drawings.
- (b) The activities of work to be taken up during the railway traffic block/under speed restriction, etc. should be clearly mentioned in such drawings. If at any stage of execution, any discrepancy is found in the drawing with respect to the site condition affecting safety or some new activity of work is required to be done, the same should be brought to the notice of Railway Engineer and such works should be done only after approval by Railways. In such cases, scheme may be modified and, if required, fresh CRS sanction shall have to be obtained.

9.2.1 The works required to be done under traffic block protection, are to be carried out only in the presence of Railway Engineering Officials. The Railway's Supervisor has to certify safe

conditions for passage of trains before resumption of traffic. The works to be done under traffic shall be carried out under the provision of banner flag and protection by Engineering Flagman. If considered necessary, the Railway Flagman may be posted on account of the Contractor(s).

9.2.2 Following important activities of works shall be carried out under supervision of Railway Engineer or his nominated Supervisor:

- (a) Excavation at foundation/ground level near to railway track
- (b) Concrete casting and/or masonry work very close to railway track
- (c) Erection of temporary structures near to running lines.
- (e) Casting of structures like girder/slab over railway track
- (e) Stage-prestressing of girders when placed across railway tracks properly supported
- (f) Launching of precast/pre-assembled girders across railway tracks
- (g) Any work of lifting, side shifting and slewing of girders over the railway track
- (h) Dismantling of temporary structures, shuttering, scaffolding, etc. adjacent to and above the railway track

For carrying out activities of casting, erection, launching, handling and dismantling as listed above, the Contractor's Engineer shall furnish the Construction Programme in advance to Railway Supervising Engineer. No such work should be taken up in absence of the Supervising Railway Engineer. For the activities which are to be done in presence of the Railway Engineer, prior intimation shall be given in writing and acknowledgement obtained from Railway's representative. Such activities of work shall not be carried without the presence of Railway Engineer.

9.2.3 To ensure 'Safety' during construction activities, Railway Engineer may direct the Contractor's Supervisor/Engineer or their nominated representative for safe working procedures/ instructions, notwithstanding the contractual or MOU conditions prevailing between/ among Railways/other Departments like NHAI/Contractors/ Concessionaire.

9.2.4 All the records of Quality Assurance/Quality Control, testing of the materials and satisfactory completion of an activity shall be maintained at site by the Contractor's Engineer and Supervisor. On the basis of these records, Railway Engineer shall do stage-wise clearance of the works at following stages:

- (i) Completion of foundation
- (ii) Completion of substructure
- (iii) Completion of superstructure

Without such stage clearance, the work in next stage of construction shall not be allowed by the Railway Supervisor, unless proper system of check and exercise is followed at the site.

9.2.5 Normally, the high beam PSC girders are designed with wider top flange and shorter bottom flange with very high beam which makes the girder unsuitable during lowering, slewing and launching time.

9.2.6 During launching of girders and subsequent adjustments for placement of bearing, special attention and precautions are required at site to be followed rigorously without resorting to shortcut practice or leaving the work at site to untrained or inexperienced Engineers. Normally, end diaphragms are not cast for the extreme both side girders. These shall be cast minimum 300mm on both sides for all 'I' beam girders to provide temporary supports for ensuring stability.

"OR"

For side adjustments and bearing placements below 'I' section girders, end brackets made of steel angles should be provided for all 'I' beams sequentially to avoid side titling of individual girders. End brackets shall be removed only after placing girders on bearing and casting of diaphragms.

9.2.7 During lowering, the jacks shall be operated duly keeping wooden packing of various thicknesses fixing the amount of lowering to the barest minimum, so that even if the jack fails, the wooden packing will take load and further stability of girder is not endangered.

9.2.8 Temporary crib support staging shall be interlaced with clamps and angles. Adequate base width shall be maintained proportionate to the height of stage, which is very essential for avoiding the oblong effect during launching of girders. During launching by RH girder method, the movement of the PSC girders shall be controlled both from front and rear with sync mechanism having simultaneous operation, so that the speed of the launching is always under the control. Spare hydraulic jacks shall always be kept at site. Lowering of girder shall always be carried out at one end only. Further, other end should be adequately secured by wire ropes, end brackets, etc. Thereafter, the process shall be continued alternately.

9.2.9 As far as possible, launching of girders by temporary staging shall be avoided and launching by heavy capacity cranes, wherever feasible, shall be adopted.

9.2.10 Steel girder launcher if used for launching of PSC girders should be pre-tested for the critical loading (likely to be encountered during actual launching) before deployment on the approaches regarding its strength as well as amount of permissible deflection using actual test PSC girder as a testing load. Connections at supports shall be inspected and certified prior to actual launching. It shall be adequately secured to the base support system on the pier cap.

9.3 General Construction Safety:

9.3.1 General safety precautions as applicable for bridge/civil works shall be adopted in field.

9.3.2 Working near running line: Safe practices at site and at all times non-infringement to moving trains shall be ensured. Road vehicles, material trolleys, dollies with any tendency to roll off towards the running lines to be checked by providing chains, locking arrangements, blocks,

etc. shall be ensured and the Site-in-Charge of the Contractor shall be primarily responsible, secondary responsibility being of Contractor's Consultant.

9.3.3 Testing of cranes, lifting jacks and other equipment: All equipment like cranes, lifting jacks shall be tested, duly calibrated and certified prior to the use at construction site.

9.3.4 Construction workers at site shall be provided with personal safety gear like reflective vest, helmet, leather shoes, gloves & eyewear approved as per construction industry standards. For persons working at pier top/girder level, temporary supports, hand railing, protection with help of ropes, slings and temporary railings shall be provided.

9.3.5 Routine safety checks, validity of test certificates for load bearing equipment especially for cranes outsourced from third party shall be ensured prior to deployment.

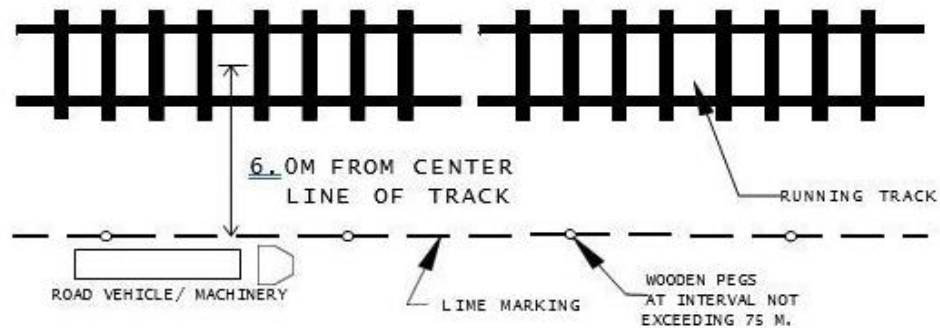
10.0 Safety Guidelines and Precautions for working close to Railway tracks

10.1 A large number of men and machinery are deployed by the contractors for track renewals, gauge conversions, doublings, bridge rebuilding etc. It is therefore essential that adequate safety measures are taken for safety of the trains as well as the work force. The following measures should invariably be adopted.

- A. The contractor shall not start any work without the presence of railway supervisor at site.
- B. Wherever the road vehicles and/or machinery are required to work in the close vicinity of railway line, the work shall be so carried out that there is no infringement to the Railway's schedule of dimensions. For this purpose, the area where road vehicles and/or machinery are required to ply, shall be demarcated and acknowledged by the contractor. Special care shall be taken for turning/ reversal of road vehicles/machinery without infringing the running track. Barricading shall be provided wherever justified and feasible as per site conditions.
- C. The look out and whistle caution orders shall be issued to the trains and speed restrictions imposed where considered necessary. Suitable flagmen/detonators shall be provided where necessary for protection of trains.
- D. The supervisor/workmen should be counseled about safety measures. A competency certificate to the contractor's supervisor as per Performa annexed shall be issued by DGM/HRIDC, which will be valid only for the work for which it has been issued.
- E. The unloaded ballast/rails/sleepers/other P-Way materials after unloading along track should be kept clear off moving dimensions and stacked as per the specified heights and distance from the running track.
- F. Supplementary site-specific instructions, wherever considered necessary shall be issued by the HRIDC's Engineer in Charge.

10.2 PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TO RUNNING TRACKS

- A. Normally, the road vehicles shall be run or machinery shall be worked so as not to come closer than 6.0m from centre line of nearest running track.
- B. The land strip adjacent to running tracks, where road vehicle is to ply or machinery is to work, shall be demarcated by lime in advance in consultation with the Railway's Supervisor. Wooden pegs at interval not exceeding 75mts shall be provided along the line marking as permanent marks. The road vehicles shall ply or machinery shall work so as not to infringe the line of demarcation.



- C. **If a road vehicle or machinery is to work closer to 6.0m due to site conditions or requirement of work, following precautions shall be observed:**
- In no case the road vehicle shall run or machinery shall work at distance less than 3.5m from centre line of track.
 - Demarcation of land shall be done by bright colored ribbon/nylon cord suspended on 120 cm high wooden/bamboo posts at distance of 3.5 m from centre line of nearest running track.
 - Presence of an authorized Railway's representative shall be ensured before plying of vehicle or working of machinery.
 - Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train. Whistle boards shall be provided wherever considered necessary.
 - Lookout men shall be posted along the track at a distance of 800m from such locations who will carry red flag and whistles to warn the road vehicle/machinery users about the approaching trains.
 - On curves where visibility is poor, additional lookout men shall be posted
- D. **If vehicle/machinery is to be worked closer to 3.5m from running track** - Under unavoidable conditions, if road vehicles is to ply or machinery is to work closer to 3.5m due to site conditions or requirement of work, following precautions shall be observed:
- Plying of vehicles or working of machinery closer to 3.5m of running track shall be done only under protection of track. Traffic block shall be imposed wherever

considered necessary. The site shall be protected as per provisions of Para No. 806 & 807 of P-Way Manual as case may be.

- b) Presence of a Railway's Supervisor shall be ensured at worksite.
- c) Railway's Supervisor shall issue suitable caution order to Drivers of approaching train about road vehicles plying or machineries working close to running tracks. The train drivers shall be advised to whistle freely to warn about the approaching train.

E. Precaution to be taken while reversing road vehicle alongside the track

The location where vehicle will take a turn shall be demarcated duly approved by Railway's representative. The road vehicle driver shall always face the Railway track during the course of turning/reversing his vehicle. Presence of an authorized Railway representative shall be ensured at such location.

- F. Road vehicle shall not be allowed to run along the track during night hours generally. In unavoidable situations, however, vehicles shall be allowed to work during night hours only in the presence of an authorized Railway's representative and where adequate lighting arrangements are made and where adequate precautions as mentioned earlier have been ensured.

- G. Road vehicles/machinery/plant etc. when stabled near running tracks shall be properly secured against any possible roll off and always be manned even during off hours.

10.3 EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES

- A. Any work close to or on running tracks shall be executed under the presence of a Railway's Supervisor only.

B. Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.

- a) Such works shall be planned and necessary drawings particularly with regard to infringement to moving dimensions shall be finalized duly approved by competent authority before execution of work. The work shall be executed only as per approved procedure and drawings.
- b) All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.
- c) Suitable speed restriction shall be imposed, or Traffic block shall be ensured as required.
- d) The site shall be protected as per provisions of Para No. 806 & 807 of Indian Railway P-Way Manual as case may be.
- e) Necessary equipment for safety of trains during emergency shall be kept ready at site.

C. Precaution to be taken to ensure safety of electrical/signal/ telephone cables while excavating near tracks.

- a) Particular care shall be taken to mark the locations of buried electrical/signal/telephone cables on the plans jointly with S & T/Electric supervisor and also at site so that these are not damaged during excavation.

- b) Copy of the cable plan should be given to the contractor's authorized representative before handing over the site to start the work.
- c) Due care shall be taken to ensure that any part of the equipment or machinery or temporary arrangement does not come close to cables while working.
- d) Joint procedure order No. 17/2013 as mentioned in the compendium of instructions on safety at work site dated 31.03.2014 issued by PCE Office shall be followed for undertaking digging work in the vicinity of underground signaling, electrical and telecommunication cables.

D. Precaution to be taken during execution of works requiring traffic blocks.

- a) Any work, which infringes the moving dimensions, shall be started only after the traffic block has been imposed.
- b) Before closing the work, the track shall be left with the proper track geometry so that the trains run safely.
- c) After completion of work the released sleeper and fittings should be properly stacked away from the track to be kept clear of moving dimensions.
- d) Block shall be removed only when all the temporary arrangement, machineries, tools, plants etc. have been kept clear of moving dimensions.

E. Precaution to be taken during execution of works during night:

The work close to running line, generally, shall be carried out only during day hours. At locations, however, where night working is unavoidable, proper lighting arrangement should be made. The engineering indicator boards shall be lighted during night hours as per the provisions of IRPWM. The staff deputed for night working should have taken adequate rest before deploying them in night shift. We can specify duration of night shift from 20.00 hrs to 04.00 hrs. All other safety precautions applicable for daytime work should be strictly observed during night working.

F. Precautions to be taken to ensure safety of workers while working close to running lines:

- a) Necessary lookout men with red flags and whistles shall be provided to warn the workmen about the approaching train.
- b) Railway's supervisor shall issue suitable caution order to Drivers of approaching train for whistling to warn the workers about the approaching train. Whistle boards shall be provided wherever considered necessary.
- c) A "First aid kit" shall always be kept ready at site

G. Precaution shall be taken for safety of public or passengers, while executing works at locations, used by passengers and public

The worksite shall be suitably demarcated to keep public and passengers away from work area. Necessary signage boards such as "Work in progress. Inconvenience is regretted" etc. shall be provided at appropriate locations to warn the public/ passengers. Adequate lighting arrangement of worksite wherever required shall be done to ensure safety of public/passengers during night.

H. Precaution to be taken before stacking materials alongside the track to ensure that safety of trains is not affected - The following precautions shall be taken before stacking the materials along the track for stacking of ballast, rails, sleepers etc.

- a) The sites for material stacking should be selected in advance in such a manner as to ensure that no part of the material to be stacked is infringing the Standard Moving Dimensions. A plan of proposed stacking locations be made and signed jointly by an authorized Railway's representative and contractor's representative.
- b) The selected locations shall be marked by lime in advance.
- c) Presence of an authorized Railway's representative while unloading and stacking shall be ensured.
- d) The material shall be stacked in such a height so as to not to infringe SOD in case of accidental roll off.

I. Precaution for handling of departmental material trains - Instructions for working of material trains are contained in Chapter XII of IRPWM which should be brought to the notice of the supervisors and other staff working on the material trains. In addition to this, following precautions should be taken:

- a) Issue of 'fit to run' certificate:
As per Para 1207 before a material train is allowed to work, the complete rake should be examined by the Carriage and Wagon staff and a 'fit to run' certificate issued to the Guard.
- b) As per Para 1208 of IRPWM, a qualified Engineering official should be deputed on the train to ensure working of the material train as the Guard is not qualified to carry out such duties like Supervising of loading and unloading of materials.
- c) As per Para 1204 of IRPWM, the material train should not be permitted to work during the period of poor visibility due to fog, storm or any other cause except with the permission of the ADEN/DEN. Working of the material trains carrying labour should not be permitted between sunset and sunrise except in an emergency.
- d) While unloading rail panels by the side of the running track, placement of the panels, clear of the maximum moving dimensions should be ensured.
- e) Unloading of rail panels should be done by a team of trained staff under the active supervision of competent Supervisor/Officer.
- f) Before unloading of rail panels, site should be prepared by way of leveling/removing extra ballast, if any, from the crib and shoulder with the objective to ensure requisite lateral and vertical clearances so as to prevent slippage of rail panels due to vibration during the passage of trains.
- g) Reasonably adequate block should be asked and provided for unloading of the material and the work should be done preferably in day light to avoid shortcut in haste which may infringe the safety requirements.

J. Safety aspects to be observed while working in OHE area

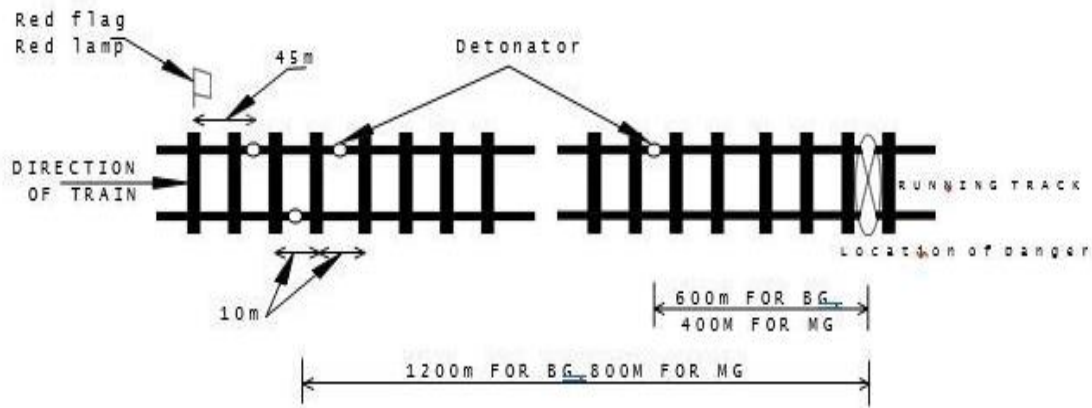
- a) No electrical work close to running track shall be carried out without permission of railway representative.

- b) A minimum distance of 2m has to be maintained between live OHE wire and body part of worker or tools or metallic supports etc.
- c) No electric connection etc. can be tapped from OHE.
- d) Authorized OHE staff should invariably be present when the relaying work or any major work is carried out.
- e) Power block is correctly taken and 'permit to work' is issued.
- f) The structure bonds, track bonds, cross bonds, longitudinal rail bonds are not disturbed and if disconnected for the work, they are reconnected properly when the work is completed.
- g) The track level is not raised beyond the permissible limit during the work

10.4 PROTECTION OF TRACK DURING EMERGENCY

A. Action to be taken when a contractor's supervisor or vehicle operator apprehends any unusual circumstances likely to infringe the track and endanger safe running of trains.

- a) At any time if a contractor's supervisor or vehicle operator observes any unusual circumstances likely to infringe the track and apprehend danger to safe running of track, he shall take immediate steps to advise a Railway official of such danger and assist him in protection of track.
- b) The track shall be protected as under. One person shall immediately plant a red flag (red lamp during night) at the spot and proceed with all haste in the direction of approaching train with a red flag in hand (red lamp during night) and plant a detonator on rail at a distance of 600m from the place of obstruction of BG track (400m for MG track) after which he shall further proceed for not less than 1200m from the place of obstruction from BG track (800m for MG track) and plant three detonators at 10m apart on rails. After this he shall display the red flag (red lamp during night) at a distance of 45m from the detonators.
- c) Attempts shall also be made to send an advice to nearest Railway station about the incident immediately.



B. Action to be taken if train is seen approaching to site of danger and there is no time to protect the track as per guidelines mentioned above.

In such a case the detonators shall be planted on rails immediately at distance away from place of danger as far as possible and attention of driver of approaching train shall be invited by whistling, waving the red flag vigorously, gesticulating and shouting.

C. What action shall be taken if more than one track is obstructed.

- a) In case of single line protection as above shall be done in both the directions from place of danger.
- b) In case of double line or multiple lines, if other tracks are also obstructed, the protection as above shall be done for other track also.
- c) The protection shall be done in that direction and on that track first on which train is likely to arrive first.
- d) The Contractor's Supervisors, Operators and lookout men shall be properly explained about the direction of trains on running tracks.

D. Equipment required for protection of track.

Minimum compliment of protection equipment i.e. 10 detonators, 4 red hand flags, 4 red hand lamps, 4 banner flags and whistles etc. shall always be kept ready at worksites for use in case of emergency. Railway will arrange to provide detonators, whereas Contractor shall arrange other equipment at his own cost.

E. Arrangement of lookout men and competency required for lookout man to warn labour about approaching train.

- a) Contractor will provide lookout men.
- b) The lookout men shall be properly trained in warning to staff at worksite about approaching train.
- c) Only those lookout men shall be provided at site who have been issued with a competency certificate by the Railway's Supervisor.
- d) In case, it is felt necessary to provide lookout men by HRIDC, the charges for the same as fixed by HRIDC Administration shall be recovered from Contractor.

10.5 Training to Supervisors and Operators of Contractor

The Supervisors and Operators of the contractor proposed to be deployed at wok site, which is close to the running track, shall be imparted mandatory training by the HRIDC at site free of cost about the safety measures to be adopted while working in the vicinity of running track. HRIDC's Engineer-in charge of the work shall decide the scale, extent & adequacy of training. In case training is imparted at a recognized Railway training institute, the charges for the same, as decided by HRIDC, shall be recovered from the Contractor. A competency certificate to this effect to the individual Supervisor/Operator shall be issued as given below, by a HRIDC Officer not below the rank of DGM/HRIDC. No Supervisor/Operator of the Contractor shall work or allowed to work in the vicinity of running track that is not in possession of valid competency certificate.

All the labour, materials, tools, plants etc. except detonators, required for ensuring safe running of trains shall be provided by Contractor at his own cost. Wherever lookout men are provided by HRIDC, charges at the rate of Rs. 500/- per man day shall be recovered from Contractor.

A sample of training competency certificate is provided below for reference:

Competency Certificate

Certified that Shri Supervisor/Operator of M/s.
has been trained and examined in safety measures to be followed while working in the vicinity of running railway track for the work. His knowledge has been found satisfactory and he is capable of supervising the work safely.

This certificate is valid only for the work mentioned in this certificate only.

Signature and designation of the officer

Memorandum of Understanding between Haryana Rail Infrastructure Development Corporation Limited (HRIDC) and the Contractor for safe execution of contract work

This Memorandum of Understanding is made and executed by and between **Haryana Rail Infrastructure Development Corporation Limited (HRIDC)**, a Joint Venture Company of Government of Haryana (51%) and Ministry of Railways (49%) and having its registered office at SCO No. 17-19, 3rd & 4th Floor, Sector-17-A, Chandigarh or their authorized representative(s), hereinafter referred to as “EMPLOYER” (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the one party
AND

M/s _____ having its registered office at _____ hereinafter referred to as the “CONTRACTOR” (which expression shall wherever the context so requires or admits be deemed to mean and include its successors in business and assigns) of the other party

WITNESSETH THAT

WHEREAS the EMPLOYER gives highest importance to the occupational safety, health and environment during execution of work, seeks cooperation from the CONTRACTOR in this endeavour.

Thus, this Memorandum of Understanding is for promoting the safety, health and environment aspects required to be followed at workplace/site and will be applicable to any site job to be done by the CONTRACTOR

AND

WHEREAS the CONTRACTOR has read all the terms and conditions of the EMPLOYER and whereas the CONTRACTOR has studied the following documents:

- (a) Tender Documents, including Notice Inviting Tender, General Conditions, Special Conditions,
- (b) Conditions of Contract on Safety, Health and Environment and Project Safety, Health and Environment Manual.
- (c) Building and Other Construction Workers (Regulations of Employment and Conditions of Service) Act 1996, Central Rules 1998, Building and Other Construction Workers Welfare Cess Act 1996 and Rules 1998 and Haryana Building and Other Construction Workers’ Welfare Board Rules; and
- (d) Indian Electricity Act 2003 and Rules 1956.
- (e) Corresponding International / Bureau of Indian Standard Codes.

The amendments to any of the above rules and any other rules & regulations or procedures, circulars, notices & advices laid down by the EMPLOYER from time to time.

Now it is hereby AGREED AND DECLARED by and between the EMPLOYER and the CONTRACTOR as follows:

- Clause – I The CONTRACTOR shall abide by the terms and conditions stipulated in Condition of Contract on Safety, Health & Environment and Project Safety, Health & Environment Manual.

- Clause – II The CONTRACTOR shall undertake full responsibility for safe execution of job at workplace/site and safety of his personnel and adjoining road users during work.
- Clause – III Without giving any prior notice, the EMPLOYER shall from time to time be entitled to add/or amend any or all terms and conditions with a view to improving safety and occupational health of personnel and safety of work, with immediate effect and the same shall be binding on the CONTRACTOR. The contractor agrees to implement all such amendments, which shall be laid down by the EMPLOYER.
- Clause – IV Besides following the guidelines, safety rules and regulations, safety codes given in various safety procedures/documents mentioned above, the CONTRACTOR shall also prepare detailed method statement which includes job safety analysis wherever there are complicated and hazardous/high risk working involved and get it approved from EMPLOYER before execution of work.
- Clause – V Any negligence or violation in implementing any of the provision of the conditions of contract on Safety, Health & Environment shall be viewed seriously, and the CONTRACTOR is liable to compensate the EMPLOYER for the loss of reputation. The cost of damage shall be fixed on case-to-case basis.

In witness thereof the Parties hereto by representatives duly authorized have executed this Memorandum of Understanding on _ day of _ 20.

Signed on

For and on behalf of HRIDC

Signature:

Name:

Title:

Signed on

For and on behalf of CONTRACTOR

Signature:

Name:

Title:

Packet-II: FINANCIAL BID

Schedule of Rate and Approximate Quantities

Schedule A1: USSOR Items
(Except cement, Reinforcement steel, HTS cable and Elastomeric Bearing Pads)

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Chapter -1: Earthwork						
1	011010	Earth work in excavation as per approved drawings and dumping at embankment site or spoil heap, within railway land, including 50m lead and 1.5m lift, the lead to be measured from the center of gravity of excavation to centre of gravity of spoil heap: the lift to be measured from natural ground level and paid for in layers of 1.5m each, including incidental work, as per specifications-in				
(i)	011011	All kinds of soils	Cum	81.36	3139.00	255389.04
2	011050	Extra for lead of earth work above initial lead of 50 m, in all kind of soils and rocks:				
(i)	011051	for every 50 m or part thereof - lead over 50m and upto 150m	Cum	10.74	1500.00	16110.00
3	011070	Extra for every additional lift of 1.5m or part thereof, after the initial 1.5m, for earth work in all soils	Cum	8.01	1800.00	14418.00
4	012010	Extra over item 011010 for excavation in foundations for buildings and bridges to cover dressing to neat dimension and plumbing sides etc. Note: Dressing under this item is payable for the total quantity of excavation in foundation and not partly.	Cum	8.70	1500.00	13050.00

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
5	013110	Earthwork in cutting (Classified) in formation, trolley refuges, side drains, level crossing approaches, platforms, catch water drains, diversion of nallah & finishing to required dimension and slopes to obtain a neat appearance to standard profile inclusive of all labour, machine and materials and removing & leading all cut spoils either to make spoil dumps beyond 10m from cutting edge or for filling in embankment with all leads within the section limit, lifts, ascent, descent, loading, unloading, all taxes/royalty, clearance of site and all incidental charges, bailing & pumping out water if required, etc., complete as per directions of the Engineer-inCharge. The work is to be executed as per Latest / updated edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow. Cut trees shall be property of Railways and to be deposited in the railway godown unless specified otherwise in the Special conditions of contract				
(i)	013111	In all conditions and classifications of soil except rock.	Cum	140.57	250.00	35142.50
6	013120	Earthwork in filling in embankment, guide bunds, around buried type abutments, bridge gaps, trolley refuges, rain bunds if provided, platforms etc. with earth excavated from outside railway boundary entirely arranged by the contractor at his own cost as per RDSO's latest guidelines and specifications and special condition of contract including all leads,	Cum	213.67	113001.00	24144923.67

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		royalty, lifts, ascents, descents, crossing of nallahs or any other obstructions. The rates shall include all dressing of bank to final profile, demarcation and setting out of profile, site clearance, removing of shrubs, roots of vegetations growth, heavy grass, benching of existing slope of old bank, all handling/rehandling. taxes, octroi and royalty etc. as a complete job. Cut trees shall be property of railways and to be deposited in the railway godown unless specified otherwise in the Special conditions of contract				
7	013130	Extra for mechanical compaction of earth/blanketing material filled in embankment with contractor's rollers of suitable capacity, type and size to achieve specified density as per specification, testing as per IS codes incl. cost of water, T&P consumable material and all labour as a complete job. The work is to be executed as per Latest edition of "Guidelines for Earthwork in Railway Projects" issued by RDSO, Lucknow Note - (i) All usable earth arising from cut spoils shall be led into bank formation and Unusable spoils shall be dumped / stacked (ii) All hard rock /and boulders not fit for filling will be stacked by the contractor and will be property of the Railways.	Cum	11.43	113001.00	1291601.43
8	014010	Dressing Surface (average excavation or filling upto 15 cm) including removing vegetation in all kind of soil. Payment against this item is to be made only if it is not included in earth work item	Per 10 Sqm	54.90	15000.00	82350.00

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
9	014110	Providing and removing barricading with the help of portable fencing along the running track where the work is to be done in close vicinity of the track. Fencing shall consist of self supporting steel angles of size 50 x50x6mm, 1.5m long provided.	Rmt	382.62	2500.00	956550.00
Basic cost of Chapter-1						26809534.64
Add % above for Estimate @						24.64%
Total Estimated value of Chapter-1						33416074.21
Chapter -2: Carriage of materials						
10	021430	Hiring and operating Multi-Utility vehicle of loading capacity one MT with sitting capacity of 4/6 persons, 4 strokes, 4 cylinders engine, factory-built metal body, cargo box type or passenger cabin type or both (with 24 hours availability) including cost.	Each Per month	24438.42	30.00	733152.60
11	021440	Extra over item no. 021430 for every additional km or part thereof over 1200 km in a month.	Km	20.32	120600.00	2450592.00
Basic cost of Chapter-2						3183744.60
Add % above for Estimate @						22.66%
Total Estimated value of Chapter-2						3905075.00
Chapter -3: Plain Concrete						
12	031010	Providing and laying in position cement concrete of specified proportion excluding cost of cement, centering and shuttering - All works upto Plinth level :				
(i)	031011	1:3:6 (1 cement: 3 sand : 6 graded stone aggregate 20mm nominal size)	Cum	1972.51	35.00	69037.85

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
(ii)	031012	1:3:6 (1 cement: 3 sand : 6 graded stone aggregate 40mm nominal size)	Cum	1882.49	45.00	84712.05
13	031020	Providing and laying cement concrete, up to plinth in retaining walls, walls (any thickness) including attached plasters, columns, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets etc, excluding the cost of cement and of shuttering, centering.				
(i)	031022	1:3:6 (1 cement : 3 sand graded stone aggregate 40mm nominal size)	Cum	2170.41	2644.00	5738564.04
(ii)	031023	1:2:4 (1 cement : 2 sand graded stone aggregate 20mm nominal size)	Cum	2137.59	50.00	106879.50
14	31050	Providing and laying in position cement of M 20 Grade, excluding the cost of cement and of cantering and shuttering as per direction of the Engineer in charge.				
(i)	031051	All works upto plinth level	Cum	2082.64	45.00	93718.80
(ii)	031052	All works above plinth level in retaining walls, walls (of any thickness) including attached pilasters, columns, pillars, posts, struts, buttresses, anchor blocks, parapets, copings, bed blocks, string or lacing courses, window sills, fillets, kerbs at site.	cum	2204.06	50.00	110203.00
15	032030	Providing and fixing at or near ground level, Precast M 20 grade cement concrete as per approved design and setting in position with cement mortar 1:3 (1 cement : 3 coarse sand), including the cost of required centering and shuttering complete but excluding the cost of cement.(cast at site)				
(i)	032031	Inkerbs, edging etc.	cum	2226.98	25.00	55674.50
Basic cost of Chapter-3						6258789.74

SNo.	Item No of USSOR- 2010	Description	Unit	Rate	Qty.	Basic cost at par value
Add % above for Estimate @						72.23%
Total Estimated value of Chapter-3						10779513.57
Chapter -4: Reinforced Cement Concrete						
16	041010	Providing and laying in position M 20 Grade concrete for reinforced concrete structural elements but excluding cost of centring, shuttering, reinforcement and Admixtures in recommended proportion (as per IS:9103) to accelerate, retard setting of concrete,				
(i)	041011	All work upto plinth level, including raft foundation of washable aprons, HS tank, pile cap, footings of FOB, and Platform shelter etc.	cum	2422.38	1347.00	3262945.86
(ii)	041012	All work in buildings above plinth level upto floor two level.	cum	2645.23	2850.00	7538905.50
17	042010	Centering and shuttering including strutting, propping etc. and removal of form for :				
(i)	042011	Foundations, footings, bases of columns, raft foundation of washable aprons, Pile caps, Footings of FOB etc.	Sqm	120.60	4981.00	600708.60
(ii)	042012	Walls (any thickness) including attached plasters, buttresses, plinth and string courses etc.	Sqm	191.20	9802.00	1874142.40
(iii)	042013	Suspended floors, roofs, landings, balconies, FOB slabs, walkway slabs and access platform	Sqm	185.57	2717.00	504193.69
(iv)	042014	Lintels, beams, plinth beams, bed blocks, girders, bressumers and cantilevers	Sqm	163.20	2753.00	449289.60
(v)	042015	Columns, pillars, posts and struts	Sqm	240.50	1760.00	423280.00
(vi)	042016	Stairs (excluding landings) except spiral-staircases	Sqm	225.10	275.00	61902.50
Basic cost of Chapter-4						14715368.15
Add % above for Estimate @						71.03%
Total Estimated value of Chapter-4						25168184.66

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Chapter -5: Brick Work						
18	051010	Brick work with non-modular (FPS) bricks of class designation 7.5 in foundation and plinth in				
(i)	051016	Cement mortar 1:3 (1 cement :3 fine sand)	Cum	2099.00	490.00	1028510.00
19	051040	Extra over items 051010 & 051020 for brick work in superstructure beyond plinth level upto floor two level	Cum	133.42	132.00	17611.44
Basic cost of Chapter-5						1046121.44
Add % above for Estimate @						69.58%
Total Estimated value of Chapter-5						1774012.74
Chapter -7: Wood Work						
20	071010	Providing wood work in frames of doors, windows, clerestory windows and other frames and trusses, wrought, framed and fixed in position				
(i)	071011	Second Class teak wood	Cudm	70.42	928.00	65349.76
21	072010	Providing and fixing panelled/glazed or panelled and glazed shutters for doors, windows and clerestory windows including ISI marked black enamelled M.S. butt hinges with necessary screws excluding, panelling/glazing which will be paid for separately				
(i)	072011	Second Class teak wood 35mm thick	Sqm	1791.76	12.00	21501.12
22	072150	Providing and fixing flush door shutters to IS: 2202 Part-I non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3ply veneering with vertical grains or cross bands and face veneers on both faces.				

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
(i)	072151	35mm thick including ISI marked stainless steel butt hinges with necessary screws	Sqm	1010.98	29.00	29318.42
23	072170	Extra for providing lipping with 2nd class teak wood battens 25mm minimum depth on all edges of shutters (overall area of door shutters to be measured)	Sqm	325.22	3.45	1122.01
24	077050	Providing and fixing bright finished brass sliding doors bolts - with screws etc. complete of size				
(i)	077051	300x16mm	Each	408.76	14.00	5722.64
25	077060	Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete :				
(i)	077061	250x10mm	Each	302.13	14.00	4229.82
(ii)	077063	150x10mm	Each	183.91	42.00	7724.22
Basic cost of Chapter-7						134967.99
Add % above for Estimate @						34.57%
Total Estimated value of Chapter-7						181626.42
Chapter -8: Steel and Aluminium Work						
26	081010	Structural steel work in single section including cutting, bending, straightening, drilling, rivetting, bolting, hoisting, fixing in position, including applying a priming coat of approved steel primer, complete - upto 6m height above GL				
(i)	081011	In RSJ, tees, angles and channels	Kg	50.84	500.00	25420.00
(ii)	081012	In flats, plates, round or square bars	Kg	50.63	100.00	5063.00
27	081030	Structural steel work welded in built up sections, trusses and framed work, girders, stagings, racks, etc. including cutting, bending, straightening, hoisting, fixing in position, including applying a priming				

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		coat of approved steel primer, complete - upto 6m height above GL				
(i)	081031	In RSJ, tees, angles and channels	Kg	75.92	43902.00	3333039.84
(ii)	081032	In flats, plates, round or square bars	Kg	73.26	35850.00	2626371.00
28	811040	Extra for every subsequent 3m height or part thereof over 6m height above G.L for fixing and erection of steel work				
(i)	081043	Over Item 81032	Kg	7.53	21000.00	158130.00
29	081050	Erecting Roof trusses, tank stagings, steel tanks etc including rivetting for work upto 10m height	Quantal	200.36	400.00	80144.00
30	081140	Supplying and fixing Lewis/holding down bolts of approved design with nuts and washers complete	Kg	51.38	5703.00	293020.14
31	081290	Steel work in Built up tabular trusses including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer, welded and bolted including special shaped washer etc.				
(i)	081291	Hot finished welded type tubes	Kg	100.32	1250.00	125400.00
32	082080	Aluminium Composite Cladding - Providing and fixing Aluminium Composite Panels having total thickness of 4mm (with 0.5mm thick aluminium foil skin on both sides) alongwith minimum 25 micron PVdF Coating on top coil and Polymer/epoxy coating on Back coil	Sqm	1964.25	850.00	1669612.50
Basic cost of Chapter-8						8316200.48
Add % above for Estimate @						27.35%
Total Estimated value of Chapter-8						10590889.22

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Chapter -9: Flooring, Paving & Dado						
33	096070	Kota stone slab flooring of size up to 60x60cm over 20mm (average) thick base of 1:4 cement mortar (1cement: 4coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete				
(i)	096074	40mm thick	Sqm	1499.02	3572.00	5354499.44
Basic cost of Chapter-9						5354499.44
Add % above for Estimate @						34.29%
Total Estimated value of Chapter-9						7190378.81
Chapter -10: Roof and Ceilings						
34	101013	0.63mm thick with zinc coating not less than 275gm/ sqm	Sqm	462.41	1000.00	462410.00
Basic cost of Chapter-10						462410.00
Add % above for Estimate @						47.85%
Total Estimated value of Chapter-10						683673.19
Chapter -11: Finishing Masonary						
35	111010	12 mm cement plaster of mix				
(i)	111012	1:6 (1 cement: 6 fine sand)	Sqm	57.38	903.00	51814.14
36	111110	18 mm cement plaster in two coats under layer 12mm thick cement plaster 1:5 (1cement: 5coarse sand) finished with a top layer 6mm thick cement plaster 1:6 (1cement: 6 fine sand)	Sqm	90.44	60.00	5426.40
37	115130	Cement washing two coat (Ordinary Portland cement)	Sqm	5.18	45818.00	237337.24

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
38	116070	Finishing with Epoxy paint (two or more coats) at all locations prepared and applied as per manufacturer's specifications including appropriate priming coat, preparation of surface, etc. complete on concrete work	Sqm	89.41	37841.00	3383363.81
Basic cost of Chapter-11						3677941.59
Add % above for Estimate @						34.47%
Total Estimated value of Chapter-11						4945728.06
Chapter -12: Painting, Polishing & Varnishing						
39	121050	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade				
(i)	121051	Two or more coats on new work	Sqm	40.81	200.00	8162.00
Basic cost of Chapter-12						8162.00
Add % above for Estimate @						52.23%
Total Estimated value of Chapter-12						12424.81
Chapter -13: Water Supply						
40	131150	Providing and fixing medium grade G.I Pipes complete G.I fittings including trenching and refilling etc External work				
(i)	131151	15mm dia nominal bore	m	128.42	100.00	12842.00
(ii)	131153	25mm dia nominal bore	m	214.91	300.00	64473.00
(iii)	131156	50mm dia nominal bore	m	384.78	300.00	115434.00
(iv)	131157	65mm dia nominal bore	m	484.87	400.00	193948.00
(v)	131158	80mm dia nominal bore	m	629.12	2200.00	1384064.00
Basic cost of Chapter-13						1770761.00
Add % above for Estimate @						15.65%

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Total Estimated value of Chapter-13						2047885.10
Chapter -14: Drainage and sewerage						
41	142010	Providing and laying nonpressure NP2 class (light duty). C.C. pipes including bends etc with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1cement: 2 fine sand) including testing of joints etc complete upto 800mm dia.				
(i)	142014	300mm dia. R.C.C. pipe	Rmt	721.21	50	36060.50
Basic cost of Chapter-14						36060.50
Add % above for Estimate @						56.31%
Total Estimated value of Chapter-14						56366.17
Chapter -15: Sanitary Installations						
42	151010	Providing and fixing water closet squatting pan (Indian type WC Pan) with 100mm sand cast iron 'P' & 'S' trap, 10 litre low level white PVC flushing cistern with manually controlled (handle liver) confirming to IS: 7231 with all fittings				
(i)	151011	White vitreous china Orissa Pattern W.C Pan of size 580mm x 440mm with integral white foot	Each	3057.59	4	12230.36
43	151030	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern and CP flush bend with fitting and C.I/M.S brackets, 40mm flush bend, overflow arrangement.				
(i)	151031	W.C. pan with ISI marked white solid plastic seat and lid.	Each	3860.69	4	15442.76

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
44	151040	Providing and fixing white vitreous china flat back or wall corner type lipped front urinal basin of 430mm x 260mm x 350mm and 340mm x 410mm x 265mm sizes respectively with automatic flushing cistern, with standard flush type and C.P brass spreaders with brass.				
(i)	151041	One Urinal basin with 5 litre white PVC automatic flushing cistern.	Each	2377.03	4	9508.12
45	151070	Providing and fixing wash basin with C.I/M.S brackets, 15mm C.P brass pillar taps, 32mm C.P brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls, wherever required :				
(i)	151071	White, vitreous china wash basin size 630mm x 450mm with a pair of 15mm C.P brass pillars.	Each	1942.55	4	7770.20
46	152120	Providing & fixing mirror of 5.5mm thickness of float Glass (of approved quality) required shape and size with plastic moulded frame of approved make and shade with 6mm thick hard board backing.				
(i)	152122	Rectangular shape 453mm x 357mm (outer dimension)	Each	835.53	4	3342.12
47	153010	Providing and fixing soil, waste and vent pipe				
(i)	153011	100mm dia. Sand cast iron S & S pipe as Per IS 1729	m	582.46	100	58246.00
Basic cost of Chapter-15						106539.56
Add % above for Estimate @						12.41%
Total Estimated value of Chapter-15						119761.12
Chapter -18: Dismantling and Demolishing						
48	182010	Demolishing brick work including stacking of serviceable material and				

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		disposal of unserviceable material with in 50m lead				
(i)	182013	In cement mortar	cum	348.90	980.00	341922.00
49	183010	Dismantling cement concrete /Terrozzo flooring and/or underlayer excluding base concrete	Sqm	14.43	280.00	4040.40
50	184010	Demolishing brick tile covering (single layer) in terracing including stacking of serveciable material and disposal of unserviceable material with in 50m lead	Sqm	17.26	224.00	3866.24
51	185010	Dismantling Doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts in CC or masonry etc. complete and stacking with in 50m lead.	Each	84.12	32.00	2691.84
52	186010	Dismantling steel work in single sections including dismembering and stacking with in 50m lead				
(i)	186011	R.S Joists/ Rails	Kg	0.57	38720.00	22070.40
(ii)	186012	Channels, angles, tees and flats /rounds or any other rolled shape	Kg	0.41	11500.00	4715.00
Basic cost of Chapter-18						379305.88
Add % above for Estimate @						32.96%
Total Estimated value of Chapter-18						504325.10
Chapter -19: Bridge work Substructure						
53	191050	Conducting in situ full size Plate load test (PLT) at selected location as per IS: 1888 including making loading arrangements & casting of RCC/cast in situ concrete footing as per codal Provisions including excavation and refilling of trial pit				

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
(i)	191052	Plate size 45 cm x 45 cm	Each	23230.00	40.00	929200.00
54	191120	Conducting standard penetration test as per IS 2131 at approximate 1.5 m intervals in bore holes, as directed by the Engineer in charge	Each	174.23	1386.00	241482.78
55	191130	Collection of water samples at required intervals	Each	174.23	1386.00	241482.78
56	191140	Conducting laboratory Tests on collected soil samples as per relevant IS code				
(i)	191141	Moisture contents/ Dry density	Each	1161.50	1386.00	1609839.00
(ii)	191142	Atterberg Limit	Each	1161.50	1386.00	1609839.00
(iii)	191143	Specific Gravity	Each	580.75	1386.00	804919.50
(iv)	191144	Grain size analysis including Hydrometer analysis	Each	1161.50	1386.00	1609839.00
(v)	191145	Direct Shear Test	Each	2323.00	1386.00	3219678.00
(vi)	191146	Natural density	Each	580.75	1386.00	804919.50
(vii)	191147	Consolidation test	Each	2323.00	1386.00	3219678.00
(viii)	191148	Unconfined compression test	Each	2323.00	1386.00	3219678.00
(ix)	191149	Tri-axial test	Each	2323.00	1386.00	3219678.00
57	191160	Conducting chemical analysis of ground water samples to determine suitability for concreting an aggressiveness in relation to attack on concrete/ reinforcement including determination of pH value	Each	2903.75	1386.00	4024597.50
58	192030	Providing and laying Plain Cement Concrete 1:3:6 with graded stone aggregate of 40 mm nominal size, in foundation and floors, retaining walls of bridges including mechanical mixing, vibrating, pumping and bailing out water where ever required with all materials and labour complete but excluding the cost of cement and shuttering as per drawings and technical specifications as directed by Engineer	Cum	1723.15	500.00	861575.00
59	192080	Providing, fabricating and installing of casing pipe for bored piles for all diameters with specified thickness of steel	MT	49110.49	549.00	26961659.01

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		plate including all labour, materials, pumping and bailing out water where ever required, complete as per technical specifications as directed by Engineer in charge. This will include the weight of plate only and no cognizance will be given for the fittings i.e. rivets and welding etc.				
60	192100	Conducting load testing of a single pile Up to following capacity in accordance with IS 2911(Part IV) including installation of loading platform and preparation of pile head or construction of test cap and dismantling of test cap after test etc with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification, as directed by the Engineer				
(i)	192103	Initial load test above 100 ton capacity Up to 250 ton capacity pile	Each	160345.08	3.00	481035.24
(ii)	192104	Extra for every increase of 50 T in pile capacity or part thereof over 250 T	Each	11005.21	21.00	231109.41
(iii)	192106	Routine Load Test above 50 ton capacity Up to 100 ton capacity pile	Each	105162.21	23.00	2418730.83
(iv)	192107	Routine Load Test above 100 ton capacity Up to 250 ton capacity pile	Each	138177.85	23.00	3178090.55
61	192110	Lateral load testing of single pile in accordance with "IS Code of practice IS:2911 (Part-IV) for determining safe allowable lateral load of pile" with all labour, material, tool & plants, equipment, machinery, etc complete as per drawing and specification.				
(i)	192113	Piles with lateral load capacity of above 20 ton	Each	64352.57	26.00	1673166.82
62	195030	Centering and shuttering including strutting, propping etc. and removal of form for:				

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
(i)	195031	RCC raft foundation & Pile cap	Sqm	120.60	10561.00	1273656.60
(ii)	195032	Abutment, pier, wing walls and return walls	Sqm	191.20	18707.00	3576778.40
(iii)	195033	Abutment cap, Pier Cap, Inspection Platform & Pedestal over Pier cap, Fender wall, Diaphragm wall, etc.	Sqm	185.57	7229.00	1341485.53
(iv)	195034	Approach slab at formation level, Dirt wall/ ballast wall at formation level	Sqm	120.60	61.00	7356.60
Basic cost of Chapter-19						66759475.05
Add % above for Estimate @						64.56%
Total Estimated value of Chapter-19						109859392.14
Chapter -20: Bridge work Superstructure – RCC						
63	201060	Load testing of one or more spans of bridge as selected by the Engineer as per approved load test procedure following relevant IS/IRC/Railway codes with contractor's labour, deflection measuring instruments, loading materials, recoding and analyzing the load testing results including all lead & lift, etc. complete as required. The rates are all inclusive and will be paid after load test finished and girder is cleared of the kentledges /loading material etc. The load shall be 1.25 times the stipulated design load based on design load not span.				
(i)	201061	For Span design load upto 100 MT	Each	61939.35	6.00	371636.10
(ii)	201062	Extra for every increase of 100 MT or part thereof in the span load capacity upto 800 MT	Each 100 MT	60846.03	42.00	2555533.26
Basic cost of Chapter-20						2927169.36
Add % above for Estimate @						27.88%

SNNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Total Estimated value of Chapter-20						3743264.18
Chapter -21: Bridge work Superstructure - Steel						
64	211060	Providing and fixing 65/50 mm nominal dia. B class G.I. pipe railing used in rows for footpath or anti-crash barrier railing including cost of M.S. angle and channels in vertical posts, riveting, welding/ rivetting, priming painting two coats, at all height	Kg	58.34	72317.00	4218973.78
Basic cost of Chapter-21						4218973.78
Add % above for Estimate @						58.21%
Total Estimated value of Chapter-21						6674943.89
Chapter -22: Bridge work Miscellaneous						
65	221060	Providing and laying Pitching with stone boulders weighing not less than 35 kg each with the voids filled with cement sand mortar 1:4 on slopes laid over prepared filter media including boulder apron laid dry in front of toe of embankment complete as per drawing and Technical specifications (Filter media to be paid separately under the relevant item) Specifications underneath pitching in slopes complete as per drawing and Technical specification	Cum	1565.14	72.00	112690.08
66	222140	Providing, cutting, fabricating, treating, fixing structural steel as per IS: 2062 in access ladders (top of girder/slab to pier cap), inserts, platforms, railing, trolley refuges, drain pipes etc. by drilling holes and grouting with C.C as per specifications including painting with two coats of approved paint over two coats of primer. (Cement	MT	61882.24	290.00	17945849.60

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		for grouting shall be paid separately).				
67	222160	Providing weep holes by making suitable opening or drilling in existing Brick masonry/Plain/ Reinforced concrete abutment, wing wall/ return wall with 100 mm dia AC pipe, extending through the full width of the structure complete.	Rmt	495.60	500.00	247800.00
68	222180	Providing and laying of filter media consisting of granular materials of GW, GP, SW groups as per IS 1498-1970 in required profile behind boulder filling of abutments, wing walls / return walls etc above bed level with all labour and material complete job.	Cum	1492.93	4095.00	6113548.35
69	222250	Providing cast in-situ plaques for bridge foundations details of size 45cmx45cmx5cm in cement concrete 1:2:4 mix using 20 mm hard stone aggregate embedded in 30mm deep notch over abutment & piers, engraving the letters & figures with CM 1:3	Each	545.03	4.00	2180.12
70	222290	Providing Boulder backing behind wing wall, return wall retaining wall with hand packed boulders & cobbles with smaller size boulders toward the back including all lead, lift, labour& other incidental charges as complete work in all respect. Payment for boulder/cobbles will be done extra.	Cum	133.62	1785.00	238511.70
Basic cost of Chapter-22						24660579.85
Add % above for Estimate @						18.31%
Total Estimated value of Chapter-22						29175110.00
Chapter -23: Road and Platform work						

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
71	231020	Consolidation of subgrade with power road roller of 8 to 12 tonne capacity including making good the undulations etc. with earth or quarry spoils etc and re-rolling the subgrade	Sqm	1.19	8000.00	9520.00
72	231040	Providing and laying water bound macadam with specified stone aggregate, stone screening and binding material including screening, sorting, spreading to template and consolidation with power road roller of 8 to 10 tonne capacity etc. complete				
(i)	231041	Sub-base with stone aggregate 90mm to 45mm including stone screening 13.2mm size	Cum	1657.15	544.00	901489.60
73	233010	Providing and applying tack coat using bitumen emulsion (Rapid setting) complying with IS: 8887-1995, spraying the bitumen emulsion with mechanically operated spray unit, cleaning and preparing the existing road surface as per specification				
(i)	233011	On W.B.M. @ 0.4kg/ sqm	Sqm	20.72	2720.00	56358.40
74	235010	Providing and laying seal coat of premixed fine aggregate (passing 2.36mm and retained of 180 micron sieve) with bitumen using 128 kg of bitumen of grade 80/ 100 bitumen and 0.60cum of fine aggregate per 100sqm of road surface including rolling and finishing with road roller all complete. Note: This should not be operated along with Hot mix carpeting	Sqm	86.58	2720.00	235497.60
75	236020	Providing and laying design mix cement concrete in roads, having a cube strength of M 30 using cement, coarse sand and graded stone aggregate of 40mm nominal size as per approved design. mechanically	Cum	2435.07	101.00	245942.07

SNo.	Item No of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
		vibrated, steel form work, curing, providing and filling construction & dummy joints with approved joint filler (conforming to grade B of IS: 1834) rounding of the edges, making & filling the grooves as per drawing				
76	237050	Supplying and laying precast Kerb Stone of concrete M-25 Grade 30 cm x 20 cm (in section / including chamfering as per design if any) including fixing in 1:6 cement sand mortar and pointing with 1:2 cement mortar (1 cement : 2 sand ordinary)	Rmt	385.34	1500.00	578010.00
77	238011	75mm Average compacted thickness with bitumen of 60/70 grade @5% by weight of total mix and lime filler @ 2% by weight of aggregate. (for very heavy traffic condition)	Rmt	385.34	3680.00	1418051.20
Basic cost of Chapter-23						3444868.87
Add % above for Estimate @						26.07%
Total Estimated value of Chapter-23						4342946.18
Total Estimated value of Schedule A-1						25,51,71,574.56

Schedule A2- USSOR Items
(Cement, Reinforcement steel, HTS cable and Elastomeric Bearing Pads)

SNo.	Item No. of USSOR-2010	Description	Unit	Rate	Qty.	Basic cost at par value
Cement						
1	033060	Supply and using cement at worksite				
(i)	033061	OPC 43 grade	MT	5474.00	2366.00	12951484.00
Basic cost of item 033061 of Chapter-3 of USSOR 2010						12951484.00
Add % above for Estimate @						41.92%
Total Estimated value of item 033061 of Chapter-3						18380422.31
Reinforcement Steel						
2	045010	Supplying Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
(i)	045016	TMT deformed bars	Kg	47.58	11773795.00	560197166.10
Basic cost of item No. 045016 of Chapter-4 of USSOR-2010						560197166.10
Add % above for Estimate @						42.30%
Total Estimated value of item 045016 of Chapter-4						797160567.36
Elastomeric Bearings Pads						
3	201040	Design, manufacturing, Supplying and fixing in position elastomeric bearing pads under prestressed concrete girder, for Pre-cast as well as cast-in-situ girders as per approved drawing. The rate shall include cost of load test of one No. bearing from Railway approved firms and all fixing materials, equipments, machineries, labour, taxes, loading, unloading, leading, lifting etc.complete. Rates include getting the drawing approved from Railway and cost of inspection during manufacturing from railway approved organization .(Note: 1. The rate is for finished item complete and paid only after fixing in position below the girder.	cu cm	1.15	27366336.00	31471286.40

		2. The volume shall be given in the drawing and no deduction shall be made for inserted steel plates etc.)				
Basic cost of item No. 201040 of Chapter-20 of USSOR-2010						31471286.40
Add % above for Estimate @						27.88%
Total Estimated value of item 201040 of Chapter-20						40245481.05
HTS Cable						
4	201070	Providing, fabricating & fixing in position to exact design profiles, prestressing H.T.S. cables of all classification made from Low Relaxation strands conforming to IS 14268 – 1995 in Prestressed Concrete girders/slabs etc. including supplying, cutting, making into cables with necessary spacers, colour coding, protecting with water soluble oil at all time, anchoring of cables, supplying and placing spiral corrugated type galvanized metal steel ducts sheathing made up of Cold Rolled Cold Annealed (CRCA) mild steel conforming to IS 513 of required diameter/thickness, vent pipe, placing, bending, routing, fixing, stressing & grouting of cable ducts with cement grout, Anchorage sets in required number with provision for future prestressing, if any, including all lead and lift with contractor's own materials, labour, equipment, etc. complete as per drawings & specifications. Rate also includes covering anchorage pads with epoxy mortar of approved quality to avoid corrosion. Cement for grouting to be paid separately	MT	132714.65	597.00	79230646.05
Basic cost of item No. 201070 of Chapter-20 of USSOR-2010						79230646.05
Add % above for Estimate @						27.88%
Total Estimated value of item 201070 of Chapter-20						101320150.2
TOTAL ESTIMATED VALUE OF SCHEDULE A2						95,71,06,620.92

Schedule B: Non-Scheduled Items

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-1	Earthwork in excavation in all type of soil (excluding rocks) for foundation & floors of Bridges, retaining wall etc. including garbage/ debris/malba etc. (or any other similar material) to a given profile as per approved drawing including leveling and dressing to neat dimensions etc., upto the required depth in all conditions, including dismantling/removal of any underground services, sewer line, manhole or any other services etc. of any kind and refilling/backfilling (if required as per direction of the site Engineer) the excavated earth including its watering and ramming etc. in layers not exceeding 15cm thick, leveling and dressing etc, to neat dimensions as required elsewhere as per direction of site engineer and disposal of the rest of surplus excavated debris/muck/malba or any other similar material outside Railway boundary in such a manner as not to violate any rules and regulations of State/Central Govt. or its authorized bodies, including all lead, lift, ascends, descends, loading unloading handling, re-handling, crossing of stream, nallahs, Railway track, level crossing etc., or any other obstructions as directed by the Engineer-in-charge stacking of useful materials at designated place and all other charges at all height/depth to complete the work as per special condition of contract and standard specification etc. The rate shall also include the clearing of site (by cutting jungle, shrubs etc.), working in foul condition, bailing/pumping out sub soil water/seepage water if met and shoring , strutting and sheet piling etc. wherever required, with all labour, material, tools, plants, machinery and equipments as a complete job. Nothing	cum	229.61	56639.69	13005038.76

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>extra shall be paid whatsoever the case may be.</p> <p>Note:</p> <p>i. Surplus excavated debris/muck/malba or any other similar material will be disposed by the contractor outside the Railway boundary after satisfaction of Engineer Incharge. No extra payment will be made for this.</p> <p>ii. Separate payment to be made for dismantling CC/RCC/Brick work/stone work/metalled road etc. under relevant item.</p>				
NS - 2	<p>Providing, boring and casting Bored cast in situ 1200mm dia Reinforced Cement Concrete piles (As per IS specifications i.e. IS 2911 Part-1 Section 2) in cement concrete M-35 Grade Design Mix using coarse aggregate 20mm down gauge size graded with coarse sand of approved quality (as per IS specification IS :383-1970) with minimum cement content, maximum water cement ratio and slump as specified in special conditions to carry a safe working load not less than specified including the cost of temporary casing pipe if required, cost of shoe and length of pile to be embedded in pile cap etc complete. Scope of work shall include boring of piles in all kind of sub soil strata including boulder studded soil irrespective of sub soil water level in all conditions whether dry or under water, use of bentonite slurry including all operations with contractor plants/machinery equipment's for pile boring, augur, drill machine etc. The rate will also include cost of cement, shuttering, admixture plasticizer, super plasticizer, retarder or betonies etc as per approved mixed design. Rates are inclusive of chipping off pile top to remove laitance-concrete above cut off level etc removal of muck earth, boulder, debris, excavated earth from pile bore including cutting through underground structure like channel, sewer manholes, old foundation or any other obstruction including disposal of debris outside Railway boundary. Rate shall include concreting by automatic RMC plant,</p>	Rmt	9590.98	28500.00	273342930.00

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>scaffolding, using Admixture in recommended proportion (as per IS :9103), if approved in design Mix, placing with tremie pipe, pumping and bailing out water with all labour material complete including crossing of tracks if required as per approved drawing, specification and direction of the Engineer in charge. Length of the pile for payment shall be measured up to the designed bottom of pile cap excluding the mud mat.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p> <p>Binding wire for maintaining reinforcement in position will be Provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>Steel liner including fabrication if used as a permanent measure and retained in position shall be paid under relevant items of USSOR: 2010</p> <p>Note:</p> <p>i. Surplus excavated debris/muck/ malba or any other similar material will be disposed by the contractor outside the Railway boundary after satisfaction of Engineer Incharge. No extra payment will be paid for this.</p> <p>ii. Non-destructive test is mandatory to be conducted on each pile as per IS 14893:2001 (or as per latest IS code). No extra payment will be paid for this test.</p> <p>iii. Work will be executed as per Indian Railway Unified standard specifications applicable for RCC/PSC works contained in chapter</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	4 & 19. Pile boring by drilling M/C is mandatory.				
NS-3	<p>Providing and laying RCC of specified grade cast in situ in Pile Cap, Pier, Pier Cap, Abutment, Abutment Cap, Pedestal, Retaining wall, Footpath slab, RCC Box etc. as per approved plan and mix design with coarse sand and stone aggregate of 20mm and down gauge in various structure for all heights and depths including compaction of concrete by electric/mechanical vibrator, providing and using admixture in recommended proportion as per IS 456 & IS9103, IRS concrete bridge code and bridge sub structure code applicable & as per approved mix design complying with minimum cement content maximum water cement ratio and slump as specified, produced by automatic RMC plant transporting concrete by transit mixture and placed using concrete pump, tremie pipe and crane etc. including designing of concrete mix, finishing the exposed surface of concrete, curing of concrete as required in IRS –Concrete Bridge Code and bridge sub structure code/OS Codes as applicable, including all lead by transit mixer (Crossing of stream, nallahs, railway tracks, level crossings or any other obstruction such as traffic jam whatsoever lift, pumping, ascend descend, loading unloading, handling, wastages if any, cost of all safety works and safety precautions with all labour, arrangements for cold weather and hot weather concrete as applicable, taxes and royalty etc, as a complete job as per specification and as per directions of Engineer in charge. Nothing extra will be paid on any account. The rate will also include cost of OPC/PPC cement and admixture (Plasticizer, super plasticizer, or retarder etc) as per approved mix design.</p> <p>Note:</p> <p>1. Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.				
	2. Shuttering will be arranged by contractor and payment will be made separately under relevant items of USSOR-2010).				
	3. Binding wire for maintaining reinforcement in position will be Provided by the contractor free of cost and no separate payment will made for binding wire.				
	4. The above conditions will be applied on item 3 (A), 3(B), 3(C), 3(D), 3(E) and 3(F).				
	Open/Pile Foundation				
3(A)	RCC (M-35) Pile caps.	cum	6643.98	17100.00	113612058
3(B)	RCC(M-35) Piers, abutments etc.	cum	6979.48	8124.00	56701295.52
3(C)	RCC(M-35) Abutment cap & Pier Cap, pedestals, etc.	cum	7315.67	5600.00	40967752
3(D)	RCC (M-35) Retaining wall	cum	6760.90	3410.00	23054669
3(E)	RCC (M-25) Foothpath Slab	cum	7140.59	400.00	2856236
3(F)	RCC (M-35) RCC Box	cum	6588.41	92.16	607187.8656
NS - 4	Providing and laying in position reinforced cement concrete of M-45 grade as per approved plan and mix design with coarse sand and stone aggregate of 20mm and down gauge in precast PSC girder/T- girder/Slab of any span as per drawing in straight/skew in casting yard for all heights and depths including compaction of concrete by electrical/mechanical vibrator, providing and using admixture in recommended proportion as per IS456, IRC-112, IS-9103 & concrete bridge code applicable as per approved mix design meeting the conditions of minimum cement content, maximum water cement ratio and slump as specified in the special conditions, produced by automatic RMC plant and placed using concrete pump including designing of concrete mix, finishing the	cum	10588.72	11260.00	119228987.2

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>exposed surface of concrete, curing of concrete as required in IRC-112, including all lead by transit mixer (crossing of stream, nallahs, railway tracks, level crossings or any other obstruction such as traffic jam etc.), lift, pumping, ascend, descend, loading, unloading, handling, rehandling of material at all height including design & provision of scaffolding, centering, shuttering with all incidental works, fixing of ducts or any fixer etc wastages if any, cost of all safety works and safety precautions with all labour, arrangements for cold weather and hot weather concreting as applicable, taxes and royalty etc. as a complete job as per specifications and directions of engineer in charge. Nothing extra will be paid on any account.</p> <p>The rate will also include the cost of sheathing, anchor for locking, cone and steel bearing for stressing etc. with fixing as per drawing and satisfaction of Engineer In charge required for PSC girder as per RDSO approved drawing. The rate will also include cost of OPC cement, admixture (plasticizer, super plasticizer, or retarder etc.) as per approved mix design.</p> <p>Work will be executed as per Indian Railway Unified standard specifications applicable for RCC/PSC works contained in chapter 4&20.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>Binding wire for maintaining reinforcement in position will be Provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>At the ends of the PSC Girder, extra cable projected outside of PSC Girder for stressing by jacks as per drawing will be provided by the contractor free of cost. After final stressing and cutting as per direction/satisfaction of Engineer in charge, that extra projected outside cable will the property of contractor.</p> <p>Stage Payment: For Precast PSC slab/girder :- (1) On casting at site 60 % of accepted rate. (2) On pre-stressing of First stage stressing 30% of accepted rate. (3) on completion after Launching in all respect 10% of the accepted rate.</p> <p>NOTE: The stage payment will be paid after satisfaction of Engineer Incharge.</p>				
NS - 5	<p>Launching of Girders by using lifting belt and appropriate capacity of cranes, handling and transporting PSC precast girders/ slabs from the casting yard to the place of launching/erection and then finally launching and placing the girder/ slab in position over pier caps/pedestals/bearings etc at any height above rail level, squaring in position by suitable bracing arrangements till casting of diaphragm, over electrified/ non electrified, running/ non running / or other than track portion including traffic/ non traffic block. Launching to be done with the help of heavy-duty cranes of sufficient/required capacity. The rates are inclusive of leveling the approaches/ track ballast and dressing the site where ever required for smooth movement of / site working of the cranes. The scheme will have to be prepared and submitted to</p>	cum	7577.22	11260.00	85319497.20

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>Railways for approval. No extra payment on this account will have to be made. Note: Work will be executed as per specifications.</p> <p>After Launching of 18.3m Girders on sufficient size of wooden block and then casting of Deck slab will be done and after getting the required strength of Deck slab with satisfaction of Engineer In charge, 2nd stage of stressing will be done as per design and drawing.</p> <p>After second stage of stressing, span should be raised by jacks and neoprene bearings should be properly adjusted on pedestal. The vertical centre line of diaphragm, centre line of neoprene bearing and centre line of pedestal should be perfect match in same vertical alignment.</p> <p>Stage Payment: For Precast PSC slab/girder:- (1) launching in position 60% of accepted rate. (2) After second stage stressing as per design 30% of the accepted rate. (3) on completion in all respect 10% of the accepted rate.</p> <p>NOTE: The stage payment will be paid after satisfaction of Engineer Incharge.</p>				
NS - 6	<p>Providing and laying in position reinforced cement concrete of M40 grade cast in situ as per approved plan and mix design with coarse sand and stone aggregate of 20mm and down gauge in Deck slab, retainers, trolley refuges, inspection platforms etc. of any span as per drawing in straight/skew in situ for all heights and depths including design & provision of all temporary staging arrangements, cantering, scaffolding & shuttering etc. including compaction of concrete by electrical/mechanical vibrator, providing and using admixture in recommended</p>	cum	9526.36	9500.00	90500420.00

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>proportion as per IS 456, IRC-112, IS-9103 & concrete bridge code applicable as per approved mix design with minimum cement content, maximum water cement ratio and slump as specified in special conditions produced by automatic RMC plant and placed using concrete pump including designing of concrete mix, finishing the exposed surface of concrete, curing of concrete as required in IRC-112, including all lead by transit mixer (crossing of stream, nallahs, railway tracks, level crossings of any other obstruction such as traffic jam etc.) lift, pumping, ascend, descend, loading, unloading handling, re handling of material at all heights including all incidental works, fixing of ducts or any other fixer etc. wastages if any, cost of all safety works and safety precautions with all labour, arrangements for cold weather and hot weather concreting as applicable, taxes and royalty etc. as complete job as per specifications and directions of engineer in charge. Nothing extra will be paid on any account.</p> <p>The rate will also include cost of OPC cement, admixture (plasticizer, super plasticizer, or retarder etc.) as per approved mix design.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p> <p>Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>NOTE:</p> <p>i. If the grade of concrete changes to M-35 in design of deck slab instead of M-40, then the rate will be reduced with factor of 0.90 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>ii. If the grade of concrete changes to M-45 in design of deck slab instead of M-40, then the rate will be increased with factor of 1.10 on accepted rate of this particular item only. Balance conditions will remain same.</p>				
NS - 7	<p>Providing and fixing in position of standard preformed sealed and slab type or strip seal elastomeric type expansion joints for Railway bridge or Road Over Bridges as per approved drawings and latest MOST/IRC specifications. The rates are inclusive of supplying, fixing with contractor's own materials e.g. inserts, bolts, sockets, tubes, Neoprene sheets/caps etc., equipments, machineries, labour, all taxes, royalty, all lead & lifts, transportation, testing, surface preparation, complete. The rate is for finished item complete and shall be paid after fixing in all respect upto 80 mm expansion.</p>	m	10532.53	1400.00	14745542.00
NS-8	<p>Providing and laying 150mm dia drainage spout with grating as per approved drawing including bends & other fitting as per technical specification and direction of Engineer-in-Charge as complete job for fixing including cement.</p>	Nos	2271.56	236.00	536088.16

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS - 9	<p>Providing and laying in position reinforced cement concrete of M35 grade as per approved plan and mix design coarse sand and stone aggregate of 20mm nominal size for all heights and depths in pavements/ roads/ wearing coat etc. including compaction of concrete by electrical/ mechanical vibrator providing and using admixture in recommended proportion as per IS-456, & IS-9103, concrete bridge code applicable as per approved mix design complying with minimum cement content, maximum water cement ratio and slump as specified, produced by automatic RMC plant and placed using concrete pump including designing of concrete mix, making required slope and camber, providing and filling construction and dummy joints with approved joints filler (confirming to grade -B of IS 1834) rounding of the edges making and filling the grooves as per drawing finishing the exposed surface of concrete, curing of concrete as required in IRC-112/ IRS-CBC/IS codes as applicable ,including all lead by transit mixer (crossing of stream, nallahs, railway tracks, level crossings of any other obstruction such as traffic jam whatsoever lift, pumping, ascend, descend, loading, unloading, handling wastages if any, cost of all safety works and safety precautions with all labour, arrangements for cold weather and hot weather concreting as applicable, taxes and royalty etc. as a complete job as per specifications and directions of engineer incharge. Nothing extra will be paid on any account.</p> <p>The rate will also include cost of OPC cement, admixture (plasticizer, superplasticizer, or retarder etc.) as per approved mix design.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made</p>	cum	6428.89	1600.00	10286224.00

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>separately under relevant items of USSOR: 2010.</p> <p>Binding wire for maintaining reinforcement in position will be provided by the contractor free of cost and no separate payment will made for binding wire.</p> <p>Shuttering will be arranged by contractor and payment will be made separately under relevant items of USSOR-2010).</p> <p>Wearing coat concrete will be done in alternate panel as decided by Engineer Incharge & proper construction gap will be provide & this construction gap will be fill up by Bitumen at free of cost. No extra Payment will be made for this.</p> <p>NOTE:</p> <p>i. If the grade of concrete changes to M-40 in design of wearing coat instead of M-35, then the rate will be increased with factor of 1.10 on accepted rate of this particular item only. Balance conditions will remain same.</p> <p>ii. If the grade of concrete changes to M-30 in design of wearing coat instead of M-35, then the rate will be reduced with factor of 0.90 on accepted rate of this particular item only. Balance conditions will remain same.</p>				
NS - 10	Providing and fixing 150mm dia (B) class GI rain water pipe including the cost of all fittings welding, clamps etc. with all labour and material as a complete job.	Rmt	1200.96	3188.00	3828660.48
NS - 11	<p>Providing temporary steel barricading 2.0mtr. High and making arrangement for traffic diversion such as traffic plan during construction period at site for day and night as per requirement and as per HRIDC type drawing .</p> <p>This item will be paid only once during the entire construction period till completion of work. The</p>	Rmt	708.64	1500.00	1062960

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>arrangement of barricading and traffic diversion has to be kept continuously.</p> <p>The rate includes repositioning and repainting of barricading and provision of suitable reflectors and red lamps at night.</p> <p>The dimensions of barricades as given in drawing with all labour and material as a complete job.</p> <p>Nothing extra will be paid for fixing and other arrangements. (The released barricades after completion of entire work will be the property of the contractor). Work will be executed as per specifications.</p>				
NS - 12	<p>Supplying and filling blanketing material as per Clause-12 of RDSO Guidelines and specifications for design of formation for heavy axle load Report No. RDSO/2007/GE:0014 November 2009 with up to date correction slip, from any approved source by Railways for thickness varying up to 1 meter over the top of sub grade including all lead, lift, ascent, descent, octroi, royalty and other taxes and compensation, crossing of nallahs /stream and other obstructions including mechanical compaction in layers (not exceeding 30cm thick) with vibratory rollers, handling, re-handling, dressing of banks to the final profile complete in all respect with all labour & material as a complete job as per special data and specifications or as directed by the Engineer-in-charge.</p>	cum	2003.68	9820.00	19676137.6
NS-13	<p>Manufacturing & fixing of gradient post, km post as per standard type plans of CC/RCC posts of M-25 grade at nominated place or in block section. All consumable material will be arranged by the contractor including fixing, painting, with all lead, lift, labour and T&P, ascent, descent for completing the job in</p>	No	2216.22	20.00	44324.4

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>accordance with IRPWM. No extra payment will be made for this.</p> <p>Note: The rates are inclusive of cost of all materials such as cement, shuttering, aggregate, water, paint etc. excavation for foundation concrete and back filling, transportation of posts to site and fixing in position etc. with Contractor's own tools and plants, equipment Consumables, labourers etc., inclusive of all lift & lead, taxes, royalties etc. complete.</p> <p>Reinforcement steel including cutting, straightening, hooking, bending, binding, placing and keeping and maintaining in position will be arranged by contractor and payment of reinforcement steel will be made separately under relevant items of USSOR: 2010.</p> <p>Binding wire for maintaining reinforcement in position and cement will be including in item and no separate payment will be made for binding wire.</p>				
NS-14	<p>Supplying, Loading, leading, unloading and stacking of 65mm gauge machine crushed track ballast as per Railway standard specification of ballast as directed by Engineer-in-Charge as per Northern Railway Standard specification and special conditions including levelling & cleaning the ground before stacking, all lead, lift, ascends, descends, handling, rehandling, crossing of nalahs, streams, and humps, tracks and any type of obstructions etc., making approach road, whenever required for this work including stacking, all taxes, royalty, octroi and all other charges if any, as a complete job.</p>	cum	1592.93	16650.00	26522284.5

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-15	Dismantling of existing track 60 kg /52 kg / 90R / 75R rails with CST-9 / Twin block /PRC / ST / Wooden sleepers/SEJ/glued joints/RDSO joint etc. of any density including all fittings and fastening complete, rails all lengths, welded panel / single including cutting of rail where required and stacking the released material i.e. rail sleepers and other P. Way fittings will be stacked properly at SSE/HRIDC/P.WAY Store/suitable location as directed by Engineer in charge with free lead upto 500 M including all lift, ascent, descent or any other obstruction, crossing of lines etc. as a complete job under running traffic./ non running Conditions. This item also includes dismantling of SEJ/Glued Joints / RDSO Insulated Joints etc. Leading of P way Materials beyond 500 M shall be paid separately under relevant NS item.	TRM	177.02	5840.00	1033796.8
NS-16	Preparation of Ballast bed on new formation including rolling of Ballast carpet up to 150 mm to 200mm thickness (maximum) upto required width/profile as per direction of engineer incharge on new bank with contractors own about 8/10 tonnes capacity self propelled vibratory roller, tools and plants, equipment, consumable, labours etc. including all lead, lift as a complete job. Note:- The payment for putting ballast for preparation of ballast Bed shall be paid separately through relevant NS item.	TRM	18.73	5840.00	109383.2
NS-17	Picking up stone ballast from the stacks made along the alignment of the track and spreading thereof uniformly on the prepared BG formation to provide 150mm thick clean ballast bed and subsequently to recoup the ballast including dressing and boxing to make standard ballast profile after linking of the track with all lift, ascent, descent, crossing of track/ nallah or any other obstruction and up to a lead of 150m measured along the track with contractor's own labour and T & P. The rates are inclusive of screening of ballast, if required, to remove the sand mixed in				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	the ballast stacks due to blowing of sand storms in the area.				
17(a)	Upto a lead of 150m	Cum	221.33	15476.00	3425303.08
17(b)	Extra for lead beyond 150m but upto 500m Notes: 80% payment against this item will be made on putting the ballast in track as per required profile/in stages & 20% payment against this item will be made on dressing & boxing. In case, contractor fails to complete boxing, dressing in some stretches as per required profile, recovery @Rs.10.00 per RM of track will be made.	Cum	45.29	2808.00	127174.32
NS-18	Cutting of all types of rails section New / SH on running / non running lines with hacksaw blade for vertical, square and smooth face for linking of track as directed by the Engineer-in-charge as a complete job (all the T&P / consumable material required for cutting of rails will be arranged by the contractor at his own cost) including handling / rehandling of rails.	Nos	144.12	100.00	14412
NS-19	Drilling holes of 32 mm/28mm/26.5mm dia or as directed by engineer in charge including chamfering in 60 Kg / 52 kg / 90R New / SH rail including arrangements of all tools and plants, consumable material etc. at contractor's own cost including lead, lifts, placing, handling, re-handling of rails as required or as directed by the HRIDC Engineer in charge at site as a complete job with all labour& material and T&P involved.	Nos	46.00	100.00	4600
NS-20	Taking out of stone ballast from existing dismantled track/Running tack and putting back in adjoining track i.e. running track/ line as per direction of site in-charge including screening, dressing of surface, crossing of track, any obstruction whatsoever and making of ballast profile of new track where ballast put in including all labour and T&P, as a complete job.	cum	206.25	2000.00	412500

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-21	Assembling, linking and laying of BG track 60 Kg / 52 kg / 90 - R (New/SS) rails of single/3/10/20 panel or any other rail length rail panels on Ordinary PRC sleeper on earthen bank and special PRC sleeper on viaduct portion of density 1660 Nos per Km/ M+4 to M+8 on straight, curve, Deck slab bridges, open web girder bridges, new/existing embankment and level crossing, including pulling & pairing of rails with all standard fittings and fastenings, spreading of sleepers, putting rails on sleepers, squaring, correct spacing/markings, gauging, alignment, longitudinal & cross level including oiling and greasing of fish plates, fish bolts and nuts, greasing of rail seat under liners and providing super elevation on curves and creating adequate gap of 12/25 mm at each joint for welding and maintaining all other relevant track parameters in accordance with IRPWM (with all correction slips up-to-date) as per direction of Engineer in charge, complete in all respect and as per the instructions contained in the special conditions of contract. The rate also includes for cutting & levelling formation of new bank /existing surface up to 15 cm from the formation level up to required level as directed by Engineer in charge including free lead up to 50 mtr, dressing of newly laid ballast cushion, katcha packing to required longitudinal and transverse grading to bring to fairly good geometry and final track tolerances with provision of correct expansion gaps according to temperature prevailing at the time of linking as per special conditions and specifications as a complete job including linking with existing line under running traffic conditions. This includes (I) leading, loading, unloading, re-handling manually or by dip lorries/road transport of all P.way fittings required at site of work from the nominated SSE/P Way store (ii) leading, loading handling re-handling of PSC sleeper/rails /SEJ/ glued joints in block sections and in yard, upto	TRM	369.81	5840.00	2159690.4

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>a free lead of 500m. This item includes all lead, lift, ascent, descent or any other obstruction like - crossing of bridges, water logged areas / track, platform, points etc. on either side of embankment in connection with linking of track as a complete job. This item also includes laying of SEJ, Glued Joints and insulated joints/RDSO joints. Leading of P way Materials beyond 500 M shall be paid separately under relevant NS item.</p> <p>Note:- (i) 70% payment shall be released after completion of track linking with katcha packing, including alignment gauging, correct spacing & squaring of sleepers, tightening of rail joints, fittings and fastening complete in all respect. (ii) 10% payment shall be released after completion of 1st through packing, doing all operations of through packing and making the track fit for a speed of 20 KMPH (The payment of 1st through packing will be made through relevant NS items) (iii) 15% payment shall be released after 2nd through packing and making the track geometry fit as per IRPWM and latest CE circulars for a speed of 45 KMPH(The payment of 2nd through packing will be made through relevant NS items) (iv) Remaining 05% payment shall be released, one month after the opening of track for rail traffic or handing over the track to open line, whichever is earlier, including rectifying all the defects as instructed by the Engineer at site (v). Drilling holes in Rails and cutting of Rails will be paid separately under relevant NS items.</p> <p>NOTE: Linking of the track includes linking on ordinary line sleepers and special Guard rail sleepers. Nothing Extra will be paid for linking of track on special Guard rail sleepers.</p>				
NS - 22	Rail renewal /Casual rail renewal in BG track on PRC/ metal/wooden sleepers by 60 kg/52kg/90R rails in running lines on selected stretches as decided by site in charge with all standard fittings and fastenings and maintaining all relevant track parameters as per IRPWM	TRM	114.92	5840.00	671132.8

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	<p>instructions, with all T&P , labour and material as a complete job. The rate includes dismantling of old Rails by releasing of track fittings This rate also includes pairing of rails with all standard fittings & fastenings (including recouplement of missing fittings), putting rail on sleepers, gauging, and alignment, longitudinal and cross level, creating 12/25mm gap (as applicable) for welding joints. All the relevant track parameter for SEJ on already laid SEJ to be maintained. NOTE:- 75% of the accepted rate will be paid if Rail renewal will be done on non running line with out traffic block. Note : (i) The Rate also includes free lead 500 M for Railway Material. (ii) Cutting of rails & Drilling of holes will be separately paid under relevant item of this tender schedule. (iii)Balance 25% will be paid after satisfaction of Engineer Incharge</p>				
NS-23	<p>Two rounds of Manual Through packing inclusive of boxing, packing, dressing and providing required ballast cushion 250/300/350mm as applicable and as per stipulated profile for LWR / SWR / Fish plated track / curves, point and crossing, traps as per IRPWM or as directed by the Engineer-in Charge including 1st & 2nd packing at required intervals including squaring of sleepers, ensuring correct spacing, gauging, slewing for adjusting alignment, packing, repacking of joint sleepers, longitudinal and cross level etc. complete to bring the track to required tolerance so as to make the track fit for a speed of 45 KMPH including all lead, lift, handling and re handling etc. of track points and crossing under working traffic conditions or on newly laid track/ turn out/ trap points as a complete job. Payment schedule will be as follows: 40% payment will be made on completion of 1st through packing. 40% payment will be made on the completion of 2nd through packing after making the track tolerances within the range defined in special conditions/ specificatios, boxing ,dressing and stipulated ballast profiling and making track fit for the</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	speed of 45 KMPH. 10 % payment will be released after completion of Boxing ,balancing as per approved ballast Profile . Balance 10% payment shall be released after one month of the opening of the track to rail traffic including rectification of all defects by the contractor as intimated by the Engineer at site. For BG track with 60 Kg/52kg (single rails/SWP/LWR) with PRC/wooden/Metal sleeper with any type of sleeper density.				
23(a)	On Main Line having sleeper density of 1660 nos. per km. Note: Through packing of the Turn Outs/derailing switches shall also be paid under this item. 120m and 100m lengths shall be paid for each turn Out of 1 in 12 and 1 in 8.5 crossing angle respectively, while 20m lengths shall be paid for each derailing switch. Point zone shall be considered between SRJ to back leg of crossing in case of turn outs, where as SRJ to back of tongue rail in case of derailing switches.	TRM	44.63	5840.00	260639.2
NS-24	Slewing of existing main running BG track / loop line of 60kg/ 52 kg/ 90R on PRC / CST-9 / ST / Wooden sleepers with any sleeper density including opening out of ballast, releasing of jammed fittings such as pandrols / keys / cotters etc. recoument of missing fittings, slewing of track, correcting sleeper density, maintaining of alignment of track on straight /curves with all track parameter such as cross level, gauge, versine, super elevation, squaring of sleeper etc. putting of ballast after screening from slewed track Including katcha packing as per direction of Engineer in charge with all labour& material as a complete job. The work will be executed under traffic block conditions & nothing extra will be paid for wastage of labour due to non-availability of traffic block. Payment will be made on the basis of track KM. Rate will also be applicable for cut & connection where required and slewing up to proposed track alignment.	TRM	268.19	550.00	147504.5

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-25	Providing and fixing of glued joint in existing/ running track 60 Kg / 52Kg / 90 R including free lead up to 200 metre for glued joints and released Rails within station limits , Glued joint and related fittings will be provided by railway at SSE/C/P.Way store. The released materials shall be deposited in the store of SSE/C/P.Way . The rate shall include complete fixing of track fitting and katcha packing, if required, free of cost as a complete job. Note:- The cutting of rails & drilling hole in to the rail shall be paid separately under relevant NS item.	Nos	813.66	4.00	3254.64
NS-26	Laying Switch expansion joints (SEJ) of 52Kg/60Kg Rail, in running track on special PSC sleepers as per RDSO drawing No. T-4165/4160/5478/5586/5748 or any other latest approved drawing at the required locations with contractors labours and tools inclusive of all charge with free lead upto 200m and all lifts. The items mainly includes laying SEJ, Rails to correct spacing over compacted ballast bed, laying of stock rail and tongue rail (two pairs) providing the fittings and fastening, fixing two angle spacers bringing it to desired level and longitudinal profile correcting, gauge, cross level, spacing and squaring of sleeper and packing dressing the ballast oiling greasing the longer rails and stock rails etc. or any other item required as per directive of Engineer at site. Payment for Cutting of rails and drilling of holes for advance preparation for laying of SEJ will be made under relevant NS items.	sets	13316.47	2.00	26632.94
NS-27	Consolidation of track by track machine including all labour for pre runs, post run operation of DGS machine & tightening of fittings & fastenings etc. The diesel, cotton waste will be provided by the contractor and all other consumables and repair to machine will be arranged by HRIDC. HRIDC will provide DGS machine and crew free of cost. Other labour for working with DGS for pre / during and post run activities shall be provided by contractor.				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
27 (a)	Ist Round consolidation	TRM	6.66	5840.00	38894.40
27 (b)	2 nd Round consolidation	TRM	6.66	5840.00	38894.40
NS-28	De-stressing of newly laid track / old tracks at appropriate temperature as per LWR manual and as per the direction of the Engineer in- charge at site including all labour equipment such as destressing rollers, destressing tensors, thermometer etc. as a complete job including squaring, correct spacing of sleepers, adjustment of correct clearance at toe of SEJ's including changing of rails if required and applying soft grease. The rate includes the cost of all labours and T&P etc as a complete job. Note: (i) Payment of cutting and drilling in rails and shall be paid separately under relevant NS item. Ii) Payment for applying soft grease shall be paid separately under relevant NS item.	TRM	23.88	5840.00	139459.2
NS-29	Loading and leading of stone ballast from the stacks and spreading / putting thereof into the track to make good the deficiency at different locations including all handling / rehandling, ascent, descent, crossing of track, nallah, dressing and boxing to make standard ballast profile with contractor's own labour, T & Pand consumables, as per direction of Engineer in charge or his authorized representative. Lead shall be measured along the alignment. The item includes Putting, spreading, dressing and boxing of the ballast as a complete item, for which nothing extra shall be paid.				
29(a)	For lead above 500m and up to 1.00 Km	cum	266.10	15901.00	4231256.1
NS-30	Tamping of track, turnouts, trap points laid on BG PSC sleepers on main/loopline/Sidings with railways tamping machine including Pre Tamping and Post tamping attention to the track as per the instructions laid down in the Indian Railway Track Machine Manual, after each round of				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	tamping of the track by on Track tampers, with contractor's own labour and T & P. HRIDC will provide tie tamping machine, Hydraulic oil, grease, lube oil and crew free of cost. Diesel, cotton waste, re- conditioning of tamping tools will be provided by contractor at his own cost. All labour required for pre-tamping, post tamping and during tamping operations shall be provided by the contractor at his own cost. Work is to be carried out as per special conditions of contract and as directed by Engineer-Incharge.				
30 (a)	1 st Round of packing Note: 1 st Round of packing shall be done with double insertion mode. Rates are inclusive in the item. Nothing extra will be paid for double insertion.	TRM	34.15	5840.00	199436
30 (b)	2 nd Round of packing	TRM	34.15	5840.00	199436
30 (c)	3 rd Round of packing	TRM	34.15	5840.00	199436
NS-31	Welding of 60kg 90 UTS Rail joints by AT Welding (SKV Process) in situ with compressed Air petrol Preheating 3 piece pre-fabricated mould (ZIRCON-WASHED) manually pressed, single shot crucible fitted with Auto tapping Thimble in nonrunning and running track during traffic block for converting single rails/short welded panel/long welded panel in to SWR/LWR/CWR including finishing of welded joints to post welding tolerances with contractor's own RDSO approved welding portion, pre-fabricated moulds, tools consumables, supervision etc. as per RDSO approved technique in accordance with the provisions contained in latest updated manual and all correction slips with all lead, lifts, taxes, levies by central/state govt., local authority. Payment Schedule:- 1. 80% payment shall be made on welding, 2. 10% payment shall be released on grinding, 3. 5% payment shall be released on painting and numbering of welding joints. 4. 5% payment shall be released on USFD testing of joints.	each	7519.24	100.00	751924

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-32	Providing and fixing LWR / CWR / curve boards of varying size up to 900mm X 600mm and height up to rail level made of 5mm thick MS sheet duly welded on two numbers angles of size (50(50X6) mm including grouting the same with concrete on cess embankment and including paint on the back ground with white enamel paint to give an even shade, writing letters of prescribed pattern with black paint on the board complete with all labour and material as per direction of engineer in charge.	Sqm	2803.28	100.00	280328
NS-33	Fixing of Joggled fish plate with bolt/clamp on untested and defective rail weld joints in running/non running line with fixing of wooden block by removing existing track ballast and again in putting and packing the wooden block. (Payment for Drilling of hole in rail will be paid under relevant NS items) including all labour and material except joggled fish plate, nuts and bolts/ joggled clamp which will be supplied by HRIDC at SSE/C/P.Way store.	Pair	245.45	10.00	2454.5
NS-34	Pushing of Railway's inspection push trolley on newly linked BG track with contractor's own skilled / semi skilled labours. The item mainly includes arranging 5 (five) Nos. of appropriate skilled / semi skilled man, placing the push trolley on track, pushing it, taking safety precautions while pushing, taking off from track, keeping it at the safe place when not in use, maintaining push trolley in safe condition etc. as per the directives of trolley holder i.e. representative at HRIDC. Note: 1. The labour arranged for pushing trolley will not changed by the contractor without the permission of trolley holder. 2. Contractor has to carry out necessary repairs as and when needed, oiling the bearings etc. to keep the trolley fit for inspection. 3. For the payment purpose 8 hr.	Days	948.95	200.00	189790

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	working will treated as one day. In case of use beyond 8 hr. on any day, extra payment will be made @ Rs.72.50 per hr. beyond 8 hr. working. 4. Log book has to be maintained for daily use.				
NS-35	Manufacturing and fixing of guard rail of all rail section on bridges as per satisfaction of Engineer Incharge.	TRM	186.24	4300.00	800832
NS-36	<p>Loading, leading, unloading and stacking of P.Way material New/ SH/ released such as - ,Rails, all types of PSC/PRC sleepers (except line sleepers, level crossing sleepers, Guard rail sleepers and SEJ sleepers), wooden sleepers, ST sleepers, CI. sleepers ,any other type sleepers, SEJ, glued joint or any other type of P.Way materials except PSC line sleepers 52Kg/60Kg,and level X-ing/guard rail sleepers with all lead, lift ascent, descent, crossing of nallah, Railway track, L-crossings or any other obstruction whatsoever along the proposed bank, keeping in view of safety of track as per direction of site Engineer & guidelines as per Special conditions of contract. Weighing will be done in presence of HRIDC representative and authorized representative of contractor from nearest Dharam kanta to certify the load / weight at loading point and unloading point as per requirement from any place to any place by shortest possible workable route. (Payment may be done for new materials as per standard weight). The rate also includes loading, unloading, stacking of material in measuring and countable position as required by Engineer in charge. "The lead shall be measured along the shortest possible route to be decided by the Engineer in charge."</p> <p>Note: 1. Re transportation of materials if required from level crossing /yard as per site conditions and as per direction of Engineer in Charge and up to site of</p>				

SNo.	Description of Item	Unit	Rate	Qty.	Amount
	work will be paid separately in this items. 2. Leading of PSC line sleepers 52Kg/60 Kg, and level X-ing/guard rail sleepers/SEJ Sleepers will be paid under relevant NS Item.				
36 (a)	Lead upto 1 Km	MT per Km	761.88	300.00	228564
36 (b)	Additional lead to item (a) above for every subsequent Km or part thereof over 1 Km & upto 10 Km	MT per Km	33.31	2700.00	89937
36 (c)	Additional lead to item (a) & (b) above for every subsequent km or part there of over 10 km and up to 50 km	MT Per Km	8.60	12000.00	103200
36 (d)	Additional lead to item (a),(b) & (c) above for every subsequent kms or part thereof over 50 kms & up to 100 kms .	MT per km	6.03	15000.00	90450
36 (e)	Additional lead to item (a), (b), (c) & (d) above for every subsequent kms or part thereof over 100 kms & upto 150 km.	MT Per Km	5.78	15000.00	86700
36 (f)	Additional lead to item (a), (b), (c) & (d) & (e) above for every subsequent kms or part thereof over 150 Kms to 250kms.	MT Per Km	3.82	30000.00	114600
NS - 37	Loading, leading, unloading and stacking of PSC line sleepers 52Kg/60Kg, and level X-ing/guard rail sleepers/SEJ Sleepers including all lead, lifts, etc as a complete job.				
37(a)	Lead up to 1 km over 500 mtr free lead.	MT Per Km	96.84	8632.00	835922.88
37(b)	Additional lead to item (a) above for every subsequent Km or part thereof over 1 Km and upto 5 km.	MT Per Km	4.41	34528.00	152268.48
37©	Additional lead to item (a) & (b) above for every subsequent Km or part thereof over 5 Km and upto 10 km.	MT Per Km	4.01	43160.00	173071.6
37(d)	Additional lead to item (a), (b) & (c) above for every subsequent Km or part thereof over 10 Km and upto 20 Km.	MT Per Km	0.99	86320.00	85456.8
37(e)	Additional lead to item (a), (b), (c) & (d) above for every subsequent Km or part thereof over 20km and up to 50 Km.	MT Per Km	1.91	258960.00	494613.6
37(f)	Additional lead to item (a), (b), (c), (d) & (e) above for every subsequent Km or part thereof over 50 Km	MT Per Km	1.69	431599.00	729402.31

SNo.	Description of Item	Unit	Rate	Qty.	Amount
NS-38	Unloading and stacking of rails 1/3/10/20 rail panels from full / part rake of BFR / BRN immediately on arrival / placing of rake in siding/ loop line/ main line during free time/ block time and stacking the same up to 50 mtr from track stacking will be done in straight position and in countable position as a complete job. Note: 20 rail panels are to be made in upright condition and nothing extra will be paid for this.	MT	105.73	543.00	57411.39
NS - 39	Painting of rails out side /inside of any section the track / on cess / block section with two coats of bituminous emulsion , confirming to IRS : P- 30 - 1996 to dry film thickness of 350 microns (each coat to minimum thickness of 175 microns) after applying one coat of ready mixed priming coat of read oxide zinc chromate primer to IS: 2074 of approved quality as per IRPWM. The painting will be done after removing the rust & dust and loosening the scales by brushing/ scraping etc. All the application will be done in uniform brushing. The work shall be complete in all respects with all labour & material misc and incidental works related to the job as per direction of engineer in charge of HRIDC at site to his entire satisfaction.	TRM	70.65	5060.00	357489
NS - 40	Painting of one coat of anti corrosive black bituminous paint on ERC new/ old with approved quality of paint, prior to applying the paint over ERC, proper cleaning of any dust/ rust etc with wire brush/sand paper and brushing for good quality of work and washing of pandrol clips by K. Oil by keeping them dipped in k. Oil for at least 12 hour, drying them and then dipping for short period in bituminous paint of ISI approved mark as per instructions of the Engineer in charge including the cost of all material, labour and T & P as a complete job.	each	3.29	36194.00	119078.26
TOTAL ESTIMATED VALUE OF SCHEDULE B - NS ITEMS					91,50,84,622.49

NOTES:

1. Schedule "A1" and Schedule "A2" are of USSOR-2010 items and Schedule "B" is of NS items.
2. The Tenderer(s) shall quote his rate in financial bid sheet against each schedule i.e. Schedule "A1" "A2" & "B" separately.
3. The quantities shown against the USSOR Items & NS Items are approximate and given to serve as a guide only. HRIDC reserves the right to increase /decrease the quantities according to its needs
4. All Non-Schedule Items are for complete items of work including all labour, material, all lead, lifts, ascends, descends, crossing of nallah or any obstructions, etc. including loading, unloading, handling, re-handling, taxes, octroi, royalty, compensation, etc. complete.
5. The tenderers are ensured to quote the rates in figures **only in Financial bid sheet (BoQ). However, the quoted rate in figures against each Schedule will automatically be converted into words in Financial Bid sheet.**
6. The rates should be quoted including the payment of octroi/toll tax/sales tax/trade tax or any other tax as leviable by the Central Governmental/State Government/Local Bodies, etc.

I/we clearly understand that I/we am/are not entitled to any other payment whatsoever except at the tendered rate quoted against each item for fully completed works as per conditions of contract.

Signature of Tenderer(s)
Address

SUMMARY OF COSTS

Name of work: Construction of Elevated BG Railway line from Km 79/6 to Km 85/7 along the existing Railway line on diverted alignment between Pehowa Road and Kurukshetra Railway stations on Narwana- Kurukshetra section of Delhi Division on Northern Railway involving Viaduct on pile foundation & PSC superstructure, earthen embankment on approaches, retaining walls, Elevated Platform at Thanesar station and other ancillary works in connection with elimination of 05 nos. Level crossings in Kurukshetra City.

Name of work		Construction of New Railway line on via-duct with approaches on Earth filling Retaining wall and other miscellaneous works from Km.0.800 to Km. 5.640 in Rohtak city on Kurukshetra – Narwana section of Northern Railway.		
Schedule A1 – USSOR items (Except cement, Reinforcement steel, HTS cable and Elastomeric Bearing Pads)				
SNo.	Name of chapter	Cost as per USSOR - 2010	%age above	Estimated Amount
1.	All items of chapter-1 "Earth work " of USSOR-2010	26809534.64	24.64%	33416074.21
2.	All items of chapter-2 "Carriage of Materials" of USSOR-2010	3183744.60	22.66%	3905075.00
3.	All items of chapter-3 "Plain concrete " of USSOR-2010 except item no. 033060 to 033064	6258789.74	72.23%	10779513.57
4.	All items of Chapter 4 Reinforced cement concrete of USSOR 2010 except item no045010 to 45022	14715368.15	71.03%	25168184.66
5.	All items of chapter-5 "Brick work " of USSOR-2010	1046121.44	69.58%	1774012.74
6.	All items of chapter-7 "Wood work " of USSOR-2010	134967.99	34.57%	181626.42
7.	All items of chapter -8 steel & aluminium work of USSOR 2010	8316200.48	27.35%	10590889.22
8.	All items of chapter -9 - flooring, paving and dado of USSOR 2010.	5354499.44	34.29%	7190378.81

9.	All items of chapter -10- ROOFS AND CEILINGS of USSOR 2010.	462410.00	47.85%	683673.19
10.	All items of Chapter -11: “Finishing Masonary” of USSOR 2010	3677941.59	34.47%	4945728.06
11.	All items of Chapter -12: “Painting, Polishing & Varnishing” of USSOR 2010	8162.00	52.23%	12424.81
12.	All items of Chapter -13: “Water Supply” of USSOR 2010	1770761.00	15.65%	2047885.10
13.	All items of Chapter -14: “Drainage and sewerage” of USSOR 2010	36060.50	56.31%	56366.17
14.	All items of Chapter -15: “Sanitary Installations” of USSOR 2010	106539.56	12.41%	119761.12
15.	All items of Chapter -18: “Dismantling and Demolishing” of USSOR 2010	379305.88	32.96%	504325.10
16.	All items of Chapter -19: “Bridge work Substructure” of USSOR 2010	66759475.05	64.56%	109859392.14
17.	All items of Chapter - 20: “Bridge work Superstructure – RCC” (except item 201040 & 201070) of USSOR 2010	2927169.36	27.88%	3743264.18
18.	All items of Chapter - 21: “Bridge work Superstructure – Steel” of USSOR 2010	4218973.78	58.21%	6674943.89
19.	All items of Chapter - 22: “Bridge work Miscellaneous” of USSOR 2010	24660579.85	18.31%	29175110.00
20.	All items of Chapter - 23: “Road and Platform work” of USSOR 2010	3444868.87	26.07%	4342946.18
TOTAL ESTIMATED VALUE OF SCHEDULE A1				25,51,71,574.56

SCHEDULE A2 – USSOR items (Only cement, Reinforcement steel, HTS cable and Elastomeric Bearing Pads)				
SNo	Name of Chapter	Basic cost as per USSOR-2010	Add %age Above for NIT	Estimated Amount
1	Item No. 033061 of Chapter-3 of USSOR 2010 (Cement)	12951484.00	41.92%	18380422.31
2	Item No. 045016 of Chapter-4 of USSOR 2010 (Reinforcement steel)	560197166.10	42.30%	797160567.36
3	Item No. 201040 of Chapter-20 of USSOR 2010. (Elastomeric Bearing Pads)	31471286.40	27.88%	40245481.05
4	Item No. 201070 of Chapter-20 of USSOR 2010. (HTS Cable)	79230646.05	27.88%	101320150.20
TOTAL ESTIMATED VALUE OF SCHEDULE A2				95,71,06,620.92

SCHEDULE B – NON-SCHEDULED ITEMS	
TOTAL ESTIMATED VALUE OF SCHEDULE B	91,50,84,622.49

Total Estimated Value of Schedule A-1, A-2 & B	212,73,62,818.00
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Note: - All above rates are inclusive GST and all other taxes.