

Tender No.: BRC-EN-TEND-SR-22-23-115



Tender No.: BRC-EN-TEND-SR-22-23-115

For

Name of Work: Construction of parallel Bituminous Service Road from OC building Niyol side DFC Ch. 10+970 A to 10+720 B (750mt length), at DFC Ch 23+773 KM to 26+947KM R.H.S (Village-Abrama & Gothangam) & DFC Ch 24+501 KM to 26+196 KM L.H.S (Village-Abrama) in the jurisdiction of CGM/Vadodara.

OPEN E-TENDER

**TENDER DOCUMENT
(NOT TRANSFERABLE)**

September-2022

Technical Bid

EMPLOYER:

**DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE) UNDER MINISTRY OF RAILWAYS**

NDEX

PART	DESCRIPTION	PAGE NO.
PART - I	Instructions to bidders for Online bidding & Check List	3-6
PART – II	General Information / Data sheet	7-8
PART – III	General Instructions to Tenderers	9-42
PART – IV	Special Conditions of Contract (General)	43-72
PART – V	Special Conditions of Contract (Safety Precautions)	72-80
PART - VI	Special Conditions of Contract (Technical) & Technical Specifications	81-161
PART - VII	Schedule of Items	162-168
PART - VIII	Tender Forms & Annexures	169-241

Note:- Information as required as per various Forms/Annexures to tender document should be submitted by the tenderers without fail strictly as per formats. Offers submitted without Mandatory documents shall be summarily rejected.

**Instructions To Bidders
For
Online Bidding & Check List**

PART-I

A. Instructions to bidders for online bidding

General: -Submission of Online Bids is mandatory for this Notice Inviting Tender. E - Tendering is new methodology for conducting Public Procurement in a transparent and secured manner. Supplier/ Vendors will be the biggest beneficiaries of this new system of procurement. For conducting electronic tendering, DFCCIL has decided to use the portal (ireps.gov.in), a Government of India Undertaking. Benefits to Suppliers/ service providers are outlined on the home page of the portal.

Instructions: -

1. Bidding Methodology: Online Bid System

2. Broad outline of activities from Bidders perspective: -

- a. Procure a Digital Signing Certificate (DSC)
- b. Register on Electronic Tendering System (ETS)
- c. Create Users and assign roles on ETS
- d. View Notice Inviting Tender (NIT) on (ETS)
- e. Download Official copy of Tender Documents from ETS.
- f. Clarification to Tender Documents on ETS - Query to DFCCIL (Optional) - view response to queries posted by DFCCIL through addenda.
- g. Bid Submission on ETS: Prepare & arrange all documents/ papers for submission of bid online.
- h. Attend Public Online Tender Opening Event (TOE) on ETS.
- i. Post TOE clarification on ETS (Optional). Respond to DFCCIL's post – TOE queries.

For participating in this tender online, the following instructions are to be read carefully. These instructions are supplemented with more detailed guidelines on the relevant screens of the ETS.

3. Digital Certificate:

For integrity of data and its authenticity/ non repudiation of electronic records and to be compliant with IT Act 2000, it is necessary for each user to have a Digital Certificate (DC) also referred to as Digital Signature Certificate (DSC) of class III issued by a Certifying Authority (CA) licensed by Controller of Certifying Authority (CCA) (refer <http://www.cca.gov.in>).

4. The Tender documents can be downloaded from the website: ireps.gov.in and to be submitted in the e - format, before the schedule date & time of submission of the tender otherwise the Bid will not be considered.

5. Physical copy of the tender documents would not be sold/accepted.

6. List of Contact persons for these tender details of DFCCIL

DFCCIL Contact- 1	Ashish Barsena
Telephone/Mobile No.	85112512540
E-mail ID	Abarsena@dfcc.co.in

Tender No.: BRC-EN-TEND-SR-22-23-115

DFCCIL Contact- 2	Anup Kumar
Telephone/Mobile No.	9828550709
E-mail ID	anupkumar@dfcc.co.in
DFCCIL Contact- 3	Utkarsh Singh Patel
Telephone/Mobile No.	7226994840
E-mail ID	uspatel@dfcc.co.in

7. Modification / Withdrawal of bids:

- (i) The Bidder may modify/ withdraw its e- bid after submission prior to the Bid Due Date & time. No Bid shall be modified / withdrawn by the Applicant on or after the Bid Due Date & time.
- (ii) Any alteration/ modification in the Bid or additional information supplied subsequent to the Bid Due Date, unless the same has been expressly sought for by the Authority, shall be disregarded.
- (iii) For modification of e-bid, applicant has to detach its old bid from e-tendering portal and upload / resubmit digitally signed modified bid.
- (iv) For withdrawal of bid, applicant has to click on withdrawal icon at e-tendering portal and can withdraw its e-bid.

8. DFCCIL may issue addendum(s) / corrigendum(s) to the tender documents. In such cases the addendum(s)/corrigendum(s) shall be placed on ireps.gov.in and www.dfccil.gov.in. The tenderer who have downloaded the tender documents from the website before issue of addendum(s)/ corrigendum(s) must visit the website and ensure that such addendum(s) / corrigendum (s) (if any) is also downloaded by them. Such addendum(s) / corrigendum (s) (if any) shall also be submitted duly stamped and signed along with the submission of tenders. Any tender submitted without addendum(s) / corrigendum(s) (if any) shall be summarily rejected.

9. Other instructions

- a) It is recommended that the Tenderer/vendor should visit the portal (ireps.gov.in), peruse the information provided under the relevant links and login to it and upload documents of bid.
- b) DFCCIL reserves right to cancel the tender before submission / opening of tender, postpone the tender submission / opening date and to accept / reject any or all tenders without assigning any reason thereof. DFCCIL's assessment of suitability as per eligibility criteria shall be final and binding.

Check list for Mandatory Annexures: -

Information as required as per various Forms/Annexures to tender document should be submitted by the tenderers without fail strictly as per formats. Offers submitted without Mandatory documents shall be summarily rejected.

10.1 Annexure I (Firm Details), Annexure II (Tender Certificate), Annexure IV-A/IV-B/IV-C (Completion Certificate), Annexure-V (Bid Capacity), Annexure-VI of GCC April-2022, Annexure-XIX, Annexure VIII (CA certificate on letterhead), Annexure XXIII (Information regarding Railway/DFC/Gazetted Employee) any other Annexures as applicable.

10.2 In addition to above following documents are also mandatory as applicable.

Annexures as per Clause 16.2 of General Instruction to Tenderers (As applicable)

10.2.1 For Sole Proprietorship Firm: Annexure IX & Annexure XIV and also other documents as applicable as para 16.2.1

10.2.2 For HUF Firm: Annexure XXIX & Annexure XXX As and also other documents as applicable as para 16.2.2

10.2.3 For partnership Firm: Annexure XIII (Annexure XXXI if newly formed partnership firm; Annexure XXXII for existing partnership firm and also other documents as applicable as para 16.2.3

10.2.4 For Companies registered under Companies Act 2013: Annexure XV; Annexure XXXIII; and also other documents as applicable as para 16.2.4

10.2.5 For LLP Firm registered under LLP Act 2008: Annexure XXI; Annexure XXV; Annexure XXXI; Annexure XXXII and also other documents as applicable as para 16.2.5

10.2.6 For Registered Society & Registered Trust: Annexure XXII and also other documents as applicable as para 16.2.6

10.2.7 For JV Firm: Applicable for Tender value more than 10Cr (Please refer para 16.2.7)

10.2.7.1 Sole Proprietorship firm participating as member of JV – Annexure-I & XII and also other documents as applicable as para 16.2.7.1.

10.2.7.2 HUF (Hindu Undivided Family) participating as member of JV – Annexure-XXIX & XII also other documents as applicable as para 16.2.7.2

10.2.7.3 Partnership Firm participating as member of JV- Annexure – XI & XVIII also other documents as applicable as para 16.2.7.3

10.2.7.4 Company Participating as member of JV – Annexure – XII & XVII also other documents as applicable as para 16.2.7.4

10.2.7.5 LLP Firm participating as member of JV- Annexure XX & XXIV also other documents as applicable as para 16.2.7.5

10.2.7.6 Registered Society & Registered Trust as member of JV- Annexure XXVII & XXVI also other documents as applicable as para 16.2.7.6

GENERAL INFORMATION / DATA SHEET

Tender No.: BRC-EN-TEND-SR-22-23-115**PART - II**

Tender Notice No.	BRC-EN-TEND-SR-22-23-115
Name of the work	Construction of parallel Bituminous Service Road from OC building Niyol side DFC Ch. 10+970 A to 10+720 B (750mt length), at DFC Ch 23+773 KM to 26+947KM R.H.S (Village-Abrama & Gothangam) & DFC Ch 24+501 KM to 26+196 KM L.H.S (Village-Abrama) in the jurisdiction of CGM/Vadodara.
a) Tender Value	Rs. 8,48,15,539.59/- (Rs Eight Crore Forty-Eight Lakh Fifteen Thousand Five Hundred Thirty-Nine and Fifty-Nine Paise Only) (Inclusive GST)
b) Completion Period	10 (Ten) months
c) Type of Bid	Open E-Tender
d) Earnest Money	Rs. 5,74,100 /- (Five Lakh Seventy-Four Thousand One Hundred Only) to be paid online through payment gateway provided at www.ireps.gov.in
e) Last Date and Time of Downloading of Tender from website ireps.gov.in and www.dfccil.com	15:00 Hrs. of 26.09.2022
f) Last date and Time of online submission of Tender on website ireps.gov.in	15:00 Hrs. of 26.09.2022
g) Date and Time of Opening of Tender	15:30 Hrs. of 26.09.2022
h) Validity of offer	60 Days from the date of opening of tender.

NOTE:

- 1. Tenderer should bear the fact in mind while quoting the rates that GST will be paid by Contractor as per prevailing rate as applicable. Documentary evidence of deposition of GST will be produced by contractor for on account bill.**
- 2. Information as required as per various Forms/Annexures to tender document should be submitted by the tenderers without fail strictly as per formats. Offers submitted without Mandatory documents shall be summarily rejected.**

**GENERAL INSTRUCTION
TO
TENDERERS**

PART-III
GENERAL INSTRUCTIONS

1.0	<p>Schedule A of this tender is based on SOR of State Government of Gujarat, R&B Surat Division & NS Item of State Government of Gujarat. Schedule B is based on Non-Schedule Items of State Government of Gujarat. Schedule C is based on DSR 2018.</p> <p>Indian Railways Standard General Conditions of Contract, CPWD Specifications 2019 Vol I & II and Indian Railways Unified Standard Specifications (IRUSS Works and Materials) of as amended/corrected up to latest correction slips, copies of which can be seen in the office. For the purpose of this tender in DFCCIL, stipulations and conditions as specified in Indian Railways Standard General Conditions of Contract slips (will be referred as GCC- 2022 in the document) as amended/corrected up to latest correction will be applicable, copies of which can be seen in the office of CGM/GM/Co, DFCCIL, Vadodara.</p>
1.1	<p>DEFINITIONS AND INTERPRETATION</p> <p>(A) Definition: -In these General conditions of Contract, the following terms shall have the meaning assigned hereunder except where the context otherwise requires: -</p> <ul style="list-style-type: none">a. "Railway" shall mean the President of the Republic of India or the Administrative Officers of the DFCCIL or of the Successor DFCCIL authorized to deal with any matters which these presents are concerned on his behalf.b. "Engineer" and Employer's Engineer shall mean the Chief General Manager/General Manager-Co of DFCCIL appointed by DFCCIL.c. "Engineer's Representative" shall mean the JPM /APM / PM / Dy. CPM / Add. CPM of DFCCIL in direct charge of the work and shall include any Jr. Executive /Executive/Sr. Executive, JPM/APM/PM /Dy.CPM/CPM/GM of DFCCIL of Civil Engineering / Signal & Telecommunication Engineering / Electrical Engineering Department appointed by the DFCCIL and shall mean and include the Engineer's Representative of the successor DFCCIL.d. "Contractor" shall mean the person / Firm / Company whether incorporated or not who enters into the contract with the DFCCIL and shall include their executors, administrators, and successors and permitted assigns.e. "Contract" shall mean and include the Agreement of Work Order, the accepted schedule of rates of the Schedule or Rates of DFCCIL modified by the tender percentage for items of work quantified, or not quantified, General Conditions of Contract, Special Conditions of Contracts, if any, Drawings, Specifications, Additional / Special Specifications, if any and tender forms, if any, and all other documents included as part of contract.f. "Works" shall mean the works to be executed in accordance with the contract.g. "Specifications" shall mean the Specifications for materials and works referred / mentioned in tender documents.h. "Schedule of rates" shall mean the schedule of rates issued under the authority of the

	<p>CGM/GM-Co from time to time and shall as contained in CPWD-DSR-2018 also include Rates specified in tender document.</p> <p>i. "Drawing" shall mean the maps, drawings, plans and tracings or prints there of annexed to the contract and shall include any modifications of such drawings and further drawings as may be issued by the Engineer from time to time.</p> <p>j. "Constructional Plan" shall mean all appliances or things of whatsoever nature required for the execution, completion or maintenance of the works or temporary works (as hereinafter defined) but does not include materials or other things intended to form or forming part of the permanent work.</p> <p>k. "Temporary Works" shall mean all temporary works of every kind required for the execution completion and/or maintenance of the works.</p> <p>l. "Site" shall mean the lands and other places on, under, in or through which the works are to be carried out and any other lands or places provided by the Railway for the purpose of the contract.</p> <p>m. "Period of Maintenance" shall mean the defect liability period from the date of completion of the works as certified by the Engineer.</p> <p>(B) Singular and Plural: - Words importing the singular number shall also include the plural and vice versa where the context requires.</p> <p>(C) Headings & marginal headings: -The headings and marginal headings in these general conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the contract.</p>
1.2	<p>Schedule of Rates, CPWD Rates Vol I, II- 2018 as amended / corrected up to latest correction slips, IR specifications/Guidelines updated with correction slips, relevant BIS codes updated with correction slips. (Applicable for execution of Works based on CPWD Rates). Stipulations and conditions as specified in CPWD-Specifications-2019 Volume 1 & 2 in the document as amended/corrected up to latest correction will be applicable, copies of which can be seen in the office of CGM/GM/Co, DFCCIL, Vadodara.</p>
1.3	<p>All general and detailed drawings pertaining to this work which will be issued by the Engineer or his representatives (from time to time) with all changes and modifications.</p>
2.0	<p>Drawings for the Work: The Drawing for the work can be seen in the office of CGM, DFCCIL, Vadodara, at any time during the office hours. The drawings are only for the guidance of Tenderer(s). Detailed working drawings (if required) based generally on the drawing mentioned above, will be given by the Engineer or his representative from time to time.</p> <p>As per Clause No. 2 of tender form 2nd sheet Annex. I Part-I of GCC APRIL-2022, with up-to-date correction slip</p>
3.0	<p>Tender Form: Tender Forms shall embodies the contents of the contract documents either directly or by reference, e-Tender Forms shall be issued free of cost to all tenderers.</p> <p>As per Clause No.3 of Part-I of GCC APRIL-2022 , with up to date correction slip</p>

Tender No.: BRC-EN-TEND-SR-22-23-115

3.1	<p>Date of inviting tender shall be the date of publishing tender notice on IREPS website if tender is published on website or the date of publication in newspaper in case tender is not published on website.</p> <p>As per Clause No. 1.2 (n) of Part-I of GCC APRIL-2022 , with up to date correction slip</p>
3.2	<p>The Tenderer(s) shall quote his / their rates as a percentage above or below the Schedule of Rates of DFCCIL except where he/they are required to quote item rates and must tender for all the items shown in the Schedule of approximate quantities attached. The quantities shown in the attached Schedule are given as a guide and are approximate only and are subject to variation according to the needs of the DFCCIL. The DFCCIL does not guarantee work under each item of the Schedule. The tenderer(s) shall quote rates / rebates only at specified place in Tender Form supplied by DFCCIL. Any revision of rates / rebates submitted (quoted) through a separate letter whether enclosed with the bid (Tender Form) or submitted separately or mentioned elsewhere in the document other than specified place shall be summarily ignored and will not be considered.</p> <p>As per Clause No. 3 of tender form 2ndsheet Annex. I Part-I of GCC APRIL-2022, with up to date correction slip.</p>
4.0	<p>Tenders containing erasures and / or alterations of tender documents are liable to be rejected. Any correction made by tenderer(s) in his/their entries must be attested by him / them.</p> <p>As per Clause No. 4 of tender form 2ndsheet Annex. I Part-I of GCC APRIL-2022 , with up to date correction slip</p>
5.0	<p><u>EARNEST MONEY</u></p>
5.1	<p>For the subject tender, the Earnest Money deposit shall be Rs. 5,74,100 /- (Five Lakh Seventy-Four Thousand One Hundred Only) and shall be governed by Para 5.1.1/ 5.1.2/5.1.3 below.</p>

(a) The tenderer shall be required to deposit earnest money with the tender for the due performance with the stipulation to keep the offer open till such date as specified in the tender, under the conditions of tender.

Note:

(i) The earnest money shall be rounded off to the nearest Rs. 100. This earnest money shall be applicable for all modes of tendering.

(ii) Any firm recognized by Department of Industrial Policy and Promotion (DIPP) as 'Startups' shall be exempted from payment of earnest money deposit detailed above.

(iii) Labor Cooperative Societies shall deposit only 50% of above earnest money deposit detailed above.

(b) It shall be understood that the tender documents have been issued to the tenderer and the tenderer is permitted to tender in consideration of stipulation on his part, that after submitting his tender he will not rescind from his offer or modify the terms and conditions thereof in a manner not acceptable to the Engineer. Should the tenderer fail to observe or comply with the said stipulation, the aforesaid amount shall be liable to be forfeited to the DFCCIL.

(c) If his tender is accepted this earnest money mentioned in sub clause (a) above will be retained as part security for the due and faithful fulfillment of the contract in terms of Clause 16 of the Standard General Conditions of Contract. The Earnest Money of other Tenderers shall, save as herein before provided, be returned to them, but the DFCCIL shall not be responsible for any loss or depreciation that may happen thereto while in their possession, nor be liable to pay interest thereon.

As per Clause No. 5 – 1 (a) of Part-I of GCC APRIL-2022, with up-to-date correction slip

The Bid Security shall be deposited either in cash through e-payment gateway or submitted as Bank Guarantee bond from a scheduled commercial bank of India or as mentioned in tender documents. The Bank Guarantee bond shall be as per **Annexure- Z** and shall be valid for a period of 90 days beyond the bid validity period.

As per Clause No. 5 –(2) of Part-I of GCC APRIL-2022, with up to date correction slip

In case, submission of Bid Security in the form of Bank Guarantee, following shall be ensured:

- i. A scanned copy of the Bank Guarantee shall be uploaded on e-Procurement Portal (IREPS) while applying to the tender.
- ii. The original Bank Guarantee should be delivered in person to the official nominated as indicated in the tender document within 5 working days of deadline of submission of bids.
- iii. Non submission of scanned copy of Bank Guarantee with the bid on e-tendering portal (IREPS) and/or non submission of original Bank Guarantee within the specified period shall lead to summary rejection of bid.
- iv. The Tender Security shall remain valid for a period of 90 days beyond the validity period for the Tender.
- v. The details of the BG, physically submitted should match with the details available in the scanned copy and the data entered during bid submission time, failing which the bid will be rejected.
- vi. The Bank Guarantee shall be placed in an envelope, which shall be sealed. The envelope shall clearly bear the identification "**Bid for the ***** Project**" and shall clearly indicate the name and address of the Bidder. In addition, the Bid Due Date should be indicated on the right-hand top corner of the envelope.

- vii. The envelope shall be addressed to the officer and address as mentioned in the tender document.
- viii. If the envelope is not sealed and marked as instructed above, the DFCCIL assumes no responsibility for the misplacement or premature opening of the contents of the Bid submitted and consequent losses, if any, suffered by the Bidder.

As per Clause No. 6 of Tender Form (second sheet) Annex.I of Part-I of GCC APRIL-2022, with up to date correction slip

Annexure –Z

(Bid Security)

Bank Guarantee Bond from any scheduled commercial bank of India
(On non-judicial stamp paper, which should be in the name of the Executing Bank).

Name of the Bank: -----

CPM, DFCCIL/Vadodara,
Acting through,
..... DFCCIL,
Beneficiary: CPM DFCCIL VADODARA
Date:

Bank Guarantee Bond No.:

Date:-----

In consideration of the CPM, DFCCIL/Vadodara acting through General Manager/Co-ord, Vadodara **(Designation & address of Contract Signing Authority)**, Vadodara, DFCCIL,, ... (hereinafter called "The DFCCIL") having invited the bid for _____ through Notice inviting tender (NIT) No. _____, We have been informed that [Insert name of the Bidder] (hereinafter called "the Bidder") intends to submit its bid (hereinafter called "the Bid") .

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

AND

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

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

5. The Bank agrees that no change, addition, modifications to the terms of the Bid document or to any documents, which have been or may be made between the DFCCIL and the Bidder, will in any way absolve the Bank from the liability under this guarantee; and the Bank, hereby, waives any requirement for notice of any such change, addition or modification made by DFCCIL at any time.

6. This guarantee will remain valid and effective from.....**[insert date of issue]** till **[insert date, which should be minimum 90 days beyond the expiry of validity of Bid]**. Any demand in respect of this Guarantee should reach the Bank within the validity period of Bid Security.

7. The Bank Guarantee is unconditional and irrevocable.

8. The expressions Bank and DFCCIL herein before used shall include their respective successors and assigns.

9. The Bank hereby undertakes not to revoke the guarantee during its currency, except with the previous consent in writing of the DFCCIL. This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No.758.

10. The Bank hereby confirms that it is on the SFMS (Structured Financial Messaging System) and shall invariably send the advice of this Bank Guarantee to the following bank details – **

IFSC CODE	UBIN0546836
IFSC TYPE	BRANCH
BANK NAME	UNION BANK OF INDIA
BRANCH NAME	UBI MOTI BAGH
CITY NAME	NEW DELHI-110066

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

Date

Place.....

Bank's Seal and authorized signature(s)

[Name in Block letters]

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

[P/Attorney] No.

Witness:

1 Signature, Name & Address & Seal

2 Signature, Name& address & Seal

Bank's Seal

[P/Attorney]No.

Note: 1. All italicized text is for guidance on how to prepare this bank guarantee and shall be deleted from the final document.

2. ** This bank detail only use for submission of Bid Security in the form of Bank Guarantee.

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

As per Clause No. 7 of Tender Form (second sheet) Annex. I of Part-I of GCC APRIL-2022, with up-to-date correction slip

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

As per Clause No. 8 of Tender Form (second sheet) Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

If the tenderer(s) expire(s) after the submission of his / their tender or after the acceptance of his / their offer, the DFCCIL shall deem such tender cancelled. If a partner of a firm expires after the submission of their tender or after the acceptance of their tender, the DFCCIL shall deem such tender as cancelled, unless the firm retains its character.

As per Clause No. 9 of Tender Form (second sheet) Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

SYSTEM OF TENDERING

Two Packets System of Tendering: With a view to assess the tenders technically without being influenced by the financial bids, 'Two Packets System of tendering' shall be adopted for contract valuing more than **Rs. 10 crores** or as advised by DFCCIL Board time to time by updated policy guide lines. (Applicable in this tender)

As per (a) Clause No. 7A of Part-I of GCC APRIL-2022, with up to date correction slip

Single Packet Tender-: In case of tenders costing less than Rs. 10 Crore single packet tender system will be followed and technical & financial offer of the tenderer/s shall be opened and evaluated at the same time.

Tenderer should submit the offer with due diligence after going through the tender documents.

Pre-Bid Conference: In tenders having advertised value more than Rs 50 Crore or as mentioned in the tender document, DFCCIL shall conduct Pre Bid Conference(s) with the prospective bidders. **(Not Applicable in this Tender)**

Make in India: - 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.

As per Clause No. 7B of Part-I of GCC APRIL-2022, with up to date correction slip

Permission to Bid for a bidder from a country which shares Land boundary with India: Any bidder from the countries sharing a land border with India will be eligible to bid in any procurement of works (including turnkey projects) only if the bidder is registered with the Competent Authority. The Competent Authority for registration will be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT), Government of India. For interpretation of this para, Department of Expenditure, Ministry of Finance, Government of India letter F.No.6/18/2019-PPD dated 23/07/2020 shall be referred.

Clarification of Bids: To assist in the examination, evaluation & comparison and prequalification of the Tender, the DFCCIL may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the DFCCIL shall not be entertained or considered. The Railway request for clarification and the response of the bidder in this regard shall be in writing.

Execution of Contract Document: The tenderer whose tender is accepted shall be required to appear in person at the office of CGM/GM-Co, DFCCIL, Vadodara, as the case may be, or if tenderer is a firm or corporation, a duly authorized representative shall appear and execute the contract agreement within seven days of notice from DFCCIL that the Contract Agreement is ready. The Contract Agreement shall be entered into by DFCCIL only after submission of valid Performance Guarantee by the Contractor. Failure to do so shall constitute a breach of the agreement affected by the acceptance of the tender. In such cases the DFCCIL may determine that such tenderer has abandoned the contract and there upon his tender and acceptance thereof shall be treated as cancelled and the DFCCIL shall be entitled to forfeit the full amount of the Earnest Money and other dues payable to the Contractor under this contract. The failed Contractor shall be debarred from participating in the re-tender for that work.

As per clause No. 8 of Part-I of GCC APRIL-2022 , with up to date correction slip

In case, the particular work is charged to EBR (IF), than the Indian Railway Finance Corporation (IRFC) shall also be the party in the contract agreement. After submission of valid performance guarantee, the contract agreement shall be entered into between Indian Railways (IR), Indian Railways Finance Corporation (IRFC) and the tenderer, whose tender is accepted. The Contract Agreement shall be signed as per Annexure XXVIII of the STD. The format at Annexure IV of GCC APRIL-2022 shall not be applicable for Contract Agreement of EBR (IF) funded contracts.

As per Railway Board's letters no 2018/AC-II/1/57(pt.) dated 20.03.20 for EBR(IF) funded contracts

Documents to be Submitted Along with Tender

(i)The tenderer shall clearly specify whether the tender is submitted on his own (Proprietary Firm) or on behalf of a Partnership Firm / HUF/Company / Joint Venture (JV) / Registered Society / Registered Trust / LLP etc. The tenderer(s) shall enclose the attested copies of the constitution of their concern, authorized signatory and copy of PAN Card along with their tender as per proforma given in Annexure I (mandatory). Tender shall be submitted and signed by such persons as may be legally competent to sign them on behalf of the firm, company, association, trust or society, as the case may be.

(ii)The various documents to be submitted by the tenderer are as per clause 14 (ii) of the GCC APRIL-2022, the tenderer shall ensure submission of mandatory document as listed in para 16 below along with the offer.

(iii)If it is NOT mentioned in the submitted tender that tender is being submitted on behalf of a Sole Proprietorship firm / Partnership firm / Joint Venture / Registered Company etc., then the tender shall be treated as having been submitted by the individual who has signed the tender.

(iv)After opening of the tender, any document pertaining to the constitution of Sole Proprietorship Firm / Partnership Firm / Registered Company/ Registered Trust / Registered Society / HUF etc. shall be neither asked nor considered, if not submitted. Further, no suo moto cognizance of any document available in public domain (i.e., on internet etc.) or in Railway/DFCCIL's record/office files etc. will be taken for consideration of the tender, if no such mention is available in tender offer submitted.

(v) A tender from JV / Partnership firm etc. shall be considered only where permissible as per the tender conditions.

(vi) The DFCCIL will not be bound by any change in the composition of the firm made subsequent to the submission of tender. DFCCIL may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

As per Clause No. 14 of Tender Form (second sheet) Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

The tenderer whether sole proprietor/ HUF/ Company or a partnership firm / LLP / joint venture (JV) / registered society / registered trust etc. if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favour of the specific person whether he/they be partner(s) of the firm or any other person specifically authorizing him/them to submit the tender, sign the agreement, receive money, co-ordinate measurements through contractor's authorized engineer, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration. The above 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.

As per Clause No. 15 of Tender Form (second sheet) Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

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

(a) Should a tenderer

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

AND

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

THEN

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

b) In case, upon successful award of contract, should a tenderer depute for execution of the works under or to deal matters related with this contract, any retired Engineer of gazette rank or retired gazetted officer working before his retirement in the Engineering or any other department of any of the Railways/DFCCIL

owned and administered by the President of India for the time being, and now in his employment, then the tenderer will ensure that retired Engineer or retired gazetted officer had retired from government service at least 1 year prior to the date of his employment with tenderer and in case he had retired from service within a year then he possesses the requisite permission from the President of India or any officer, duly authorized by him in this behalf, to get associated with the tenderer.

(c) Should a tenderer or Contractor being an individual on the list of approved Contractors, have a relative(s) or in the case of proprietorship firm/ partnership firm/ company / joint venture (JV) / registered society / registered trust/ LLP/ HUF etc. one or more of his partner(s)/shareholder(s) or member(s) of the family of partner(s)/shareholder(s) having share of more than 1% in the tendering entity employed in gazetted capacity in one or more of his shareholder(s) or a relative(s) of the shareholder(s) employed in gazetted capacity in the Engineering or any other department of the Railways/DFCCIL, the authority inviting tenders shall be informed of the fact at the time of submission of tender, failing which the tender may be disqualified/rejected or if such fact subsequently comes to light, the contract may be rescinded in accordance with provision in clause 62 of standard general conditions of contract.

Note:-If information as required as per 11 (a), (b), (c) above has not been furnished, contract is liable to be dealt in accordance with provision of clause 62 of Standard General Condition of Contract. **As per Clause No. 16, of Tender Form (second sheet) Annex. I of GCC APRIL-2022, with up to date correction slip.**

Omissions & Discrepancies: Should a tenderer find discrepancies in or omissions from the drawings or any of the Tender Forms or should he be in doubt as to their meaning, he should at once notify the authority inviting tenders. The tender inviting authority may, if deemed necessary, clarify the same to all tenderers. It shall be understood that every endeavor has been made to avoid any error which can materially affect the basis of tender and successful tenderer shall take upon himself and provide for the risk of any error which may subsequently be discovered and shall make no subsequent claim on account thereof.

As per Clause No. 4 of Part-I of GCC APRIL-2022, with up to date correction slip

(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 in accordance with the provisions of Clause-37 of the General Conditions of Contract for the completion of works to the entire satisfaction of the Engineer. (As per Clause No. 6 (a)(i) of G.C.C. 2022 Part-I with up to date correction slip)

(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. (As per Clause No. 6 (a) (ii) of G.C.C. 2022 Part-I with up to date correction slip)

(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 DFCCIL 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. (As per Clause No. 6 (a) (iii) of G.C.C. 2022 Part-I with up-to-date correction slip)

(iv) In case the successful tenderer is not liable to be registered under CGST/IGST/UTGST/SGST Act, the DFCCIL shall deduct the applicable GST from his/their bills under reverse charge mechanism (RCM) and deposit the same to the concerned authority.

As per Clause No. 6(a)(iv) of Part-I of GCC APRIL-2022, with up-to-date correction slip.

When work is tendered for by a firm or company, the tender shall be digitally signed by the individual legally authorized to enter into commitments on their behalf.

As per Clause No. 6(b) of Part-I of GGC-2022, with up to date correction slip

In E-tender, all submissions of documents are to be uploaded on web-site. There may be last minute hiccups and delay in uploading the Documents and payment of Earnest Money etc. Tenderers/Prospective bidders are advised to upload their offer well in time. DFCCIL will not be responsible for any delay/non submission of offer due to any reason whatsoever.

The DFCCIL will not be bound by any power of attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. It may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the Contractor.

As per Clause No. 6 (c) of Part-I of GCC APRIL-2022, with up to date correction slip.

The tenderers shall submit a copy of certificate stating that all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as **Annexure-II**. Non submission of the certificate by the bidder shall result in **summarily rejection** of his/their bid. It shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.

As per Clause No. 6.1 of Part-I of GCC APRIL-2022, with up to date correction slip.

RIGHT OF DFCCIL TO DEAL WITH TENDERS

If, the DFCCIL decides to negotiate, in view to bring down the rates, the tenderer, who is called for negotiation, shall furnish the following form of declaration before commencement of the negotiation:
I/we do declare that in the event of failure of the contemplated negotiations relating to Tender No.dated..... Opened on my original tender shall remain open for acceptance on its original terms and conditions up to the date specified in the tender or the date extended by mutual agreement from time to time.

The tenderer/s are required to quote his/their rates as % (percentage) Above/Below /At Par in figures on IREPS while submitting his/their offer.

ELIGIBILITY CRITERIA

Technical Eligibility Criteria

The tenderer must have Successfully or 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:

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.

Note: "The similar nature of work is defined is "Any Civil Engineering Work "(*To be read along with clause 15.8)

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

(a) For Works without composite components: - The technical eligibility for the work as per para 15.1.1 above, shall be satisfied by either the 'JV in its own name & style' or 'Lead Manager of the JV'. Each other (non-lead) member(s) of JV, who is/ are not satisfying the technical eligibility for the work as per para 15.1.1 above, shall have technical capacity of minimum 25% of the cost of work i.e., each non-lead member of JV member must have satisfactorily completed or substantially completed during the last 07 (seven) years, ending last day of month previous to the one in which tender is invited, one single work for a minimum of 25% of advertised value of the tender.

(b) For works with composite components: - Not applicable in this Tender

Note for Clause 15.1.2: 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.

As per Clause No. 17.0-17.14 and clause 17.15 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up-to-date correction slip

Financial Eligibility Criteria: The tenderer must have minimum average annual contractual turnover of **1.5 V/N crores**; where

V= Advertised value of the tender in crores of Rupees

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

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

The tenderers shall submit requisite information as per **Annexure-VIB of GCC APRIL-2022**, along with copies of Audited Balance Sheets duly certified by the Chartered Accountant/ Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

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.

As per Clause No. 10.2 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip.

Financial Eligibility for JV-

Criteria The JV shall satisfy the requirement of "Financial Eligibility" mentioned at para 15.2 above. The "financial capacity" of the lead partner of JV shall not be less than 51% of the financial eligibility criteria mentioned at para 15.2 above.

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

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

As per Clause No. 17.15.2 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

Bid Capacity: The tender/technical bid will be evaluated based on bid capacity formula detailed as **Annexure-VI of GCC APRIL-2022.**

As per Clause No. 10.3 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up-to-date correction slip.

Bid Capacity for JV-

The JV shall satisfy the requirement of "Bid Capacity" requirement mentioned at para 15.3 above. The arithmetic sum of individual "Bid capacity" of all the members shall be taken as JV's "Bid capacity" to satisfy this requirement.

As per Clause No. 17.15.3 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up-to-date correction slip

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

Note to Para 15

(i) Certificate issued by Chartered Accountants based on the audited balance sheets will also be accepted. (as per Annexure-VIII)

The criteria for completed works shall be as under :-

(ii) Entire work has to be completed in all respects as per contract agreement. Part completed work shall not be considered.

(iii) Completion certificate from following organizations shall only be considered:-

(a) The work(s) should have been directly awarded to the tenderer by Govt. Organization/ Semi Govt. Organization/ Public Sector Undertaking / Autonomous bodies/ Municipal Bodies/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

The credentials of a wholly owned subsidiary of a parent company will also be considered in respect of works mentioned above if tender is submitted by the parent company.

(b) Completion certificate should be as per proforma given in Annexure- IV-A or IV-B or IVC, as applicable or in the format containing all information required as per the Annexure- IV-A or IV-B or IV-C.

(c) Work experience certificate issued by Public listed company shall 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 a copy of final/last bill paid by company in support of above work experience certificate.

Details of works physically completed should be submitted in the proforma as per 'Annexure-III'.

(iv) 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 deduction 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 deduction is to be considered.

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.

(v) The amount given at Sr. No. 11 in proforma vides Annexure-IV for the completion certificate will be the value of completed work, if nomenclature of work as given in completion certificate matches with similar nature work.

(vi) The amount mentioned at Sr. No. 12 in 'Annexure-IV' for the completion certificate shall be the value of completed work if the nomenclature of completed work includes additional components of work which are not matching with similar nature of works.

(vii) Certificate from private individuals for whom such works are executed shall not be considered for eligibility.

(viii) Conditional tenders are liable to be rejected straight away. DFCCIL reserves the right to reject such tenders summarily without assigning any reasons whatsoever.

(ix) 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 deduction 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 deduction is to be considered.

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.

(x) The amount given at Sr. No. 11 in proforma vide Annexure-IV for the completion certificate will be the value of completed work, if nomenclature of work as given in completion certificate matches with similar nature work.

(xi) The amount mentioned at Sr. No. 12 in 'Annexure-IV' for the completion certificate shall be the value of completed work if the nomenclature of completed work includes additional components of work which are not matching with similar nature of works.

(xii) Certificate from private individuals for whom such works are executed shall not be considered for eligibility.

(xiii) Conditional tenders are liable to be rejected straight away. DFCCIL reserves the right to reject such tenders summarily without assigning any reasons whatsoever.

As per Clause No. 10.1 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

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 or immediately previous date for which rates have been published.

As per Clause No. 10.1 of Tender Form (second Sheet) of Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to subcontractor by a Govt. organization or public listed company as defined in Note for Item 10.1 part-I of GCC, the same shall be considered for the purpose of fulfillment of credentials.

Explanation for clause 15 (clause 15.1 to 15.6) - Eligibility Criteria:

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

amount already paid including the PVC amount (if paid) shall be considered as the completion cost of work.

In case of substantially completed work, the total gross amount already paid including the PVC amount (if paid), as mentioned in the certificate, shall be considered as the cost of substantially completed work.

- 5) If a bidder has successfully completed a work as subcontractor and the work experience certificate has been issued for such work to the subcontractor by a Govt. Organization or public listed company as defined in Note for Item 10.1 Para 10 of the Tender Form (Second Sheet) of GCC APRIL-2022, the same shall be considered for the purpose of fulfilment of credentials.
- 6) 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.
- 7) In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 * value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No. (s) in case of dissolution of partnership firm(s) etc.
- 8) In case of existing partnership firm, if any one or more partners quit the partnership firm, the credentials of remaining partnership firm shall be re-worked out i.e., the quitting partner(s) shall take away his credentials to the extent of his share on the date of quitting the partnership firm (e.g. in a partnership firm of partners A, B & C having share 30%, 30% & 40% respectively and credentials of Rs 10 crore; in case partner C quits the firm, the credentials of this partnership firm shall remain as Rs 6 crore). For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
- 9) In case of existing partnership firm if any new partner(s) joins the firm without any modification in the name and PAN/TAN no. of the firm, the credentials of partnership firm shall get enhanced to the extent of credentials of newly added partner(s) on the same principles as mentioned in item 6 above. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deeds, dissolution/splitting deeds and proof of surrender of PAN No.(s) in case of dissolution of partnership firm etc.
- 10) Any partner in a partnership firm cannot use or claim his credentials in any other firm without leaving the partnership firm i.e., In a partnership firm of A&B partners, A or B partner cannot use credentials of partnership firm of A & B partners in any other partnership firm or propriety firm without leaving partnership firm of A & B partners.
- 11) In case a partner in a partnership firm is replaced due to succession as per succession law, the proportion of credentials of the previous partner will be passed on to the successor.
- 12) If 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

<p>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.</p> <p>13) In a partnership firm "AB" of A&B partners, in case A also works as propriety firm "P" or partner in some other partnership firm "AX", credentials of A in propriety firm "P" or in other partnership firm "AX" earned after the date of becoming a partner of the firm AB shall not be added in partnership firm AB.</p> <p>14) In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.</p> <p>15) In case company A is merged with company B, then company B would get the credentials of company A also.</p>
<p><u>THE LIST OF DOCUMENTS TO BE UPLOADED FOR THIS TENDER</u></p> <p>(Note: - Information as required as per various Forms/Annexures to tender document should be submitted by the tenderers without fail strictly as per formats. Offers submitted without Mandatory documents shall be summarily rejected.)</p>
<p>Following documents are common for all types of firm i.e. Sole proprietorship, Partnership, Limited Liability Partnership Firm, Registered Society/ Trust, Limited Company or JV.</p>
<p>Firm details as per proforma given in Annexure-I (Mandatory).</p>
<p>A Copy of the Certificate as per Performa given in Annexure-II (Mandatory).</p>
<p>List of similar nature of works physically completed in all respects during last 7 years, ending last day of month previous to one in which tender is invited, shall be submitted as per Performa given in Annexure-III</p> <p>for works (i) directly awarded by Govt./Semi Govt./Public sector undertaking / Autonomous bodies /Municipal bodies/ Railway Siding owners (ii)Concessionaire (to whom the work is awarded by Indian Railways/ DFCCIL/CPWD /NHAI/ PWD/State Road Development Corporation on PPP/DBFOT or any other mode) (iii) 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</p> <p>Note- Works under item (ii) are to be submitted only for tenders costing Rs.50.00 Cr. and above</p>
<p>Details of similar nature of works successfully during last seven years, ending last day of month previous to the one in which tender is invited as per Performa given in Annexure-III</p>
<p>Attested copy of Completion Certificate of works mentioned in para (c) above from the Organizations with whom they worked as per proforma given in Annexure-IV-A or IV-B or IV-C as applicable. (Mandatory)</p>
<p>Secondary Components- (Not Applicable in this Tender)</p>
<p>List of works on hand, existing commitments and balance amount of ongoing works as per format given in 'Annexure-V Duly verified by Chartered Accountant to evaluate bid capacity of the tenderer (Mandatory for tender value more than Rs. 20 crores) (Mandatory)</p>

Tender No.: BRC-EN-TEND-SR-22-23-115

<p>A statement showing construction works executed and payment received during the previous three financial years and the current financial year (up to date of inviting tender), taking into account the completed as well as work in progress as per Annexure-XIX on the letter head of Chartered Accountant, to evaluate bid capacity of the tenderer (Mandatory for tender value more than Rs. 20 Crores)</p>
<p>List of plants & Machinery available on hand (own) and proposed to be inducted (own and hired to be given separately) for the subject work in Annexure-VI.</p>
<p>List of Personnel, Organization available on hand and proposed to be engaged for the subject work in Annexure -VII.</p>
<p>Earnest money should be in proper form. Earnest Money by the tenderer only through net banking or payment gateway in favour of CPM DFCCIL, Vadodara or as mentioned in the tender document.</p>
<p>Contractual Receipts for the last three years and current financial year with supporting documents required as per Annex. VIII (Mandatory.)</p>
<p>Self-attested copy of Permanent Account Number (PAN) issued by Income Tax Department.</p>
<p>The tenderers are required to submit the test report of the stone ballast conforming to DFCCIL specifications as given in RDSO specification. (Applicable only for the tenders of supply of ballast). The test report is.....Not required for this tender. (Mandatory if marked as required) *.</p>
<p>The tenderers are required to submit the information and particulars regarding retired Railway/DFCCIL Engineer(s)/Officer(s) of the Gazetted rank and regarding Relative(s) employed in Gazetted capacity on DFCCIL as per proforma given in Annexure XXIII. (Mandatory).</p>
<p>In addition to Para 16.1 above certain more documents are to be submitted by tenderers as per status of their firms and are mandatory. These documents are listed below</p>
<p><u>FOR SOLE PROPRIETORSHIP FIRM</u></p> <p>a) Affidavit as per proforma given of Annexure -IX (duly executed on stamp paper and notarized). b) Special power of Attorney to be submitted by sole proprietor firm as per proforma given in Annexure XIV(duly registered with the Registrar or notarized). (Not required if tender documents are submitted by proprietor himself as per (a) above)</p>
<p><u>FOR HUF (HINDU UNDIVIDED FAMILY)</u></p> <p>(a) Affidavit as per proforma given of Annexure -XXIX (duly executed on stamp paper and notarized). (b) Special power of Attorney to be submitted by the HUF as per proforma given in Annexure XXX (duly registered with the Registrar or notarized). (Not required if tender documents are submitted by Karta of the HUF, himself as per (a) above)</p>
<p><u>FOR PARTNERSHIP FIRM</u></p> <p>a) A copy of Partnership Deed (Notarized or duly registered with the Registrar prior to date of tender opening as per the Indian Partnership Act) (b)Special Power of attorney to be submitted by Partnership firm in favour of the individual to sign the tender on behalf of the firm and create liability against the firm as per proforma given in Annexure-</p>

XIII (duly registered with the Registrar or notarized). (Required even if one or more partners are authorized in Partnership deed itself to sign on behalf of the firm as given in (a) above.

(c) Declaration by the newly formed partnership firm as per proforma given in **Annexure-XXXI**. (Mandatory if tenderer is newly formed partnership firm)

(d) Declaration by the existing partnership firm as per proforma given in **Annexure-XXXII**. (Mandatory if tenderer is an existing partnership firm)

(e) With respect to the declaration above, in case of Newly formed partnership firm has/ have as one or more partner(s) from previous propriety firm(s) or dissolved previous partnership firm(s) or LLP firm or split previous partnership firm(s) or LLP firm, Existing partnership firm **(a)** joining of new one or more partner(s) in the existing partnership firm, **(b)** quitting of new one or more partner(s) from the existing partnership firm –

Following additional documents are required to be furnished (**mandatory** as applicable)

a) Details of previous Propriety firm / Partnership Firm/ LLP firm as per **annexure I**

b) A copy of previous partnership Firm (Notarized or duly registered with the Registrar)

c) Affidavit as per proforma given of **Annexure –IX** for previous Propriety firm (duly executed on stamp paper and notarized).

d) Copy of previous LLP agreement and certificate of incorporation.

e) Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)

f) Proof of surrender of previous PAN no (in case of dissolution of previous partnership firm, g) LLP firm or propriety firm)

h) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para 16.1 (c), (d), (f),(g), (k) above.

As per Clause No. 14(ii)(c), 15, 18 & explanation to Clause 10.1 to 10.5 of Annex. I Part-I of GCC APRIL-2022, with up to date correction slip)

FOR COMPANY REGISTERED UNDER COMPANIES ACT 2013

a) Copy of Memorandum of association/ Articles of Association of Company.

b) Copy of Certificate of Incorporation

(c) Copy of resolution passed by Board of Directors authorizing its Director/Employee to deal with tender on behalf of company

(d) Special Power of Attorney/ Authorization issued by the Company (backed by the resolution of Board of Directors) in favour of the individual to sign the tender, sign the MOU/ JV agreement on behalf of the company and create liability against the Company, as per proforma given in **Annexure-XV** (duly registered with the Registrar or notarized). (Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per (c) above)

(e) Declaration regarding constitution of the Company, for merging of another company, details required for the entire period for last seven years as per proforma given in **Annexure-XXXIII**. (mandatory)

(f) Following additional documents are required to be furnished (mandatory in case of merger with another company)

- (1) Details of company getting merged as per **annexure I**
- (2) Copy of Memorandum of Association/ Articles of Association of the Company getting merged
- (3) Copy of certificate of incorporation of previous company getting Merged
- (4) Resolution by the Board of Directors for the Merger of the company(s) with the tenderer
- (5) Proof of surrender of previous PAN no
- (6) Document for the technical, financial criteria, bid capacity as claimed w.r.t. such Company(s) joining the new/Existing Company as per para 16.1 (c), (d), (f), (g), (k) above.

As per Clause No. 14 (ii)(e), 15 & explanation to Clause 10.1 to 10.5 of Annex. I Part-I of GCC APRIL-2022, with up to date correction slip

FOR LLP FIRM REGISTERED UNDER LLP ACT 2008

- (a) A copy of LLP Agreement.
- (b) A copy of certificate of Incorporation and
- (c) A copy of resolution passed by partner of LLP firm for submitting tender by LLP firm and to deal with tender on behalf of the firm as per proforma given in **Annexure-XXI**.
- (d) Special Power of Attorney/ Authorization issued by LLP firm in favor of the individual to sign the tender on behalf of the LLP firm and create liabilities against the LLP as per proforma given in **Annexure-XXV** (duly registered with the Registrar or notarized). (Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per (c) above)
- (e) Declaration by the newly formed LLP firm as per proforma given in **Annexure-XXXI**.
(mandatory if tenderer is newly formed partnership firm)
- (e) Declaration by the existing LLP firm as per Performa given in **Annexure-XXXII**.
(mandatory if tenderer is an existing partnership firm)
- (f) With respect to the declaration above, in case of

(i) Newly formed LLP firm has/ have as one or more partner(s) from previous propriety firm(s) or dissolved previous partnership firm(s) or LLP firm or split previous partnership firm(s) or LLP firm, existing LLP firm **(a)** joining of new one or more partner(s) in the existing LLP firm,

(ii) quitting of new one or more partner(s) from the existing LLP firm –

Following additional documents are required to be furnished (**mandatory** as applicable)

- (1) Details of previous Propriety firm / Partnership Firm/ LLP firm as per annexure I
- (2) A copy of previous partnership Firm (Notarized or duly registered with the Registrar)
- (3) Affidavit as per proforma given of Annexure –IX for previous Propriety firm (duly executed on stamp paper and notarized).
- (4) (4) Copy of previous LLP agreement and certificate of incorporation.
- (5) Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)
- (6) Proof of surrender of previous PAN no (in case of dissolution of previous partnership firm, LLP firm or propriety firm)
- (7) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para 16.1 (c), (d), (f), (g), (k) above.

As per Clause No. 14(f), 15 & explanation to Clause 10.1 to 10.5 of Annex. I Part-I of GCC APRIL-2022, with up to date correction slip

FOR REGISTERED SOCIETY & REGISTERED TRUST

- (a) A copy of the certificate of registration.
- (b) A copy of Memorandum of Association of Society/Trust Deed
- (c) A copy of Rules & Regulations of the Society
- (d) A copy of Special Power of Attorney/ Authorization in favor of the individual to sign the tender and create liabilities against the Registered Society/ Trust as per proforma given in **Annexure-XXII** (duly registered with the Registrar or notarized). (Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per (a), (b) above)

As per Clause No. 14(g), 15 Annex. I Part-I of GCC APRIL-2022, with up to date correction slip

FOR JV FIRM:-

Following documents are mandatorily to be submitted by constituents of the JV firm depending upon their status

As per clause no. 14(d), 17.0 Annex. I Part-I, GCC APRIL-2022, with up to date correction slip

- a) Memorandum of Understanding of JV as per pro forma given in **Annex. X** (duly executed on stamp paper and notarized)

DOCUMENTS MANDATORY FOR SOLE PROPRIETORSHIP FIRM PARTICIPATING AS MEMBER OF JV

- (a) Affidavit as per proforma given of **Annexure –IX** (duly executed on stamp paper and notarized).
- (b) Special Power of Attorney to be submitted by Sole Proprietor participating as member of JV firm as per proforma given in **Annexure-XII** (duly registered with the Registrar or notarized) (Not Required if MOU/JV agreement is signed by the sole Proprietor himself as per (a) above).

As per Clause No.15 Annex. I of Part-I GCC APRIL-2022, with up to date correction slip

DOCUMENTS MANDATORY FOR HUF (HINDU UNDIVIDED FAMILY) PARTICIPATING AS MEMBER OF JV

- (a) Affidavit as per proforma given of **Annexure –XXIX** (duly executed on stamp paper and notarized).
- (b) Special Power of Attorney to be submitted by HUF participating as member of JV firm as per proforma given in **Annexure-XII**(duly registered with the Registrar or notarized) (Not required if MOU/JV agreement is signed by the Karta of HUF himself as per (a) above).

As per Clause No. 17.14.2, 15 Annex. I of Part-I GCC APRIL-2022, with up to date correction slip

DOCUMENTS MANDATORY FOR PARTNERSHIP FIRM PARTICIPATING AS MEMBER OF JV

(a) Copy of Partnership Deed (duly registered with the Registrar or notarized prior to date of tender opening as per the Indian Partnership Act.).

(b) Copy of letter of consent of all the Partners or individual authorized by partnership firm to enter into JV Agreement as per Performa given in **Annex-XI** (duly executed on stamp paper).

(c) Special Power of attorney to be submitted by Partnership firm in favor of the individual to sign the tender, to sign the MOU/JV agreement on behalf of the Partnership Firm and to create liability against the firm as per Performa given in **Annexure-XVIII** (duly registered with the Registrar or notarized). (Required even if MOU/JV agreement is signed by one or more partners authorized in Partnership deed, letter of consent to sign on behalf of the firm is given in (a), (b) above)

As per Clause 17.14.1, 15 & 18.2 of Annex. I Part-I GCC APRIL-2022, with up to date correction slip

DOCUMENTS MANDATORY FOR COMPANY PARTICIPATING AS MEMBER OF JV

a) A Copy of Memorandum of Association/ Articles of Association of Company.

b) A Copy of certificate of Incorporation

c) A Copy of resolutions passed by Board of Directors of the Company permitting the Company to enter into a JV agreement, to be submitted as per **Annexure-XVII**.

d) Special Power of Attorney/ Authorization issued by the Company (backed by the Resolution of Board of Directors) in favor of the individual to sign the tender, to sign the MOU/JV agreement on behalf of the company and create liability against the Company, as per proforma given in **Annexure-XII** (duly registered with the Registrar or notarized). (Required even if MOU/JV agreement is signed by the authorized/ power of attorney holder himself as per (c) above)

As per Clause No. 17.14.3, 15 of Annex. I Part-I GCC APRIL-2022, with up to date correction slip

DOCUMENTS MANDATORY FOR LLP FIRM PARTICIPATING AS MEMBER OF JV

(a) A copy of LLP agreement.

(b) A copy of Certificate of incorporation of LLP

(c) A copy of Resolution passed by the partners of LLP firm permitting the firm to enter into a JV agreement to be submitted as per Performa given in **Annexure-XXIV**

(d) Special Power of Attorney/ Authorization issued by LLP firm (backed by resolution of partners) in favor of the individual to sign the tender, sign the MOU/ JV agreement on behalf of the LLP firm and create liabilities against the LLP firm as per proforma given in **Annexure XX**(duly registered with the Registrar or notarized).(Required even if MOU/JV agreement is signed by the authorized/ power of attorney holder himself as per (c) above)

DOCUMENTS MANDATORY FOR REGISTERED SOCIETY AND TRUST PARTICIPATING AS A MEMBER OF JV

(a) A copy of Deed of Formation

(b) A copy of certificate of Registration.

- (c) A copy of Resolution passed by the executive members of Registered Society/Trust permitting the registered society/Trust to enter into a JV agreement as per proforma given in **Annexure XXVI**.
- (d) Special Power of Attorney/ Authorization issued by the registered society/ trust (backed by resolution of partners) in favour of the individual to sign the tender, to sign the MOU/ JV agreement and create liabilities against the Registered Society/ Trust as per proforma given in **Annexure-XXVII**(duly registered with the Registrar or notarized). (Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per (c) above)
- (e) A copy of Rules & Regulations of the Society.

Note to Para 16

1. The tenderers shall submit a certificate stating that they are not liable to be disqualified and all their statements/documents submitted along with bid are true and factual. Standard format of the certificate to be submitted by the bidder is enclosed as Annexure-II as mentioned in clause No. 16.1(b). Non submission of a certificate by the bidder shall result in summarily rejection of his/their bid. And it shall be mandatorily incumbent upon the tenderer to identify, state and submit the supporting documents duly self-attested by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document.
2. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned.
3. The DFCCIL reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the DFCCIL, make available all such information, evidence and documents as may be necessary for such verification.
4. Any such verification or lack of such verification by the DFCCIL shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the DFCCIL there under.
 - 4.1 In case of any wrong information submitted by tenderer, the contract shall be terminated, Earnest Money Deposit (EMD), Performance Guarantee (PG) and Security Deposit (SD) of contract forfeited and agency barred for doing business on entire DFCCIL for 5 (five) years.
 - 4.2 In case of any information submitted by tenderer is found to be false forged or incorrect after the award of contract, the contract shall be terminated. Earnest Money Deposit (EMD), Performance Guarantee and Security Deposit available with the DFCCIL shall be forfeited. In addition, other dues of the contractor, if any, under this contract shall be forfeited and agency shall be banned for doing business for a period of up to five years.
5. No post tender submission of documents shall be permitted in respect of tender. However, only clarification can be called for by DFCCIL in respect of any part / document submitted by the tenderer which shall be responded to by the tenderer within 10 working days of the date of issue of such letter for clarifications, failing which the offer shall be dealt with as per available documents.
- 6. The documents mentioned 'mandatory' in clause No. 16 above are required to be uploaded by the contractor with tender document. If any of these documents is not uploaded along with the tender, the offer shall be summarily rejected.**
7. In addition to above Tenderer have to certify that neither I /We (name of the sole Proprietor firm/ Partnership Firm/Limited Company/ LLP/Registered Society/Trust / JV firm) nor any of the partner or

partnership firm/ LLP /Member of Registered Society/ Trust / Constituent of JV firm including partner of partnership firm in JV has/ have been black listed or debarred by DFCCIL or any other Ministry /Department/ Public Sector Undertaking of the Government of India/ any State from participation in tenders/contract on the date of opening of bids either in our individual capacity or in any firm in which we are partners.

As per Clause No. 11(v),11(vi) Annexure 1 part I of GCC APRIL-2022, with up to date correction slip

Participation of Partnership Firms in works tenders

The partnership firm shall be governed as per Clause No. 18.1 to 18.12 of Tender Form (second Sheet) Annex. I Part-I of GCC APRIL-2022, with up to date correction slip.

Participation of Joint Venture (JV) in Works Tender shall be governed as per Clause No. 17 of Tender Form (second Sheet) Annex. I Part-I of GCC APRIL-2022, with up to date correction slip. :

The tenderer shall submit the original copies of the documents as per Annexure II, IX, X, XI, XII, XIII, XIV, XV, XVII, XVIII, XX, XXI, XXII, XXIII, XXIV, XXV, XXVI and XXVII etc. as applicable for Sole Proprietor/Partnership firm/LLP/Registered Society & Trust /Limited Company/JV Firms as and when required by the DFCCIL for the verification. If the required documents are not submitted by the tenderer or any discrepancy between the scanned uploaded documents and original documents then the offer of the tenderer will be summary rejected and the action will be taken as per the various provisions of Affidavit to be submitted by the tenderer as per Annexure-II.

Security Deposit:

The Earnest Money deposited by the Contractor with his tender will be retained by the DFCCIL as part of security for the due and faithful fulfillment 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 6% of the bill amount till the full Security Deposit is recovered. Provided also that in case of defaulting Contractor, the DFCCIL 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.

Further, in case of contracts having value equal to or more than Rs. 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. 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 the DFCCIL.

Note: Security Deposit deposited in cash by the Contractor or recovered from the running bills of a Contractor or submitted by contractor as Term Deposit Receipt(s) can be refunded/returned to the contractor, in lieu of irrevocable Bank Guarantee bond issued from scheduled commercial bank of India, to be submitted by him, for an amount equal to or more than the already available Security Deposit,

provided however that, in a contract of value less than Rs. 50 Crore, such refund/ return of the already available Security Deposit is permitted up to two times and in a contract of value equal to or more than Rs. 50 Crore, such refund / return of the already available Security Deposit is permitted up to three times.

As per Clause No. 16.(1) Part-II of GCC APRIL-2022 , with up to date correction slip

Refund of Security Deposit: Security Deposit mentioned in sub clause (1) above shall be returned to the Contractor along with or after the following:

- (a) Final Payment of the Contract as per clause 51.(1)and
- (b) Execution of Final Supplementary Agreement or Certification by Engineer that DFCCIL has No Claim on Contractor and
- (c) Maintenance Certificate issued, on expiry of the maintenance period as per clause 50 (1), in case applicable.
- (d) **As per Clause No. 51.(1) and 16.2(i) Part-II of GCC APRIL-2022, with up to date correction slip**

Forfeiture of Security Deposit: Whenever the contract is rescinded as a whole under clause 62 (1) of GCC, the Security Deposit already with DFCCIL under the contract shall be forfeited. However, in case the contract is rescinded in part or parts under clause 62 (1) of GCC, the Security Deposit shall not be forfeited.

As per Clause No. 16.2(ii) Part-II of GCC APRIL-2022, with up to date correction slip

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 APRIL-2022 with up to date correction slip will be payable with interest accrued thereon.

As per Clause No. 16.3, Part-II of GCC APRIL-2022, with up to date correction slip

Performance Guarantee

The procedure for obtaining Performance Guarantee is outlined below:

(a)The successful bidder shall have to submit a Performance Guarantee (PG) within 21 (Twenty one) days from the date of issue of Letter of Acceptance (LOA). Extension of time for submission of PG beyond 21 (Twenty one) days and up to 60 days from the date of issue of LOA may be given by the Authority who is competent to sign the contract agreement. However, a penal interest of 12% per annum shall be charged for the delay beyond 21(Twenty one) days, i.e. from 22nd day after the date of issue of LOA. Further, if the 60th day happens to be a declared holiday in the concerned office of the DFCCIL, submission of PG can be accepted on the next working day. In all other cases, if the Contractor fails to submit the requisite PG even after 60 days from the date of issue of LOA, the contract is liable to be terminated. In case contract is terminated DFCCIL shall be entitled to forfeit Earnest Money Deposit and other dues payable against that contract. In case a tenderer has not submitted Earnest Money Deposit on the strength of their registration as a Startup recognized by Department of Industrial Policy and Promotion (DIPP) under Ministry of Commerce and Industry, DIPP shall be informed to this effect.

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

The successful bidder shall submit the Performance Guarantee (PG) in any of the following forms, amounting to 3% of the contract value (for all tenders issued till 31.03.2023). The reduced percentage of Performance Security shall continue for the entire duration of the contract and there shall be no subsequent increase of Performance Security even beyond 31.03.2023.

(As per Railway Board Letter no. 2020/CE-I/CT/3E/GCC/Policy dated 10.01.2022)

- (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 or Deposits Receipts tendered by all Scheduled Banks;
 - (vi) Deposit in the Post Office Saving Bank;
 - (vii) Deposit in the National Savings Certificates;
 - (viii) Twelve years National Defense Certificates;
 - (ix) Ten years Defense Deposits;
 - (x) National Defense Bonds and
 - (xi) Unit Trust Certificates at 5% below market value or at the face value whichever is less. Also, FDR in favour of CPM, DFCCIL, Vadodara (free from any encumbrance) may be accepted.
- (c) The Performance Guarantee shall be submitted by the successful bidder after the Letter of Acceptance (LOA) has been issued, but before signing of the contract agreement. This P.G. shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case, the time for completion of work gets extended, the Contractor shall get the validity of P.G. extended to cover such extended time for completion of work plus 60 days.
- (d) The value of PG to be submitted by the Contractor is based on original contract value and shall not change due to subsequent variation(s) in the original contract value.
- (e) The Performance Guarantee (PG) shall be released after physical completion of the work based on 'Completion Certificate' issued by the competent authority stating that the Contractor has completed the work in all respects satisfactorily. **(Completion certificate shall be governed as per As per Clause No.48.(1) & 48.(2), Part-II of GCC APRIL-2022, with up to date correction slip**
- (f) Whenever the contract is rescinded, the Performance Guarantee already submitted for the contract shall be encased.
- (g) The Engineer shall not make claim under the Performance Guarantee except for amounts to which the President of India is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the agreement) in the event of:
- (i) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer may claim the full amount of the Performance Guarantee.
 - (ii) Failure by the Contractor to pay President of India any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer.
 - (iii) The Contract being determined or rescinded under clause 62 of the GCC
- As per Clause No.16.(4), Part-II of GCC APRIL-2022, with up to date correction slip**

MEASUREMENTS OF CONTRACTOR WORKS.

The tenderer whether sole proprietor, a **company** or a partnership firm / **joint venture (JV) / registered society / registered trust etc.** if they want to act through agent or individual partner(s), should submit along with the tender, a copy of power of attorney duly stamped and authenticated by a Notary Public or by Magistrate in favor of the specific person whether he/they be partner(s) of the firm or any other person specifically authorizing him/them to submit the tender, sign the agreement, receive money, co-ordinate measurements through contractor's authorized engineer, witness measurements, sign measurement books, compromise, settle, relinquish any claim(s) preferred by the firm and sign "No Claim Certificate" and refer all or any disputes to arbitration.

As per Clause No. 15 of Annexure I part 1 of GCC APRIL-2022, with up to date correction slip

Measurement of works by DFCCIL:

The contractor shall be paid for the works at the rates in the accepted Schedule or Rates and for extra works at rates determined under Clause 39 of these Conditions on the measurements taken by the Engineer or the Engineer's representative in accordance with the rules prescribed for the purpose by the DFCCIL. The quantities for items the unit of which in the accepted Schedule of Rates is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one, for items the unit of which in the accepted Schedule of Rates is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time and at such intervals as in the opinion of the Engineer shall be proper having regard to the progress of works. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the contractor who shall be present at the site and shall sign the results of the measurements (which shall also be signed by the Engineer or the Engineer's representative) recorded in the official measurements book as an acknowledgement of his acceptance of the accuracy of the measurements. Failing the contractor's attendance, the work may be measured up in his absence and such measurements shall notwithstanding such absence, be binding upon the contractor whether or not he shall have signed the measurement books provided always that any objection made by him to measurement shall be duly investigated and considered in the manner set out below :

- a) It shall be open to the contractor to take specific objection to any recorded measurements or Classification on any ground within seven days of the date of such measurements. Any re-measurement taken by the Engineer or the Engineer's representative in the presence of the Contractor or in his absence after due notice has been given to him in consequence of objection made by the Contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurements.
- b) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

(As per Clause No. 45 (i), Part-II of GCC APRIL-2022, with up to date correction slip)

Measurement of Works by Contractor's Authorized Representative (In case the contract provides for the same):

(a) The contractor shall be paid for the works at the rates in the accepted Schedule of Rates and for extra works at rates determined under Clause 39 part II of GCC APRIL-2022, with up to date correction slip on of these conditions on the measurements taken by the contractor's authorized engineer in accordance with the rules prescribed for the purpose by the DFCCIL. The quantities for items the unit of which in the accepted schedule of Rates is 100 or 1000 shall be calculated to the nearest whole number, any fraction below half being dropped and half and above being taken as one; for items the unit of which in the accepted Schedule of Rates is single, the quantities shall be calculated to two places of decimals. Such measurements will be taken of the work in progress from time to time. The date and time on which 'on account' or 'final' measurements are to be made shall be communicated to the Engineer.

The date and time of test checks shall be communicated to the contractor who shall be present at the site and shall witness the test checks, failing the contractor's attendance the test checks may be conducted in his absence and such test checks shall notwithstanding such absence be binding upon contractor provided always that any objection made by contractor to test check shall be duly investigated and considered in the manner set out below :

- i) It shall be open to the contractor to take specific objection to test checks of any Recorded measurement within 7 days of date of such test checks. Any re-test check done by the concerned DFCCIL's authority in the presence of the Contractor or in his absence after due notice given to him in consequent of objection made by the contractor shall be final and binding on the Contractor and no claim whatsoever shall thereafter be entertained regarding the accuracy and classification of the measurements.
- ii) If an objection raised by the Contractor is found by the Engineer to be incorrect the Contractor shall be liable to pay the actual expenses incurred in measurements.

(b) Incorrect measurement, actions to be taken : If in case during test check or otherwise, it is detected by the Engineer that agency has claimed any exaggerated measurement or has claimed any false measurement for the works which have not been executed; amounting to variation of 5% or more of claimed gross bill amount, action shall be taken as following :

- (i) On first occasion of noticing exaggerated/false measurement, engineer shall recover liquidated damages equal to 10% of claimed gross bill value.
- (ii) On any next occasion of noticing any exaggerated/false measurement, DFCCIL shall recover liquidated damages equal to 15% of claimed gross bill value. In addition the facility of recording of measurements by contractor as well as release of provisional payment shall be withdrawn. Once withdrawn, measurements shall be done by DFCCIL as per clause 45(i) of GCC APRIL-2022.

The detailed procedure for recording of measurements, provisional payment, test check, final payment etc. shall be as per para 1316 A of the Indian Railway Code for Engineering Department.

As per Clause No. 45 (ii), Part-II of GCC APRIL-2022, with up to date correction slip

Note:- 'Contractor's authorized engineer' shall mean a graduate engineer or equivalent, having more than 3 year experience in the relevant field of construction work involved in the contract, duly approved by Executive/Sr. Executive/JPM/APM/DPM/PM/Dy.CPM /CPM/GM-Co/CGM.

As per Clause No. 1(1)(q), Part-II of GCC APRIL-2022, with up to date correction slip

(Measurement of works by authorized representative) shall be applicable only for those contracts where specifically mentioned in additional special conditions of contract.

PAYMENT OF CONTRACTUAL WORKS

"On-Account" Payments: The contractor shall be entitled to be paid from time to time by way of "On-Account" payment only for such works as in the opinion of the Engineer he has executed in terms of the contract. All payments due on the Engineer's/Engineer's Representative's certificates of measurements or Engineer's certified "Contractor's authorized engineer's measurements" shall be subject to any deductions which may be made under these presents and shall further be subject to, unless otherwise required by Clause 16 of these Conditions, a retention of ten percent by way of Security Deposits, until the amount of Security Deposit by way of retained earnest money and such retentions shall amount to 6% of the total value of the contract provided always that the Engineer may by any certificate make any correction or modification in any previous certificate which shall have been issued by him and that the Engineer may withhold any certificate, if the works or any part thereof are not being carried out to his satisfaction.

Rounding off Amounts: - The total amount due on each certificate shall be rounded off to the nearest rupee, i.e. sum less than 50 paise shall be omitted and sums of 50 paise and more up to ₹ 1 will be reckoned as ₹ 1.

On account Payments Not Prejudicial To Final Settlement

"On-Account" payments made to the Contractor shall be without prejudice to the final making up of the accounts (except where measurements are specifically noted in the Measurement Book as "Final Measurements" and as such have been signed by the

Contractor and Engineer's/ Engineer's Representative) and shall in no respect be considered or used as evidence of any facts stated in or to be inferred from such accounts nor of any particular quantity of work having been executed nor of the manner of its execution being satisfactory.

Final Payment: On the Engineer's certificate of completion in respect of the works, adjustment shall be made and the balance of account based on the Engineer or the

Engineer's representative's certified measurements or Engineer's certified "contractor's authorized engineer's measurements" of the total quantity of work executed by the Contractor up to the date of completion and on the accepted schedule of rates and for extra works on rates determined under Clause 39 of these Conditions shall be paid to the Contractor subject always to any deduction which may be made under these presents and further subject to the Contractor having signed delivered to the Engineer enclosing either a full account in detail of all claims he may have on the DFCCIL in respect of the works or having delivered No Claim Certificate and the Engineer having after the receipt of such account given a certificate in writing that such claims are not covered under excepted matter i.e. Clauses 7(j), 8, 18, 22(5), 39, 43(2), 45(a), 48(1), 48(2), 48(3), 55, 55-A(5), 57, 57A, 61(1), 61(2) and 62(1)(i) to xv (B) of Standard General Conditions of Contract or in any Clause(stated as excepted matter) of the Special Conditions of the Contract, that the whole of the works to be done under the provisions of the Contracts have been completed, that they have been inspected by him since their completion and found to be in good and substantial order, that all properties, works and things, removed, disturbed or injured in consequence of the works have been properly replaced and made good and all expenses and demands incurred by or made upon the DFCCIL for

or in the respect of damage or loss by from or in consequence of the works, have been satisfied agreeably and in conformity with the contract.

Annexure-'A'

Clause No. 24.2 of General Instructions to Tenderers) Request letter from Executive branch to Accounts Office for opening of LC

Office of DFCCIL

No.....

Dated.....

The Dy. CPM/PM/Finance
Vadodara

Sub:- Opening of LC

Ref:-Supply Order / Contract Agreement No.

It is requested to open a sight LC against the above referred order/Agreement in favour of

The details of beneficiary are as under:

- i) Name of Contractor/Supplier
- ii) Vendor code
- iii) Address
- iv) Tender No.
- v) Contract Agreement No.
- vi) Description of Goods/Service
- vii) Value of Contract
- viii) Stages of payment
- xi) Expected payment within 6 months (LC Amount)
- xii) Beneficiary bank details;
- a. Bank name
- b. Address
- c. Account No.
- d. IFSC Code

It is certified that the supplier/contractor has exercised the option of taking payment due against the tender, through LC arrangement in IREPS portal at the time of bidding itself and the option has been flagged in the IREPS. This has the approval of xiii) Validity/period for which LC is to be opened.

(Signature)

Name.....

Designation.....

(Official Seal)

(Clause No. 24.1.5(f) of General Instructions to Tenderer)
 LCDA No. (18 DIGIT IPAS GENERATED NO.)

Dated:

DOCUMENT OF AUTHORIZATION

Reference: (i) Works Contract/ Supply Contract No..... dated.....

(ii) Inland Letter of Credit No..... Dated.....

This document is issued against contract No..... (FROM IREPS)

..... DATED..... FOR WORK OF

(DESCRIPTION OF WORK FROM IREPS)

The beneficiary of the aforementioned Letter of Credit M/s..... (NAME AND VENDOR CODE)..... (Vendor Code..... as per IREPS.....) Is entitled to receive payment aggregating INRSSS (FROM ABSTRACT OF BILL PASSED)... Out of total LC amount of INR (FROM MASTER TABLE OF LC

OPENED) Against the first/second* commercial Invoice No. (FROM IPAS) Dated..... FROM IPAS..... for INR (FROM IPAS) raised against the above contract from

State Bank of India..... (Branch FROM LC MASTER TABLE) On the strength of this Certificate

The details of payment already made to the beneficiary under this Letter of Credit are as follows:

SN	Invoice No.	Invoice date	Invoice Amount (INR)	LCDA No.	LCDA date	Amount paid (INR)

Total Paid

THIS PAYMENT: sass.....

LC balance after this payment:

(Signature of authorized DFCCIL authority)

Name

Designation

Official Seal

26.0	<u>GUIDELINES FOR ELECTRONIC REVERSE AUCTION FOR WORKS, SERVICE CONTRACT</u>
26.1	SERVICE CONTRACTS (For tenders valued more than Rs. 50 Cr. in each case): (Not Applicable in this Tender)
(a)	Selection criteria for tender cases of Works and Services proposed through Reverse Auction (eRA) route:
(b)	Following method of purchase through Reverse Auction shall be adopted for Works and Service

Tender No.: BRC-EN-TEND-SR-22-23-115

	tenders valued more than Rs. 50 Cr. in each case.										
(c)	The process of procurement through Reverse Auction shall be followed only in case of tenders where there are at least three technically eligible offers.										
26.2	Financial Bids in single currency/parameter only shall be allowed.										
(a)	Procedure for award of contracts through Reverse Auction										
(b)	The procedure discussed herein shall be fully implemented through IREPS. Any reference to Reverse Auction in these instructions shall imply e-RA .										
(c)	Conduct and reporting of Reverse Auction shall be as per Annexure-C .										
26.2.1	The essential technical and commercial parameters will be specified in a transparent manner in the tender document. No deviation to such essential Technical & Commercial conditions shall be permitted to the tenderer(s) in the electronic bid form.										
(a)	Technical Bid and Initial Price Offer :										
(b)	In case of Works and Services related tenders, e-RA shall be adopted only for those cases where evaluation is on the basis of single parameter/currency.										
(c)	Bidder shall be simultaneously required to electronically submit a Technical & Commercial Bid and Initial Price Offer. The offers found eligible for award of contract/meeting eligibility criteria shall be categorized as Qualified for Award of Contract for the purpose of e-RA.										
(d)	Offers not complying with essential technical & commercial requirements of the tender shall be declared as Ineligible for award of contract.										
26.2.2	Initial Price Offer of only those bidders categorized as Qualified for Award of contract shall be opened and tabulated by system separately.										
(a)	Financial Bid Financial Bid shall comprise of Final Price Offer obtained through Reverse Auction. Following conditions and procedure shall be followed in selection of bidders for conduct of Reverse Auction:										
(b)	Selection of vendors for Reverse Auction for award of Contract in Works and Services tenders :										
	<table border="1"> <thead> <tr> <th>Number of tenderers Qualified for Award Of contract/ Bulk order</th> <th>Number of tenderers to be selected for Reverse Auction.</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>< 3</td> <td>NIL*</td> <td rowspan="3">The bids disallowed from participating in the Reverse Auction shall be the highest bidder(s) in the tabulation of Initial Price Offer. In case the highest bidders quote the same rate, the Initial Price Offer received last, as per time log of IREPS, shall be removed first, on the principle of last in first out, by IREPS system itself.</td> </tr> <tr> <td>3 to 6</td> <td>3</td> </tr> <tr> <td>More than 6</td> <td>50% of Vendors Qualified for Bulk Order/ award of contract (rounded off to next higher integer).</td> </tr> </tbody> </table>	Number of tenderers Qualified for Award Of contract/ Bulk order	Number of tenderers to be selected for Reverse Auction.	Remarks	< 3	NIL*	The bids disallowed from participating in the Reverse Auction shall be the highest bidder(s) in the tabulation of Initial Price Offer. In case the highest bidders quote the same rate, the Initial Price Offer received last, as per time log of IREPS, shall be removed first, on the principle of last in first out, by IREPS system itself.	3 to 6	3	More than 6	50% of Vendors Qualified for Bulk Order/ award of contract (rounded off to next higher integer).
Number of tenderers Qualified for Award Of contract/ Bulk order	Number of tenderers to be selected for Reverse Auction.	Remarks									
< 3	NIL*	The bids disallowed from participating in the Reverse Auction shall be the highest bidder(s) in the tabulation of Initial Price Offer. In case the highest bidders quote the same rate, the Initial Price Offer received last, as per time log of IREPS, shall be removed first, on the principle of last in first out, by IREPS system itself.									
3 to 6	3										
More than 6	50% of Vendors Qualified for Bulk Order/ award of contract (rounded off to next higher integer).										
	Note:- (i)* If the number of tenderers qualified for Award of Contract is less than 3 RA shall not be done and tender may be decided on the basis of Initial Price Offer(s). (ii) Make in India criteria: All bidders eligible for benefits under Public Procurement (Preference										

	<p>Make in India) Order – 2017, found Qualified for Award of Contract and are within the specified range of price preference of lowest Initial Price Bid shall be permitted to participate in the Reverse Auction, irrespective of their inter-se ranking on the basis of Initial Price Bid. Such bidders shall be over and above the number of vendors selected for Reverse Auction, as per Para 24.2.2(a) above. During Reverse Auction process, bidders shall not be allowed to bid a rate higher than the lowest Initial Price Offer.</p>
	<p style="text-align: right;">Annexure C</p> <p style="text-align: center;">Procedure for Conduct and Reporting of R.A.</p> <ol style="list-style-type: none"> 1. The tendering authority shall solicit bids through an invitation to the electronic Reverse Auction to be published or communicated in accordance with the provisions similar to e-procurement. 2. Depending upon the nature of item/work/service and complexity of case on hand, following shall be indicated in the tender for e-RA itself. <ol style="list-style-type: none"> (a) Initial e-RA period: This shall be the initial time interval for e-RA, e-RA shall be open for this duration. (b) Auto extension period: In case any offer is received in the time period equal to auto extension period before close of initial e-RA period, the e-RA shall be extended for time equal to auto extension period from the time of last bid. There shall be no upper limit on number of auto extensions. When no offer is received in the last auto extension period, e-RA shall close. (c) Minimum decrement in percentage of value of the last successful bid. 3. Date and time for start of e-RA shall be communicated to qualified tenderers by the convener after evaluation of the Technical Bids. 4. After submission of Initial Price Bid, tenderers will not be allowed to revise the taxes and other levies. 5. During auction period, identities of the participating tenderers will be kept hidden. 6. Minimum admissible bid value will be last bid value minus minimum decrement as specified by the tendering authority before starting of reverse auction. Starting point for reverse auction shall be the lowest initial Price Bid of the Tenderer eligible for award of contract. 7. After close of the RA, tabulation of last (minimum) bids received from all the tenderers will be generated and made visible to Railways and participating tenderers. 8. Railway users can also view the bidding history in chronological order. 9. Bidders not be allowed to withdraw their last offer. 10. L-1 will be defined as the lowest bid obtained after the closure of R.A. session for Goods Works and Services tenders. <p>(Authority : No. 2017/Trans/01/Policy/Pt-S Dated 28.03.2018)</p>

**SPECIAL CONDITIONS
OF CONTRACT
(GENERAL)**

PART-IV
SPECIAL CONDITIONS OF CONTRACT (GENERAL)

1.0	These special conditions and the work schedule shall govern the works to be executed under this contract, in addition to and/or in part supersession of the General Conditions of Contract-2022 and Standard Specifications as laid down in the CPWD Specifications 2019 Vol I & II and Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020 as amended/ updated by correction Slips on or before the opening of tender.
2.0	Order of Precedence of Documents: In a tender/contract, in case of any difference, contradiction, discrepancy, with regard to Conditions of tender/contract, Specifications, Drawings, Bill of quantities etc., forming part of the tender/contract, the following shall be the order of precedence: i. Letter of Award ii. Schedule of Items, Rates & Quantities iii. Special Conditions of Contract iv. Technical Specifications as given in tender documents v. Drawings vi. Indian Railways Standard General Conditions of Contract vii. CPWD Specifications 2019 Vol I & II as amended/ updated by correction Slips on or before the opening of tender. viii. IR Specifications/Guidelines ix. Relevant B.I.S. Codes
3.0	Any special condition stated by the tenderer(s) in the covering letter submitted along with the tender shall be deemed as part of contract to such extent only as have explicitly been accepted by the DFCCIL.
4.0	<u>USE OF DFCCIL LAND</u>
4.1	Use of DFCCIL land required by the contractor(s) for constructing temporary offices, quarters, hutments etc. for the staff and for storing materials etc. would be permitted to him/them free of charge by DFCCIL, if available. The location of these offices, hutments, stores etc., will be subject to the approval of the engineer or his authorized representative. The land will be restored to DFCCIL by the contractor(s) in the same condition as when taken over or in vacant condition as desired by the engineer, after completion of the work or at any earlier day, as specified by the Engineer. The failure to do so will make the contractor(s) liable to pay the cost incurred by the DFCCIL for getting possession of land.
4.2	The tenderer(s) shall also acquaint himself /themselves with the availability of land, working space for his/their works etc. The DFCCIL will not acquire any land for the purpose of movement of vehicles of the Contractor/s for executing the work by the contractor/s.

5.0	<p><u>USE OF PRIVATE LAND</u> The Contractor will have to make his/their own arrangements for use of private land, outside DFCCIL limits for due fulfillment of contract or for borrow pits, approaches, etc., directly with the land owners or local authority and to pay such rents if any as are payable as may be mutually agreed upon between them.</p>
6.	<p><u>FIGURES, DIMENSIONS ETC.</u> Figures, dimensions and drawings shall supersede measurements by scale and drawing to larger scale shall take precedence over those to a smaller scale. Special dimensions or directions in the specification shall supersede all else.</p>
7.	<p><u>PLEA OF CUSTOM</u> The plea of custom prevailing will not on any account be permitted as excuse for an infringement of any of the conditions of the contract or specifications</p>
8.0 8.1	<p><u>SEIGNIORAGE CHARGES</u> The contractor/s shall comply with all the instructions issued by the Chief Inspector of Mines in respect to the safety of the workmen and the working of quarries and maintain register in which shall be recorded, such information/s for supply annually to Chief Inspector of Mines of the Government of India, as required by him. Final payment will be released after producing the no dues certificate from Mining department or any other concerned office of the area. The contractor/s are required to produce necessary documentary proof regarding payment of royalty to Mining Department of the stone ballast supplied, as and when demanded by the DFCCIL administration. Final Bill shall be released only after production of "No Dues" certificate from the Mines Department, by the contractor.</p>
8.2	<p>The rates quoted by the tenderer shall be inclusive of seigniorage charges on all items of work to be executed under the contract, applicable as on the last date of submission of tender.</p>
9.0	<p><u>TAXES</u> -The accepted rates should be deemed to include all taxes direct or indirect Including Income Tax leviable under Central/State or Local Bodies Act or Rules, Octroies, Tolls, Royalties, Seigniorages, Cess and similar imposts that may be prevailing from time to time in respect of land, structures and all materials supplied in the Performance of this Contract.</p>
10.0	<p>The Building and Other Construction workers (Regulation of Employment and conditions of service) Act, 1996 and the Building and Other Construction Workers Welfare Cess Act, 1996: The tenderers for carrying out any construction work must get themselves Registered with the Registering Officer under section 7 of the "Building and other construction workers act, 1996" and rules made there to by the concerned state Govt. and submit certificate of Registration issued from the Registering Officer of the concerned State Govt. (Labour Department). The Cess shall be deducted from contractor's Bills as per provision of Act.</p>

11.0	<p><u>DEDUCTION OF INCOME TAX AT SOURCE</u></p> <p>In terms of new section 194 inserted by the Finance Act 1972 in the Income Tax Act 1961, the DFCCIL shall at all the time arranging payment to the contractor sub-contractor (in case of sub-contractor only when the DFCCIL responsible for payment of the consideration to him under the contract) for carryout any work (including supply of labour for carryout the work under the contract) be entitled to deduct income tax at source or income comprised in the sum of such payments. The deduction towards income tax to be made at source from the payments due to non-residents shall continue to be governed by section 195 of the Income Tax Act, 1961.</p>
12.0	<p><u>ROYALTIES AND PATENT RIGHTS</u></p> <p>The contractor shall defray the cost of all royalties, fees and payment in respect of patents, patent rights and licenses which may be payable to patentee, license or other person or corporation and shall obtain all necessary licenses. In case of any breach (whether willfully or inadvertently) by the contractor of this provision, the contractor shall indemnify the DFCCIL and its officers, servants, representatives against all claims, proceedings, damages, cost, charges, acceptance, loss and liability which they or any of them, may sustain, incur or be put to by reason or inconsequence of directly or indirectly or any such breach and against payment of any royalties, damages or other monies which the DFCCIL may have to make to any person or paid in total to patent rights in respect of the users of any machine, instrument, process, articles, matters of thing constructed, manufactured, supplied or delivered by the contractors to his order under this contract.</p>
13.0	<p><u>NOTICE TO PUBLIC BODIES</u></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 leviable on account of his operations in 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.</p>
14.0	<p><u>DAMAGE BY ACCIDENTS, FLOODS OR TIDES</u></p> <p>The contractor shall take all precautions against damage from accident, floods or tides. No compensation shall be paid to the contractor for his plant or material lost or damaged by any cause whatsoever. The contractor shall make good the damages at his cost to any structure or part thereof by any cause during the course of the work.</p>

15.0	<p><u>SERVICE ROADS</u></p> <p>The Contractor/s will be permitted to make use of existing service roads, or service roads constructed by the DFCCIL for its use free of cost. New service roads required by the contractor/s either near the work site or elsewhere within or outside DFCCIL limits for carriage of materials or for any other purpose whatsoever, will have to be constructed and maintained by the contractor/s at his/their own cost. For the purpose of construction of service roads on DFCCIL land, permission will be given free of charge. If any land other than DFCCIL land is necessary to be acquired or to be entered upon, permission to enter in the land will have to be arranged by the contractor/s at his/ their cost. The contractor/s will not prefer any claim, whatsoever on this account. The DFCCIL, however, reserves the right to make use of such service roads as may be constructed by the contractor/s without payment of any charges.</p>
16.0	<p><u>EMERGENCY WORKS</u></p> <p>In the event of any accident or failure occurring in, on or about the work or arising out of or in connection with the construction, completion or maintenance of the works, which in the opinion of the Engineer requires immediate attention, the DFCCIL may bring its own workmen or other agency to execute or partly execute the necessary work or carry out repairs if the Engineer considers that the contractor/s is/are not in a position to do so in time and charge the cost thereof, which will be determined by the CGM, DFCCIL, to the contractor.</p>
17.0	<p><u>MAINTENANCE PERIOD/DEFECT LIABILITY PERIOD:-</u></p> <p>(a) The Contractor shall guarantee that all the works executed under this contract shall be free from all defects and faults in material, workmanship and manufacture and shall be of acceptable standards for the contracted work and in full conformity with the technical specifications, drawings and other contract stipulations, for a period of 06 months from the date of taking over by the Employer</p> <p>(b) During the period of guarantee the Contractor shall keep available an experienced engineer / man power to attend to any defective works / installations resulting from defective erection and/or defect in the installation supplied by the Contractor. This engineer shall not attend to rectification of defects which arise out of normal wear and tear and come within the purview of routine maintenance work. The contractor shall bear the cost of modifications, additions or substitutions that may be considered necessary due to faulty materials or workmanship for the satisfactory working of the equipment. The final decision shall rest with the Engineer his successor(s)/Nominee.</p> <p>(c) During the period of Guarantee the Contractor shall be liable for the replacement at site of any parts which may be found defective in the executed work whether such parts / structural elements of his own manufacture or those of his sub-contractor / supplier whether arising from faulty materials, workmanship or negligence in any manner on the part of the Contractor provided always that such defective parts as are not repairable at site are promptly returned to the Contractor if so required by him at his (Contractor's) own expenses. In case of parts of executed work detected during guarantee period,</p>

	<p>contractor should replace all such items irrespective of the fact whether all such items have failed or not. The Contractor shall bear the cost of repairs carried out on his behalf by the Employer at site. In such a case, the contractor shall be informed in advance of the works proposed to be carried out by the Employer.</p> <p>(d) If it becomes necessary for the Contractor to replace or renew any defective portion of the structural elements until the expiration of six month from the date of such replacement or renewal or until the end of the above mentioned period whichever is later. Such extension shall not apply in case of defects of a minor nature, the decision of the Chief General Manager or his successor/nominee being final in the matter. If any defect be not remedied within a reasonable time during the aforesaid period the Employer may proceed to do work at the Contractor’s risk and expense, but without prejudice to any other rights and remedies which the Employer may have against the Contractor in respect of such defects or faults.</p> <p>(e) The repaired or renewal parts structure shall be delivered / supplied and erected / executed on site free of charge to the Employer.</p> <p>(f) Any materials, fittings, components or equipment / structure supplied under items for supplying / providing and fixing in schedule shall also be covered by the provisions of this paragraph. The liability of the Contractor under the guarantee will be limited to re-supply of components / structure installation and fittings.</p>
18.0	<u>INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE</u>
18.1	The contractor shall at all times, execute the contract work only in the presence and under the supervision of the Engineer's Representative or a DFCCIL employee specifically appointed on his behalf. No work under the contract shall, therefore, be commenced by the contractor without the express permission of the Engineer’s representative.
18.2	The contractor shall always execute the work under this contract in strict compliance with the instructions/directives by the Engineer's representative. Any act of non-compliance with the instruction/directives issued by the Engineer's representative shall be considered as a default of the contractor where after the DFCCIL shall be free to take further appropriate action as provided in the contract for dealing with such defaults of the contractors. The decision of the Engineer-in-charge whether there has been an act of noncompliance with the instruction/directives of the Engineer's representative for the purpose of this clause shall be final and conclusive.
18.3	The instructions/directives by the Engineer's representative shall not, however, absolve the contractor of his responsibility or reduce his responsibility in any manner whatsoever in regards to maintaining at all times the safe working conditions at the work site.
18.4	Any instructions or approval given by the Engineer's representative to Contractor in connection with the works shall bind the Contractor as though it had been given by the Engineer provided always as follows:

	<p>(a) Failure of the Engineer's representative to disapprove any work or materials shall not prejudice the power of the Engineer thereafter to disapprove such work or material and to order the removal or breaking up thereof.</p> <p>(b) If the Contractor shall be dissatisfied by reason of any decision of the Engineer's representative, he shall be entitled to refer the matter to the Engineer who shall there upon confirm or vary such decision.</p>
19.0	NON-COMPLIANCE WITH THE INSTRUCTIONS/DIRECTIVES OF THE ENGINEER'S REPRESENTATIVE
19.1	The contractor shall always comply with the instructions/directives issued by the Engineer's representative from the time to time. In the event of any non-compliance with such instructions/directives, apart from and in addition to other remedies available to the DFCCIL as specified herein above the Engineer's representative may employ at the works DFCCIL's workmen with necessary equipment as considered appropriate and adequate by him to provide the requisite conditions for the safe and unhampered movement of DFCCIL traffic. The decision of the Engineer's representatives in regard to the need of appropriateness and adequacy of the deployment of the DFCCIL Workmen with necessary equipment shall be final and conclusive.
19.2	When the DFCCIL workmen with necessary equipment are deployed in the above manner, recovery at the following rate shall be made from the contractor's dues under this contract or any other money of the contractor available with the DFCCIL under this contract. The recovery for the total DFCCIL Workmen Hours employed at the rate of Rs. 100/- (Rupees Hundred only) per Workmen-Hour irrespective of the type and grade of the DFCCIL Employee actually employed. The aggregate period of the Workman-Hours for the above recoveries shall be reckoned from the time the DFCCIL Workmen are actually deployed at the work site till the work is completed to the satisfaction of the Engineer's Representative whose decision in this regard shall be final and conclusive.
19.3	During the above-mentioned period of suspension of work, the contractor shall not in any manner attempt to carry out any work at the work site. Any such attempt of the contractor shall be deemed to be an unauthorized work on the work site. For such acts, the contractor shall then be liable for further appropriate action under the relevant provisions of the Indian Railway Act.
20.0	<p><u>WARRANTY</u></p> <p>The Contractor(s) shall warrant the materials supplied under this contract to be free of any defects in material and workmanship under ordinary use and service.</p>

21.0	<u>SHIFTING OF ELECTRICAL/TELEGRAPH WIRES</u> In some stretches, high-tension grid towers /electric telegraph/telephones wires or posts etc. are to be shifted. It is expected that the electric lines/towers will be shifted in good time but in case, there is any delay on this account suitable extension in date of completion will be considered and given to the contractor for only the effected portion and no compensation whatsoever in this respect or due to the delay thus caused will be payable and contractor has to adopt such methods of execution of earthwork so as not to cause any damage to existing structure lines etc.
22.0	<u>HANDING OVER OF SITE FOR WORK</u> The entire land required for this work is available. However, DFCCIL may not hand over the entire land required for completion of this work for making bank/cutting or excavation to the contractor(s) due to any unavoidable reasons. Land may be handed over in different stretches, which may not be continuous. Contractor(s) will be required to carry out the work in available stretches. If some stretch of land cannot be handed over to the contractor for borrowing earth or making bank/cutting within the contract period then suitable extension will be granted only for the affected portion without any payment of extra claim to the contractor.
23.0	<u>Working during Night:</u> The Contractor shall have to carry out dewatering round the clock if required. But will not carry out any other work between sun-set and sun-rise without the previous permission of the Engineer. However, 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 the same without confirming any right on the Contractor for claiming any extra payment for the same. (Authority Clause No. 23 Part-II of GCC APRIL-2022, with up to date correction slip)
24.0	<u>MODE AND TERMS OF PAYMENT</u>
24.1	All payments will normally be made only for finished works on the basis of mode and terms of payments agreed upon and provided in the contract.
24.2	<u>MANNER OF PAYMENT</u> Payment to the contractor will be made through Electronic Fund Transfer (EFT) for payment of running and final bills. The tenderer (s) will also fill the Annexure-I indicating the bank account number, name of bank and bank specific code number (MICR/IFSC) as enclosed. The conditions and Annexure-I will be part of the tender document.
25.	<u>ACCIDENT/NATURAL CALAMITIES</u>
25.1	Vehicle and equipment of the contractor can be drafted by DFCCIL Administration in case of accidents/natural calamities involving human lives.
25.2	For payment purpose, the item may be operated as New Non-Schedule (NS Item) as per existing norms and powers delegated.
25.3	Contractor may submit list of vehicles and equipment available with him.
26.0	<u>MOBILIZATION ADVANCE</u> (For Contract Value Rs. 25 Crores and Above)
26.1	Stage-I: -5% of Contract Value on signing of the contract agreement. Stage-II: - 5% on mobilization of site-establishment, setting up offices, bringing in

Tender No.: BRC-EN-TEND-SR-22-23-115

	<p>equipment and actual commencement of work.</p> <p>The 1st stage of advance shall be payable immediately after signing of contract documents.</p> <p>The 2nd stage of advance shall be payable at the time of mobilization, after submission of a utilization certificate by the contractor that the Stage 1 advance has been properly utilized in the contract.</p>
26.2	The advance shall carry an interest at the rate to be decided by Railway Board and communicated at the beginning of every financial year, to be applicable for the tenders to be opened in that financial year.
26.3	The Mobilization Advance Clause shall be restricted only for high value tenders of Rs. 25 crore and above.
26.4	<p>The Mobilization Advance except, those against machineries and equipment's shall be payable against an irrevocable Bank Guarantee (Bank Guarantee, FDRs, KVPs, NSCs) of at least 110% of the value of sanctioned advance amount (covering principal plus interest). The bank guarantee shall be from a Nationalized Bank in India of State Bank of India in a form acceptable to the Railways.</p> <p>(a) <u>For works costing less than Rs. 50.00 Crore</u></p> <p>The mobilization shall be granted against irrevocable bank guarantee Which will be released only after full Mobilization advance with interest will be recovered.</p> <p>(b) <u>For works costing Rs. 50.00 Crore & above.</u></p> <p>Mobilization advance can be granted against several bank guarantees. Individual Bank Guarantee can be refunded after the amount mentioned in the part B.G. has been recovered along with interest. BG will not be accepted in more than 5 parts. However, amount of each BG shall not be less than Rs. 1Cr.</p>
26.5	<p><u>Method of Recovery of Interest</u></p> <p>Interest shall be recovered on the advance outstanding for the period commencing from the date of payment of advance till date of particular on-account bill (through which recovery of principal is effected) and adjusted fully against on-account bill along with pro-rata principal recovery. In the event of any short-fall, the same shall be carried forward to the next on account bill and shall attract interest.</p> <p>The recovery shall commence when the value of contract executed reaches 15% of original contract value and shall be completed when the value of work executed reaches 85% of the original contract value. The installments on each "on account bill" will be on pro-rata basis;</p> <p>The Rate of Interest Shall be RBI Bank Rate+5%(Five %) simple interest for the tenders to be opened in the financial Year 2022-23 onwards.(As per Railway board's letter No 2018/CE-I/CT/1 dated 10.03.2022)</p>
26.6	<p><u>Advances for accelerating progress of the work during course of execution of Contract-</u>This advance is to be decided on the merits of each case and shall be restricted to a maximum of 5% of contract value. This is to be granted by the General Manager for contracts where the progress of the contract work has been as per milestones/targets laid down and no</p>

	extension to date of completion of the contract has been given on contractor's account.
26.7	<p><u>Advances in Exceptional Cases –</u> The power to grant advances in exceptional cases upto a maximum of Rs. 20 lacs in respect of even contracts of value less than Rs. 25 crore, considered absolutely essential, depending on the merits of each case and circumstances in each situation, lies with Chief General manager/General Manager-Co. Advance Correction slip no 56 for Indian railway Code for Engineering Department dated 05.03.2019.</p>
27.0	<u>STAGE PAYMENT ON SUPPLY OF STEEL IN WORKS CONTRACT</u> (For contract value Rs. 15.00 crores & above):
27.1	<p>Stage payment for steel physically brought by the contractor to the site (even before its actual use in work) can be made subjected to following conditions:-</p> <ul style="list-style-type: none"> (a) The material shall be strictly in accordance with the contract specifications. (b) The material shall be delivered a site and properly stored under covered sheds in measurable stacks. (c) The quantities of materials shall be brought to the site only in such installments that would facilitate smooth progress of work and consumed in reasonable time. (d) Proper accountal in the material register to be maintained in the prescribed format at the site for the receipt and use of the material. (e) Ownership of such material shall be deemed to rest with the DFCCIL for which the contractor should submit an indemnity bond in prescribed format. (f) Before releasing the stage payment, the contractor shall insure the material at his own cost in favour of DFCCIL against theft, damages, fire etc. (g) Stage payment in all such cases shall not be more than 75% of the rate of steel awarded in the contract. The balance payment shall be released only after the material is actually consumed in the work. (h) The price variation claim for steel would continue to be governed as per extant PV clause and with reference to delivery at site.
28.0	<p><u>BONUS FOR EARLY COMPLETION OF WORK:</u> In case of open tenders having value more than Rs. 20 crore and original period of completion 12 months or more, when there is no reduction in original scope of work by more than 10%, and no extension granted on either DFCCIL or Contractor's account, Contractor shall be entitled for a bonus of 1% for each 30 days early completion of work. The period of less than 30 days shall be ignored while working out bonus. The maximum bonus shall be limited to 5% of original contract value. The completion date shall be reckoned as the date of issuance of completion certificate by Engineer. As per Clause No. 17(c) Part-II of GCC APRIL-2022, with up to date correction slip</p>
29.0	Contractor shall provide suitable manpower to Engineer in Charge or his representative at all times during currency of the contract for assisting him in giving layout of work, carrying out

	quality checks, taking measurements and other associated activities for effective supervision of work.
30.0	<u>DEPLOYMENT OF QUALIFIED ENGINEERS AT WORK SITES BY THE CONTRACTOR</u> (As per Clause No.26-A of G.C.C. April-2022 Part-II with up to date correction slip)
30.1	The contractor shall also employ Qualified Graduate Engineer or Qualified Diploma Holder Engineer, based on value of contract, as may be prescribed by the DFCCIL through separate instructions from time to time.
30.2	In case the contractor fails to employ the Engineer, as aforesaid in Para 30.1, he shall be liable to pay liquidated damages at the rates, as prescribed in the tender document penalty at the rates, as may be prescribed by the DFCCIL (Para 30.4) through separate instructions from time to time for the default period for the provisions, as contained in Para 30.1.
30.3	No. of qualified Engineers required to be deployed by the Contractor for various activities contained in this works contract shall be as under:- (i) For tenders costing below Rs.50.00 Cr. 1) Graduate Engineer – Minimum 1 Nos. 2) Diploma Engineer – Minimum 1 Nos. (ii)For tenders costing Rs.50.00 Cr. and above. 1) Graduate Engineer – Minimum 2 Nos. 2) Diploma Engineer – Minimum 2 Nos.
30.4	In case the contractor fails to employ the Qualified Engineer, as aforesaid in Para 30.1 above, he, in terms of provisions of Clause 30.2 to the Conditions of Contract, shall be liable to pay an amount of Rs. 40,000/- and Rs. 25,000/- for each month or part thereof for the default period for the provisions, as contained in Para 30.3 above respectively.
31.0	<u>PRICE VARIATION CLAUSE</u> (As per Clause No. 46 A of GCC APRIL-2022 with up-to-date correction slip (Applicable))
31.1	<u>For this contract, the PVC shall be applicable as per GCC April 2022. For this contract as Price Variation will be calculated as mentioned in table 46A-6 (I) for Civil Engineering Works of GCC April-2022.</u> Price Variation Clause shall be applicable only for works contracts having advertised value above Rs. 2 Crore and having completion period above 12 months . Materials supplied free of cost by Railway to the contractors and any extra NS items included in subsequent variations falling outside the purview of the Schedule of Items of tender shall fall outside the purview of PVC. If, in any case, accepted offer includes some specific payment to be made to consultant or some materials supplied by Railway free or at fixed rate, such payments shall be excluded from the gross value of work for the purpose of payments/ recovery of Price variation. For calculation of price variation, cut-off date quarter for running bills/final bills will be as under:

	<p>(a) In case of running bill, the date of measurement recorded in MB, shall be considered. If measurement date are more than one, then 1st date of measurement recorded in MB will be considered.</p> <p>(b) In case of final bill, the date of completion or 1st date of measurement recorded in MB, whichever is earlier, will be considered.</p>																		
31.2	<p>Base Month: The Base Month for 'Price Variation Clause' shall be taken as the one month prior to closing of tender, unless otherwise stated elsewhere. The quarter for applicability of PVC shall commence from the month following the Base month. The Price Variation shall be based on the average Price Index of the quarter under consideration.</p>																		
31.3	<p>Validity: Rates accepted by DFCCIL 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 GCC April-2022, (b) Payment/recovery for overall market situation as per Price Variation Clause given hereunder.</p>																		
31.4	<p>Components of various items in a contract on which variation in prices be admissible, shall be steel, cement, ferrous material, non-ferrous material, insulators, zinc and other materials, labour, plant & machinery, fuel, explosives, detonators etc. Adjustment for variation in prices of these items shall be determined in the manner prescribed.</p>																		
31.5	<p>No price variation shall be admissible for fixed components.</p>																		
31.6	<p>The percentages of various components in various type of works shall be as specified for all item (s)/ Bill(s) of Quantities in tender document and the same shall be fixed as per table & classifications given below:-</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Classification</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Fixed Component</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Labour Component</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Steel Component</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Cement Component</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Plant Machinery & Spares</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Fuel & Lubricants Component</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Other Materials</th> <th style="writing-mode: vertical-rl; transform: rotate(180deg);">Detonators & Explosive</th> </tr> </thead> <tbody> <tr> <td>9 D</td> <td>15 *</td> <td>10</td> <td>50</td> <td>0</td> <td>10</td> <td>10</td> <td>5</td> <td>0</td> </tr> </tbody> </table> <p>* It shall not be considered for any price variation</p>	Classification	Fixed Component	Labour Component	Steel Component	Cement Component	Plant Machinery & Spares	Fuel & Lubricants Component	Other Materials	Detonators & Explosive	9 D	15 *	10	50	0	10	10	5	0
Classification	Fixed Component	Labour Component	Steel Component	Cement Component	Plant Machinery & Spares	Fuel & Lubricants Component	Other Materials	Detonators & Explosive											
9 D	15 *	10	50	0	10	10	5	0											
31.8	<p>The demands for escalation of cost shall be allowed on the basis of provisional indices as mentioned above in Clause 46A.7. Any adjustment needed to be done based on the finally published indices shall be made as and when they become available</p>																		

31.8A	Relevant categories of steel for the purpose of operating Price Variation formula as mentioned in this Clause shall be as under:					
	Sr.No	Classification	Rates to be used for calculating SQ or SB			
	1	Reinforcement bars and other rounds	Average of per tonne rates of 10mm dia TMT & 25mm dia TMT; confirming IS1786; Fe 500			
	2	All types and sizes of angles, channels and joists	Average of per tonne rates of 'Angle 75x75x6mm, Mild Steel Plate 10mm thickness and Channel 150x75mm; confirming IS2062, E250 Gr "A"			
	3	All types and sizes of plates	Average of per tonne rates of 'MS Plates 10mm thickness and 25mm thickness; confirming IS2062, E250 Gr "A"			
4	Any other section of steel not covered in the above categories	Average of price for the 3 categories covered under SL 1, 2 & 3 above				
31.9	(a) RBI has published Consumer Price Index for Industrial Workers, CPWI(IW), with the base year 2001 up to August 2020. After August 2020, CPW(IW) has been published by RBI with the base year 2016. The base year of Consumer Price Index for Industrial Workers i.e., CPI(IW) has been changed from year 2001 to year 2016 with effect from September 2020. Further RBI has provided a linking factor of 2.88 between the old series and the revised series.					
31.10	(b)The Clause 46A of GCC deals with the price variation clause in contracts. Formulae used for the calculation of the amount of variation in the price for labour components require consumer price index for industrial Workers – All India; published in RBI Bulletin.					
31.11	(c) The issue has been examined. It has been decided by Board (MI, MF) to adopt above linking factor of 2.88 for linking index of Base year 2001 and 2016. Example for applying linking factor is as under :-					
	Item	Base Year	Linking Factor	Consumer Price Index for Industrial Workers		
	Consumer Price Index for Industrial Workers – CPI(IW)	2001	-	July-2020	Aug.,2020	Sept., 2020
		2016	2.88	-	-	118
	Sept 2020 CPI (IW) of Base year 2001 = Sept 2020 CPI(W) of Base Year 2016 x Linking Factor i.e. 118 x 2.88 = 339.84 (Authority : Rly Bd's letter No. 2021/CE-I/EDCE(G)/Misc./3/Labour Index dated 06.09.2021)					
31.12	Price Variation during Extended Period of Contract The price adjustment as worked out above, i.e. either increase or decrease shall be applicable upto the stipulated date of completion of work including the extended period of completion where such extension has been					

	<p>granted under Clause 17-A of the Standard General Conditions of Contract. However, where extension of time has been granted due to Contractor's failure under Clause 17-B of the Standard General Conditions of Contract, price adjustment shall be done as follows: 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 Standard General Conditions of Contract; 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 Standard General Conditions of Contract.</p> <p>As per Clause No. 46A.10 Part-II of GCC APRIL-2022, with up to date correction slip</p>
32.A	<p>Communications to be in Writing:</p> <p>All notices, communications, reference and complaints made by the DFCCIL or the Engineer or the Engineer's Representative or the Contractor inter-se concerning the works shall be in writing or e-mail on registered e-mail IDs i.e. the e mail id provided for correspondence in the contract agreement, otherwise email id registered with IREPS and no notice, communication, reference or complaint not in writing or through e-mail, shall be recognized.</p> <p>(As per Clause No. 4 Part-II of GCC APRIL-2022, with up to date correction slip)</p>
32.B	<p><u>Assignment or subletting of the contract:</u></p> <p>(a) In case contractor intends to subcontract part of work, he shall submit a proposal in writing seeking permission of CGM for the same. While submitting the proposal to DFCCIL, contractor shall ensure the following :(As per Clause No. 7 Part-II of GCC APRIL-2022, with up to date correction slip)</p> <p>(i) Total value of work to be assigned to sub-contractor(s) shall not be more than 50% of total contract value.</p> <p>(ii) The subcontractor shall have successfully completed at least one work similar to work proposed for subcontract, costing not less than 35% value of work to be sub-letted, in last 5 years through a works contract directly given to him by a Govt. Department; or by a 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, registered at least 5 years back from the date of submission of proposal by contractor to DFCCIL and work experience certificate issued by a person authorized by the Public Listed Company to issue such certificates.</p> <p><i>Note: For subletting of work costing up to Rs 50 lakh no previous work experience shall be asked for by the DFCCIL.</i></p>

In case contractor submits subcontractor's work experience certificate issued by public listed company, the contractor 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. The details shall be furnished as per the annexure IV A, IV-B, IV-C as applicable to the Engineer in charge.

(iii) There is no banning of business with the sub-contractor in force over IR/DFCCIL.

(b) The Contractor shall provide to the Engineer a copy of the agreement to be entered into by Contractor with subcontractor. No subcontractor shall be permitted without a formal agreement between Contractor and subcontractor. This agreement shall clearly define the scope of work to be carried out by subcontractor and the terms of payment in clear & unambiguous manner.

(c) On receipt of approval from CGM, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.

(d) The Contractor shall intimate to the Engineer not less than 7 days in advance, the intended date of commencement of subcontractor's work.

(e) Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of DFCCIL, with prior intimation to CGM.

(f) The Contractor shall indemnify DFCCIL against any claim of subcontractor.

(g) The Contractor shall endeavor to resolve all matters and payments amicably and speedily with the subcontractor.

(h) In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the sub-contractor.

Note: Work Experience Certificate to the subcontractor shall be issued only when the contractor's work is complete and contractor is entitled for the issuance of Work Experience Certificate. However, in the same contract, when the Chief Engineer, based on documents, is satisfied that the subcontractor has successfully carried out subletted work, without issuance of work experience certificate to subcontractor at this stage, the Chief Engineer can, only once, consider the successfully completed subletted work for the fulfilment of eligibility for further subletting of work to the subcontractor in the same contract. When the contractor's work is complete and contractor is entitled for the issuance of work experience certificate, the subcontractor shall be issued one Work Experience Certificate for the total scope of work executed by the subcontractor in the contract.

(i) The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract.

	<p>(j) Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. No claim of Contractor whatsoever on this account shall be entertained by the DFCCIL and this shall be deemed as 'excepted matter' (matter not arbitrable).</p> <p>(k) The permitted subcontracting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the DFCCIL and shall not relieve the Contractor of any responsibility under the Contract.</p>
33	<p>Display Board: The Contractor shall be responsible for displaying the details of works i.e. name of work, approximate cost, expected date of completion, name and address of the Contractor and address of Engineer on a proper steel Board of size not less than 1m x 1m. As per Clause No. 34.(5) Part-II of GGC-2022 with up to date correction slip.</p>
34.0	<p>VARIATIONS & MODIFICATION IN EXTENT OF CONTRACT</p>
34.1	<p>Modification to Contract to be in Writing: In the event of any of the provisions of the contract required to be modified after the contract documents have been signed, the modifications shall be made in writing and signed by the Railway and the Contractor and no work shall proceed under such modifications until this has been done. Any verbal or written arrangement abandoning, modifying, extending, reducing or supplementing the contract or any of the terms thereof shall be deemed conditional and shall not be binding on the Railway unless and until the same is incorporated in a formal instrument and signed by the Railway and the Contractor, and till then the Railway shall have the right to repudiate such arrangements. As per Clause No. 41 Part-II of GGC-2022 with up to date correction slip.</p>
34.2.1	<p>Powers of Modification to Contract: The Engineer on behalf of the Railway shall be entitled by order in writing to enlarge or extend, diminish or reduce the works or make any alterations in their design, character position, site, quantities, dimensions or in the method of their execution or in the combination and use of materials for the execution thereof or to order any additional work to be done or any works not to be done and the Contractor will not be entitled, to any compensation for any increase/reduction in the quantities of work but will be paid only for the actual amount of work done and for approved materials supplied against a specific order.</p> <p>As per Clause No. 42(1) Part-II of GGC-2022 with up to date correction slip.</p>
34.2.2	<p>i. Unless otherwise specified in the special conditions of the contract, the accepted variation in quantity of each individual item of the contract would be upto 25% of the quantity originally contracted, except in case of foundation work (in which no variation limit shall apply). However, the rates for the increased quantities shall be as per sub- para (iii) below.</p> <p>(ii) The Contractor shall be bound to carry out the work at the agreed rates and shall not be entitled to any claim or any compensation whatsoever upto the limit of 25% variation in quantity of individual item of works.</p>

	<p>(iii) In case an increase in quantity of an individual item by more than 25% of the agreement quantity is considered unavoidable, then same shall be executed at following rates.</p> <p>a. Quantities operated in excess of 125% but upto 140% of the agreement quantity of the concerned item, shall be paid at 98% of the rate awarded for that item in that particular tender;</p> <p>b. Quantities operated in excess of 140% but upto 150% of the agreement quantity of the concerned item shall be paid at 96% of the rate awarded for that item in that particular tender;</p> <p>c. Variation in quantities of individual items beyond 150% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.</p> <p>d. Variation to quantities of Minor Value Item: The limit for varying quantities for minor value items shall be 100% (as against 25% prescribed for other items). A minor value item for this purpose is defined as an item whose original agreement value is less than 1 % of the total original contract value.</p> <p>d.(i) Quantities operated upto and including 100% of the agreement quantity of the concerned minor value item, shall be paid at the rate awarded for that item in that particular tender;</p> <p>d.(ii) Quantities operated in excess of 100% but upto 200% of the agreement quantity of the concerned minor value item, shall be paid at 98% of the rate awarded for that item in that particular tender;.</p> <p>d.(iii) Variation in quantities of individual minor value item beyond 200% will be avoided and would be permitted only in exceptional unavoidable circumstances and shall be paid at 96% of the rate awarded for that item in that particular tender.</p> <p>(iv) In case of earthwork items, the variation limit of 25% shall apply to the gross quantity of earthwork items and variation in the quantities of individual classifications of soil shall not be subject to this limit.</p> <p>(v) As far as Standard Schedule of Rates (SSOR) items are concerned, the variation limit of 25% would apply to the value of SSOR schedule(s) as a whole and not on individual SSOR items. However, in case of Non-Standard Schedule of Rates (SSOR) items, the limit of 25% would apply on GCC April 2022 the individual items irrespective of the manner of quoting the rate (single percentage rate or individual item rate).</p> <p>As per Clause No. 42(2) Part-II of GGC-2022 with up to date correction slip.</p>
34.3	<p>Valuation of Variations: The enlargements, extensions, diminution, reduction, alterations or additions referred to in Sub-Clause (2) of this Clause shall in no degree affect the validity of the contract; but shall be performed by the Contractor as provided therein and be subject to the same conditions, stipulations and obligations as if they had been originally and expressively included and provided for in the Specifications and Drawings and the amounts to be paid therefor shall be calculated in accordance with the accepted Schedule of Rates. Any extra items/quantities of work falling outside the purview of the provisions of Sub-Clause (2) above shall be paid for at the rates determined under Clause-39 of these Conditions.</p>

34.4	<p>Rates for Extra Items of Works: Any item of work carried out by the Contractor on the instructions of the Engineer which is not included in the accepted Schedules of Rates shall be executed at the rates set forth in the "CPWD-DSR" modified by the tender percentage, and for such items not contained in the latter, at the rate agreed upon between the Engineer and the Contractor before the execution of such items of work and the Contractors shall be bound to notify the Engineer at least seven days before the necessity arises for the execution of such items of works that the accepted Schedule of Rates does not include rate or rates for the extra work involved. The rates payable for such items shall be decided at the meeting to be held between the Engineer and Contractor, in as short a period as possible after the need for the special item has come to the notice. In case the Contractor fails to attend the meeting after being notified to do so or in the event of no settlement being arrived at, the DFCCIL shall be entitled to execute the extra works by other means and the Contractor shall have no claim for loss or damage that may result from such procedure. The assessment of rates for extra items shall be arrived at based on the prevailing rates and by taking guidance from the following documents in order of priority:</p> <ul style="list-style-type: none"> (i) Analysis of Delhi Schedule of Rates issued by CPWD (ii) Analysis of Unified Schedule of Rates of Indian Railways. (iii) Market Analysis 		
35.0	<p>HANDLING VITIATION DURING VARIATION IN CONTRACT QUANTITIES</p> <p>In partial modification of existing instructions, it has been decided that as a result of variations, a contract shall be considered "vitiating" only when, the following percentage variation in contract value between tenderers are noticed to have been exceeded.</p>		
	S N	Value of contract	Percentage difference bet. Present contractor and new L1 as a result of variation. (Percentage shall be calculated with base as the revised contract quantities multiplied by the rates of the present contractor).
	1	Small value contracts (Tender value less than Rs. 50 lakh)	10
	2	Other than small value contracts (Tender Value equal to or more than Rs. 50 lakh).	5
35.1	<p>When the percentage difference between present Contractor and new L-1 is noticed as becoming beyond the values specified above, the following action shall be taken.</p>		

35.1.1	<p>The DFCCIL administration should immediately examine whether it is practicable to bring in a new agency to carry out the extra quantity of work keeping in view the progress of the work in accordance with the original contract and the nature and layout of the work. If it is found that there will be no serious practical difficulty in meeting the additional quantity of work done by another agency, then fresh tenders for the extra quantity maybe invited otherwise negotiating the rate with the existing contractor for arriving at a reasonable rate for the additional quantities of work, may be adopted.</p>	
35.2	<p>The above shall be regulated as under:</p> <p>(a) The case shall be decided by the tender accepting authority (competent for the revised quantity) and shall not be treated as a case of single tender. The provisions of Railway Board letter No. 2007/CE.I/CT/18/Pt. XII dated 31.12.2010 hereby gets superseded.</p> <p>(b) These instructions will be similarly applicable to earning contracts with H-1, H-2 Substituted for L-1, L-2 and so on.</p> <p>(c) Executives while executing the work shall make all efforts to ensure that no Vitiation takes place in normal circumstances. Vitiation should be exceptions rather than a routine affair. Efforts should be made to invite bids on the basis of percentage above/below/at Par.</p> <p>(d) Vitiation should always be computed with respect to the items, rates, quantities and conditions as available at the time of Tender Opening and subsequent changes/ additions by way of new items will not be counted for computing Vitiation.</p>	
36.0	<p><u>EXTENSION OF TIME WITH LIQUIDATED DAMAGE (LD): FOR DELAY DUE TO CONTRACTOR</u></p> <p>The time for the execution of the work or part of the works specified in the contract documents shall be deemed to be the essence of the contract and the works must be completed not later than the date(s) as specified in the contract. If the Contractor fails to complete the works within the time as specified in the contract for the reasons other than the reasons specified in Clause 17 and 17-B, of Part-II of GCC APRIL-2022, with up to date correction slip the DFCCIL 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 as the Engineer may decide. On such extension the DFCCIL 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.</p> <p>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.</p>	
S. No.	Duration of extension of time under Clause 17-B	Rate of Penalty

	(i)	Up to Twenty Five percent of original period of completion including period of extension of time granted under Section 17A(i)	As decided by Engineer, between 0.01% to 0.05% of contract value for each week or part of the week
	(ii)	Above Twenty Five percent but upto Fifty percent of original period of completion including period of extension of time granted under Section 17A(i)	0.10% of contract value for each week or part of the week
	(iii)	Above Fifty percent of original period of completion including period of extension of time granted under Section 17A (i)	0.30% of contract value for each week or part of the week
<p>Provided further, that if the DFCCIL is not satisfied that the works can be completed by the Contractor and in the event of failure on the part of the contractor to complete the work within further extension of time allowed as aforesaid, the DFCCIL shall be entitled without prejudice to any other right or remedy available in that behalf, to appropriate the contractor's Security Deposit and rescind the contract under Clause 62 of these Conditions, whether or not actual damage is caused by such default.</p> <p>NOTE: In a contract, where extension(s) of time have been allowed once under clause 17B, further request(s) for extension of time under clause 17A can also be considered under exceptional circumstances. Such extension(s) of time under clause 17A shall be without any Liquidated damages, but the Liquidated damages already recovered during extension(s) of time granted previously under clause 17B shall not be waived. However, Price variation during such extension(s) shall be dealt as applicable for extension(s) of time under clause 17B.</p> <p>As per Clause No. 17(B) Part-II of GCC APRIL-2022 with up to date correction slip</p>			
37.0	<p>Quarterly Statement of Claims: The Contractor shall prepare and furnish to the Engineer once in every quarter commencing from the month following the month of issue of Letter of Acceptance, an account giving full and detailed particulars of all claims for any additional expenses to which the Contractor may consider himself entitled to and of all extra or additional works ordered by the Engineer which he has executed during the preceding quarter and no claim for payment for such work will be considered which has not been included in such particulars.</p>		
38.0	<p>Settlement of disputes – Indian Railways Arbitration & Conciliation Rules (As per Clause 63 & 64 and its Sub Clauses GCC APRIL-2022 with up to date correction slip).</p> <p>Conciliation of Disputes:</p> <ol style="list-style-type: none"> 1. This clause is applicable in the tender having advertised value less than or equal to Rs 50 Crore. 2. 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 referred by the 		

	<p>Contractor to the "Chief General Manager" or " General Manager/Co-ord" through "Notice of Dispute" provided that no such notice shall be served later than 30 days after the date of issue of Completion Certificate by the Engineer. Chief General Manager or General Manager/Co-ord shall, within 30 days after receipt of the Contractor's "Notice of Dispute", notify the name of conciliator(s) to the Contractor.</p> <ol style="list-style-type: none"> 3. The Conciliator(s) shall assist the parties to reach an amicable settlement in an independent and impartial manner within the terms of contract. 4. If the parties reach agreement on a settlement of the dispute, they shall draw up and sign a written settlement agreement duly signed by Engineer In-charge, Contractor and conciliator(s). When the parties sign the settlement agreement, it shall be final and binding on the parties. 5. The parties shall not initiate, during the conciliation proceedings, any arbitral or judicial proceedings in respect of a dispute that is the subject matter of the conciliation proceedings. 6. The conciliation proceedings shall be terminated as per Section 76 of 'The Arbitration and Conciliation Act, 1996.
38.1	<p>Matters Finally Determined by the DFCCIL: 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 referred by the Contractor to the CGM/GM-Co-ord and the CGM/GM-Co-ord shall, within 120 days after receipt of the Contractor's representation, make and notify decisions on all matters referred to by the Contractor in writing provided that matters for which provision has been made in Clauses 7(j), 8, 18, 22(5),39.1, 39.2, 40A,43(2), 45(i)(a), 55, 55-A(5), 57, 57A,61(1), 61(2),62(1), 63(iv) and 63.2.11of the Standard General Conditions of Contract or in any Clause (stated as excepted matter) of the Special Conditions of the Contract, shall be deemed as 'excepted matters' (matters not arbitrable)and GCC April 2022 decisions of the DFCCIL authority, thereon shall be final and binding on the Contractor; provided further that 'excepted matters' shall stand specifically excluded from the purview of the Dispute Adjudication Board (DAB) and Arbitration.</p>
39.0	<p>All the Provisions as illustrated in clause 54 to 60 of GCC APRIL-2022, related to 'Labour' shall have to be complied with, by the contractor.</p>
40.0	<p>Accepted Program of Work: The Contractor who has been awarded the work shall as soon as possible but not later than 30 days after the date of receipt of the acceptance letter in respect of contracts with initial completion period of two years or less or not later than 90 days for other contracts have to submit the detailed program of work indicating the time schedule of various items of works in the form of Bar Chart/PERT/CPM. He shall also submit the details of organization (in terms of labour and supervisors), plant and machinery that he intends to utilize (from time to time) for execution of the work within stipulated date of completion. The program of work amended as necessary by discussions with the Engineer, shall be treated as the agreed program of the work for the purpose of this contract and the Contractor shall endeavor to fulfill this program of work. The progress of work will be watched accordingly and the liquidated damages will be with reference to the overall completion date. Nothing stated</p>

	<p>herein shall preclude the Contractor in achieving earlier completion of item or whole of the works than indicated in the program.</p> <p>In Contracts for works of New Line/Gauge Conversion/Doubling/Railway Electrification, finalized through Tenders having advertised value more than Rs.50crores, the Contractor shall submit a detailed time programmed to the Engineer within 30 days after issue of LOA. The program shall include the physical and Financial Progress vis-à-vis program and forecast cash flow adopting Project Management Software such as Primavera/Sure Track/MS Project etc. The program must identify the milestones, interface requirements and program reporting elements. The Contractor shall supply, free of cost one set of authorized software to the Engineer and the soft copy of structured program for the project. This shall be updated every month. The Contractor shall also submit a revised programme whenever the previous programme is inconsistent with actual progress. Each programme shall include:</p> <p>The order in which the Contractor intends to carry out the Works, including the anticipated timing of each stage, Contractor’s Documents, procurement, manufacture of Plant, delivery to Site, construction, erection and testing, each of these stages for work by each Subcontractor, if any, the sequence and timing of inspections and tests specified in the Contract, and a supporting report which includes:</p> <p>a general description of the methods which the Contractor intends to adopt, and of the major stages, in the execution of the Works, and details showing the Contractor’s reasonable estimate for the number of each class of Contractor’s Personnel & Equipment, required on the Site for each major stage.</p> <p>Unless the Engineer, within 21 days after receiving a programme, gives notice to the Contractor stating the extent to which it does not comply with the Contract, the Contractor shall proceed in accordance with the programme, subject to his other obligations under the Contract. The Engineer shall be entitled to rely upon the programme when planning their activities.</p> <p>If, at any time, the Engineer gives notice to the Contractor that a programme fails (to the extent stated) to comply with the Contract or to be consistent with actual progress and the Contractor’s stated intentions, the Contractor shall submit a revised programme to the Engineer within 15 days in accordance with this Sub-Clause.</p> <p>As per Clause No. 19(3) Part-II of GCC APRIL-2022 with up to date correction slip</p>
41.0	<p>Commencement of Works: The Contractor shall commence the works within 15 days after the receipt by him of an order in writing to this effect from the Engineer and shall proceed with the same with due expedition and without delay. The Contractor shall establish a quality control mechanism before execution of the work,</p> <p>(i) Contractor shall submit a QAP “Quality Assurance Plan” for the scope of work to be executed.</p> <p>The QAP shall be submitted within 15 days of the issue of LOA and which shall be approved by the Engineer In charge. The QAP shall extensively include the organization, duties and responsibilities, procedures, inspections, documentation and quality control mechanism</p>

	<p>including sampling and testing of Materials, test frequencies, standards, acceptance criteria, testing facilities, reporting, recording and interpretation of test results, approvals, check list for site activities, and proforma for testing and calibration in accordance with the Specifications and Standards etc.</p> <p>Prior to the commencement of any construction activity, a method statement, proposed to be adopted for executing the Work shall be submitted to Engineer in Charge. The method statement shall include details of material acceptance, execution procedures, checks at various levels, quality parameters, equipment/ machineries, quality assurance, quality control measures, traffic management, inspection checklist, documentation and remedial works etc.</p> <p>As per Clause No. 19(2) Part-II of GCC APRIL-2022 with up to date correction slip</p>
42.0	<p>Workmanship and Testing: The whole of the works and/or supply of materials specified and provided in the contract or that may be necessary to be done in order to form and complete any part thereof shall be executed in the best and most substantial workman like manner with materials of the best and most approved quality of their respective kinds, agreeable to the particulars contained in or implied by the specifications and as referred to in and represented by the drawings or in such other additional particulars, instructions and drawings given during the carrying on of the works and to the entire satisfaction of the Engineer according to the instructions and directions which the Contractors may from time to time receive from the Engineer. The materials may be subjected to tests by means of such machines, instruments and appliances as the Engineer may direct and wholly at the expense of the Contractor</p> <p>As per Clause No. 27(1) Part-II of GCC APRIL-2022 with up to date correction slip</p>
43.0	<p>A. Improvement of Quality in Constructions works – Regarding submission of invoices of materials, the provision of Clause 51 A of GCC is reproduced below :-</p> <p>(i) For a contract of more than one crore of rupees, the Contractor shall, whenever required, produce or cause to be produced for examination by the Engineer any quotation, invoice, cost or other account, book of accounts, voucher, receipt, letter, memorandum, paper of writing or any copy of or extract from any such document and also furnish information and returns verified in such manner as may be required in any way relating to the execution of this contract or relevant for verifying or ascertaining cost of execution of this contract (the decision of the Engineer on the question of relevancy of any documents, information or return being final and binding in the parties).The Contractor shall similarly produce vouchers etc., if required to prove to the Engineer, that materials supplied by him, are in accordance with the specifications laid down in the contract.</p> <p>(ii) If any portion of the work in a contract of value more than one crore of rupees be carried out by a sub-contractor or any subsidiary or allied firm or company (as per Clause 7 of the Standard General Conditions of Contract), the Engineer shall have power to secure the books</p>

	<p>of such sub-contract or any subsidiary or allied firm or company, through the Contractor, and such books shall be open to his inspection.</p> <p>(iii) The obligation imposed by Sub Clause (i) &(ii) above is without prejudice to the obligations of the Contractor under any statute rules or orders binding on the Contractor.</p> <p>(Authority : Rly Bd's letter No.2021/CE-I/CT/SI/1 dated 04.03.2021)</p> <p>(As per Clause No. 51-A of Part-II GCC-2022, with up to date correction slip).</p> <p>B. Post Payment Audit: It is an agreed term of contract that the DFCCIL reserves to itself the right to carry out a post-payment audit and/ or technical examination of the works and the Final Bill including all supporting vouchers, abstracts etc. and to make a claim on the Contractor for the refund of any excess amount paid to him till the release of security deposit or settlement of claims, whichever is later, if as a result of such examination any over-payment to him is discovered to have been made in respect of any works done or alleged to have been done by him under the contract .</p>
<p>44.0</p>	<p>Infringement of patents:</p> <p>The Contractor is forbidden to use any patents or registered drawings, process or pattern in fulfilling his contract without the previous consent in writing of the owner of such patent, drawing, pattern or trade mark, except where these are specified by the Employer himself. Royalties where payable for the use of such patented processes, registered drawings of patterns shall be borne exclusively by the Contractor. The contractor shall advise the Employer of any proprietary right that may exist on such processed drawings or patterns which he may use of his own accord.</p> <p>In the case of patent taken out by the Contractor of the drawings or patterns registered by him, or of those patents, drawings, or patents for which he holds a license, the signing of the Contract automatically gives the Employer the right to repair by himself the purchased articles covered by the patent or by any person or body chosen by him and to obtain from any sources he desires the component parts required by him in carrying out the repair work. In the event of infringement of any patent rights due to above action of the Employer, he shall be entitled to claim damages from the contractor on the grounds of any loss of any nature which he may suffer e.g. in the case of attachment because of counter feiting.</p> <p>Indemnification by contractor:- In the event of any claim or demand being made or action being brought against the Employer for infringement of later patent in respect of any equipment, machine, plant, work or thing used or supplied by the Contractor under this contract or in respect of any methods of using or working by the Employer of such equipment machine, plant work or thing, the contractor shall indemnify the employer and keep him indemnified and harmless against all claims, costs, charges and expenses arising from or incurred by reason of such claim provided that the Employer shall notify the contractor immediately any claim is made and that the contractor shall be at liberty, if he so desires with the assistance of the Employer if required but at the Contractor's expense, to conduct all negotiations for the settlement of the same or any litigation that may arise there from and</p>

	<p>provided that no such equipment, machine, plant work or thing, shall be used by the Employer for any purpose or in any manner other than that for which they have been supplied by the Contractor and specified under this contract.</p>
<p>45.0</p>	<p>Insurance (CAR Policy)-</p> <p>Before commencing of works, it shall be obligatory for the contractor to obtain, at his own cost, insurance cover (CAR policy) in the joint name of the contractor and employer from reputed companies under the following requirements:</p> <p>(A) Liability for death of or injury to any person/ employer's staff / animals or things or loss of or damage to any property / things / the work of other contractor (other than the work) arising out of the performance of the Contract.</p> <p>(B) Construction Plant, Machinery and equipment brought to site by the Contractor.</p> <p>(C) Any other insurance cover as may be required by the law of the land.</p> <p>The contractor shall provide evidence to the employer / Engineer before commencement of work at site that the insurances required under the contract have been effected and shall within 60 days of the commencement date, provide the insurance policies to the Employer/Engineer, the contractor shall, whenever, called upon, produce to the engineer or his representative the evidence of payment of premiums paid by him to ensure that the policies indeed continue to be in force.</p> <p>The Contractor shall also obtain any additional insurance cover as per the requirements of the Contract.</p> <p>The Employer/Engineer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or his sub-contractor or petty contractor / other contractor working there.</p> <p>The Contractor shall indemnify and keep indemnified the employer / Engineer against all such damages and compensation for which the contractor is liable.</p> <p>The Policies of the contractor shall remain in force throughout the period of execution of the works and till the expiry of the defect liability period except for any specific insurance covers necessary for shorter period.</p> <p>If the Contractor fails to effect or keep in force or provide adequate cover as acceptable to the engineer in the insurance policies mentioned above, then in such cases, the engineer may effect and keep in force any such insurance or further insurance on behalf of the Contractor. The recovery shall be made at the rate of 1.5 times the premium/premiums paid by the engineer in this regard from the payment due to the Contractor or from the contractor's Performance security. However, the Contractor shall not be absolved from his responsibility and /or liability in this regard.</p>

46.0	<p>Accident:-</p> <p>(a) The contractor shall, in respect of all staff engaged by him or by his sub- contractor, indemnify and keep the employer at all times indemnified and protected against all claims made and liabilities incurred under Workman’s Compensation Act, the Factories Act and the Payment of Wages Act, and rules made there under from time to time or under any other labour and Industrial Legislation made from time to time.</p> <p>(b) The contractor shall indemnify and keep the employer indemnified and harmless against all actions, suits, claim demands, costs, charges or expenses arising in connection with any death or injury sustained by any person or persons sustained due to the acts or omission of the contractor, his sub-contractors, his agents or his staff during the executions of this contract irrespective of whether such liability arises under the Workman’s Compensation Act, or Fatal Accident Act or any other statute in force for the time being.</p> <p>(c) The contractor’ liability to meet third party claims of the type outlined above will be applicable only in cases where accidents have been caused by workmanship, material, execution or negligence on the part of the contractor.</p> <p>(d) The contractor shall be responsible for all repairs and rectification of damages to completed works or works under execution due to DFCCIL accidents, thefts, pilferage or any other cause, without delay to minimize or to avoid traffic detentions, in a section until the installation are provisionally handed over to the employer.</p>
47.0	<p>GST</p> <p>GST as applicable from time to time on taxable value of each running account bill shall be paid by Contractor. Tenderer should bear the fact in mind while quoting the rates that GST will be paid by Contractor as per prevailing rate as applicable. Documentary evidence of deposition of GST will be produced by contractor for on account bill.</p>
48.0	<p>PERMITS, FEES, TAXES &ROYALTIES</p> <p>Unless otherwise provided in the contract documents, the contractor shall secure and pay for all permits, Government fees and licenses necessary for the execution and completion of the works. The contractor shall pay all taxes and duties.</p> <p>The DFCCIL authorities will not take any responsibility of refund of such taxes/fees. Any violation, in the legal provision of taxes, duties, permits and fees, carried out by the Contractor and detected subsequently shall be sole responsibility of the Contractor and his legal heirs.</p>
49.0	<p>STATUTORY INCREASE IN DUTIES, TAXES ETC.</p> <p>Tenderers will examine the various provisions of the central Goods and services Tax Act, 2017 (CGST)/ Integrated goods and service 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. Tenders will ensure that full benefit of input Tax Credit (ITC) likely to</p>

Tender No.: BRC-EN-TEND-SR-22-23-115

	<p>be availed by them is duly considered while quoting rates.</p> <p>All the taxes and duties levied by the State and Central Govt. and by Local Bodies at the prevailing rates applicable on the date of receipt of tender shall be fully borne by the Contractor and shall not be reimbursed to him on any account. The tender shall be inclusive of all taxes levies as mentioned in 1.7above.</p> <p>Further DFCCIL shall not honour any claim arising out of any increase in any of the prevailing statutory duties, taxes, levies, octroi, etc. At the time of quoting/bidding contractor should bear the above fact in mind. 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 DFCCIL 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.</p>
50.0	<p>EXCISE DUTY OR ANY OTHER TAXES/DUTIES:</p> <p>The contractor shall bear full taxes /duties levied by state government and / or Central Government/ Local bodies from time to time. This would be entirely a matter between the contractor and the State / Central Government/ Local bodies. No claim, what so ever, on this account shall be entertained by DFCCIL.</p>
51.0	<p>ROAD TAX CHARGES:</p> <p>Road Tax/Charges levied by Government for movement of vehicles of contractor, used in transportation, shall be borne by the contractor and no re-imbursement on this account will be made by the DFCCIL.</p>
52.0	<p>FOREIGN EXCHANGE REQUIREMENTS:</p> <p>Any demand of foreign exchange for importing of equipment's and materials shall not be accepted.</p>
53.0	<p>ANTI PROFITEERING CLAUSE: -</p> <p>The contractor should adhere to anti profiteering provisions as per section 171 of the CGST Act. Where due to change in the rates GST/Change in law, the contractor gets any credits/benefits, the same shall be passed on to DFCCIL by way of reduction in prices.</p>
54.0	<p>INTEGRITY PACT:-</p> <p>As per office memorandum no F.No DPE/13(12)/11-Fin Dated 09.09.2011 issued by Ministry of Heavy Industries (DPE) all PSU should enter into Integrity pact in the required proforma in their procurement transaction/ Contracts with suitable changes specific to the situation in which the pact is to be used. The pact, entering into which would be a preliminary qualification for any bidder, essentially envisages an agreement between the prospective vendors / bidders and the DFCCIL, committing the persons/ officials on both sides not to resort to any corrupt practices in any aspect / stage of the contract. A copy of pre contract integrity pact is enclosed as form no 4 for signature of bidder as acceptance, as and when Independent External monitor is appointed.</p>

<p>55.0</p>	<p>TOOLS- Tools required for this work will be arranged by the contractor. a. All the tools and plants as required to execute the work will be arranged by contractor at his cost and nothing extra shall be paid on this account. b. The contractor will ensure reconditioning / repair of the tools and plants at his own cost to keep them fit for use. He will repair the worn out tools at his own cost and nothing extra will be paid on this account. c. The contractor should ensure that labour on work removes their tools clear of the track on the approach of the train. After the day's work the contractor should secure tools in proper tool boxes and in no case the labour be permitted to take tools to their homes. Tools should not be allowed to fall in unwanted hands who can tamper with the Railway/DFCCIL track. In the event of accident at the work site the departmental enquiry will be held and in case it is established that derailment/accident has occurred on account of the contractor's negligence or the negligence of his men, damages as mentioned in the clause of penalty will be recovered.</p>												
<p>56.0</p>	<p>PENALTY – (a) In the event of accident at the work site the departmental enquiry will be held and in case it is established that derailment/accident 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: - Accident involving use of accident Relief train = Rs.50000/- Nominal accident not involving use of accident relief train Rs. 10000/- (b) Penalty for an amount of Rs. 500/- to Rs.2000/- depending on the nature of unsatisfactory service, will be deducted from the due amount in the following conditions: <ul style="list-style-type: none"> • Any undisciplined behavior by the staff. • Discourteous behavior towards any officer or staff of DFCCIL. • Not wearing proper Safety PPE Kit. • Not carrying out the duties listed in the scope of work in a satisfactory Manner. • Damage or stealing of any asset or property of DFCCIL or officers and staff of DFCCIL (c) Penalty for some of the breaches in services will be as follows: -</p> <table border="1"> <thead> <tr> <th>S.N</th> <th>Type of breaches</th> <th>Amount of Penalty</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Staff not in proper PPE Kit.</td> <td>Rs.50/- per staff per day</td> </tr> <tr> <td>2</td> <td>Staff turn up late</td> <td>Rs. 100/- per staff per Hour (After one hour late staff will not be allow to work)</td> </tr> <tr> <td>3</td> <td>Failure to provide replacement in time</td> <td>Rs.100/- per staff per day</td> </tr> </tbody> </table>	S.N	Type of breaches	Amount of Penalty	1	Staff not in proper PPE Kit.	Rs.50/- per staff per day	2	Staff turn up late	Rs. 100/- per staff per Hour (After one hour late staff will not be allow to work)	3	Failure to provide replacement in time	Rs.100/- per staff per day
S.N	Type of breaches	Amount of Penalty											
1	Staff not in proper PPE Kit.	Rs.50/- per staff per day											
2	Staff turn up late	Rs. 100/- per staff per Hour (After one hour late staff will not be allow to work)											
3	Failure to provide replacement in time	Rs.100/- per staff per day											

57.0	<p>WORKING HOURS OF PERSONS/ SUPERVISOR:- Contractor shall provide the staff on all days of the months. The working hours of workman shall be 8 hrs in 24 hours or as specified in the schedule, However, timings may be advised without any overall impact on the period of duty as per DFCCIL requirement.</p>
58.0	<p>DFCCIL not to Provide Quarters for Contractors: No quarters shall normally be provided by the Railway for the accommodation of the Contractor or any of his staff employed on the work. In exceptional cases where accommodation is provided to the Contractor at the Railway's discretion, recoveries shall be made at such rates as may be fixed by the Railway for the full rent of the buildings and equipment's therein as well as charges for electric current, water supply and conservancy.</p>
59.0	<p>In case the services of the Contractor are not found satisfactory, or there is a breach of any of the terms & conditions of the contract and/or fails/neglects to carry out any instruction issued to it by DFCCIL from time to time the same can be terminated by DFCCIL on giving of a notice of one month. In case of unsatisfactory performance of the contract, a warning letter will be issued to the Contractor. In case corrective action is not taken, DFCCIL shall have the right to terminate the agreement without any further notice. Unsatisfactory service in this case would be frequent absence or poor attendance of workman, inability to provide replacement, lackadaisical work in maintaining cleanliness, indiscipline in the premises (which includes taking alcohol, using foul language, getting involved in objectionable activities, etc.) or any other non-compliance of the provisions of the Agreement.</p> <p>The Contractor shall not terminate the services of hired staff unilaterally. In case any hired staff is proposed to be replaced/ terminated by the Contractor, such action should be taken only with approval of DFCCIL.</p>
60.0	<p>SITE OFFICE: - The Contractor shall establish the camp office at site and keep on the works at all times efficient and competent staff to give the necessary directions to his workmen and to see that they execute their work in sound proper manner and shall employ only such supervisors, workmen & laborers in or about the execution of any of these works as are careful and skilled in the various trades. The Camp office shall be completely equipped for office working with provision of sufficient T&Ps, Office Equipment, accessories including advance version of PCs, printer, Fax, mail, phone etc and also with facilities like sitting, drinking water etc. The area of the office and facilities required must be sufficient enough to ensure effective office working at site office itself without any difficulties and issues. Suitable site on railway land, if conveniently available, may be allowed to the contractor for setting up the site office, site laboratory, either free of charge or on such terms and conditions that may be prescribed by DFCCIL.</p>

**SPECIAL CONDITIONS
OF CONTRACT
(SAFETY PRECAUTIONS)**

PART-V

SPECIAL CONDITIONS OF CONTRACT

(SAFETY PRECAUTIONS)

1.0	<u>MEASURES TO BE ENSURED PRIOR TO START OF WORK</u>
1.1	The contractor shall not start any work without the presence of DFCCIL supervisors at site.
1.2	The methodology in detail for execution of the work at site shall be approved by engineering in charge of the organization executing the work and copies of the same shall be available with contractor's supervisor, DFCCIL supervisor of the section in whose jurisdiction the work falls.
1.3	Before permitting the execution of certain works like earthwork in formation, bridge work, supply of ballast, transportation of rails, sleepers and other material, track linking, platform/any other civil work close to the running track etc. for new/existing rail lines, gauge conversion, doubling, traffic facility work, ROB/RUB, DFCCIL engineer-in-charge (APM/DPM/PM/Dy. CPM) of the section shall ensure that he received the prior intimation/confirmation of the following aspects from representative of contractor.
1.4	Name and address of the contract assigned to execute the work.
(i)	Name of the Contractor's supervisor
(ii)	Name of the supervisor/assistant engineer/assistant officer of the construction organization/other organizations who are going to be site in charge/in charge of work site.
(iii)	List of the number(s) of individual vehicle(s)/ machineries, names and license particulars of the driver(s) proposed to be used by contractor.
(iv)	Information regarding location, duration and timings during which the vehicles/machinery are planned to be plied/worked.
(v)	The supervisors and operators of the contractor proposed to be deployed at work site which is close to the running track, shall be imparted training by the DFCCIL trainer at contractor own cost about the safety measures to be adopted while working in the vicinity of running track. Further competency certificate to the individual supervisors/operator shall be issued as in Annexure-A by a DFCCIL officer not below the rank of Assistant level officer who is in charge of site. No supervisor/operator of the contractor shall work or allowed to work in the vicinity of running track who is not possession of valid competent certificate.
(vi)	Survey of site by supervisor of contractor and DFCCIL to assess the precautions to be taken at site for working of trains and materials required for protection.
(vii)	Written advice to sectional APM/DPM about the detailed planning of work including protection of track and safety measures proposed to be adopted.
(viii)	A copy of the approved methodology (to be approved by engineer in charge) proposed to be adapted by the contractor with a view to ensure safety of trains passengers and workers.
(ix)	Assurance that the methods and arrangements are actually available at site before start of the work and the contractors supervisors and the workers have clearly understood the safety aspects and requirement to be adapted/followed while executing the work.
(x)	An assurance register has been kept at site duly signed by both DFCCIL supervisor as well as by the contractor supervisor as a token of their having understood the safety precautions to be observed at site.

Tender No.: BRC-EN-TEND-SR-22-23-115

(xi)	No work shall which is to be done near running track shall commence unless permitted by sectional APM/DPM/PM/Dy.CPM
(xii)	Supplementary site specific instructions, wherever considered necessary shall be issued by the Engineer in Charge
(xiii)	Standard Check list on Safety at Work Sites shall be used to ensure that all the requisite measures have been taken before start of work.
2.0	<u>PLYING OF ROAD VEHICLES AND WORKING OF MACHINERIES CLOSE TO RUNNING TRACKS</u>
(i)	Normally, the road vehicles shall be run or machinery shall be worked so as not to come closer than 6.0m from center line of nearest running track.
(ii)	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 DFCCIL'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.
(iii)	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.
a.	In no case the road vehicle shall run or machinery shall work at distance less than 3.5m from center line of track.
b.	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 center line of nearest running track.
c.	Presence of an authorized DFCCIL's representative shall be ensured before plying of vehicle or working of machinery.
d.	DFCCIL'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.
e.	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. Lookout man shall be deputed for Safety at Work Sites.
f.	On curves where visibility is poor, additional lookout men shall be posted.
(iv)	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:
a.	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 DFCCIL's Supervisor shall be ensured at worksite.
c.	DFCCIL'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.
(v)	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 DFCCIL's representative. The road vehicle driver shall always face the DFCCIL track during the course

	of turning/reversing his vehicle. Presence of an authorized DFCCIL representative shall be ensured at such location.
(vi)	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 DFCCIL's representative and where adequate lighting arrangements are made and where adequate precautions as mentioned earlier have been ensured.
(vii)	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.
3.0	<u>EXECUTION OF WORKS CLOSE TO OR ON RUNNING LINES</u> Any work close to or on running tracks shall be executed under the presence of a DFCCIL's Supervisor only.
(i)	Precaution to be taken to ensure safety of trains while execution of work close to the running line or on running lines.
(a)	Contractor has deputed trained supervisors in required number at worksites duly certified by APM/DPM/PM/Dy. CPM in charge of the works.
(b)	Drivers of vehicle/operators of the machines have been briefed about the safety and precautions to be taken while moving / working close to traffic.
(c)	Contractor shall ply road vehicles/working of machinery only between sunset and sunrise. In case of emergency where it is necessary to work during night hours sufficient lighting shall be ensured in the complete work area for the safety of public and passengers. Also additional staff shall be posted as necessary for night working and taking safety precautions.
(d)	The contractor shall not change the approved vehicle/machinery and driver/operator for working at site. Contractor shall not induct any new vehicle/machinery and driver/operator without prior written approval of APM/DPM and the list of such changes with numbers of individual vehicle, name and license particulars of the driver shall be given to APM/DPM/PM/Dy. CPM of the section.
(e)	Contractor shall ensure that road vehicle/machinery ply/work in a way so that these do not infringe the line of demonstration.
(f)	Lookout men with required safety equipment shall be posted where necessary.
(g)	In unusual circumstances, where operator apprehends danger to track while working truck/machinery near running track, following action shall be taken.
a)	The contractor/supervisor/vehicle operator immediately advice the situation to DFCCIL official/officials of the organization executing the work and assist him/them in protecting the track.
b)	Protection shall be done as done for other emergencies
(h)	Individual vehicle/machinery shall not be left unattended at site of work. If it is unavoidable and becomes necessary to stable the road vehicle/machinery at site near the running track, these shall be properly secured against any possible roll off and always be manned even during non-working hours. In addition, the road vehicle / machinery should be stabled parallel to track only so that incase of failure of any securing arrangement, it may not roll towards the track.

Tender No.: BRC-EN-TEND-SR-22-23-115

(i)	All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimensions do not infringe. Necessary checks shall be exercised by site in charge from time to time.
(j)	During the hours of night, lamps of temporary indicators which are not of reflective type should be lit at sun-set and kept burning till sun rise, where trains run at night.
(ii)	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.
(iii)	Precaution to be taken during execution of works requiring traffic blocks.
a)	Any work, which infringes the moving dimensions or causes discontinuity in the track any activity making the existing track unsafe for passage of trains etc. Shall be started only after the traffic block has been imposed, DFCCIL servant in charge of the work is present at the worksite, engineering signals are exhibited at specified distance and flagmen are posted with necessary equipment to man them etc
b)	Before closing the work, the track shall be left with the proper track geometry so that the trains run safely and flagmen are kept in the night with safety and track protection equipment to patrol the stretch and take action to protect the track, if so warranted and inform the DFCCIL supervisors.
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.
(iv)	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 day time work should be strictly observed during night working.
(v)	Precautions to be taken to ensure safety of workers while working close to running lines.
a)	Any work close to or on running tracks shall be executed under the presence of a DFCCIL'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.
	(i) Such works shall be planned and necessary drawings particularly with regard to infringement to moving dimensions shall be finalized duly approved by competent

	<p>authority before execution of work. The work shall be executed only as per approved procedure and drawings.</p> <p>(ii) All temporary arrangements required to be made during execution of work shall be made in such a manner that moving dimension do not infringe.</p> <p>(iii) Suitable speed restriction shall be imposed or Traffic block shall be ensured as required.</p> <p>(iv) The site shall be protected as per provisions of Para No. 806 & 807 of P. Way Manual as case may be.</p> <p>(v) Necessary equipment for safety of trains during emergency shall be kept ready at site.</p>
c)	A 'first aid kit' shall always be kept ready at site.
(vi)	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.
(vii)	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 DFCCIL's representative and contractor's representative.
b)	The selected locations shall be marked by lime in advance.
c)	Presence of an authorized DFCCIL'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.
(viii)	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 APM/DPM/PM/Dy. CPM. 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.
(ix)	<u>SAFETY ASPECTS TO BE OBSERVED WHILE WORKING IN OHE AREA</u>
(a)	No electrical work close to running track shall be carried out without permission of DFCCIL 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
(g)	If disconnected for the work, they are reconnected properly when the work is completed.
(h)	The track level is not raised beyond the permissible limit during the work.
4.0	<u>PROTECTION OF TRACK DURING EMERGENCY</u>
(i)	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. 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 DFCCIL official of such danger and assist him in protection of track. 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 after which he shall further proceed for not less than 1200m from the place of obstruction from BG 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. Attempts shall also be made to send an advice to nearest DFCCIL station about the incident immediately.
(ii)	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.
(iii)	Action to 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. The protection shall be done in that direction and on that track first on which train is likely to arrive first.
c)	The Contractor's Supervisors, Operators and lookout men shall be properly explained about the direction of trains on running tracks.
(iv)	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. DFCCIL will arrange to provide detonators, whereas Contractor shall arrange other equipment at his own cost.
(v)	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 DFCCIL's Supervisor.
d)	In case, it is felt necessary to provide lookout men by DFCCIL, the charges for the same as fixed by DFCCIL Administration shall be recovered from Contractor.
5.0	<u>TRAINING TO SUPERVISORS AND OPERATORS OF CONTRACTOR</u>
	<p>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 DFCCIL at site free of cost 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 DFCCIL training institute, the charges for the same, as decided by DFCCIL, shall be recovered from contractor. A competency certificate to this effect to the individual Supervisor/ Operator shall be issued as given below by a DFCCIL Officer not below the rank of Project Manager. 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.</p> <p>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 DFCCIL, charges at the rate of Rs. 500/- per man day shall be recovered from Contractor.</p>

<p>6.0</p>	<p><u>SPECIAL CONDITIONS FOR WORKING OF ROAD CRANES</u> To ensure safe working of road cranes used in works in connection with provision of ROB/RUB/Subways, following items shall invariable be ensured before putting the cranes to use:-</p> <ul style="list-style-type: none"> (i) No machine shall be selected to do any lifting on a specific job until its size and characteristics are considered against the weights, dimensions and lift radii of the heaviest and largest loads. (ii) The contractor shall ensure that a valid Certificate of Fitness is available before use of Road Cranes. (iii) Contractors should utilize the services of any competent person as defined in Factories Act, 1948 and approved by Chief Inspector of Factories. (iv) The laminated photocopies of fitness certificate issued by competent persons, the operators' photo, manufacturer's load chart and competency certificate shall always be either kept in the operator cabin or pasted on the visible surface of the lifting appliances. (v) All lifting appliances including all parts and gears thereof, whether fixed or movable shall be thoroughly tested and examined by a competent person once at least in every six months or after it has undergone any alterations or repairs liable to affect its strength or stability.
<p>7.0</p>	<p>Contractor shall indemnify DFCCIL against any loss/damage to public property, travelling public, DFCCIL or his own staff due to his (contractor's) negligence. In case there is any mishap, a fact finding inquiry will be conducted by DFCCIL. A show cause notice will be issued to the contractor, in case he is prima-facie held responsible. Contractor's reply to show cause notice will be considered by the Engineer in Charge before taking final decision. In case contractor is found responsible for the mishap, recovery from him will be affected for only tangible direct losses.</p>
	<p style="text-align: center;"><u>Competency Certificate</u></p> <p>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 DFCCIL track for the work _____. His knowledge has been found satisfactory and he is capable of supervising the work safely.</p> <p>This certificate is valid only for the work mentioned in this certificate only.</p> <p style="text-align: right;">Signature and designation of the officer</p>

**SPECIAL CONDITIONS
OF CONTRACT
(TECHNICAL) &
TECHNICAL
SPECIFICATION**

PART-VI

SPECIAL CONDITIONS OF CONTRACT (TECHNICAL) & TECHNICAL SPECIFICATION

SPECIAL CONDITIONS OF CONTRACT (TECHNICAL)

Dedicated Freight Corporation of India (DFCCIL) is a Public Sector Undertaking under the administrative control of Government of India (Ministry of Railways) for construction, maintenance and operation of the Dedicated Rail Freight Corridors. At present the company is undertaking construction of Eastern & Western corridors and has its corporate office at New Delhi and Field Units at various cities.

1.0 For the purpose of this tender in DFCCIL technical specifications is being provided. However, for the purpose of items in DFCCIL stipulations and conditions as specified in CPWD standard specification as amended/corrected up to latest correction will be applicable, copies of which can be seen in the office of CGM, DFCCIL, Vadodara office.

- i) This Tender shall be governed by Preamble and General instructions to tenderers, General condition of Contract, Special conditions of contract, Technical Specifications, Additional Technical specifications (if any), Drawings, Forms, Annexures, etc.
- ii) If there are varying or conflicting provisions in the documents forming part of the contract, Engineer shall be deciding authority with regard to the intentions of the provision and decision of Engineer will be final and binding on the contractor.
- iii) Scheme of work: - Within a period of 10 days beginning from the date of issue of Letter of Acceptance of Tender, the Contractor shall submit the detailed time schedule for execution of work and various documents enumerated in tender papers to the employer.

2.0 GENERAL GUIDELINES REGARDING DRAWINGS & INSTRUCTION: -

- (a) All the work to be executed as per approved drawings.
- (b) The GAD Drawing will be provided by DFCCIL.
- (c) The contractor shall submit the detailed drawing of structure duly prepared by structural engineer with CAD file prior to start of the work. The detailed working drawings shall may have to be got approved by IIT/NIT/Govt Engg. College as per the instructions of engineer-in-charge For this work nothing extra shall be paid to the contractor.

3.0 IMPORTANT CONSIDERATIONS, INSPECTION /PRECAUTIONS: -

Such structure or parts of the structure which fail or pass the specified tests, shall be removed from the site by the tenderer/contractor at his cost and the contractors shall redo the work. Payments made on account of the rejected structure/part structure work shall be recovered from the contractor and the work will be redone by him at the same rates.

FOR SCHEDULE "A"

ITEM NO. NS/01/A (26117C SOR R&B, Surat)- Clearing and grubbing site /road/land including uprooting all vegetation grass, bush shrubs sapling and tress with girth removal of stumps of trees of girth of all size including removing stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials as directed by Engineer

with all leads and lifts etc. complete as per specification before commencement and after completion of work.

1. Before starting the work, the site shown on plans shall be cleared of all obstructions, loose stones and materials, rubbish of all kinds as well as all trees and brush wooden
2. except those marked for preservation, the roots being entirely grubbed up. No trees are to be cut down before obtaining the instruction from Engineer-in- Charge.
3. In jungle clearing, all trees, not specifically marked for preservation, bamboos, jungle wood and brush wood shall be cut down, their roots rubbed up. All wood and material available shall be stacked as directed by the Engineer-in-charge.
4. All holes or hollows, whether originally or produced by digging up roots shall be carefully filled up with earth, well rammed and levelled up neatly as directed.
5. After completion of the work, but before its acceptance, the site shall be cleared of all scaffolding, surplus materials and rubbish etc. as per contract. No extra payment shall be made for site.
6. The rate for this item of work shall be for the complete job and shall be paid at the lump sum rate tendered for the work on completion of the entire work
7. The stuff obtained from clearance shall be stacked in such a place and in such a manner as ordered by the Engineer-in-charge and the ground shall be left in a perfectly clean condition.

Measurements for Payment

Clearing the site before commencement and after completion of the work shall be measured on L.S. basis in terms of Job.

Acceptance

Acceptance of clearing the site before commencement and after completion of the work shall be based on visual inspection of the work for compliance with the above specifications to the satisfaction of the Engineer.

Rate

1. The Contract unit rates for the Clearing the site before commencement and after completion of the work

shall be paid/payable in full for carrying out the required operations including full compensation for all labour, materials, tools, equipment and incidentals necessary to complete the work. These will also include removal of stumps and roots of trees less than 300 mm in girth as well as stumps left over after cutting of trees carried out by another agency of the Contractor or Government, excavation and backfilling to required density, where necessary, and handling, salvaging, piling and disposing of the cleared materials with all lifts and up to a lead of 1000 m.

2 The Contract unit rate for clearing the site before commencement and after completion of the work is on Job basis.

ITEM NO. NS/02/A- (26B004B SOR R&B, Surat)- Earth work for embankment for SUBGRADE with CBR 7.0 % is including breaking clods, dressing with all lead and lift and including watering, rolling and consolidation of subgrade in layers at O.M.C. to required dry density, including filling the depressing, which occurs during the process using power roller of 8 tonne to 10 tonne all as per specification. From borrow area 5km lead.

EMBANKMENT

CONSTRUCTION GENERAL:

Description: These Specifications shall apply to the construction of embankments including sub grades, earthen shoulders and miscellaneous backfills with approved materials obtained from contractor's own earth. No railway land / Gujarat State land to be used as source of earth, contractor shall arrange own earth. All embankments, sub grades, earthen shoulders and miscellaneous backfills shall be constructed in accordance with the requirements of these specifications and in conformity with the lines, grades, and cross-sections shown on the drawings or as directed by the Engineer.

MATERIALS AND GENERAL REQUIREMENTS

Physical requirements:

The materials used in embankments sub grades, earthen shoulders and miscellaneous back fills shall be soil, murrum, gravel a mixture of these or any other material approved by the Engineer. Such materials shall be free of logs, stumps, roots, rubbish or any other ingredient likely to deteriorate or affect the stability of the embankment sub grade.

The following types of material shall be considered unsuitable for embankment:

- (a) Materials from swamps, marshes and bogs;
- (b) Peat, log, stump and perishable material and soil that classifies as OL, O1, OH or Pt in accordance with IS: 1498
- (c) Materials susceptible to spontaneous combustion
- (d) Materials in a frozen condition
- (e) Clay having liquid limit exceeding 70 and plasticity index exceeding 45; and
- (f) Materials with salts resulting in leaching in the embankment.

Expansive clay exhibiting marked swell and shrinkage, properties ("free swelling index" exceeding 50 percent when tested as per IS:2720-Part 40) shall not be used as a fill material. Where an expansive clay with acceptable "free swelling index" value is used as a fill material, sub grade and top 500 mm portion of the embankment just below sub grade shall be non-expansive in nature.

Any fill material with a soluble sulphate content exceeding 1.9 grams of sulphate (expressed as S03) per litter when tested in accordance with BS:1377 Test 10, but using a 2: 1 water-soil ratio shall not be & deposited within 500 mm or other distance described in the Contract, of concrete, cement bound materials or other cementitious materials forming part of the Permanent Works.

Materials with a total sulphate content (expressed as S03) exceeding 0.5 per cent by mass, when tested in accordance with BS: 1377 Test 9 shall not be deposited within 500 mm, or other distances described in the contract, of metallic items forming part of the Permanent Work

The size of the coarse material in the mixture of earth shall ordinarily not exceed 75mm when being placed in the embankment and 50 mm when placed in the sub grade. However the Engineer may at his discretion permit the use of material coarser than this also. If he is Satisfied that the same will not present any difficulty as regards the placement of fill material and its compaction to the requirements of these specifications.

The maximum particle size shall not be more than two third of the compacted layer thickness.

Ordinarily, only the materials satisfying the density requirements given in MORTH Table 300-1 shall be employed for the Construction of the embankment and the sub grade.

MORTH TABLE 300-1:- DENSITY REQUIREMENTS OF EMBANKMENT AND SUBGRADE MATERIALS

Type of work	Maximum Laboratory dry unit weight when tested as per IS:2720(part 8)
Embankments up to. 3 meters height, not subjected to extensive flooding.	Not less than 15.2 kN/cum.
Embankments exiting 3 meters height of embankments of any height subject to long period of inundation	Not less than 16.0 kN/cum.
Sub grade and earthen shoulders/ Verges/backfill	Not less than 17.5 kN/cu.m.

Notes:

- (1) This Table is not applicable for lightweight fill materials e.g. cinder, fly ash etc.
- (2) The Engineer may relax these requirements at his discretion taking into account the availability of materials for construction and other relevant factors.
- (3) The materials to be used in sub grade should also. Satisfy design CBR at the dry unit weight Applicable as per Table 300-2 of MORT&H.

GENERAL REQUIREMENTS:

The materials for embankment shall be obtained from approved sources with preference given to materials becoming available from nearby roadway excavation or any other excavation under the same Contract.

The work shall be so planned and executed that the best available materials are saved for the sub grade and the embankment portion just below the sub grade.

Borrow materials: Where the materials are to be obtained from designated borrow areas, the location, size and shape of these areas shall be as indicated by the Engineer and the same shall not be opened without his written permission. Where specific borrow areas are not designated by the Employer/the Engineer, arrangement for locating the source of supply of materials for embankment and sub grade as well as compliance environmental requirements in respect of excavation and borrow areas as stipulated from time to time by the Ministry of Environment and Forests, Government of India and the local bodies as applicable, shall be the sole responsibility of the Contractor.

Borrow pits along the road shall be discouraged. If permitted by the Engineer, these shall not be dug continuously. Ridges of not less than 8 m width should be left at intervals not exceeding 300m. Small drains shall be cut through the ridges to facilitate drainage.

The depth of the pits shall be so regulated that their bottom does not cut an imaginary line having a slope of 1 vertical to 4 horizontals projected from the edge of the final section of the bank, the maximum depth in any case being limited to 1.5 m. Also, no pit shall be dug within the offset width from the toe of the embankment required as per the consideration of stability with a minimum width of 10m.

Haulage of material to embankments or other areas of fill shall proceed only when sufficient spreading and compaction plant is operating at the place of deposition.

No excavated acceptable material other than surplus to requirements of the Contract shall be removed from the site. Should the contractor be permitted to remove acceptable material from the site to suit his operational procedure, and then he shall make good any consequent deficit of material arising there from.

Where the excavation reveals a combination of acceptable and unacceptable materials, the Contractor shall, unless otherwise agreed by the Engineer, carry out the excavation in such a manner that the acceptable materials are excavated separately for use in the permanent works without contamination by the unacceptable materials. The acceptable materials shall be stockpiled separately.

The Contractor shall ensure that he does not adversely affect the stability of excavation or fills by the methods of stockpiling materials, use of plants or sitting of temporary buildings or structures.

The Contractor shall obtain representative samples from each of the identified borrow areas and have these tested at the site laboratory following a testing programme approved by the Engineer shall be ensured that the sub grade material when compacted to the density requirements as in MORTH Table 300-2 shall yield the design CBR value of the sub grade.

MORTH TABLE 300-2:-COMPACTION REQUIREMENTS FOR EMBANKMENT AND SUB GRADE

	Type of work/material	Relative compaction as percentage of max.laboratory dry density as per IS:2720 (part 8)
	Sub-grade and earthen shoulders	Not less than 97%
	Embankment	Not less than 95%
	Expansive clay	
	a) Sub grade and 500 mm portion Just below the sub- grade	Not allowed.
	b) Remaining portion of embankment	90-95%

The Contractor shall at least 7 working days before commencement of compaction submit the following to the Engineer for approval:

- ① The value of maximum dry density and optimum content obtained in accordance with IS: 2720 (part 8), appropriate for each of the fill materials he intends to use.
 - ① A graph of density plotted against moisture content from which each of the values in
 - (i) above of maximum dry density and optimum moisture content were determined.
 - (ii) The Dry density-moisture content-CBR relationships for light, intermediate and heavy comp active efforts (light corresponding to IS: 2720 (part 7), heavy corresponding to IS: 2720(part 8) and intermediate in-between the two) for each of the fill materials he intends to use in the Sub grade.
- Once the above information has been approved by the Engineer, it shall form the basis for compaction.

CONSTRUCTION OPERATIONS:

Setting Out: After the site has been cleared to Clause 201, the work shall be set out to Clause 301.3. 1. The limits of embankment/sub grade shall be marked by fixing batter pegs on both sides at regular intervals as guides before commencing the earthwork. The embankment/sub grade shall be built sufficiently wider than the design dimension so that surplus material may be trimmed; ensuring that the remaining material is to be desired density and the position specified and conforms to the specified side slopes.

Dewatering: If the foundation of the embankment is in an area with stagnant water, and in the opinion of the Engineer it is feasible to remove it, the same shall be removed by bailing out or pumping, as directed by the Engineer and the area of the embankment foundation shall be kept dry. Care shall be taken to discharge the drained water so as not to cause damage to the works, crops or any other property. Due to

any negligence on the Part of the Contractor, if any such damage is caused, it shall be the sole responsibility of the Contractor to repair restore it to original condition or compensate the damage at his own cost.

If the embankment is to be constructed under water, MORTH Clause 305.4.6 shall apply.

Stripping and Storing top soil: In localities where most of the available embankment materials are not conducive to plant growth, -or when so directed by the Engineer, the topsoil from all areas of cutting and from all areas to be covered by embankment foundation shall be stripped to specified depths not exceeding 150 mm and stored in stockpiles of height not exceeding 2 m for covering embankment slopes, cut slopes and other disturbed areas where re-vegetation is desired. Topsoil shall not be unnecessarily trafficked either before stripping or when in a stockpile Stockpiles shall not be surcharged or otherwise loaded and multiple handling shall be kept to a minimum.

Compacting ground supporting embankment Sub grade: Where necessary, the original ground shall be levelled to facilitate placement of first layer of embankment, scarified, mixed with water and then compacted by rolling so as to achieve minimum dry density as given in MORTH Table 300-2.

In case where the difference between the sub grade level (Top of the sub grade on which pavement rests) and ground level is less than 0.5 m and the ground does not have 97 per cent relative compaction with respect to the dry density as given in MORTH Table 300-2, the ground shall be loosened up to a level 0.5 m below the sub grade level, watered and compacted in layers in accordance with MORTH Clauses 305.3.5 and 305.3.6 to not less than 97 per cent of dry density as given in Table 300-2.

Where so directed by the Engineer, any unsuitable material occurring in the embankment foundation shall be removed and replaced by approved materials laid in layers to the required degree of compaction.

Embankment or sub grade work shall not proceed until the foundations for Embankment/sub grade have been inspected by the Engineer for satisfactory condition and approved.

Any foundation treatment specified for embankments especially high embankments, resting on suspect foundations as revealed by borehole logs shall be carried out in a manner and to the depth as desired by the Engineer. Where the ground on which an embankment is to be built has any of the, material types (a) to (f) in MORTH Clause 305.2.1, at least 500 mm. of such material must be removed and replaced by acceptable fill material before embankment construction commences.

Spreading material in layers and bringing to appropriate moisture content

The embankment and sub grade material shall be spread in layers of uniform thickness not exceeding 200mm.compacted thickness over the entire width of embankment by mechanical means, finished by a motor grader and compacted as per MORTH Clause 305.3.6. The motor grader blade shall have hydraulic control suitable for initial adjustment and maintain the same so, as to achieve the specific slope and grade. Successive layers shall not be placed until the layer under construction has been thoroughly compacted to the specified requirements as in MORTH Table 300-2 and got approved by the Engineer. Each compacted layer shall be finished parallel to the final cross-section of the embankment.

Moisture content of the material shall be checked at the site of placement prior to commencement of compaction; if found to be out of agreed limits, the same shall be made good. Where water is required to be added in such constructions, water shall be sprinkled from a water tanker fitted with sprinkler capable of

applying water uniformly with a controllable rate of flow to variable widths of surface but without any flooding. The water shall be added uniformly and thoroughly mixed in soil by balding, dicing or harrowing until uniform moisture content is obtained throughout the depth of the layer.

If the material delivered to the roadbed is too wet, it shall be dried, by aeration and exposure to the sun, till the moisture content is acceptable for compaction. Should circumstances arise, where owing to wet weather, the moisture content cannot be reduced to the required amount by the above procedure, compaction work shall be suspended. Moisture content of each layer of soil shall be checked in accordance with IS: 2720. (Part, 2), and unless otherwise mentioned, shall be so adjusted, making due allowance for evaporation losses, that at the time of compaction it is in the range of 1 per cent above to 2 per cent below the optimum moisture content determined in accordance with IS:2720 (Part 7) or IS: 2720 (part 8) as the case may be. Expansive clays shall however, be compacted at moisture content corresponding to the specified dry density, but on the wet side of the optimum moisture content obtained, from the laboratory compaction curve.

After adding the required amount of water, the soil shall be processed by means of graders, harrows, rotary mixers or as otherwise approved by the Engineer until the layer is uniformly wet clods or hard lumps of earth shall be broken to have a maximum size of 75 mm when being placed in the embankment and a maximum size of 50 mm when being placed in the sub grade.

Embankment and other areas of fill shall, unless otherwise required in the Contract or permitted by the Engineer, be constructed evenly over their full width and their fullest possible extent and the Contractor shall control and direct construction plant and other vehicular traffic uniformly over them. Damage by construction plant and other vehicular traffic shall be made good by the Contractor with material having the same characteristics and strength as the material had before it was damaged.

Embankments and other areas of unsupported fills shall not be constructed with steeper side slopes, or to greater widths than those shown in the Contract, except to permit adequate compaction at the edges before trimming back, or to obtain the final profile following any settlement of the fill and the underlying material.

Whenever fill is to be deposited' against the face of a natural slope, or sloping earthworks face including embankments, cutting, other fills and excavations steeper than 1 vertical on 4 horizontal, such faces shall be benched as per MORTH Clause 305.4.1 immediately before placing the subsequent fill.

All permanent faces of side slopes of embankments and other areas of fill formed shall, subsequent to any trimming operations, be reworked and sealed to the satisfaction of the Engineer by tracking a tracked vehicle, considered suitable by the Engineer, on the slope or any other method approved by the Engineer.

Compaction: Only the compaction equipment approved by the Engineer shall be employed to compact the different material types encountered during construction. Vibratory rollers of suitable size and capacity as approved by the Engineer shall be used for the different types and grades of materials required to be compacted either individually or in suitable combinations.

The compaction shall be done with the help of vibratory roller of 80 to 100 kN static weight with plain or pad foot drum or heavy pneumatic tyred roller of adequate capacity capable of achieving required compaction.

The Contractor shall demonstrate the efficacy of the equipment he intends to use by carrying out compaction

trials. The procedure to be adopted for this site trials shall first be submitted to the Engineer for approval. Each layer of the material shall be thoroughly compacted to the densities specified in MORTH Table 300-2. Subsequent layers shall be placed only after the finished layer has been tested according to MORTH Clause 903.2} and accepted by the Engineer. The Engineer may permit measurement of field dry density by a nuclear moisture/density gauge used in accordance with agreed procedure and the gauge is calibrated to provide results identical to that obtained from tests in accordance with IS: 2720 (Part 28). A record of the same shall be maintained by the Contractor.

When density measurements reveal any soft areas in the embankments /sub grade /earthen shoulders, further compaction shall be carried out as directed by the Engineer. If in spite of that the specified compaction is not achieved, the material in the soft areas shall be removed and replaced by approved material, compacted to the density requirements and satisfaction of the Engineer.

Drainage: The surface of the embankment/ sub grade at all times during construction shall be maintained at such a cross fall (not flatter than that required for effective drainage of an earthen surface) as will shed water and prevent ponding.

Repairing of damages caused by rain/spillage of water

The soil in the affected portion shall be removed in such areas as directed by the Engineer before next layer is laid and refilled in layers and compacted using appropriate mechanical means such as small vibratory roller, plate compactor or power rammer to achieve the required density in accordance with MORTH Clause 305.3.6 If the cut is not sufficiently wide for use of required mechanical means for compaction, the same shall be widened suitably to permit their use for proper compaction. Tests shall be carried out as directed by the Engineer to ascertain the density requirements of the repaired area. The work of repairing the damages including widening of the cut, if any, shall be carried out by the Contractor at his own cost, including the arranging of machinery/equipment for the purpose.

Finishing operations:

Finishing operations shall include the work of shaping and dressing the shoulders/verge/roadbed and side slopes to conform to the alignment, levels, and cross sections and dimensions shown on the drawings' or as directed by the Engineer subject to the surface tolerance described in MORTH Clause 902. Both the upper and lower ends of the side slopes shall be rounded off to improve appearance and to merge the embankment with the adjacent terrain.

The topsoil, removed and conserved earlier (MORTH Clause 301.3.2 and 305.3.3) shall be spread over the fill slopes as per directions of the Engineer to facilitate the growth of vegetation. Slopes shall be roughened and moisture slightly prior to the application of the topsoil in order to provide satisfactory bond. The depth of the top soil shall be sufficient to sustain plant growth, the usual thickness being from 75 mm to 150 mm.

Where directed, the slopes shall be turfed with sods in accordance with MORTH Clause 307. If seeding and mulching of slopes is prescribed, this shall be done to the requirement of MORTH Clause 308.

Construction of Embankment and sub grade under special conditions, Earthwork for widening existing road embankment:

When an existing embankment and/or sub grade is to be Widened and its slopes are steeper than 1 vertical

on 4 horizontal, continuous horizontal benches, each at least 300 mm wide, shall be cut into the old slope for ensuring adequate bond with the fresh embankment/sub grade material to be added. The material obtained from cutting of benches could be utilized in the widening of the embankment/sub grade. However, when the existing slope against which the fresh material is to be placed is flatter than 1 vertical on 4 horizontals, the slope surface may only be ploughed or scarified instead of resorting to benching.

Where the width of the widened portions is insufficient to permit the use of conventional rollers, compaction shall be carried out with the help of small vibratory rollers/plate compactors/power rammers or any other appropriate equipment approved by the Engineer. And dumping of material from trucks for widening operations shall be avoided except in difficult circumstances when the extra width is too narrow to permit the movement of any other types of hauling equipment.

Earthwork for embankment and sub grade to be placed against sloping ground:

Where an embankment /sub grade to be place against sloping ground, the latter shall be appropriately benched or ploughed/scarified as required in MORTH Clause 305.4.1 before placing the embankment /sub grade material. Extra earthwork involved in benching or due to ploughing /scarifying etc. shall be considered incidental to the work.

For wet conditions, benches with slightly inward fall and subsoil drains at the lowest point shall be provided as per the drawings, before the fill is placed against sloping ground.

Where the contract requires construction of transverse subsurface drain at the cut-fill interface, work on the same shall be carried out to MORTH Clause 309 in proper sequence with the embankment and sub grade work as approved by the Engineer.

Earthwork over existing road surface:

Where the embankment is to be placed over an existing road surface, the work shall be carried out as indicated below,

- (i) If the existing road surface is of granular or bituminous type and lies within 1 m of the new sub grade level, the same shall be scarified to a depth of 50 Rm or more if specified, o as to provide ample bond between the old and new material ensuring that at least 500 mm portion below the top of new sub grade level is compacted to the desired density.
- (ii) If the existing road surface is of cement concrete type and lies within 1 m of the new sub grade level the same shall be removed completely.
- (iii) If the level difference between the existing road surface and the new formation level is more than 1 m. the existing s surface shall be permitted to stay in place without any modification.

Embankment and sub grade around structures:

To avoid interference with the construction of abutments, wing walls or return walls of culvert/bridge structures, the Contractor shall, at points to be determined by the Engineer suspend work on embankment forming approaches to such structures, until such time as the construction of the latter is sufficiently advanced to permit the completion of approaches without the risk of damage to the structure.

Unless directed otherwise, the filling around culverts, bridges and other structures up to a distance of twice

the height of the road from the back of the abutment shall be carried out independent of the work on the main embankment. The fill material shall not be placed against any abutment or wing wall, unless permission has been given by the Engineer but in any case, not until the concrete or masonry has been in position for 14 days. The embankment and sub grade shall be brought up simultaneously in equal layers on each side of the structure to avoid displacement and unequal pressure. The sequence of work in this regard shall be got approved from the Engineer.

The material used for backfill shall not be all' organic soil or highly plastic clay having plasticity index and liquid limit more than 20 and 40 respectively when tested according to IS: 2720 (part 5) .Filling behind abutments and wing walls for all structures shall conform to the general guidelines given in Appendix 6 of IRC: 78 (Standard Specifications and Code of Practice for Road Bridges-Section VII) in respect of the Just below the sub grade type of material, the extent of backfill, its laying d compaction etc. The fill material shall be deposited in horizontal layers in loose thickness and compacted thoroughly to the requirements of MORTH Table 300-2.

Where the provision of any filter medium is specified behind the abutment, the same shall be laid in layers simultaneously with the laying of fill material. The material used for filter shall conform to the requirements for filter medium spelt out in MORTH Clause 2502/309.3.2 (B) unless otherwise specified in the Contract.

Where it may be impracticable to use conventional rollers, the compaction shall be carried out by appropriate mechanical means such as small vibratory roller, plate compactor or power rammer. Care shall be taken to see that the compaction equipment does not hit or come too close to any structural member so as to cause any damage to them or excessive pressure against the structure.

Construction of embankment over ground incapable of supporting construction equipment

Where embankment is to be constructed across ground which will not support the weight of repeated heavy loads of construction equipment, the first layer of the fill may be constructed by placing successive loads of material in a uniformly distributed layer of a minimum thickness required to support the construction equipment as permitted by the Engineer. The Contractor, if so desired by him, may also use suitable geo synthetic material to increase the bearing capacity of the foundation. This exception to normal procedure will not be permitted where, in the opinion of the Engineer, the embankments could be constructed in the approved manner over such ground by the use of lighter or modified equipment after proper ditching and drainage have been provided. Where this' exception is' permitted, the selection of the material and the construction procedure to obtain an acceptable layer shall be the responsibility of the Contractor. The cost of providing suitable traffic conditions for. Construction equipment over any area of the Contract will be the responsibility of the Contractor and no extra payment will be made to him. The remainder of the embankment shall be constructed as specified in MORTH Clause 305.3.

Embankment construction under water:

Where filling or backfilling is to be placed under water, only acceptable granular material or rock shall be used unless otherwise approved by the Engineer. Acceptable granular material shall consist of graded, hard durable 'particles with maximum particle size not exceeding 75mm. The material should be non-plastic having uniformity coefficient of not less than 10. The material placed in open water shall be deposited' by end

tipping without compaction.

Earthwork for high Embankment:

In the case of high embankments, the Contractor shall normally use the material from the specified borrow area. In case he desires to use different material for his own convenience, he shall have to carry out necessary soil investigations and redesign the high embankment at his own cost. The contractor shall then furnish the soil test data and design of high embankment for approval of the Engineer, who reserves the right to accept or reject it if necessary, stage construction of fills and any controlled rates of filling shall be carried out in accordance with the Contract including installation of instruments and its monitoring.

Where required, the contractor shall surcharge embankments or other areas of fill with approved material for the periods specified in the Contract. If settlement of surcharged fill results in any surcharging Material, which is unacceptable for use in the fill being surcharged, laying below formation level, the Contractor shall remove the unacceptable material and dispose it as per direction of the Engineer. He shall then bring the resultant level up to formation level with acceptable materials.

Settlement period: - Where settlement period is specified in the Contract, the embankment shall remain in place for the required settlement period before excavating for abutment, wing wall, retaining wall, footings, etc. or driving foundation piles. The duration of the required settlement period at each location shall be as provided for in the contract or as directed by the Engineer.

Rolling and watering of earth work in layers with power roller including filling in depression which occur during the process.

1. For spreading materials in layers and bringing the appropriate moisture content, the embankment materials shall be spread uniformly over the entire width of the embankment in layers not exceeding 250mm in loose thickness, Successive layers of embankment shall not be placed until the layer under construction has been thoroughly compacted to the requirements set down here under Moisture content of the materials shall be checked at the source of supply and if found less than that specified for compaction; the same shall be made good either at the source or after spreading the soil in loose thickness for compaction. In the latter case, water shall be sprinkled directly from a hose line or from a truck mounted water tank and flooding shall not be permitted under any circumstances.

If the materials delivered to the road bed is too wet it shall be dried, by evaporation and exposure to the sun, till the moisture content is brought down to acceptable standard for compaction should circumstances arise, where owing to wet weather, the moisture content cannot be reduced to the required level by the above procedure. Work of compaction shall be suspended.

Moisture content of each layer of soil shall be checked in accordance with IST 2720 (Part-II) and unless otherwise mentioned shall be so adjusted, making due allowance for evaporation losses, that at the time of the compaction it is in the range of 1 percent to 2 percent below the optimum Moisture content determined in accordance with ISI (Part-VII). Highly expansive clays shall however be compacted at 2 to 4 percent above the optimum moisture content.

After adding the required amount of water, the soil shall be processed by means, of harrows. Rotary mixers or as otherwise approved until the layer is uniformly wet. Clods or hard lumps of earth shall be broken to have maximum size of 150mm when being placed lower layers of the embankment and a maximum size of

60mm when being placed in the top 0.5 meter portion of the embankment below the sub grade.

Hauling equipment shall be dispersed uniformly over entire surface of the previously constructed layer to minimize cutting of uneven compaction.

Where the embankment is to be constructed on low area ground that will not support the weight of trucks of other hauling equipment the lower part of the fill should be constructed by dumping successive loads in a uniformly distributed layers of a thickness not greater than that necessary to support the hauling equipment while placing subsequent layers.

2.COMPACTION: Only compacting equipment approved by the Engineer-in-charge shall be employed to compact the materials. The contractor shall demonstrate the efficiency of the plants he intends to use for carrying out compaction trials.

Each layer of the materials shall be thoroughly compacted to the densities specified in Table below:

Table :-

Type of Work / Materials	Field dry density/MDD as percentage of maximum laboratory dry density as per IS : 2720 (Part VII)
Top 0.5-meter portion of embankment below sub grade level and shoulders	Not less than 97.
Other portion of embankment	Not less than 95.
Highly expensive class	85 to 90.

Subsequent layers shall be placed only after finished layer has been tested according to M.O.S.T. specification clause 902 and accepted by the Engineer-in-charge.

When density measurements reveal any soft areas in the embankment further compaction shall be carried out as directed by the Engineer-in-charge. If insight of that the specified compaction is not achieved, the materials in the soft areas shall be removed and replaced by approved materials and compacted to the density requirement, to the satisfaction of the Engineer-in-charge.

3.The contract unit rate includes cost of mechanical roller required for consolidation including all labour equipment fuel, hire charges, tolls, and incidentals necessary.

Plying of Traffic:

Construction and other vehicular traffic shall not use the prepared surface of the embankment and/or sub grade without the prior permission of the Engineer. Any damage arising out of such use shall, however, be made good by the Contractor at his own expense as directed by the Engineer.

Surface Finish and Quality Control of Work:

The surface finish of construction of sub grade shall conform to the requirements of MORTH Clause 902. Control on the quality of materials and works shall be exercised in accordance with MORTH Clause 903.

Sub grade Strength:

It shall be ensured prior to actual execution that the borrow area material to be used in the sub grade satisfies the requirements of design CBR.

Sub grade shall be compacted and finished to the design strength consistent with other physical requirements. The actual laboratory CBR values of constructed sub grade shall be determined on undisturbed samples cut out from the compacted sub grade in CBR mould fitted with cutting shoe or on remoulded samples, compacted to the field density at the field moisture content.

MEASUREMENTS FOR PAYMENT:

Earth embankment/ sub grade construction shall be measured separately by taking cross sections at intervals in the original position before the work starts and after its completion and computing the volumes of earthwork in cubic meters by the method of average end areas.

The measurement of fill material from borrow areas shall be the difference between the net quantities of compacted fill and the net quantities of suitable material brought from roadway and drainage excavation. For this purpose, it shall be assumed that one cum. of suitable material brought to site from road and drainage excavation forms one cum. of compacted fill and all bulking or shrinkage shall be ignored.

Construction of embankment under water shall be measured in cum.

Construction of high embankment with specified material and in specified manner shall be measured in cum.

Stripping including storing and reapplication of topsoil shall be measured in Cum.

Work involving loosening and re-compacting of ground supporting embankment /sub grade shall be measured in cum.

Removal of unsuitable material at embankment/sub grade foundation and replacement with suitable material shall be measured in Cum.

Scarifying existing granular /bituminous road surface shall be measured in Square meters.

Dismantling and removal of existing cement concrete pavement shall be measured vide MORTH Clause 202.6.

Filter medium and backfill material behind abutments, wing walls and other retaining structures shall be measured as finished work in position in cum.

RATES:

The Contract unit rates for the items of embankment and sub grade construction shall be payment in full for carrying out the required operations including full compensation for:

- (i) Cost of arrangement of land as a source of supply of material of required quantity for construction, unless provided otherwise in the contract.
- (ii) Setting out.
- (iii) Compacting ground supporting embankment/sub grade except where removal and replacement of unsuitable material or loosening and re-compacting is involved;
- (iv) Scarifying or cutting continuous horizontal benches 300mm wide on slopes of existing embankment

- and sub grade as applicable;
- (v) Cost of watering or drying of material in borrow areas and/or embankment and sub grade during construction as required.
 - (vi) Spreading in layers, bringing to appropriate moisture content and compacting to specification requirements
 - (vii) Shaping and dressing top and slopes of the embankment and subgrade including rounding of corners;
 - (viii) Restricted working at sites of structures
 - (ix) Working on narrow width or embankment and sub grade;
 - (x) Excavation in all soils from borrow pits/designated borrow areas in jungle Clearing and grubbing and transporting the material to embankment sub grade site with all lifts and leads unless otherwise provided for contractor.
 - (xi) All labour, material, tools, equipment and incidentals necessary to com etc. the work to the Specifications;
 - (xii) Dewatering and
 - (xiii) Keeping the embankment/completed formation free of water as per Clause 311.

In case the Contract unit rate specified is inclusive of all leads, the unit rate for transporting material beyond the initial lead, as specified in the contract for construction of embankment and sub grade shall be inclusive of full compensation for all labour, equipment, tools and incidentals necessary on account of the additional haul or transportation involved beyond the specified initial lead.

ITEM NO. NS/03/A (26161 SOR R&B, Surat)- Road marking with hot applied thermoplastic compound with reflectorizing glass beads on road surface providing and laying hot applied thermoplastic compound 2.5 CM thick including reflectorizing glass bends @ 250 gms /sqmt area thickness of surface applied glass bend as per IRC .35 the finished surface to be level uniform and free from streaks and holes.

General: Hot Applied Thermoplastic Road Marking.

1. The work under this section consists of marking traffic stripes using a thermoplastic compound meeting the requirements specified herein.
2. The Thermoplastic compound shall be screened / extruded on to the pavement surface in a molten state by suitable machine capable of controlled preparation and laying with surface application of glass beads at a specific rate. Upon cooling to ambient pavement temperature, it shall be producing an adherent pavement marking of specified thickness and width and capable of resisting deformation by traffic.
3. The color of the compound shall be white or yellow (IS: color No. 356) as specified in drawings or as directed by the Engineer.
4. Where the compound is to be applied to cement concrete pavement sealing primer as recommended by the manufacture, shall be applied to the pavement in advance of placing of the stripes to ensure proper bonding of the compound. On new concrete surface any laitance and / or curing compound shall be removed before the marking are applied.

THERMOPLASTIC MATERIALS GENERAL:

The thermoplastic material shall be homogeneously composed of aggregate, pigment, resins and glass reflector zing beads.

REQUIREMENT:

Composition: the pigment, beads and aggregate shall be uniformly dispersed in the resin. The material shall be free from all skins, dirt and foreign objects and shall comply with requirements indicated in Table 800 – 3.

MORTH Table 800 – 3 PROPORTIONS OF CONSTITUENTS OF MARKING MATERIAL (percentage by weight)

Component	White	Yellow
Binder	18.00 min.	18.00 min.
Glass Beads	30 – 40	30 – 40
Titanium Dioxide	10.00 min.	- - -
Calcium Carbonate and Inert Fillers	42.00 max	See Note
Yellow Pigments	- - -	- do -

Note: Amount of yellow pigment, calcium carbonate and inert fillers shall be at the option of the manufacturer, provide all other requirement of this Specification are met.

- I. Properties: The properties of thermoplastic material, when tested in accordance with ASTM D36/ BX-3262- (Pa. T1) shall be as below:
 - (a) **Luminance:**
White: Daylight luminance at 45 degrees 65 per cent min. as per AASHTO M 249.
 - (b) **Drying time:** When applied at a temperature specification by the manufactures and to the required thickness, the material shall set to bear traffic in not more than 15 minutes.
 - (c) **Skid resistance:** not less than 45 as per BS 6044.
 - (d) Cracking resistance at low temperature: The material shall show no cards on application to concrete blocks.
 - (e) **Softening point:** 102.5 ' 9.5ll as per ASTM D 36.
 - (f) **Flow resistance:** Note more than 25 per cent as per AASHTO M 249.
 - (g) Yellowness index (for white thermoplastic paint) not more than 0.12 as per AASHTOM 249.
- II. **Storage life:** The materials shall meet the requirement of their Specifications for period of one year. The thermoplastic material must also melt uniformly with no evidence of skins of un-melted particles

for the one-year storage period. Any material not meeting the above requirements shall be replaced by the manufacturer/ supplier/ contractor.

- III. **Reflectorizing:** Shall be achieved by incorporation of beads, the grading and other properties of the beads shall be as specified in Clause 803.4.3 of MORT & H Specification.
- IV. **Marking:** Each container of the thermoplastic material shall be clearly and indelibly marked with the following information.
 - (a) The name, trademark or other means of identification of manufacturer.
 - (b) Batch number.
 - (c) Date of manufacture.
 - (d) Color (White or Yellow)
 - (e) Maximum application temperature and maximum safe heating temperature.
- V. **Sampling and testing:** The thermoplastic material shall be sampled and tested in accordance with the appropriate ASTM/BS method. The Contractor shall furnish to the Employer a copy of certified test report from the manufacturer of the thermoplastic material showing results of all tests specified therein and shall certify that the materials meets all requirements of this Specification.

REFLECTORIZING GLASS BEADS GENERAL:

This Specification covers two types of glass beads to be used for to production of reflectorized pavement markings. Type 1 beads are those which are a constituent of the basic thermoplastic compound vide Table 800 – 3 and type – 2 beads are those which are to be sprayed on the surface vide Clause 803.6.3.

The glass beads shall be transparent, colorless and free from milliness, dark particles and excessive air inclusions.

These shall conform to the requirements spelt out in clause 5.4.3.3.

SPECIFIC REQUIREMENTS.

A. GRADATION:

The glass beads shall meet the graduation requirements for the two types as given in MORTH Table 800 – 4.

MORTH TABLE 800-4 GRADATION REQUIREMENT FOR GLASSBEADS

Sieve Size	Per Cent Retained	
	Table – 1	Table – 2
1.18 mm	0 to 3	--
850 microns	5 to 20	0 to 5
600 microns	--	5 to 20
425 microns	65 to 95	--

300 microns	--	30 to 75
180 microns	0 to 10	10 to 30
Below 180 microns		0 to 15

B. ROUNDNESS:

The glass beads shall have a minimum of 70 per cent true spheres.

C. REFRACTIVE INDEX:

The glass beads shall have a minimum refractive index of 1.50.

D. FREE FLOWING PROPERTIES:

The glass beads shall be free of hard lumps and clusters and shall dispense readily under any condition suitable for paints striping. They shall pass the free flow-test.

TEST METHODS:

The specific requirement shall be tested with the following methods.

- I. Free-flow test: Spread 100grams of beads evenly in a 100 mm diameter glass dish. Place the dish in a 250 mm inside diameter desiccators which is filled within 25 mm of the top of a desiccators plate with Sulphur acid water solution (specific gravity 1.10) Cover the desiccators and let is stand for 4 hours at 20 to 29- degree C. Remove Sample from desiccators, transfer beads to a pan and inspect for lumps of clusters. Then pour heads into a clean dry glass funnel having a 100 mm stem and 6 mm orifice. If necessary, initiate flow by lightly tapping the funnel. The glass spheres shall be essentially free of lumps and clusters and shall flow freely through the funnel.
- II. The requirements of gradation, roundness and refractive index of glass beds and the amount of glass beads in the compound shall be tested as per BS 6088 and BS 3262 (Part 1).
- III. The Contractor shall furnish to the Employer a copy of certified test report from the manufacturer of glass beads obtained from a reputed laboratory showing results of all tests specified therein and shall certify that material meets all requirements of this Specification. However, if so required, these tests may be carried out as directed by the Engineer in charge.

APPLICATION PROPERTIES OF THERMOPLASTIC MATERIAL

The thermoplastic materials shall readily get screed / extruded at temperatures specified by the manufacturers for respective method of application to produce a line of specified thickness which shall be continuous and uniform in shape having clear and share edges.

The materials upon heating to application temperatures shall not exude fumes which are toxic. Obnoxious of injurious to person's property.

PREPARATION:

- I. The material shall be melted in accordance with the manufacturer 's instructions in a heater fined with a

mechanical stirrer to give a smooth consistency to the thermoplastic materials to avoid local overheating. The temperature of the mass shall be within the range specified by the manufacturer, and shall on no account be allowed to exceed the maximum temperature started by the manufacturer. The molten material should be used as expeditiously as possible and for thermoplastic materials. Which has natural binders or is otherwise sensitive to prolonged heating the materials shall be maintained in a molten condition for more than 4 hours.

II. After transfer to the laying equipment, the material shall be maintained within the temperature range specified by the manufacturer for achieving the desired consistency for laying.

PROPERTIES OF FINISHED ROAD MARKING:

- (a) The stripe shall be not be slippery when wet.
- (b) The marking shall not lift from the pavement in freezing weather.
- (c) After application and proper drying the stripe shall show no appreciable deformation or discoloration under traffic and under road temperature upto 60 C.
- (d) The marking shall be deteriorated by contact with sodium chloride calcium chloride or oil drippings from traffic.
- (e) The stripe of marking shall maintain its original dimensions and position. Cold ductility of the material shall be such as to permit normal movement with the road surface without chopping or cracking.
- (f) The colour of yellow marking shall conform to IS Colour No. 356 as given in IS : 164.

REFLECTORISED PAINT:

Reflectorized paint, if used shall conform to the specification by the manufacturers and approved by the engineer. Reflectorizing glass beads for reflectorizing paints where used shall conform to the requirements of Clause 5.3.

APPLICATION

Marking shall be done by machine. For locations where painting cannot be done machine, approved manual methods shall be used with prior approval of the Engineer. The Contractor shall maintain control over traffic while painting operations are in progress so as to cause minimum inconvenience to traffic compatible with protecting the workmen.

The thermoplastic materials shall be applied hot either by screening or extrusion process. After transfer to the laying apparatus, the material shall be laid at a temperature within the range specified by the manufacturer for the particular method if laying being used. The paint shall be applied using a screed or extrusion machine.

The pavement temperature shall be less than 10 C. during application. All surface to be marked shall be thoroughly cleaned of all dust, dirt, grease, oil and all other foreign matter before application of the paint.

The material, when formed into traffic stripes, must be readily renewable by placing on overlay of new material directly over an old line of compatible material. Such new material shall so bend itself to the old line that no splitting or separation takes place.

Thermoplastic paint shall be applied in intermittent or continuous lines of uniform thickness of at least 2.5 mm unless specified otherwise. Where arrows or letters are to be provided, thermoplastic compound may be hand-sprayed. In addition to the beads included in the material, a further quantity of glass beads of Type 2, conforming to the above noted specification shall be sprayed uniformly into a mono layer on to the hot paint line quick succession of the paint spraying operation. The glass beads shall be applied at the rate of 250 grams per square meter area.

The minimum thickness specified in exclusive of surface applied glass beads. The method of thickness measurement shall be in accordance with Appendices B and C of BS- 3262 (Part 3).

The finished lines shall be free from ruggedness on sides and ends and be parallel to the general alignment of the carriageway. The upper surface of the lines shall be level, uniform and free from streaks.

MEASUREMENT FOR PAYMENT.

The painted marking shall be measured in sq. meters of actual area marked (excluding the gaps. If any). In respect of markings line directional arrows and lettering. Etc., the measurement shall be in Square meter basis.

Rate

The contractor unit rate for road markings shall be payment in full compensation of furnishing all labour, materials, tools, equipment, including all incidental costs necessary for carrying out the work at the site conforming to these specifications complete as per the approved drawing (s) or as directed by the Engineer and other incidental cost necessary to complete the work to these Specifications.

ITEM NO. NS/04/A (26092B SOR R&B, Surat)- Providing and fixing Cautionary Sign Board made out of 2mm aluminum sheet, size 90 x 90 x 90 cms equilateral triangle, as per the design of IRC- 67-2015. Pre-treated with phosphating process and acid etching coated with one coat of epoxy primer and two coats of best quality epoxy paint, reflectorized with retro reflective sheeting as per the latest M.O.S.T. specification, 3.1 Mt. long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm; painted with best quality epoxy coating in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 cms for each leg, including excavation curing etc. complete under the supervision of Engineer-In-Charge (B) High Intensity grade.

MORTH 801.1. General

MORTH 801.1.1. The colour, configuration, size and location of all traffic signs for highways other than Expressways shall be in accordance with the Code of Practice for Road Signs, IRC: 67 or as shown on the drawings. For Expressways, the size of the signs, letters and their placement shall be as specified in the Contract drawings and relevant Specifications. In the absence of any details or for any missing details, the signs shall be provided as directed by the Engineer.

MORTH 801.1.2. The signs shall be either reflectorized or non-reflectorized as shown on the drawings or as directed by the Engineer. When they are of reflectorized type, they shall be of retro-reflectorized type and made of encapsulated lens type reflective sheeting vide Clause 801.3, fixed over aluminum sheeting as

per these Specifications.

MORTH 801.1.3. In general, cautionary and mandatory signs shall be fabricated through process of screen printing. In regard to informatory signs with inscriptions, either the message could be printed over the reflective sheeting, or cut letters of non- reflective black sheeting used for the purpose which must be bonded well on the base sheeting as directed by the Engineer.

MORTH 801.2. Materials

The various materials and fabrication of the traffic signs shall conform to the following requirements:

MORTH 801.2J. Concrete: Concrete shall be of the grade shown on the Contract drawings or otherwise as directed by the Engineer.

MORTH 801.2.2. Reinforcing steel: Reinforcing steel shall conform to the requirement of IS:1786 unless otherwise shown on the drawing.

MORTH 801.2.3. Bolts, nuts, washers: High strength bolts shall conform to IS : 1367 whereas precision bolts, nuts, etc., shall conform to IS: 1364.

MORTH 801.2.4. Plates and supports: Plates and support sections for the sign posts shall conform to IS: 226 and IS: 2062 or any other relevant IS Specifications.

MORTH 801.2.5. Aluminum: Aluminum sheets used for sign boards shall be of smooth, hard and corrosion resistant aluminums alloy conforming to IS : 736-Material designation 24345 or 1900. 311

MORTH 801.2.6. Signs with a maximum side dimension not exceeding 600 mm shall not be less than 1.5 mm thick. All others shall be at least 2 mm thick. The thickness of the sheet shall be related to the size of the sign and its support and shall be such that it does not bend or deform under the prevailing wind and other loads.

MORTH 801.2.7. In respect of sign sizes not covered by IRC:67, the structural details (thickness, etc.) shall be as per the approved drawings.

MORTH 801.3. Traffic Signs Having Retro-reflective Sheeting

MORTH 801.3.1. General requirements: The retro-reflective sheeting used on the sign shall consist of the white or colored sheeting having a smooth outer surface which has the property of retro-reflection over its entire surface. It shall be weather-resistant and show colour fastness. It shall be new and unused and shall show no evidence of cracking, scaling, pitting, blistering, edge lifting or curling and shall have negligible shrinkage or expansion. A certificate of having tested the sheeting for these properties in an unprotected outdoor exposure facing the sun for two years and its having passed these tests shall be obtained from a reputed laboratory, by the manufacturer of the sheeting. The reflective sheeting shall be either of Engineering Grade material with enclosed lens or of High Intensity Grade with encapsulated lens. The type of the sheeting to be used would depend upon the type, functional hierarchy and importance of the road.

MORTH 801.3.2. High intensity grade sheeting: This sheeting shall be of encapsulated lens type consisting of spherical glass lens, elements adhered to a synthetic resin and encapsulated by a flexible, transparent water-proof plastic having a smooth surface. The retro-reflective surface after cleaning with soap and water and in dry condition shall have the minimum co-efficient -of retro-reflection (determined in accordance with ASTM Standard E : 810) as indicated in Table 800-1.

MORTH TABLE 800.1. ACCEPTABLE MINIMUM COEFFICIENT OF RETRO. REFLECTION FOR HIGH INTENSITY GRADE SHEETING (CANDELAS PER LUX PER SQUARE METRE)

Observation Angle (In degrees)	Entrance Angle (In degrees)	White	Yellow	Orange	Green / Red	Blue
0.2	-4	250	170	100	45	20
0.2	+30	150	100	60	25	11
0.5	-4	95	62	30	15	7.5
0.5	+30	65	45	25	10	5.0

When totally wet, the sheeting shall not show less than 90 per cent of the values of retro reflectance indicated in Table 800-1. At the end of 7 years, the sheeting shall retain at least 75 per cent of its original retro-reflectance.

MORTH 801.3.3. Engineering grade sheeting: This sheeting shall be of enclosed lens type consisting of microscopic lens elements embedded beneath the surface of a smooth, flexible, transparent, water-proof plastic, resulting in a non-exposed lens optical reflecting system. The retro reflective surface after cleaning with soap and water and in dry condition shall have the minimum coefficient of retro- reflection (determined in accordance with ASTM Standard: E-S'IO) as indicated in Table 800-2.

MORTH TABLE 800.2. ACCEPTABLE MINIMUM COEFFICIENT OF RETRO.REFLECTION FOR ENGINEERING GRADE SHEETING (CANDELAS PER LUX PER SQUARE METRE)

Observation Angle (In degrees)	Entrance Angle (In degrees)	White	Yellow	Orange	Green	Red	Blue
0.2	-4	70	50	25	9.0	14.5	4.0
0.2	+30	30	22	7.0	3.5	6.0	1.7
0.5	-4	30	25	13.5	4.5	7.5	2.0
0.5	+30	15	13	4.0	2.2	3.0	0.8

When totally wet, the sheeting shall not show less than 90 per cent of the values, of retro-reflection indicated in Table SOO-2. At the end of 5 years, the sheeting shall retain at least 50 per cent of its original retro-reflectance.

MORTH 801.3.4. Messages/borders: The messages (legends, letters, numerals etc.) and borders shall either be screen-printed or of cut-outs. Screen printing shall be processed and finished with materials and in a manner specified by the sheeting manufacturer. Cut-outs shall be of materials as specified by the sheeting manufacturer and shall be bonded with the sheeting in the manner specified by the manufacturer.

MORTH 801.3.5. For screen-printed transparent coloured areas on white sheeting, the co-efficient of retro-reflection shall not be less than 50 per cent of the values of corresponding colour in Tables SOO-I and 800-2, as applicable.

MORTH 801.3.6. Cut-out messages and borders, wherever used, shall be made out of retro-reflective sheeting (as per Clause S01.3.2 or S01.3.3 as applicable), except those in black which shall be of non-reflective sheeting.

MORTH 801.3.7. Colour: Unless otherwise specified, the general colour scheme shall be as stipulated in IS : 5 "Colour for Ready Mixed Paints", viz.

Blue-	IS	Colour	No. 166:	French Blue
Red -	IS	Colour	No. 537:	Signal Red
Green -	IS	Colour	No. 284:	India Green
Orang-	IS	Colour	No. 591:	Deep Orange.

The Colours shall be durable and uniform in acceptable hue when viewed in day light or under normal headlights at night.

MORTH 801.3.8. Adhesives: The sheeting shall, either have a pressure sensitive adhesive of the aggressive-tack type requiring no heat, solvent or other preparation for adhesion to a smooth clean surface, or a tack free adhesive activated by heat, applied in a heat-vacuum applicator, in a manner recommended by the sheeting manufacturer. The adhesive shall be protected by an easily removable liner (removable by peeling without soaking in water or other solvent) and shall be suitable for the type of material of the base plate used for the sign. The adhesive shall form a durable bond to smooth, corrosion and weather resistant surface of the base plate such that it shall not be possible to remove the sheeting from the sign base in one piece by use of sharp instrument. In case of pressure-sensitive adhesive sheeting, the sheeting shall be applied in accordance with the manufacturer's Specifications. Sheetting with adhesives

requiring use of solvents or other preparation for adhesive shall be applied strictly in accordance with the manufacturer's instructions.

MORTH 801.3.9. Refurbishment: Where existing signs are specified for refurbishment, the sheeting shall have a semi-rigid aluminum backing pre-coated with aggressive-tack type pressure sensitive adhesive. The adhesive shall be suitable for the type of material used for the sign and should thoroughly bond with that material..

MORTH 801.3.10. Fabrication:

MORTH 801.3.10.1. Surface to be reflectorized shall be effectively prepared to receive the retro-reflective sheeting. The aluminum sheeting shall be de-greased either by acid or hot alkaline etching and all scale/dust removed to obtain a smooth plain surface before the application of retro reflective sheeting. If the surface is rough, approved surface primer may be used. After cleaning, metal shall not be handled, except by suitable device or clean canvas gloves, between all cleaning and preparation operation and application of

reflective sheeting/primer. There shall be no opportunity for metal to come in contact with grease, oil or other contaminants prior to the application of retro- reflective sheeting.

MORTH 801.3.10.2. Complete sheets of the material shall be used on the signs except where it is unavoidable; at splices, sheeting with pressure sensitive adhesives shall be overlapped not less than 5 mm. Sheeting with heat-activated adhesives may be spliced with an overlap not less than 5 mm or butted with ~ gap not exceeding 0.75 mm. Where screen printing with transparent colours is proposed, only butt jointing shall be used. The material shall cover the sign surface evenly and shall be free from twists, cracks and folds. Cut-outs to produce legends and borders shall be bonded with the sheeting in the manner specified by the manufacturer.

MORTH 801.3.11. Warranty and durability: The Contractor shall obtain from the manufacturer a seven-year warranty for satisfactory field performance including stipulated retro-reflectance of the retro-reflective sheeting of high intensity grade and a five-year warranty for the adhesive sheeting of engineering grade. and submit the same to the Engineer. In addition, a seven year and a five-year warranty for satisfactory in-field performance of the finished sign with retro-reflective sheeting of high intensity grade and engineering grade respectively, inclusive of the screen printed or cut out letters/legends and their bonding to the retro-reflective sheeting shall be obtained from the Contractor/supplier and passed on to the Engineer. The Contractor/supplier shall also furnish a certification that the signs and materials supplied against the assigned work meets all the stipulated requirements and carry the stipulated warranty.

Processed and applied in accordance with recommended procedures, the reflective material shall be weather resistant and, following cleaning, shall show no appreciable discoloration, cracking, blistering or dimensional change. and shall not have less than 50 per cent of the specified minimum reflective intensity values (Tables 800-1 and 800- 2) when subjected to accelerated weathering for 1000 hours, using type E or EH Weather meter (AASHTO Designation M 268).

MORTH 801.4. Installation

MORTH 801.4.1. Sign posts, their foundations and sign mountings shall be so constructed as to hold these in a proper and permanent position against the normal storm wind loads or displacement by vandalism. Normally, signs with an area upto 0.9 sq. m. shall be mounted on a single post, and for greater area two or more supports shall be provided. Sign supports may be of mild steel, reinforced concrete or galvanized iron (G.I). Post- end(s) shall be firmly fixed to the ground by means of properly designed foundation. The work of foundation shall conform to relevant Specifications as specified.

MORTH 801.4.2. All components of signs and supports, other than the reflective portion and OJ. posts shall be thoroughly descaled, cleaned, primed and painted with two coats of epoxy paint. Any part of mild steel (M.S.) post below ground shall be painted with three coats of red lead paint.

MORTH 801.4.3. The signs shall be fixed to the posts by welding in the case of steel posts and by bolts and washers of suitable size in the case of reinforced concrete or GI posts. After the nuts have been tightened, the tails of the bolts shall be furred over with a hammer to prevent removal.

MORTH 801.5. Measurements for Payment The measurement of standard cautionary, mandatory and

information signs shall be in numbers of different types of signs supplied and fixed, while for direction and place identification signs, these shall be measured by area in square meters.

MORTH 801.6. Rate The Contract unit rate shall be payment in full for the cost of making the road sign, including all materials, installing it at the site and incidentals to complete the work in accordance with the Specifications.

ITEM NO. NS/05/A (26103 SOR R&B, Surat)- Informatory Signs: - Providing and fixing sign boards made out of 2 mm aluminum sheet; size 80 x 60 CMS. rectangle as per design of IRC 67-1977. Pretreated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorized with retro reflective sheeting as per latest M.O.S.T. Specifications; 3.1 m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm as required; painted with best quality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 CMS. for each leg. Including excavation, curing etc. complete under the supervision of engineer in charge. (B) High Intensity Grade.

Specification same as item no. NS/04/A of schedule –All of the tender document and as per contract conditions.

ITEM NO. NS/06/A (27007A SOR R&B, Surat)- Excavation for foundation in sand, gravel, clay soft soils and morrum etc. Including shoring, strutting dewatering as necessary and disposing of the excavated stuff as directed. A) Depth upto 3m and lead upto 100m for 10 Cum

MORTH 304.1. Scope

Excavation for structures shall consist of the removal of material for the construction of foundations for bridges, culverts, retaining walls, headwalls, cut off walls, pipe culverts and other similar structures, in accordance with the requirements of these Specifications and the lines and dimensions shown on the drawings or as indicated by the Engineer, work shall include construction of the necessary cofferdams and cribs their subsequent removal; all necessary sheeting, shoring, bracing, and pumping; the removal of all logs, stumps, grubs and other matter and obstructions, necessary for placing the foundations; trimming bottoms of excavations; backfilling and clearing up the site the disposal of all surplus material.

MORTH 304.2 Classification of Excavation

All materials involved in excavation shall be classified by the Engineer in the following manner:

(a) Soil

This shall comprise topsoil, turf, sand, silt, loam, clay, mud, peat, black cotton soil, soft shale or loose morrum, a mixture of these and similar material which yields 10 the ordinary application of pick, spade and/or shovel, rake or other ordinary digging implement. Removal of gravel or any other nodular material having dimension in any one direction not exceeding 75 mm occurring in such strata shall be deemed to be covered under this category.

Authority for classification

The classification of excavation shall be decided by the Engineer and his decision shall be final and binding on the Contractor. Merely the use of explosives in excavation will not be considered as a reason for higher classification unless blasting is clearly necessary in the opinion of the Engineer.

MORTH 304.3. Construction Operations

MORTH 304.3.1. Setting out

After the site has been cleared according to Clause 201, the limits of excavation shall be set out true to lines, curves and slopes to Clause 301.3.1.

MORTH 304.3.2. Excavation:

Excavation shall be taken to the width of the lowest step of the footing and the sides shall be left plumb where the nature of soil allows it. Where the nature of soil or the depth of the trench and season of the year do not permit vertical sides, the Contractor at his own expense shall put up necessary shoring, strutting and planking or cut slopes to a safer angle or both with due regard to the safety of personnel and works and to the satisfaction of the Engineer.

The depth to which the excavation is to be carried out shall be as shown on the drawings, unless the type of material encountered is such as to require changes, in which case the depth shall be as ordered by the Engineer. Propping shall be undertaken when any foundation or stressed zone from an adjoining structure is within a line of 1 vertical to 2 horizontals from the bottom of the excavation.

Where blasting is to be resorted to, the same shall be carried out in accordance with Clause 302 and all precautions indicated therein observed. Where blasting is likely to endanger adjoining foundations or other structures, necessary precautions such as controlled blasting, providing rubber mat cover to prevent flying of debris etc. shall be taken to prevent any damage.

MORTH 304.3.3. Dewatering and protection:

Normally, open foundations shall be laid dry. Where water is met with in excavation due to stream flow, seepage, springs, rain or other reasons, the Contractor shall take adequate measures such as bailing, pumping, constructing diversion channels, drainage channels, bunds, depression of water level by well-point system, cofferdams and other necessary works to keep the foundation trenches dry when so required and to protect the green concrete/masonry against damage by erosion or sudden rising of water level. The methods to be adopted in this regard and other details thereof shall be left to the choice of the Contractor but subject to approval of the Engineer. Approval of the Engineer shall, however, not relieve the Contractor of the responsibility for the adequacy of dewatering and protection arrangements and for the quality and safety of the works.

Where cofferdams are required, these shall be carried to adequate depths and heights, be safely designed and constructed and be made as watertight as is necessary for facilitating construction to be carried out inside them. The interior dimensions of the cofferdams shall be such as to give sufficient clearance for the construction and inspection and to permit installation of pumping equipment's, etc., inside the enclosed area.

If it is determined beforehand that the foundations cannot be laid dry or the situation is found that the percolation is too heavy for keeping the foundation dry, the foundation concrete shall be laid under water by tremie pipe only. In case of flowing water or artesian springs, the flow shall be stopped or reduced as far as possible at the time of placing the concrete.

Pumping from the interior of any foundation enclosure shall be done in such a manner as to preclude the possibility of the movement of water through any fresh concrete. No pumping shall be permitted during the placing of concrete or for any period of at least 24 hours thereafter, unless it is done from a suitable sump separated from the concrete work by a watertight wall or other similar means.

At the discretion of the Contractor, cement grouting or other approved methods may be used to prevent or reduce seepage and to protect the excavation area.

The Contractor shall take all precautions in diverting channels and in discharging the drained water as not to cause damage to the works, Crops or any other property.

MORTH 304.3.4. Preparation of foundation:

The bottom of the foundation shall be levelled both longitudinally and transversely or stepped as directed by the Engineer. Before footing is laid, the surface shall be slightly watered and rammed. In the event of excavation having been deeper than that shown on the drawings or as otherwise ordered the Engineer, the extra depth shall be made up with concrete masonry of the foundation at the cost of the Contractor. Ordinary filling shall not be used for the purpose to bring the foundation to level.

When rock or other hard strata is encountered, it shall be freed of all soft and loose material, cleaned and cut to a firm surface either level and stepped as directed by the Engineer. All seams shall be denuded and filled with cement mortar or grout to the satisfaction of the Engineer. In the case of excavation in rock, annular space around footing shall be filled with lean concrete (1:3:6 nominal mix) up to the top level of rock.

If the depth of fill required is more than 1.5m above the top of the footing, filling upto 1.5m above top of footing shall be done with lean concrete (1:3:6 nominal mix) followed by boulders grouted with cement.

When foundation piles are used, the excavation of each pit shall be substantially completed before beginning pile-driving operations therein. After pile driving operations in a given pit are completed, all loose and displaced materials therein shall be removed to the elevation of the bottom of the footings.

MORTH 304.3.5. Slips and slip-outs:

If there are any slips or slip-outs in the excavation, these shall be removed by the Contractor at his own cost.

MORTH 304.3.6. Public safety:

Near towns, villages and all frequented places, trenches and foundation pits shall be securely fenced, provided with proper caution signs and marked with red lights at night to avoid accidents. The Contractor shall take adequate protective measures to see that the excavation operations do not affect or damage adjoining structures. For safety precautions, guidance may be taken from IS: 3764.

MORTH 304.3.7. Backfilling:

Backfilling shall be done with approved material after concrete or masonry is fully set and carried out in such a way as not to cause undue thrust on any part of the structure. All space between foundation masonry or concrete and the sides of excavation shall be refilled to the original surface in layers not exceeding 150 mm compacted thickness. The compaction shall be done with the help of suitable equipment such as mechanical tamper, rammer, plate vibrator etc., after necessary watering, so as to achieve a density not less than the field density before excavation.

MORTH 304.3.8. Disposal of surplus excavated materials:

All the excavated materials shall be the property of the Government. Where the excavated material is to be used in the construction of embankment as directed by Engineer in-charge. It shall be directly deposited at the required location within 100 meters lead.

All hard materials, such as, hard morrum, rubble, etc., not intended for use as above shall be stacked neatly on specified land as directed by the Engineer with all lifts

Unsuitable and surplus material not intended for use within the lead specified above shall also, if necessary, be transported with all lifts and lead and disposed of or used as directed by the Engineer.

MORTH 304.4. Measurements for Payment

Excavation for structures shall be measured in cu. m. for each class of material encountered, limited to the dimensions shown on the drawings or as directed by the Engineer. Excavation over increased width, cutting of slopes, shoring, shuttering and planking shall be deemed as convenience for the Contractor in executing the work and shall not be measured and paid for separately.

Foundation sealing, dewatering, including pumping shall be deemed to be incidental to the work unless separate provision is made for in the Contract

MORTH 304.5. Rates

MORTH 304.5.1.

The Contract unit rate for the items of excavation for structures shall be payment in full for carrying out the required operations including full compensation for:

1. Setting out;
2. Construction of necessary cofferdams, cribs, sheeting, shoring and bracing and their subsequent removal;
3. Removal of all logs, stumps, grubs and other deleterious matter and obstructions, for placing the foundations including trimming of bottoms of excavations;
4. Foundation sealing, dewatering including pumping when no separate provision for it is made in the

Contract;

5. Backfilling, clearing up the site and disposal of all surplus material within all lifts and leads and
6. All labour, materials, tools, equipment, safety measures, diversion of traffic and incidentals necessary to complete the work to Specification.

MORTH 304.5.2.

The Contract unit rate for preparation of rock foundation shall be full compensation for cutting, trimming and cleaning the foundation surface and filling/sealing of all seams with cement grout or mortar including all materials, labour and incidentals required for completing the work.

ITEM NO. NS/07/A- Supplying and fixing reinforced concrete heavy duty non pressure pipes with collars for culverts carrying heavy traffic as per IS 458-1991 specifications including setting the pipes in C.M. 1:2 watering and laying (to level slopes) of class NP3 of internal diameters (v) 900mm dia (more than 10 ton)

1. The work shall consist of furnishing and installing reinforced cement concrete pipe of the type dia. meter and length required at the location shown on the drawings or as ordered by the Engineer-in-charge.
2. Reinforced concrete pipe shall be NP3 type conforming to the requirements of IS: 458 and shall be of dia as specified in the item Each consignment of cement concrete pipes shall be inspected. if necessary and approved by the Engineer- in- charge at the place of manufacture or at the site before their incorporation in the works.

NP3, NP2 and NP1 pipes are used for R.C.C. Pipes. Where the testing of pipes will not be feasible the contractors will have to produce a certificate from the' manufacturer on company's letter head in the given' hereinafter from.

Production of such certificate will not however relieve the Contractor form his responsibility of supplying pipes of required standard and will have to bear the loss or damage caused to the work on account of defects found subsequently during execution. It will also be necessary to purchase these pipes from manufacturer having standard equipment `s for carrying out various tests as per IS : 458 at his factory.

Form of Certificate for NP-3, NP-2, NP-1 Pipes

We

Manufacturer or R.C.C. Pipes produce R.C.C. pipes as per the requirement of IS : 458 and also carry out the required test at out place, We have acquired equipment `s for carrying out test and are prepared to carry out tests at our factory sites. We have experience of manufacturing of pipes of years. The pipes supplied by us to M/S.

Satisfy the requirement of IS:458.

Date:

Place:

Manufacturer's Sign

3. No pipe shall be placed in position until the foundations have been approved by the Engineer-in-charge. Where two or more pipes are to be laid adjacent to other, they shall be separated by a distance equal to

at least half diameter of the pipe subject to minimum of 450 mm. The laying of pipes on the prepared foundation shall start from the outlet and proceed towards the specified lines and grades. The pipes shall be fitted and matched so that when laid in work they form a culvert with a smooth uniform invert. Any pipe found defective or damaged during shall be removed at their cost of Contractor.

4. The pipes shall be jointed either by collar joint or by flush joint, the former case; the collars shall be of R.C.C. 150 to 200mm wide and having the same strength as the pipes to be jointed. Caulking space shall be between 13 and 20mm. according to the diameter of the pipes Caulking material shall be slightly wet mix of cement and sand in the ratio of 1:2 rammed with caulking irons. Before caulking the collar shall be so placed that its center coincides with that of pipe and even annular space is left between the collar and the pipes. Flush joint may be shaped to from a self-centering joint with a joining space 13cm wide. The joining space shall be filled with cement mortar 1 cement to 2 sand mixed sufficiently dry to remain in position when forced with a trowel or rammer. Care shall be taken to fill all voids and excess mortar shall be removed. All joints shall be made with care so that their interior surface is smooth and consistent with the interior surface of the pipes. After finishing, the joint shall be kept covered and damp for at least four days.
5. R.C.C. pipe shall be measured along their center between their inlet and outlet and outlet ends in linear meters.
6. The rate for the pipes shall include the cost of pipe including, unloading, handling storing laying in position and joining complete.

ITEM NO. NS/08/A (26008 SOR R&B, Surat)- Box cutting the road surface to proper slope and camber for making a base for road work including removing the excavated stuff and depositing on the road side slope as directed up to 50mt lead.

1. This work shall consist of excavation, removal and satisfactory disposal of all materials necessary for the construction of widening carriageway in accordance with requirements of these specifications and the lines, grades and cross sections shown in the drawings or as indicated by the Engineer.
2. After the site has been cleared the limits of excavation/ box cutting the road surface shall be set out true to lines, curves, slopes, grades and sections as shown on the drawings or as directed by the Engineer.
3. Box cutting shall be carried out in conformity with the directions laid here in under and in a manner approved by the Engineer. The work shall be so done that the suitable materials available from box cutting/ excavation are satisfactorily utilized as directed.
4. The contractor shall not excavate outside the limits of box cutting. Subject to the permitted tolerances, any excess depth/ width excavated beyond the specified levels/ dimensions on the drawings shall be made good at the cost of the contractor with suitable material of characteristics similar to that removed and compacted as directed.
5. Cutting shall be done in proper grade & camber as per measurements given. Care must be taken that all slopes are evenly and truly dressed. Cutting shall be done to the exact depth required and shall be as

per formation level in proper grade and the camber. If extra depth of cutting is done due to negligence of contractor the same shall be refilled with approved quality of materials duly consolidated to the satisfaction of the Engineer-in-charge (without extra cost).

6. The bottom level of box cutting i.e. sub grade shall be watered and well compacted with vibratory roller at OMC to the desired density as directed by the Engineer in charge. Rolling and compaction shall be deemed to be incidental to the work and no extra cost shall be paid for compaction of box cutting base surface.
7. The stuff received from the cutting shall be used for filling and correcting side slopes of bank and earthwork for embankment as directed by the Engineer in charge with all lead and lift.
8. The measurement of box cutting shall be taken on level basis & level shall be taken at 30 m interval. Volume shall be computed in cubic meters by average area method.
9. The payment shall be made on Cmt. basis.
10. The rate includes cost of all labour, machineries required, cost of carting and spreading the cutting stuff with all lead and lift and leveling the dumping ground/ embankment, rolling and consolidation of subgrade level etc. complete.

ITEM NO. NS/01/B- Construction of 300mm thick compacted coursed granular subbase (Grade I crushed B.T. materials of 53 mm to 26.5 mm@ 35%, 26.5mm to 4.75mm @45% , below 2.36mm @20 %) by providing close graded material mixing in mechanical mix plant at OMC, carriage of mix material to work site, spreading uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve desired density complete clause as per 401

This work shall consist of laying and compacting well graded material on prepared sub grade in accordance with the requirements of these specifications. The material shall be laid in one or more layers sub base and upper sub base (termed as sub base herein after) as necessary according to lines, grades and cross sections shown on the drawings or as directed by the Engineer.

MORTH 401.2 Materials:

MORTH 401.2.1 The materials to be used for the work shall be crushed stone of required grading. The material shall be free from organic or other deleterious constituents and confirm to the coarse graded granular sub base grading II as mentioned below.

**MORTH TABLE 400-2.
GRADING FOR COARSE GRADED GRANULAR SUB-BASE MATERIALS.**

IS sieve Designation	Percent by weight passing the IS sieve. Grading I
75.0 mm	100
53.0 mm	-
26.5 mm	55 – 75
9.5 mm	-

4.75 mm	10 – 30
2.365 mm	
0.425 mm	
0.075 mm	< 10
CBR Value (Minimum)	30

Material passing 425 micron (0.425 mm) sieve for all the three grading when tested according to IS : 2720 (Part 5) shall have liquid limit and plasticity index not more than 25 and 6 percent respectively.

MORTH 401.2.2 Physical requirements:

The materials shall have a 10 percent fines value of 50 KN or more (for sample in soaked condition) when tested in compliance with B.S.: 812 (Part 111). The water absorption value of the coarse aggregate shall be determined as per IS : 2386 (Part 3) : if this value is greater than 2 percent, the soundness test shall be carried out on the material delivered to site as per IS : 383. For grading II and III materials, the CBR shall be determined at the density and moisture content likely to be developed in equilibrium conditions which shall be taken as being the density relating to a uniform air voids content of 5 percent.

MORTH 401.3 Strength of sub-base.

It shall be ensured prior to actual execution that the material to be used in the sub base satisfies the requirements of CBR and other physical requirements when compacted and finished.

When directed by the Engineer, this shall be verified by performing CBR tests in the laboratory as required on specimens remoulded at field dry density and moisture content and any other tests for the "Quality" of materials, as may be necessary.

MORTH 401.4 Construction Operations:

MORTH 401.4.1 Preparation of Sub grade:

Immediately prior to the laying of sub-base, the sub grade already finished to Clause 301 or 305 as applicable shall be prepared by removing all vegetation and other extraneous matter, lightly sprinkled with water, if necessary and rolled with two passes of 80-100 KN smooth wheeled roller.

MORTH 401.4.2 Spreading and compacting:

The sub-base material of grading specified in the Contract shall be spread on the prepared sub grade with the help of a motor grader of adequate capacity, its blade having hydraulic controls suitable for initial adjustment and for maintaining the required slope and grade during the operation or other means as approved by the Engineer.

When the sub-base material consists of combination of materials mentioned in MORTH Clause 401.2.1, of this item mixing shall be done mechanically by the mix in place method.

Manual mixing shall be permitted only where the width of laying is not adequate for mechanical operations, as in small-sized jobs. The equipment used for mix-in-place construction shall be a rotator or similar

approved equipment capable of mixing the material to the desired degree. If so desired by the Engineer, trial runs with the equipment shall be carried out to establish its suitability for the work.

Moisture content of the loose material shall be checked in accordance with IS:2720 (Part 2) and suitably adjusted by sprinkling additional water from a truck mounted or trailer mounted water tank and suitable for applying water uniformly and at controlled quantities to variable widths of surface of other means approved by the Engineer so that, at the time of compaction, it is from 1 percent above to 2 percent below the optimum moisture content corresponding to IS:2720 (Part 8). While adding water, due allowance shall be made for evaporation losses. After water has been added, the material shall be processed by mechanical or other approved means like disc barrows, rotators until the layer is uniformly wet.

Immediately thereafter, rolling shall start. If the thickness of the compacted layer does not exceed 100 mm, a smooth wheeled roller of 80 to 100 KN weight may be used. For a compacted single layer up to 225 mm the compaction shall be done with help of a vibratory roller of minimum 80 to 100 KN static weight with plain drum or pad foot drum or heavy pneumatic tyred roller of minimum 200 to 300 KN weight having a minimum tyre pressure of 0.7 MN/ M² or equivalent capacity roller capable of achieving the required compaction. Rolling shall commence at the lower edge and proceed towards the upper edge longitudinally for portions having unidirectional cross fall and super elevation and shall commence at the edges and progress towards the center for portions having cross fall on both sides each pass of the roller shall uniformly overlap not less than one third of the track made in the preceding pass. During rolling, the grade and cross fall (camber) shall be checked and any high spots or depressions, which become apparent, corrected by removing or adding fresh material. The speed of the roller shall not exceed 5 Km per hour. Rolling shall be continued till the density achieved is at least 98 percent of the maximum dry density for the material determined as per IS: 2720 (Part 8). The surface of any layer of material on completion of compaction shall be well closed, free from movement under compaction equipment and from compaction planes, ridges, cracks or loose material. All loose, segregated or otherwise defective areas shall be made good to the full thickness of layer and re- compacted.

401.5 Surface Finish and Quality Control of work:

The surface finish of construction shall conform to the requirements of Clause 902 of MORT & H specifications. Control on the quality of materials and works shall be exercised by the Engineer in accordance with Section 900 of MORT & H specifications.

MORTH 401.6 Arrangements for Traffic:

During the period of construction, arrangement of traffic shall be maintained in accordance with Clause 112 of MORT & H specifications.

MORTH 401.7 Measurements for Payment:

Granular sub base shall be paid as finished work in position on cross sectional measurements and computing the volume of GSB work in cubic meters by average area method.

The protection of edges of granular sub base extended over the full formation as shown in the drawing shall be considered incidental to the work of providing granular sub-base and as such no extra payment shall be made for the same.

MORTH 401.8 Rate:

The Contract unit rate for granular sub base shall be payment in full for carrying out the required operations including full compensation for:

- [i] Making arrangements for traffic to Clause 112 as above except for initial treatment to verges, shoulders and construction of diversions.
- [ii] Furnishing all materials to be incorporated in the work including all royalties, fees, rents where necessary and all leads and lift.
- [iii] All labour, tools, equipment and incidentals to complete the work to the specifications.
- [iv] Carrying out the work in part widths of road where directed, and
- [v] Carrying out the required tests for quality control.

ITEM NO. NS/02/B-

Providing and laying wet mix base course macadam 250 mm in Two layer using machine crushed chips as per required gradation mixing with required optimum quantity of water conveying mix to site and spreading to grade and camber with mechanical paver consolidation by vibratory roller including material, labour, plant and machinery and equipment etc. complete.

This work shall consist of laying and compacting clean, crushed, graded aggregate and granular material, premixed with water, to a dense mass on a prepared sub grade sub base/ base or existing pavement as the case may be in accordance with the requirements of these specifications. The material shall be laid in one or more layers as necessary to lines, grades and cross-sections shown on the approved drawings or as directed by the Engineer.

The thickness of a single compacted Wet Mix Macadam layer shall not be less than 75mm. When vibrating or other approved types of compacting equipment are used, the compacted depth of a single layer of the sub-base course may be increased to 20cm upon approval of the Engineer.

MORTH 406.2 MATERIALS

MORTH 406.2.1 AGGREGATES

MORTH 406.2.1.1 PHYSICAL REQUIREMENTS:

Coarse aggregates shall be crushed stone. If crushed gravel / shingle is used, not less than 90 percent by weight of the gravel / shingle pieces retained on 4.75 mm sieve shall have at least two fractured faces. The aggregates shall conform to the physical requirements set forth in Table 400-10 below.

MORTH Table 40-10 Physical Requirement of Coarse Aggregates For Wet Mix Macadam For Sub-Base / Base Courses

Test	Test Method	Requirements
1.*Los Angeles Abrasion value	IS: 2386 (Part-4)	40 percent (Max)

Aggregate impact value	IS: 2386 (Part-4) or IS : 5640	30 percent (Max)
2. Combined Flakiness and Elongation indices (Total)**	IS: 2386(PART-1)	30 percent (Max)

* Aggregates may satisfy requirements of either of the two tests.

** To determine this combined proportion, the flaky stone from a representative sample should first be separated out. Flakiness index is weight of flaky stone metal divided by weight of stone sample only the elongated particles be separated out from the remaining (non flaky stone metal. Elongation index is weight of elongated particles divided by total non-flaky particles. The value of flakiness index and elongation index so found are added up.

If the water absorption value of the coarse aggregate greater than 2 percent, the soundness test shall carry out on the material delivered to site as per 2386 (Part – 5).

MORTH 406.2.1.2 Grading requirements:

The aggregates shall conform to the grading given in Table 400-11

MORTH Table 400-11. Grading Requirements of Aggregates For Wet Mix Macadam

Is Sieve Designation	Percent by weight Passing the IS sieve
53.00 mm	100
45.00 mm	95-100
26.50 mm	-
22.40 mm	60-80
11.20 mm	40-60
4.75 mm	25-40
2.36 mm	15-30
600.00 micron	8-12
75.00 micron	0-8

Materials finer than 425 micron shall have plasticity index (P.1) not exceeding 6.

The final gradation approved within these limits shall be well graded from course to fine and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve or vice- versa.

MORTH 406.3 Construction Operation:

MORTH 406.3.1 Preparation of base: Clause 404.3.1 as below shall apply.

MORTH 404.3.1 Preparation of base: The surface of the sub grade/sub-base/base to receive the water bound macadam course shall be prepared to the specification lines and cross fall (camber) and made free

of dust and other extraneous material. Any ruts or soft yielding places shall be corrected in an approved manner and rolled unit firm surface is obtained, if necessary, by sprinkling water. Any sub-base/base/surface irregularities, where predominant, shall be made good by providing appropriate type of profile corrective course (levelling course) to clause 501 of this specification.

As far as possible, laying water bound macadam course over an existing thick bituminous layer may be avoided since it will cause problems of internal drainage of the pavement at the interface of two courses. It is desirable to completely pick out the existing thin bituminous wearing course where water bound macadam is proposed to be laid over it. However, where the intensity of rain is low and the interface drainage facility is efficient, water bound macadam can be laid over the existing thin bituminous surface by cutting 50 mm x 50 mm furrows at an angle of 45 degrees to the centre line of the pavement at one-meter intervals in the existing road. The directions and depth of furrows shall be such that they provide adequate bondage and also serve to drain water to the existing granular base course beneath the existing thin bituminous surface.

MORTH 406.3.2 Provision of lateral confinement of aggregates:

While constructing wet mix macadam arrangement shall be made for the lateral confinement of wet mix. This shall be done by laying materials in adjoining shoulders along with that of wet mix macadam layer and following the sequence of operations described in Clause 407.4.1 as below.

MORTH 407.4 Construction Operations:

MORTH 407.4.1 Shoulder: The sequence of operations shall be such that the construction of paved shoulder is done in layers each matching the thickness of adjoining pavement layer. Only after a layer of pavement and corresponding layers in paved and earth shoulder portion have been laid and compacted, the construction of next layer of pavement and shoulder shall be taken up.

Where the materials in adjacent layers are different, these shall be laid together and the pavement layer shall be compacted first. The corresponding layer in paved shoulder portion shall be compacted thereafter, which shall be followed by compaction of earth shoulder layer. The adjacent layers having same material shall be laid and compacted together.

In all cases where paved shoulders have to be provided alongside of existing carriageway, the existing shoulders shall be excavated in full width and to the required depth as per clause 301.3.7 under no circumstances; box cutting shall be done for construction of shoulders.

Compaction requirement of earthen shoulder shall be as per table 300-2 in the case of bituminous courses, work on shoulder (earthen/hard/paved), shall start only after the pavement course has been laid and compacted.

During all stages of shoulder (earth/hard/paved) construction, the required cross fall shall be maintained to drain off surface water

Regardless of the method of laying, all shoulder construction material shall be placed directly on the shoulder. Any spilled material dragged on to the pavement surface shall be immediately removed, without damage to the pavement, and the area so affected thoroughly cleaned.

MORTH 406.3.4 Preparation of mix:

Wet Mix Macadam shall be prepared in an approved mixing plant of suitable capacity having provision for controlled addition of water and forced / positive mixing arrangement like pug-mil or pan type mixer of concrete batching plant.

Optimum moisture for mixing shall be determined in accordance with IS : 2720 (Part – 8) after replacing the aggregate fraction retained on 22.4 mm sieve with material of 4.75 micron to 22.4 mm size. While adding water, due allowance should be made for evaporation losses. However, at the time of compaction, water in the wet mix should not vary from the optimum value by more than agreed limits. The mixed material should be uniformly wet and so segregation should be permitted.

MORTH 406.3.4 Spreading of mix:

Immediately after mixing, the aggregates shall be spread uniformly and evenly upon the prepared sub grade / sub-base / base in required quantities. In no case should these be dumped in heaps directly on the area where these are to be laid nor shall their hauling over a partly completed stretch be permitted.

The mix may be spread either by a paver finisher or motor grader. For portions where mechanical means cannot be used, manual means as approved by the Engineer shall be used. The motor grader shall be capable of spreading the material uniformly all over the surface. Its blade shall have hydraulic control suitable for initial adjustments and maintaining the same so as to achieve the specified slope and grade.

The paver finisher shall be self – propelled, having the following features:

- (i) Loading hoppers and suitable distribution mechanism
- (ii) The screed shall have tamping and vibrating arrangement for initial compaction to the layer as it is spread without rutting or otherwise marring the surface profile.
- (iii) The paver shall be equipped with necessary control mechanism so as to ensure that the finished surface is free from surface blemishes.

The surface of the aggregate shall be carefully checked with templates and all high or low spots remedied by removing or adding aggregate as may be tested by depth blocks during construction.

No segregation of larger and fine particles should be allowed. The aggregates as spread should be allowed. The aggregates as spread should be of uniform gradation with pockets of fine materials.

MORTH 406.3.5 Compaction: -

After the mix has been laid to the required thickness, grade and camber the same shall be uniformly compacted, to the full depth with suitable roller. If the thickness of single compacted layer does not exceed 100mm, a smooth wheel roller of 80 to 100 KN weight may be used. For a compacted single layer up to 200mm, the compaction shall be done with the help of vibratory roller of minimum static weight of 80 to 100 KN or equivalent capacity roller. The speed of the roller shall not exceed 5 km/h. In portions

having unidirectional cross fall / super elevation rolling shall commence from the lower edge and progress gradually towards the upper edge. Thereafter, roller should progress parallel to the centre line of the road. Uniformly over-lapping each preceding track by at least one fourth width until the entire surface has been rolled. Alternate trips of the roller shall be terminated in stops at least 1 m away from any preceding stop.

In portions in camber, rolling should at the edge with the roller running forward and backward until the edges have been firmly compacted. The roller shall progress gradually towards the centre parallel to the centre line of the road uniformly overlapping each of the preceding tracks by at least one – Fourth width until the entire surface has been rolled. Any displacement occurring as a result of reversing of the direction of a roller or from any other caused shall be corrected at once as specified and / or removed and made good.

Along forms, Kerbs, walls or other places not accessible to the roller, the mixture shall be thoroughly compacted with mechanical tampers or a plate compactor. Skin patching of an area without scarifying the surface to permit proper bonding of the added material shall not be permitted.

Rolling should not be done when the sub grade is soft or yielding or when it caused a wave-like motion in the sub – base/ base course or sub grade. If irregularities develop during rolling which exceed 12mm when tested with a 3 meter straight edge, the surface should be loosened and premixed material added or removed as required before rolling again so as to achieve a conforming to the desired grade and cross fall. In no case should the use of unmixed material be permitted to make up the depressions.

Rolling shall be continued till the density achieved is at least 98 per cent of the maximum dry the material as determined by the method outlined in IS: 2720 (Part-8)

After completion, the surface of any finished layer shall be well-close, free from movement under compaction equipment or any compaction planes, ridges, cracks and loose material. All loose, segregated or otherwise defective areas shall be made good to the full thickness of the layer and re-compacted.

MORTH 406.3.6 Setting and drying:

After final compaction of wet mix macadam course, the road shall be allowed to dry for 24 hours.

MORTH 406.4 Opening to Traffic:

Preferably no vehicular traffic of any kind should be allowed on the finished wet mix macadam surface till it has dried and the wearing course laid.

MORTH 406.5 Surface Finish and Quality control of work MORTH 406.5.1 Surface evenness:

The surface finish of construction shall conform to the requirements of Clause 902 of MORT & H specifications.

406.5.2 Quality Control:

Control on the quality of materials and works shall be exercised by the Engineer in accordance with section 901 of MORT & H specifications

MORTH 406.6 Rectification of Surface Irregularity:

Where the surface irregularity of the wet mix macadam course exceeds the permissible tolerances or where the course is otherwise defective due to sub grade soil getting mixed with the aggregates, the full thickness of the layer shall be scarified over the affected area. Reshaped with added premixed material or removed and replaced with fresh premixed material as applicable and recomputed in accordance with Clause 406.3 of this item. The area treated in the aforesaid manner shall not be less than 5m long and 2m wide. In no case shall depressions be filled up with unmixed and ungraded material or fines.

MORTH 406.6.7 Arrangement for Traffic:

During the period of construction, arrangement of traffic shall be done as per Clause 112 of MORT & H specifications

MORTH 406.8 Measurements for Payment:

Wet mix macadam shall be paid as finished work in position on cross sectional measurements and computing the volume of WMM work in cubic meters by average area method.

MORTH 406.9 Rate:

The Contract unit rate for wet mix macadam shall be payment in full for carrying out the required operations including full compensation for all components listed below.

- i) Making arrangement for traffic to Clause 112 as above Except for initial treatment to verges, shoulders and Construction of diversions;
- ii) Furnishing wet materials to be incorporated in the work including all royalties, fees, rents where necessary and all leads and lifts;
- iii) All labour, tools, equipment and incidentals to complete the work to the specifications;
- iv) Carrying out the work in part widths of road where directed; and
- v) Carrying out the required tests for quality control.

ITEM NO. NS/03/B- Supplying and applying RS-I bitumen emulsion conforming to IS 8887 for application of Tack coat before application of binder course at the rate of 0.75 kg per sq. meter area.

1. The relevant specifications given in Section –501 & 503 of MORT&H fifth revision specification shall apply to this item.
2. The measurement shall be per Sqm. basis.
3. The mode of payment shall be in per Sqm basis.

ITEM NO. NS/04/B- Providing and applying priming coat using medium setting emulsion bitumen as the rate of 7.5 kg/10 sq.m on WMM surface including cleaning the surface etc. complete.

MORTH 502.1 Scope

This work shall consist of the application of a single coat of low viscosity liquid bituminous material to a porous granular surface preparatory to the superimposition of bituminous treatment or mix.

MORTH 502.2 Materials**MORTH 502.2.1 Primer:**

The choice of a emulsion bituminous primer shall depend upon the porosity characteristics of the surface to be primed as classified in IRC: 16 These are:

- (i) Surface of low porosity: such as wet mix macadam and water bound macadam.
- (ii) Surfaces of medium porosity; such as cement stabilized soil base,
- (iii) Surfaces of high porosity; such as a gravel base.

MORTH 502.2.2 Primer viscosity:

The type and viscosity of the primer shall comply with the requirements of IS 8887, as sampled and tested for bituminous primer in accordance with the standards. Guidance on viscosity and rate of spray is given in MORTH Table 500-1.

MORTH Table 500-1. Viscosity Requirement and Quantity Of Liquid Bituminous Primer

Type of Surface	Kinematic Viscosity of Primer at 60o C (Centistokes)	Quantity of Liquid Bituminous material per 10 Sq.M. (kg)
Low porosity	30 – 60	6 to 9
Medium porosity	70 – 140	9 to 12
High porosity	250 – 500	12 to 15

MORTH 502.2.3 Choice of rimer:

The primer shall be emulsion bitumen complying with IS 8887 of a type and grade as specified in the Contact or as directed by the Engineer. The use of medium curing cutback as per IS 217 shall be restricted only for sites at sub-zero temperatures or for emergency applications as directed by the Engineer.

MORTH 502.3 Weather and Seasonal Limitations

Bituminous primer shall not be applied to a wet surface (see 502.4.2) or during a dust storm or when the weather is foggy, rainy or windy or when the temperature in the shade is less than 10o C. Surfaces which are to receive emulsion primer should be damp. But no free or standing water shall be present.

Construction:**MORTH 502.4.1.1 Equipment:**

The Primer distributor shall be a self-propelled or towed bitumen pressure sprayer equipped for spraying

the material uniformly at specified rates and temperatures. Hand spraying of small areas. Inaccessible to the distributor, or as directed by the Engineer.

MORTH 502.4.2 Preparation of road surface:

The surface to be primed shall be prepared in accordance with Clauses 501.8 .

MORTH 501.8 This work shall consist of preparing an existing granular surface and shall be performed on such widths and lengths as shown on the drawing or as directed by the Engineer.

Immediately prior to applying the primer the surface shall be carefully swept clean of dust and loose particles, care being taken not to disturb the inter locked aggregate. This is best achieved when the surface layer is slightly moist (lightly sprayed with water and the surface allowed to dry) and the surface should be kept moist until the primer is applied.

MORTH 502.4.3 Application of emulsion bituminous primer:

The viscosity and rate of application of the primer shall be at rate of 7.5 Kg / 10 Sq.m. as directed. The bituminous primer shall be sprayed uniformly in accordance with Clause 501. The method for application of the primer will depend on the type of equipment to be used, size of nozzles, pressure at the spray bar and speed of forward movement. The Contractor shall demonstrate at a spraying trial, that the equipment and method to be used is capable of producing a uniform spray, within the tolerances specified.

MORTH 502.4.4 Curing of primer and opening to traffic:

A primed surface shall be allowed to cure for at least 24 hours or such other period as is found to be necessary to allow all the volatiles to evaporate before any subsequent surface treatment or mix is laid. Any unabsorbed primer shall first be blotted with an application of sand, using the minimum quantity possible. A primed surface shall not be opened to traffic other than that necessary to lay the next course. A very thin layer of clean sand may be applied to the surface of the primer, to prevent the primer picking up under the wheels of the paver and the trucks delivering bituminous material to the paver.

MORTH 502.5 Quality Control of Work:

For control of the quality of materials supplied and the works carried out, the relevant provisions of Section 901 of MORT & H specifications shall apply.

MORTH 502.6 Arrangements for Traffic:

During construction operations, arrangements for traffic shall be made in accordance with the provisions of Clause 112 of MORT & H specifications.

MORTH 502.7 Measurement for Payment:

Prime coat shall be measured in terms of surface area of application in square meters.

MORTH 502.8 Rate: -

The contract unit rate for prime coat with adjustments as described in Clause 502.7 of MORT&H specification

shall be payment in full for carrying out the required operations including full compensation for all components listed below

- [i] Making arrangements for traffic to Clause 112 as above except for initial treatment to verges, shoulders and construction of diversions.
- [ii] Furnishing all materials to be incorporated in the work including all royalties, fees, rents where necessary and all leads and lift.
- [iii] All labour, tools, equipment and incidentals to complete the work to the specifications.
- [iv] Carrying out the work in part widths of road where directed, and
- [v] Carrying out the required tests for quality control.

Payment shall be made on the basis of the provision of prime coat at an application rate of 7.5 kg per 10 square meters, with adjustment, plus or minus, for the variation between this amount and the actual amount approved by the Engineer after the preliminary trials referred to in Clause 502.4.3. of MORTH specification stated above.

ITEM NO. NS/05/B- Providing and laying 50mm to 100 mm thick DBM in two layers using crushed stone aggregate BT chips as per required gradation and using emulsion asphalts a tack coat @ 2.5 kg/10sqmt and VG 30 grade asphalt at 45 kg/MT) by total weight of mix hot laid process using drum mix process transporting mix and laying by paver Finisher including consolidation with vibratory roller including cost of material, labour, machinery equipment and fuel, oil, lubricant for plant and machinery using contractor's own plant and machines etc. complete, all as per MORTH specification.

MORTH 507. DENSE GRADED BITUMINOUS MACADAM

MORTH 507.1. Scope

This clause specifies the construction of Dense Graded Bituminous Macadam, (DBM) for use mainly, but not exclusively, in base/binder and profile corrective course, DBM is also intended for use as a road base material. This work shall consist of construction in a single or multiple layers of DBM on a previously prepared base or sub-base. The thickness of a single layer shall be 50mm to 100mm.

MORTH 507.2. Materials

MORTH 507.2.1 Bitumen:

MORTH 507.2.2 Coarse Aggregates:

The aggregates shall satisfy the physical requirements specified in Table 500-8, for dense bituminous macadam. The requirement shall be similar to that of Clause 504 except those aggregates shall satisfy physical requirements specified on Table 500-8.

When crushed gravels is proposed for use in aggregates, not less than 90% by weight of the crushed

material retained on the 4.75 mm sieve shall be have at least two fractured faces.

MORTH 507.2.3 Fine aggregates:

Fine aggregates shall consist of crushed or naturally occurring mineral material, or a combination of the two, passing the 2.36mm sieve and retained on the 75-micron sieve.

The fine aggregate shall have a sand equivalent value of not less than 50 when tested in accordance with the requirement of IS:2720 (Part 37) The plasticity index of the fraction passing the 0.425 mm sieve shall not exceed 4, when tested in accordance with IS:2720 (Part 5).

MORTH TABLE 500-8. PHYSICLE REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE GRADED BITUMINOUS MACADAM

Property	Test	Specification
Cleanliness (dust)	Grain size analysis ¹	Max 5% passing 0.075 mm sieve
Particle shape	Flakiness and elongation Index (combined) ²	Max 30%
Strength	Los Angeles Abrasion Value ³ Aggregate Impact Value ⁴	Max 30% Max 24%
Polishing	Polished Stone Value ⁵	Min 55
Durability	Soundness ⁶ Sodium Sulphate Magnesium Sulphate	Max 12% Max 18%
Water Absorption	Water Absorption ⁷	Max 2%
Stripping	Coating and stripping of bitumen aggregate mixtures ⁹	Minimum retained coating 95%
Water sensitivity**	Retained tensile strength ⁸	Min 80%

Notes:

1. IS:2386 Part 1

2. IS:2386 Part 1

(the elongation test may be done only on non-flaky aggregates in the samples)

3. IS:2386 Part 4*

4. IS:2386 Part 4*

5. BS: 812 Part 114

6. IS: 2386 Part 5

7. IS:2386 Part 3

8. AASHTO T 283**

9. IS: 6241

* Aggregate may satisfy requirements of either of these two tests

**The water sensitivity test is only required if the minimum retained coating in the stripping test is less than 95%.

MORTH 507.2.3 Fine aggregates:

Fine aggregates shall be the fraction passing 2.36 mm sieve and retained on 75-micron sieve, consisting of crusher-run screening, gravel sand or a mixture of both. These shall be clean, hard, durable uncoated, dry and free from any injurious, soft or flaky pieces and organic or other deleterious substances.

MORTH 507.2.4 Filler:

Filler shall consist of finely divided minerals matter such as rock dust, hydrated lime or cement as approved by the Engineer.

The filler shall be graded within the following limits:

MORTH TABLE 509-9. GRADING REQUIREMENTS FOR MINERAL FILLER

IS Sieve (mm)	Cumulative percent passing by weight of total aggregate
0.6	100
0.3	95-100
0.075	85-100

Mineral filler shall consist of rock dust, hydrated lime or Portland cement, or after inert mineral matter approved by the Engineer. It shall be dry and free from lumps.

The filler shall be free from organic impurities and have a Plasticity Index not greater than 4. The Plasticity Index requirement shall not apply if filler is cement or lime. When the coarse aggregate is gravel, 2 percent by mass of total aggregate of port land cement or hydrated lime shall be added and the percentage of fine aggregate reduced accordingly. Cement or hydrated lime is not required when the gravel is limestone.

MORTH 507.2.5 Aggregate grading and binder content:

When tested in accordance with IS:2386 Part 1 (Wet sieving method), the combined grading of the coarse and fine aggregates and added filler shall fall within the limits shown in Table 500-10 for dense bituminous macadam gradings 1 or 2 as specified on the Contract. The type and quantity of bitumen, and appropriate thickness are also indicated for each mixture type.

MORTH Table 509-10. Composition Of Dense Graded Bituminous Macadam Pavement Layers

Grading	1	2
Nominal aggregate size	400mm	25mm
Layer Thickness	80-100 mm	50-75 mm
IS Sieve1 (mm)	Cumulative % by weight if total aggregate passing	
45	100	
37.5	95-100	100
26.5	63-95	90-100
19	-	71-95
13.2	55-75	56-80
9.5	-	-
4.75	38-54	38-54
2.36	28-42	28-42
1.18	-	-
0.6	-	-
0.3	7-21	7-21
0.15	-	-
0.075	2-8	2-8
Bitumen content % by mass of total mix ²	Min 4.0	Min 4.5
Bitumen grade (pen)	65 to 90	65 o 90

Notes: 1. The combined aggregate grading shall not vary from the low limit on one sieve to the high limit on the adjacent sieve. Determined by the Marshall method.

MORTH 507.3. Mixture Design**MORTH 507.3.1 Requirements for the mixture:**

Apart from conformity with the grading and quality requirements for individual ingredients, the mixture shall meet the requirements set out in MORTH Table 500-11.

The requirements for minimum percent voids in mineral aggregate (VMA) are set out in MORTH Table 500-12.

MORTH Table 500-11. Requirements For Dense Graded Bituminous Macadam

Minimum stability (kN at 60°C)	9.0
Minimum flow (mm)	2
Maximum flow (mm)	4
Compaction level (Number of blows)	75 blows on each of the two faces of the specimen

Percent air voids	3-6
Percent voids in mineral aggregate (VMA)	See table 500-12
Percent voids filled with bitumen (VFB)	65-75

MORTH 507.3.2 Binder content:

The binder content shall be optimized to achieve the requirements of the mixture set out in Table 500-11 and the traffic volume as specified in the contract. Where 40mm dense bituminous macadam mixture is specified, the modified Marshall Method described in MS-2 shall be used. This method requires modified equipment and procedures; particularly the minimum stability values in Table 500-11 shall be multiplied by 2.25, and the minimum flow shall be 3 mm.

MORTH 507.3.3 Job mix formula:

The contractor shall inform the Engineer in writing at least 20 days before the start of the work. The approved job mix formula shall remain effective unless and until a revised Job Mix Formula is approved. Should a change in the source of materials be proposed, a new job mix formula shall be forwarded to the engineer for approval before the placing of the material.

MORTH 507.3.4 Permissible Variation from Job Mix Formula:

It shall be the responsibility of the contractor to produce a uniform mix conforming to the approved Job Mix Formula subject to the permissible variations of the individual percentages of the various ingredients in the actual mix from the job mix formula to be used within the limits as specified in Table 500-11. These variations are intended to apply to individual specimens taken for quality control tests vide Section 900.

MORTH Table 500-13 Permissible Variations from The Job Mix Formula

Sr. No.	Description of Ingredients	Permissible Variation	
		Base/binder course	Wearing course
1.	Aggregate passing 19mm sieve or larger	±8%	±7%
2.	Aggregate passing 13.2mm, 9.5mm	±7%	±6%
3.	Aggregate passing 4.75mm	±6%	±5%
4.	Aggregate passing 2.36mm, 1.18mm, 0.6mm	±5%	±4%
5.	Aggregate passing 0.3mm, 0.15mm	±4%	±3%
6.	Aggregate passing 0.075 mm	±2%	±1.5%
7.	Binder content	±0.3%	±0.3%
8.	Mixing temperature	±10°C	±10%

MORTH 507.3.5 Laying Trials:

Once the plant trails have been successfully completed and approved, the Contractor shall carry out laying trails, to demonstrate that the proposed mix can be successfully laid, and completed all in accordance with Clause 501.

The Contractor shall previously inform the Engineer of the proposed method for laying and compaction the material. The plant trails shall then establish if the proposed laying plant, compaction plant, and methodology is capable of producing satisfactory results. The density of the finished paving layer shall be determined by taking cores, no sooner than 24 hours after laying, or by other approved method.

Once the laying trails have been approved, the same plat and methodology shall be applied to the laying of the material on the project, and no variation of either shall be acceptable, unless approved in writing by the Engineer who may at his discretion require further laying trials.

MORTH 507.4. Construction Operations

MORTH 507.4.1. Weather and seasonal limitations:

The provisions of Clause 501.5.1 shall apply.

MORTH 507.4.2 Preparation of base:

The base on which Dense Graded Bituminous Macadam is to be laid shall be prepared in accordance with Clause 501 or as directed by the Engineer. The surface shall be thoroughly swept clean free from dust and foreign matter using mechanical broom and dust removed or blown off by compressed air. In portions where mechanical broom cannot reach, other approved method shall be used as directed by the Engineer.

MORTH 507.4.3 Geo-synthetics:

Where Geo-synthetics are specified in the Contact this shall be in accordance with the requirements stated in clause 70.3

MORTH 507.4.4 Stress absorbing layer:

Where a stress absorbing layer is specified in the contract, this shall be applied in accordance with the requirements of Clause 522.

MORTH 507.4.5 Prime Coat:

Where the material on which the dense bituminous macadam is to be laid is other than a bitumen bound layer, a prime coat shall be applied as specified, in accordance with the provisions of Clause 502 or as directed by the Engineer.

MORTH 507.4.6 Tack Coat:

Where the material on which the dense bituminous macadam is to be placed is bitumen surface, a tack coat shall be applied as specified, in accordance with the provisions of Clause 503 or as directed by the Engineer.

MORTH 507.4.7 Mixing and transportation of the mixture:

The provisions as specified in Clause 501.3 and 501.4 shall apply.

MORTH 507.4.8 Spreading:

The provisions of Clause 501.5.3 and 501.5.4 shall apply.

MORTH 507.4.9 Rolling:

The general provisions of Clause 501.6 and 501.7 shall apply, as modify by the approved laying trails the compaction process shall be carried out by the same plant, and using the same method, as approved in the laying trials, which may be varied only with the express approval of the Engineer in writing.

MORTH 507.5 Opening Traffic:

The newly laid surface shall not be open to traffic for at least 24hrs after laying and completion, without the express approval of the Engineer in writing.

MORTH 507.6 Surface Finish and Quality Control of Work:

The surface finish of construction shall conform to the requirements of Clause 902. Control on the quality of materials and work shall be exercised by the Engineer in accordance with Section 900.

MORTH 507.7. Arrangements for Traffic:

During the period of construction, arrangements for the traffic shall be done to Clause 112.

MORTH 507.8 Measurement for Payment:

Dense Graded Bituminous Materials shall be measured as finished work either in cubic meters, tons or by the square meter at a specified thickness as detailed on the Contract drawings, or documents, or as directed by the Engineer.

MORTH 507.9 Rate:

The Contract unit rate for Dense Graded Bituminous Macadam shall be payment in full for carrying out the all required operations as specified, and shall include, but not necessarily limited to all components listed in Clause 501.8.8.2(i) to (xi). The rate shall include the provision of bitumen, at 4.25 per cent by weight of the total mixture.

The Variance in actual percentage of bitumen used will be assessed and the payment adjusted up or down accordingly.

ITEM NO. NS/06/B- Providing and laying 40 mm bitumen concrete using crushed stone aggregate BT chips as per required gradation and using emulsion asphalts a tack coat @ 2.5 kg/10sqmt and VG 30 grade asphalt at 55 kg/MT) by total weight of mix hot laid process using drum mix process transporting mix and laying by paver finisher including consolidation with vibratory roller including cost of material, labour, machinery equipment and fuel, oil, lubricant for plant and machinery using contractor's own plant and machines etc complete, all as per MORTH specification.

MORTH 509. BITUMINOUS CONCRETE**MORTH 509.1. Scope**

This clause specifies the construction of Bituminous Concrete, for use in wearing and profile corrective courses. This work shall consist of construction in a single or multiple layers of bituminous concrete on a previously prepared bituminous bound surface. A single layer shall be 40 mm in thickness.

MORTH 509.2. Materials**MORTH 509.2.1. Bitumen:**

The bitumen shall be paving bitumen of Penetration grade complying with Indian Standard Specification for Paving Bitumen, IS: 73 and of the penetration indicated in Table 500-18. for bituminous concrete, or this bitumen as modified by one of the methods specified in Clause 521, or as otherwise specified in the Contract. Guidance on the selection of an appropriate grade of bitumen is given in The Manual for Construction and Supervision of Bituminous Works.

MORTH 509.2.2. Coarse aggregates:

The coarse aggregates shall be generally as specified in MORTH Clause 507.2.2, except that the aggregates shall satisfy the physical requirements of MORTH Table 500-17.

MORTH Table 500-17. Physical Requirements for Coarse Aggregate For Bituminous Concrete Pavement Layers

Property	Test	
Cleanliness (dust)	Grain size analysis ¹	Max 5% passing 0.075mm sieve
Particle shape	Flakiness and Elongation Index	Max 30% (Combined) ²
Strength*	Los Angeles Abrasion Value ³	Max 30%
	Aggregate Impact Value ⁴	Max 24%
Polishing	Polished Stone Value ⁵	Min 55
Durability	Soundness: ⁶	
	Sodium Sulphate	Max 12%
	Magnesium Sulphate	Max 18%
Water Absorption	Water absorption ⁷	Max 2%
Stripping	Coating and Stripping of Bitumen Aggregate Mixtures ⁹	Minimum Retained Coating 95%
Water Sensitivity**	Retained Tensile Strength ⁸	Min 80%

- Notes:
- | | |
|---|--------------------|
| 1. IS: 2386 Part 1 | 6. IS: 2386 Part 5 |
| 2. IS: 2386 Part 1 (the elongation test may be done only on non-flaky aggregates in the sample) | 7. IS: 2386 Part 3 |
| 3. IS: 2386 Part 4* | 8. AASHTOT283** |
| 4. IS: 2386 Part 4* | 9. IS: 6241 |
| 5. BS: 812 Part 114 | |

* Aggregate may satisfy requirements of either of these two tests.

** The water sensitivity test is only required if the minimum retained coating in the stripping test is less than 95%.

mix formula shall be generally as specified in Clause 507.3.3 and the results of tests enumerated in Table 500-19 as obtained by the Contractors.

MORTH 509.2.3. Fine aggregates:

The fine aggregates shall be all as specified in Clause 507.2.3.

MORTH 509.2.4. Filler:

Filler shall be generally as specified in Clause 507.2.4. Where the aggregates fail to meet the requirements of the water sensitivity test in Table 500-17 then 2 per cent by total weight of aggregate, of hydrated lime shall be added without additional cost.

MORTH 509.2.5. Aggregate grading and binder content:

When tested in accordance with IS:2386 Part 1 (Wet grading method), the combined grading of the coarse and fine aggregates and added filler shall fall within the limits shown in Table 500-18 for gradings 1 or 2 as specified in the Contract.

MORTH 509.3. Mixture Design

MORTH 509.3.1. Requirements for the mixture:

Apart from conformity with the grading and quality requirements for individual ingredients, the mixture shall meet the requirements set out in MORTH Table 500-19.

The requirements for minimum per cent voids in mineral aggregate (VMA) are set out in MORTH Table 500-12.

MORTH 509.3.2. Binder content:

The binder content shall be optimized to achieve the requirements of the mixture set out in Table 500-19 and the traffic volume as specified in the Contract. The Marshall method for determining the optimum binder content shall be adopted as described in the Asphalt Institute Manual MS-2, replacing the aggregates retained on the 26.5mm sieve and retained on the 22.4mm sieve, where approved by the Engineer.

MORTH 509.3.3. Job mix formula:

The procedure for formulating the job

MORTH 509.3.4. Plant trials - permissible variation in job mix formula:

The requirements for plant trials shall be all as specified in Clause 507.3.4, and permissible limits for variation as shown in Table 500-13.

MORTH 509.3.5. Laying trials:

The requirements for laying trials shall be all as specified in Clause 507.3.5.

MORTH 509.4. Construction Operations**MORTH 509.4.1. Weather and seasonal limitations:**

The provisions of Clause 501.5.1 shall apply.

MORTH Table 500-18. Composition of Bituminous Concrete Pavement Layers

Grading	1	2
Nominal aggregate size	19mm	13mm
Layer Thickness	50-65 mm	40 mm
IS Sieve1 (mm)	Cumulative % by weight of total aggregate passing	
45		
37.5		
26.5	100	
19	79-100	100
13.2	59-79	79-100
9.5	52-72	70-88
4.75	35-55	53-71
2.36	28-44	42-58
1.18	20-34	34-48
0.6	15-27	26-38
0.3	10-20	18-28
0.15	5-13	12.20

0.075	2-8	4.10
Bitumen content % by mass of total mix ²	5.0-6.0	5.50
Bitumen grade (pen)	60	60 G-30)

Notes: 1. The combined aggregate grading shall not vary from the low limit on one sieve to the high limit

on the adjacent sieve.

Determined by the Marshall method.

MORTH Table 500-19. Requirements For Bituminous Pavement Layers

Minimum stability (kN at 60°C)	9.0
Minimum flow (mm)	2
Maximum flow (mm)	4
Compaction level (Number of blows)	75 blows on each of the two faces of the specimen
Per cent air voids	3-6
Per cent voids in mineral aggregate (VMA)	See Table 500-12
Per cent voids filled with bitumen (VFB)	65-75
Loss of stability on immersion in water at 60°C (ASTM D 1075)	Min. 75 per cent retained strength

MORTH 509.4.2. Preparation of base:

The surface on which the bituminous concrete is to be laid shall be prepared in accordance with Clauses 501 and 902 as appropriate, or as directed by the Engineer. The surface shall be thoroughly swept clean by mechanical broom and dust removed by compressed air. In locations where a mechanical broom cannot access, other approved methods shall be used as directed by the Engineer.

MORTH 509.4.5. Tack coat:

Where specified in the Contract, or otherwise required by the Engineer, a tack coat shall be applied in accordance with the requirements of Clause 503 of MORT & H specifications.

MORTH 509.4.6. Mixing and transportation of the mixture:

The provisions as specified in Clauses 501.3 and 501.4 shall apply.

MORTH 509.4.7. Spreading:

The general provisions of clauses 501.5.3 and 501.5.4 of MORT & H specifications shall apply.

MORTH509.4.8. Rolling:

The general provisions of clauses 501.6 and 501.7 shall apply, as modified by the approved laying trials.

MORTH 509.5. Opening to Traffic

The newly laid surface shall not be open to traffic for at least 24 hours after laying and the completion of compaction, without the express approval of the Engineer in writing.

MORTH 509.6. Surface Finish and Quality Control

The surface finish of the completed construction shall conform to the requirements of Clause 902. All materials and workmanship shall comply with the provisions set out in Section 900 of this Specification.

MORTH 509.7. Arrangements for Traffic

During the period of construction, arrangements for traffic shall be made in accordance with the provisions of Clause 112 of MORT & H specifications

MORTH 509.8. Measurement for Payment

The payment shall be made on the tonnage basis of the weight of mix aggregates and bitumen. For this purpose, the contractor shall have to install a weigh-bridge of suitable capacity for the purpose of weighing dumpers at suitable place at his cost as directed.

Weight of empty dumpers and weight of loaded dumper will be recorded in bound and numbered register on plant site.

Department will be free to get some loaded dumpers test checked at other weigh bridge. Weigh bridge will be periodically got calibrated and verified from weight and measure authorities.

For the purpose of application of tack coat, if the theoretical area as per sanctioned estimate for basic of tonne differs with the actual area of work done in the field then the reduction in or addition to payment shall have to be effected to the contractor on pro- rata basis depending upon the area reduced or exceeded respectively.

Weight of mix materials will be done in presence of responsible person, not less than the rank of Supervisor of Department and the measurements shall be recorded by the Deputy Executive Engineer or Assistant Engineer or Additional Assistant Engineer, if so authorized. Record of each dumper will be mentioned separately in bond and numbered register which will be maintained by the Department representatives and signed by the contractor. Proper gate pass system shall be established for the vehicle coming to the plant

site and going from the site. The location of the K.M. hectometer and meter in which individual dumpers are unloaded shall be recorded carefully.

MORTH 504.8 Rate: -

The contract unit rate for Bituminous Concrete shall be payment in full for carrying out the required operations as specified. The rate shall include for all components listed below.

- (i) Making arrangements for traffic to clause 112 except for initial treatment to verge, shoulders and construction of diversions.
- (j) Preparation of the surface to revive the materials.
- (ii) Providing all materials to be incorporated in the work including arrangement for stock yards. All royalties, fees rent where necessary and all leads and lifts.
- (M) Mixing transporting, laying and compacting the mix as specified.
- (V) All labour, tools equipment, plant including installation of hot mix plant, power supply units and all machinery incidental to complete the work to this specification.
- (vi) Carrying out the work in part widths of the road where directed.
- (v) Carrying out all tests for control of quality, and
- (vi) The rate shall cover the provision of bitumen at the rate specified in the contract, with the provision that the variation in actual percentage of bitumen used will be assessed and the payment adjusted accordingly.
- (x) The rate for premixed material is to include for all wastage in cutting of joints etc.
- (x) The rates are to include for all necessary testing mix design transporting and testing of samples, and cores. If there is not a project specific: laboratory, the contractor must arrange to carry out all necessary testing at an outside laboratory approved by the Engineer, and all costs incurred are deemed to be included in the rate quoted for the material.
- (xi) The cost of all plant and laying trials as specified to prove the mixing and laying methods is deemed, to be included in the contractor `s rates for the materials.
The contract unit rate shall include the provision of bitumen at 5.50 per cent, by weight of total mixture. The variance in actual percentage of bitumen used will be assessed and the payment adjusted up or down, accordingly.

ITEM NO. NS/07/B- Providing & filling in foundation with ordinary cement concrete M 15 mix and providing necessary vertical pin headers including formwork vibrating ramming & curing complete.

- a) Work shall be carried out as per specification/condition as per clause No.2.1 and 2.2 of TECHNICAL SPECIFICATION of the Tender Document
- b) All necessary labour, materials, cement equipment, etc., for sampling, preparing test cubes, curing etc., shall be provided by the Contractor. Testing of the materials and concrete may be arranged by the Engineer-in-charge in an approved laboratory at the cost of the contractor.
- c) The payment shall be made on cum. basis of the finished work. The unit rate of concrete shall include the cost of all materials, cement, labour, tools and plant required for mixing, placing in position, vibrating and compacting finishing etc. complete.

ITEM NO. NS/08/B- Providing and casting in situ controlled cement concrete of M30 grade reinforcement cement concrete with 20mm downgraded crushed stone aggregate of required size for approach slab , wearing coat railing slabs etc. including required formwork, shuttering and supporting arrangement and transporting concrete from batching plant by transit mixture placing it in position ,compacting with needle vibrator including curing with all labour materials machinery all lead and lift etc complete as per drawing and technical specification of MORTH and directed by Engineer In-charge.

a) Work shall be carried out as per specification/condition as per clause No.2.1 and 2.2 TECHNICAL SPECIFICATION as given below: -

2.1 GENERAL GUIDELINES REGARDING SPECIFICATIONS AND SPECIAL CONDITIONS FOR SUPPLY OF CEMENT FOR CONSTRUCTION WORKS

2.1.1 SUPPLY OF CEMENT:

2.1.1.1 Supply of cement to various specifications as required for various items under different schedules will be paid under the items in Schedule.

2.1.1.2 The cement required for various items of work under Schedule shall be supplied by the Contractor at the site of work in accordance with the requirements and specifications.

2.1.1.3 For supply and use of cement in various works, relevant Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020, IRS codes and IS Specifications will be applicable. Wherever, relevant specifications are not available, decision of the Engineer shall be final and binding on the contractor.

2.1.2 SPECIFICATIONS FOR CEMENT:

2.1.2.1 The cement used shall conform to any of the following standards.

- (i) 33 Grade Ordinary Portland Cement conforming to IS: 269
- (ii) 43 Grade Ordinary Portland Cement conforming to IS: 8112
- (iii) 53 Grade Ordinary Portland Cement conforming to IS: 12269
- (iv) Rapid Hardening Ordinary Cement conforming to IS: 8041
- (v) High Strength Portland Cement conforming to IRS: T: 40
- (vi) Hydrophobic Portland cement conforming to IS: 8043

- (vii) Low heat Portland cement conforming to IS: 12600
- (viii) Sulphate Resistance Cement conforming to IS: 12330

2.1.3 SOURCE AND PACKAGING:

2.1.3.1 Cement to be used on the works shall be procured from the main / reputed cement plants or from their authorized dealers. Decision of DFCCIL regarding reputed firms shall be final and binding on the contractor.

2.1.3.2 Cement shall be packed in jute sacking bags conforming to IS: 2580-1982, double hessian bituminized (CRI type) or woven HDPE conforming to IS:11652-1986, woven polypropylene conforming to is: 11653:1986, Jute synthetic union conforming to IS: 12174:198, or any other approved composite bags, bearing the following information in legible markings:

Manufacturer 's name or Registered Trade Mark of manufacturer, if any. Grade of cement

Type of cement

Weight of each bag in Kg. Date/week of manufacture,

IS Code No. to which the cement conforms.

2.1.3.3 All cement bags shall have company stitches intact and if any sign of tampering with company stitches is noticed, the same will be rejected without any test and no compensation shall be payable in this regard.

2.1.4 TEST CERTIFICATE REGARDING QUALITY OF CEMENT:

2.1.4.1 Necessary test certificates will have to be produced by the contractor regarding the quality of the cement conforming to the specification in addition to the manufacturer 's certificates.

2.1.4.2 DFCCIL reserves the right to take samples during the course of the work and get the cement tested in reputed laboratories to ascertain the conformity to the specification. Cost of such testing shall be borne by the contractor without any extra payment.

2.1.4.3 Tests on cement shall be done as per relevant IS Codes. These tests are as follows:

- (i) Compressive strength
- (ii) Initial and final setting time
- (iii) Consistency

- (iv) Soundness.
- (v) Fineness

2.1.4.4 The Contractor shall arrange to carryout above tests for every 50 Tonnes (1000 Bag) of cement and for every change in lot/batch and the same shall be submitted to the Engineer and take approval of the Engineer before usingin work. No extra payment will be made for conducting such tests.

2.1.4.5 Any temporary structure required for storage of cement, has to be providedby the tenderer at his cost and shall be removed after completion of work.The DFCCIL will only provide suitable land wherever land is available and is free for use. On completion of the work or as directed by the Engineer, the shed if put up by the Contractor, should be removed by the contractor and site cleared at his cost.

2.1.5 CONSUMPTION OF CEMENT:

2.1.5.1 The cement consumption for other than design mix concrete, shall be as per Western Railway Unified Standard Schedule of Rates (Works and Materials) or Railway Unified Standard Schedule of Rates (Works and Materials),Engineering Department or as specified in Standard Schedule of Rates of R&B Surat Circle as applicable and relevant. In case of Design mix concrete the quantity of cement will be decided based on the approved design mix keeping in mind Minimum and Maximum cement content specified for various grades. Excess cement used will not be paid for and the decision of the Engineer in this connection shall be final and binding on the Contractor.

2.1.6 PAYMENT FOR CEMENT: -

Cement supplied for the work and measured under the Schedule will be paid if specified separately only after its use in various works under the Schedules of the contract as per conditions and no advance payment for supply will be admissible.

2.1.7 GENERAL: -

2.1.7.1 No wastage of any of the materials supplied and used in the work by the contractor including cement is payable by DFCCIL, contractor shall make his own arrangements for storing cement for use in work.

2.1.7.2 Contractor should take proper precautionary measures to store the cement in good condition against dampness, rains, etc. Storage of cement at the work siteshall be at the contractor's expense and risk. Any damage occurring to cement due to faulty storage in contractor's shed or on account of negligence on hispart shall be the liability of the contractor.

2.1.7.3 Different Type and different Grades of cement should be stacked separately in countable manner.

2.1.7.4 Admixture confirming to IS: 9103 shall be of approved manufacturer, as approved by the Engineer shall be permitted to use in concrete whenever required. However, no extra payment for the admixtures used shall be payable unless otherwise specified in the Schedule.

2.1.7.5 Cement for temporary and enabling works shall be arranged by the contractor at his own cost and no extra payment will be paid on this account.

2.1.7.5 Empty Cement bags on release from the work is the property of the Contractor and shall be disposed off by the Contractor himself.

2.2 GENERAL GUIDELINES REGARDING SPECIFICATIONS AND SPECIAL CONDITIONS FOR CONCRETE WORKS

2.2.1 Specifications: -

2.2.1.1 Concrete for PCC, RCC (Including piling and RCC deck slab) shall be as per relevant Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020 and IS Specifications. Some important guide lines are listed below. Along with these, all other relevant IRS, IRC and IS specifications with their up to date versions shall also govern. These govern all concrete works in bridges, etc., as applicable.

- (i) IRS Concrete Bridge Code.
- (ii) IS 456: Code of Practice for Plain and Reinforced Concrete.
- (iii) Relevant Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020
- (iv) Relevant IRS/IRC/MORTH/IS Specifications/Codes.
- (v) Relevant PSC Codes & Specification.

2.2.1.2 Specifications for cement, steel, binding wire, used in concrete construction shall be as per IRS/IRC/MORTH/IS specifications with latest corrections slips/revisions. Any other specifications/rules/guidelines issued from time to time by Railway Board/RDSO shall also govern the works

2.2.1.3 In all matters of execution, including testing of various components, where the above codes/specifications/guidelines are not clear or explicit or at variance, the directions given by the Engineer shall be final and binding on the contractor.

2.2.2 Cement: -

2.2.2.1 The cement used in concrete construction shall be 43/53 Grade Ordinary Portland cement or suitable Type and grade as approved by Engineer as per the design and as specified in the relevant schedules. Specifications for cement are covered under the supply schedule.

2.2.3 Reinforcement: -

2.2.3.1 All Reinforcement Steel (TMT Bars of Grade Fe 500) shall be procured as per specification mentioned in IS : 1786. Independent tests shall be conducted, wherever required, to ensure that the materials procured conform 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 ironrolling facilities, followed by production of liquid steel and crude steel, as per Ministry of Steel's guidelines. The steel shall be procured from primary producers such as TISCO, SAIL, RINL, JINDAL or equivalent as approved by Engineer.

2.2.3.2 Bars shall be cut, bent and placed correctly and accurately to the size and shape as shown in the detailed drawing. Preferably bars of full length shall be used. The reinforcement shall be tied with annealed steel binding wire. Overlapping of bars, where necessary, shall be done as directed by Engineer. Rates quoted include the cost of annealed steel binding wire of appropriate specifications. Rate also include necessary cost of straightening, cutting, bending, binding and placing in appropriate position as per approved drawing to the satisfaction of Engineer.

2.2.3.3 Welding of reinforcement will not be generally permitted except in special circumstances under the written approval of the Engineer.

2.2.3.4 A register shall be maintained by the Contractor with full details (including bar bending schedule) of reinforcement provided for accountable and payment of steel reinforcement. The contractor should sign such register approved by Engineer before undertaking concreting works, as a token of acceptance of the

details of reinforcement steel provided in works, failing which the details as recorded by Engineer shall be binding on the contractor for the purpose of payment and no dispute will be entertained by DFCCIL on this account.

2.2.3.5. Contractor shall remove from site any steel materials rejected by the Engineer within a reasonable time as specified by him.

2.2.3.6 Protective Coatings: - In order to offer adequate resistance against corrosion, reinforcement bars may be provided with suitable protective coatings depending upon the environmental conditions. In aggressive environments (severe, and extreme) application of cement slurry coating after removal of rust and other loose material from the surface of the reinforcement bar will generally be sufficient.

2.2.3.7 The steel consumption shall be as per the drawings issued by the DFCCIL. Quantity of steel reinforcement consumption shall be as per reinforcement actually utilized in the work based on bar bending schedule as approved by Engineer confirming with approved drawing. Nothing extra will be paid for wastage or for cut rods, if any, which will be property of the contractor. The weight of the steel will be calculated from the nominal weight given in the producer's hand / IRUSS (W & M), 2010-Volume-I books.

2.2.4 Coarse & Fine Aggregates: -

- 2.2.4.1 Aggregates shall comply with the requirements of IS: 383 and shall be subjected to the tests in accordance with IS: 2386. Coarse aggregates shall be from crushed stone from approved quarries. Sand shall be from good river sources as approved or of approved quarries only. The contractor shall get the approval of the sources of Coarse and Fine aggregates before initial procurement and well in time in case of change of source, from the Engineer, before utilizing the material.
- 2.2.4.2 The size of the coarse aggregates shall be as per relevant IRS / IS specifications.
- 2.2.4.3 The size of the fine aggregates shall be as per relevant IRS / IS specifications.
- 2.2.4.4 Coarse aggregate shall be crushed and roughly cubical in shape. Fine aggregate shall be naturally produced. Creek/ Marine sand shall not be used in permanent works.
- 2.2.4.5 The grading of the sand shall conform to relevant IS specification. The sand shall be screened on a 4.75 mm size screen to eliminate over size particles. The sand, if required, shall be washed in screw type mechanical washers in potable water to remove excess silt, clay and chlorides wherever required. The screening and washing of sand shall be completed at least one day before using it in concrete. The washed sand shall be stored on a sloping platform and in such a manner as to avoid contamination.

2.2.5 Water:

- 2.2.5.1 Water used for washing of aggregates and for mixing and curing concrete shall be clean, potable and free from injurious amounts of oils, acids, alkalis, salts, sugar, organic materials or other substances that may be deleterious to concrete or steel and shall conform to clause 5.4 of IS : 456.
- 2.2.5.2 In case of doubt regarding development of strength, the suitability of water for making concrete shall be ascertained by the compressive strength as per IS : 4031 (Part VI) and initial setting time tests IS : 4031 (Part V).
- 2.2.5.3 Water found satisfactory for mixing is also suitable for curing concrete. However, water used for curing should not produce any objectionable stain or unsightly deposit on the concrete surface. The presence of tannic acid or iron compounds is objectionable.

2.2.6 Admixtures: -

- 2.2.6.1 In bridges, use of admixtures is governed by clause 4.4 of IRS Concrete Bridge Code.
- 2.2.6.2 The admixtures, when permitted, shall conform to IS: 9103. Calcium chloride or admixtures containing calcium chloride shall not be used in structural concrete containing reinforcement, pre-stressing tendon or other embedded metal. The admixture containing Cl & SO₃ ions shall not be

used. Admixtures containing nitrates shall also not be used. Admixtures based on thiocyanate may promote corrosion and therefore shall be prohibited.

2.2.6.3 Concrete admixtures shall be obtained only from established manufactures with proven track record or as per approved list wherever available.

2.2.6.4 The contractor shall provide the following information concerning each admixture after obtaining the same from the manufacturer before the same is put to use:

- (a) The chemical names of the main ingredients in the admixtures.
- (b) The chloride iron content, if any, expressed as a percentage by mass of the total admixture.
- (c) Values of dry material content, ash content and relative density of the liquid admixture which can be used for Uniformity Tests.
- (d) Whether or not the admixture leads to the entrainment of air when used as per the manufacturer's recommended dosage, and if so to what extent.
- (e) Where two or more admixtures are proposed to be used in any one mix, confirmation as to their compatibility.
- (f) There would be no increase in risk of corrosion of the reinforcement or other embodiments as a result of using the admixture.
- (g) Retardation achieved in initial setting time.
- (h) Normal dosage and detrimental effects, if any, of under dosage and overdosage.
- (i) Recommended dosages and expected results, including proof for the same wherever required. Independent test results shall be produced by the contractor on demand/as specified.

2.2.7 Storage of materials: -

2.2.7.1 Storage of materials shall be as per IS: 4082. All materials may be stored at proper places so as to prevent their deterioration or intrusion by foreign matter and to ensure their satisfactory quality and fitness for the work. The storage space must also permit easy inspection, removal and restoring of the materials. All such materials even though stored in approved godowns / places, must be subjected to acceptance test prior to their immediate use.

2.2.7.2 Aggregate shall be stored at site on a hard and dry level patch of ground. If such a surface is not available, a platform of planks or of corrugated iron sheets, or a floor of dry bricks, or a thin layer of lean concrete shall be made so as to prevent the admixture of clay, dust, vegetable and other foreign matter.

Stacks of fine and coarse aggregate shall be kept in separate stack piles, sufficiently removed from each other to prevent the materials at the edge of the piles getting intermixed. On a large job it is desirable to construct dividing walls to give each type of aggregate its own compartment. Fine aggregate shall be stacked in place where loss due to the effect of wind is minimum.

Unless specified otherwise or necessitated by site conditions, stacking of aggregate should be carried out in regular sizes.

2.2.7.3 Cement shall be transported, handled and stored at the site in such a manner as to avoid deterioration or contamination. Cement shall be stored above ground level in perfectly dry and water-tight sheds and shall be stacked not more than eight bags high. Wherever bulk storage containers are used their capacity should be sufficient to cater to the requirement at site and should be cleaned at least once every 3 months. Cement older than 3 months from the date of manufacture shall not be used. Each consignment shall be stored separately so that it may be readily identified and inspected and cement shall be used in the sequence in which it is delivered at site. Any consignment or part of a consignment of cement which had deteriorated in any way, during storage, shall not be used in the works and shall be removed from the site by the Contractor without charge to DFCCIL. For more details regarding stacking and storage of cement, refer clause 17.10.1, 17.10.2 and 26.1.2.7 of Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020.

2.2.7.4 The reinforcement bars, when delivered on the job, shall be stored above the surface of the ground level by at least by 150mm and shall ordinarily be stored in such a way as to avoid distortion and to prevent deterioration and corrosion. Every bar shall be inspected before assembling on the works and any defective, brittle, excessively rusted or burnt bars shall be removed. Cracked ends of bars shall be cut out.

2.2.8 Testing of cement & others: -

Cement and other items shall be tested as per specifications. However, the contractor shall also arrange for additional tests at his own cost as required by the Engineer as and when required. The decision of the Engineer shall be final in this regard.

2.2.9 Concreting: -

2.2.9.1 The contractor shall make his own arrangements for supply of water and electricity for all his works at his own cost. He shall arrange potable quality water for use in all concrete works and samples of water shall be got tested from NABL accredited laboratory approved by the Engineer before being used in concreting. Apart from water, fine & coarse aggregates and all other materials shall be tested from time to time by the contractor at his cost to ensure proper quality works.

2.2.9.2 Maximum / minimum size of aggregates, standards of quality of materials, minimum cover for concrete, use of admixtures / chemicals, treatment to reinforcement / finished surfaces, etc., shall be as per relevant Codes, IS / IRS specifications and conditions of contract as specified.

2.2.9.3 All exposed concrete surfaces shall be finished smooth by the contractor at his own cost. Shuttering materials for RCC in superstructure shall be strictly of steel only to permit vigorous vibration and to

ensure no deviation of finished dimensions by more than +5/-0 mm and wooden shutters are not permitted. For other works also, proper quality of shuttering materials which will permit vibrating and will not require additional finishing shall only be used. If there is any variation in the surface, alignment or lines in the products beyond permissible rejection limits indicated in these conditions, the Employer/Engineer reserves the right to reject the same and the contractor shall not have any claim in this regard and cost of Employer/Engineer materials involved will be recovered from the contractor including penalties, if any imposed.

2.2.10 Weigh batching, vibrating, curing & testing:

2.2.10.1 All concrete shall be machine batched, machine mixed and machine vibrated, by using appropriate vibrators. Weigh batching plant, mixers, vibrators, etc., of appropriate capacity, as specified/directed by the Engineer, shall be arranged by the contractor at his cost. In this case, Weigh batching plants shall have computerized control for weighing, loading, mixing and delivery.

2.2.10.2 Batching plants, transit mixers, concrete pumps, etc., shall be installed by the contractor necessarily at site. In case of failure of any of the above, standby arrangements for ensuing continuous concreting has to be provided by the contractor at his cost. For piling works concreting shall be done continuously as per the volumes designed without break and accordingly standby arrangements shall be ensured by the contractor.

2.2.10.3 Curing & vibrating shall be arranged by the contractor at all locations/heights at his own cost and no extra payment on this account will be admissible. Curing of concrete shall be done as per relevant IS Codes / Specifications. If curing is not done by the contractor properly, DFCCIL may get it done through any other means at the Contractor's cost without any notice to him and recover from his bills the same including penalty if any at the discretion of the Engineer.

2.2.10.4 Test cubes shall be cast at regular intervals and tested to ascertain the strength of concrete. The contractor shall establish a cube testing facility along with operator at the site or nearby area to facilitate prompt testing of concrete. Test cube moulds as required as per IS Codes shall be made available by the contractor at his cost.

2.2.11 Design Mix Concrete:

(a) **General:** Design Mix is mandatory for grades higher than M20. For concrete of compressive strength greater than M55, specialized literature should be consulted. Admixtures may be used while designing. Only design mix shall be used for all items of concrete. Prior to the start of construction, the contractor shall submit details of each trial mix of each grade of concrete to the Engineer for approval. When the proportions of the mix are approved, the contractor shall not vary any of the design parameters or the source of the materials without the approval of the Engineer. Wherever there is a significant change in materials used, fresh trial mix shall be arranged by the contractor as required by the Engineer. The concrete shall be designed keeping in view the minimum cement content and maximum cement content. Minimum cement content depends upon the environmental exposure conditions but maximum Cement Content shall be limited to 500kg/m.³

(b) **Mix Design and Proportioning:** Recommended guidelines for Concrete Mix Design are given in IS: 10262 which may be referred to for details. As mentioned therein in order that not more than the specified proportion of test results is likely to fall below the characteristic strength, the concrete mix has to be designed for a somewhat higher target average compressive strength. In terms of clause 9.2.2 of IS: 456, the Target Mean Strength of Concrete mix should be equal to the characteristic strength plus 1.65 times the Standard Deviation. Mix proportions shall be designed to ensure that the workability of fresh concrete is suitable for conditions of handling and placing, so that after compaction it surrounds all reinforcement and completely fill the form work. When concrete is hardened, it shall have the stipulated strength, durability and impermeability.

Determination of the proportions of by weight of cement, aggregate and water shall be based on design mix.

As a trial the manufacturer of concrete may prepare a preliminary mix according to provisions of SP:23-1982. (Special Publications 23-1982 of Bureau of Indian Standards) Mix design shall be tried and the mix proportions checked on the basis of tests conducted at a recognized laboratory approved by the Engineer. All concrete proportions for various grades of concrete shall be designed separately and mix proportions established keeping in view the workability for various structural elements, methods of placing and compacting.

(c) **Standard deviation:** Standard deviation calculations of test results based on tests conducted on the same mix design for particular grade designation shall be done in accordance with Clause 9.2.4 of IS 456. Table 8 of IS 456 gives the standard deviation that can be assumed for design of mix in the first instance. The final standard deviation figures may be determined based on test results for the particular grade of concrete when available.

Max size of Aggregate, Target Mean Strength			
Grade of Concrete	Max size of Aggregate (mm)	Characteristic Strength (fck) at 28 days (N/mm ²)	Target Mean Strength (fck) 28days (N/mm ²)
M20	20	20	26.60
M25	20	25	31.60
M30	20	30	38.25
M35	20	35	43.25
M40	20	40	48.25
M45	20	45	53.25

(d) **Approval of Design Mix:** The contractor shall submit details of each trial mix of each grade of

concrete designed for various workability conditions to the Engineer for his comments and approval. Concrete of any particular design mix and grade shall be produced / manufactured for works only on obtaining written approval of the Engineer.

(e)

2.2.12 Requirements of Consistency: - The mix shall have the consistency which will allow proper placement and consolidation in the required position. Every attempt shall be made to obtain uniform consistency. The optimum consistency for various types of structures shall be as indicated in table below or as directed by the Engineer.

Slump Required for workability		
Sr. No.	Type	Slump (mm)
1	(a) Structures with exposed inclined surface requiring low slump concrete to allow proper compaction	25
	(b) Plain Cement Concrete	25
2	RCC structures with widely spaced reinforcements; e.g. solid columns, piers, abutments, footings, well staining	40-50
3	RCC structures with fair degree of congestion of reinforcement; e.g. pier and abutment caps, box culverts well curb, well cap, walls with thickness greater than 300mm	50-75
4	RCC and PSC structures with highly congested reinforcements e.g. deck slab girders, box girders, walls with thickness less than 300mm	75-125
5	Underwater concreting through tremie e.g. bottom plug, cast-in-situ piling	100-200

The minimum slump of concrete in case of bored cast in situ pile shall be 150 to 200mm.

2.2.13 Durability: - The durability of concrete depends on its resistance to deterioration & environment in which it is placed. The resistance of concrete to weathering, chemical attack, abrasion, frost and fire depends largely upon its quality and constituent materials. Susceptibility to corrosion of the steel is governed by the cover provided and the permeability of concrete. The cube crushing strength alone is not a reliable guide to the quality and durability of concrete; it must also have adequate cement content and a low water-cement ratio. The general environment to which the concrete will be exposed during its working life is classified into three levels of severity that is moderate, severe, and extreme as described below:

Environment	Exposure condition
MODERATE	Concrete surface protected against weather or aggressive conditions. Concrete surface sheltered from severe rain or freezing whilst wet. Concrete exposed to condensation. Concrete structure continuously under water. Concrete in contact with non-aggressive soil /ground water.
SEVERE	Concrete surface exposed to severe rain, alternate wetting & drying or occasional freezing or severe condensation. Concrete exposed to aggressive subsoil / ground water or coastal environment.
EXTREME	Concrete surface exposed to sea water spray, corrosive fumes or severe freezing conditions whilst wet. Concrete structure surfaces exposed to abrasive action, surfaces of members in tidal zone. All other exposure conditions which are averse to exposure conditions covered above.

Maximum water-cement ratio, grade of concrete and cementitious material content for various environment conditions for achieving durability are indicated below for guidance:

2.2.13.1 Maximum Water Cement Ratio: -

The limits for maximum water cement ratio for design mix shall be based on environmental conditions as defined in durability clause. The limits for maximum water cement ratio for different environmental conditions shall be as given in Table below:

Environment	Maximum Water-Cement Ratio		
	Plain Concrete (PCC)	Reinforced Concrete (RCC)	Pre stressed Concrete (PSC)
Moderate	0.50	0.45	0.40
Severe	0.45	0.40	0.40
Extreme	0.40	0.35	0.35

2.2.13.2 Grade of Concrete: -From durability consideration, depending upon the environment to which the structure is likely to be exposed during its service life, minimum grade of concrete shall be as given in table below:

Minimum Grade of Concrete

For Bridges in Pre-stressed Concrete and important Bridges.

Structural member	Moderate exposure	Severe Exposure	Extreme exposure
PCC member	M-25	M-30	M-35

RCC member	M-30	M-35	M-40
PSC member	M-35	M-40	M-45

For Bridges other than mentioned above and sub-structure

Structural member	Moderate exposure	Severe Exposure	Extreme exposure
PCC Member	M-15	M-20	M-25
RCC member	M-20	M-25	M-30
Structural member	Moderate exposure	Severe Exposure	Extreme exposure
PCC Member	M-15	M-20	M-25
RCC member	M-20	M-25	M-30

2.2.13.3 **Cementitious Material Content**:-Maximum Cementitious Material Content shall be limited to 500kg/m³. Depending upon the environment to which the structure is likely to be exposed during its service life, minimum Cementitious Material Content in concrete shall be as given in table below:

Minimum Cementitious Material Content				
Environment	Minimum Cementitious Material Content in Kg/cum			
	Plain Concrete (PCC)		Reinforced Concrete (RCC)	
	Grade	Content	Grade	Content
Moderate	M25	240	M30	300
Severe	M30	250	M35	350
Extreme	M35	300	M40	400

2.2.13.4 Clear cover is the least distance from outer most surface of steel or binding wire or its end to the face of concrete. It is also an dimension used in design and indicated on the drawings. From durability consideration, minimum clear cover shall be as under.

Minimum Covers			
Type of structure	Extreme Environment	Severe Environment	Moderate Environment
Slab	50	35	25
Beam/Girder	60	50	35
Column	75	75	50
Piles	75	75	50

2.2.14 Permeability of concrete: Permeability requirements are as specified in IRS Concrete Bridge Code. Permeability test shall be mandatory for all RCC bridges under severe and extreme environment. Under moderate environment, permeability test shall be mandatory for all major bridges and for other bridges and structures.

2.2.15 Mixing of concrete:

2.2.15.1 Concrete shall be mixed either in a mini mobile batching plant or in a batching and mixing plant as per the specifications. Hand mixing shall not be permitted. The mixer or the plant shall be at an approved location considering the properties of the mixes and the transportation arrangements available with the Contractor. The mixer or the plant shall be approved by the Engineer.

2.2.15.2 Mixing shall be continued till materials are uniformly distributed and a uniform colour of the entire mass is obtained, and each individual particle of the coarse aggregate shows complete coating of mortar containing its proportionate amount of cement.

2.2.15.3 Mixers which have been out of use for more than 30 minutes shall be thoroughly cleaned before putting in a new batch. The first batch of concrete from the mixer shall contain only two thirds of the normal quantity of coarse aggregate. Mixing plant shall be thoroughly cleaned before changing from one type of mix to another.

2.2.16 Transporting, Placing and Compaction of Concrete:

2.2.16.1 The method of transporting and placing concrete shall be approved by the Engineer. Concrete shall be transported and placed as near as practicable to its final position, so that no contamination, segregation or loss of its constituent materials takes place. Concrete shall not be freely dropped into place from a height exceeding 1.5 meters.

2.2.16.2 When concrete is conveyed by chute, the chute shall be of such size and design as to ensure practically continuous flow. Slope of the chute shall be so adjusted that the concrete flows without the use of excessive quantity of water and without any segregation of its ingredients. The delivery end of the chute shall be as close as possible to the point of deposit. The chute shall be thoroughly flushed with water before and after each working period and the water used for this purpose shall be discharged outside the formwork.

2.2.16.3 All formwork and reinforcement contained in it shall be cleaned and made free from standing water, dust, immediately before placing of concrete.

2.2.16.4 No concrete shall be placed in any part of the structure until approval of the Engineer has been obtained.

2.2.16.5 If concreting is not started within 24 hours of the approval being given, it shall have to be obtained again from the Engineer. Concreting then shall proceed continuously over the area between the construction joints. Fresh concrete shall not be placed against concrete which has been in position for more than 30 minutes unless a proper construction joint is formed.

2.2.16.6 Except where otherwise agreed to by the Engineer, concrete shall be deposited in horizontal layers

to a compacted depth of not more than 450 mm when internal vibrators are used and not exceeding 300 mm in all othercases.

- 2.2.17** Concrete when deposited shall have a temperature of not less than 5⁰ C and not more than 40°C. It shall be compacted in its final position within 30 minutes of its discharge from the mixer, unless carried in properly designed agitators, operating continuously. It may be necessary to add retarding admixtures to concrete if trials shows that the period indicated above are unacceptable. In all such matters, engineer's decision shall be final.
- 2.2.18** Concrete shall be thoroughly compacted by vibration or other means approved by Engineer, during placing and worked around the reinforcement, embedded fixtures and into corners of the formwork to produce a dense homogenous void-free mass having the required surface finish. When vibrators are used, vibration shall be done continuously during the placing of each batch of concrete until the expulsion of air has practically ceased and in a manner that does not promote segregation. Over vibration shall be avoided to minimize the risk of forming a weak surface layer. When external vibrators are used, the design of formworkand disposition of vibrator shall be such as to ensure efficient compaction and to avoid surface blemishes. Vibrators shall not be applied through reinforcement and where vibrators of immersion type are used, contact withreinforcement and all inserts like ducts etc., shall be avoided. The internal vibrators shall be inserted in an orderly manner and the distance between insertions should be about one and half times the radius of the area visibly affected by vibration. Additional vibrators in serviceable condition shall be kept at site so that they can be used in the event of breakdowns.
- 2.2.19** Mechanical vibrators used shall be of appropriate specifications, type and capacity and as directed by the Engineer.

2.2.20 Equipment and machinery for concreting:

- 2.2.20.1 For concrete works, the following equipment `s in numbers indicated are considered necessary for efficient and speedier concreting at each site.

However, the actual numbers may be arranged as required by theEngineer, taking into account the site conditions.

Indicative List of Equipment and Machinery		
1.	Concrete Batching plant (10 to 20 cum/hr capacity)	1 No.
2.	Transit Mixers (4 to 7 cum capacity)	2 Nos.
3.	Concrete Vibrators (2 HP capacity)	4 Nos.
4.	Vibrators of Needles (60mm & 40mm)	4 Nos.
5.	Screed vibrator (for ROBs)	2 Nos.
6.	Form vibrator (500 watts capacity)	2 Nos.
7.	Generator (35 KV capacity)	1 No.
8.	Welding set (3 to 5 KV capacity)	1 No.
9.	Reinforcement Steel Cutting Machine	2 No.

10.	Reinforcement Steel Bending Machine	2 No.
11.	Concrete Pumps (10 to 20 HP capacity with 40m pipe length)	1 No.
12.	Hydra 12.0 T capacity crane	1 No.
13.	Concrete Funnel Bucket	1 No.
14.	Air compressor (100 to 150 cum capacity)	1 No.
15.	Concrete Dumpers	2 Nos.
16.	Any other including power lifts etc., as required to suit site	Adequate No.

2.2.20.2 All the machinery are required to be arranged by the contractor at his own cost and the agreement rates for concreting include the same. No extra payment is admissible for any machinery arranged by the contractor.

2.2.21 TRANSPORTATION OF CONCRETE & PUMPING OF CONCRETE

2.2.21.1 General

Fresh concrete can be transported to the placement area by a variety of methods. Common among them are:

- Mixer trucks
- Stationary truck bodies with or without agitators.
- Buckets hauled by trucks.
- Conveyor belts.
- Hose or pipe line by pumping.

Each type of transportation has specific advantages and limitations depending on the condition of use, mix, accessibility and location of placing.

2.2.21.2 Transportation by Mixer Trucks

2.2.21.2.1 These are essentially revolving drums mounted on truck chassis. Truck mixers used in the job shall be labelled permanently to indicate the manufacturer's specifications for mixing like:-

- Capacity of drum.

- Total number of drum revolutions for complete mixing.
- Mixing speed

Maximum time limit before completion of discharge and after cement has entered the drum.

Reduction in time period of discharge due to warm weather or other variables.

All above information shall only form guidelines for the manufacturer/producer of concrete.

2.2.21.2.2 Fulfilment of the stipulated number of revolutions or elapsed time shall not be the acceptable criterion. As long as the mixing water limit is not exceeded and the concrete has satisfactory plastic physical properties and is of satisfactory consistency and homogeneity for satisfactory placement and consolidation and is without initial set, the concrete shall be acceptable.

2.2.21.2.3 When the concrete is totally mixed in transporting trucks volume of concrete being transported shall not exceed 63% of the rated capacity of the drum. In case the concrete is totally mixed in the central batching plant, the transporting truck may be loaded up to 80% of the rated capacity of the drum. In this case the drum shall be rotated at charging speed during loading and reduced to agitating speed after loading is complete.

2.2.21.2.4 When transporting concrete by truck mixers, delivery time shall be restricted to 90 minutes or initial setting time whichever is less from the time cement has entered the mixer to completion of discharge.

2.2.21.3 Transporting by Agitating / Non-agitating Trucks.

2.2.21.3.1 Transporting ready mix concrete by this method shall consist of truck chassis mounted with open top bodies. The metal body shall be smooth and streamlined for easy discharge. Discharge may be from the rear when the body is mechanically tilted. Body of the truck shall have a provision of discharge gate. Mechanical vibrators shall be installed at the discharge gate for control of discharge flow.

2.2.21.3.2 Agitators, if mounted, also aid in the discharging of concrete from the truck in addition to keeping the concrete alive.

2.2.21.3.3 Water shall not be added to concrete in transport through this system.

2.2.21.3.4 Bodies of trucks shall be provided with protective covers during period of inclement weather.

2.2.21.3.5 Delivery period, when adopting this system of transporting concrete shall be restricted to 30 minutes from the moment all ingredients including cement and water enter in mixer to completion of discharge.

2.2.21.4 Transporting by Buckets

This method of transportation is very common for transportation of centrally mixed concrete. Buckets of suitable capacities may be filled with concrete which is totally mixed in central plant and hauled to the job site. Buckets then may be conveyed to the actual point of placement either with the help of crane/hoist or they may be carted..

As in the case of open truck transportation, extra water shall not be added to concrete transported in buckets. Concrete shall be protected from inclement weather by necessary covering arrangements. Also, maximum delivery period for this system of transportation from the time cement is introduced into the mixer to completion of discharge shall not exceed 30 minutes.

2.2.21.5 Cleaning

Before loading concrete in either truck mixer, open bodied trucks or buckets, the containers shall be thoroughly cleaned, washed and dried, so that there is no water or moisture in the container which may affect the designed water content of the concrete.

2.2.21.6 Other Methods of Transportation

Transportation of concrete either by belt conveyors or by pumping is envisaged in some works.

If, the producer/manufacturer/purchaser/contractor of ready mix concrete desires to use such methods of transportation, they may do so provided their scheme and complete specifications are submitted to the Engineer for his record and approval.

2.2.21.7 Objective

Method of transportation used shall ensure: -

Efficient delivery of concrete

No significant alterations of properties with regard to water cement ratio, slump, air content and homogeneity.

All variables in transportation, considering type and accessibility of placement locations, distance, time interval etc., shall be carefully studied before arriving at the method used.

2.2.21.8 Pump able Concrete (Extracted from Para 8.9 of Concrete BridgeCode, 1997)

General- Pumpable concrete is the concrete which is conveyed by pressure through either rigid pipe or flexible hose and discharged directly into the desired area. It is especially used where space for construction equipment is very limited.

Pumping Rate and Range – Depending on the equipment, pumping rate should be 10 to 70 cum. per hour. Effective pumping range is upto 300m horizontally and 90m vertically.

(i) Proportioning Pumpable Concrete

Basic Consideration - More emphasis on quality control is essential to the proportioning and use of a dependable pump mix. Concrete mixes for pumping must be plastic. Particular attention must be given to the mortar and to the amounts and sizes of coarse aggregates.

The maximum size of angular coarse aggregate is limited to one-third of smallest inside diameter of the hose or pipe. Provisions should be made for elimination of oversized particles in the concrete by finish screening or by careful selection of aggregates.

(ii) Pumping Concrete

- a) Proper planning of concrete supply, pump locations, line layout, placing sequences and the entire pumping operation will result in saving of cost and time. The pump should be placed as near the placing area as practicable and the entire surrounding area must have adequate bearing strength. Lines from the pump to the placing area should be laid out with a minimum of bends. The pipe line shall be rigidly supported.
- b) While pumping downward 15m or more, it is desirable to provide an air release valve at the middle of the top bend to prevent vacuum or air build up. When pumping upward, it is desirable to have a valve near the pump to prevent reverse flow.

2.2.22 Construction Joints: -

- 2.2.22.1 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. Sequencing of concrete placement should be organized in such a way that cold joints are totally eliminated. The sequence of concreting shall be submitted for approval of Engineer prior to concreting of the structural element. Concreting shall be carried out continuously up to the construction joints, the position and arrangement of which shall be predetermined by the designer.
- 2.2.22.2 Construction joints should be positioned to minimize the effect of the discontinuity on the durability, structural integrity and appearance of the structure. Joints should be located away from regions of maximum stress caused by loading particularly where shear and bond stresses are high.
- 2.2.22.3 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. 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. Fully hardened concrete should be treated with mechanical hand tools or grit blasting, taking care not to split or crack aggregate particles.
- 2.2.22.4 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 concrete should be cut back to expose the bars for a length of about 50 mm to ensure that contaminated concrete is removed.

2.2.22.5 In all cases, when construction joints are made, it should be ensured 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.

2.2.22.6 When the formwork 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 6 mm thick sponge which seals the gap completely. 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.

2.2.23 Finishing of concrete: The finished surface of concrete after removal of formwork shall be such that no touching up is required. All fins/holes caused by form joints, supports, rods etc., shall be ground/filled up effectively using appropriate machinery shutters, formwork etc., used in construction shall be as specified in the conditions and the labour used shall be skilled to suit the quality requirements of the work. Any surface, finished poorly in the opinion of the Engineer shall require repair/remedial measures at the cost of the contractor and the Engineer's decision in this regard shall be final. Any structure, which has deficiencies in finishing including product parameters beyond the rejection limits, as specified in these conditions, are liable to be rejected and the decision of the Engineer shall be final in this regard.

2.2.24 Coatings for concrete: Normally finished concrete structures do not require any surface protective coatings in non-aggressive environment (moderate) for all structures. For aggressive environment (severe and extreme conditions), Epoxy phenolic IPN coating or CECRI Integrated four coat system can be used in superstructure of bridges and coal tar epoxy coating for sub structure of bridges (in affected part only).

2.2.25 Shuttering, Formwork & False work:-

2.2.25.1 Shuttering, Formwork & False work shall be designed to meet the requirements of the permanent structure, taking into account the actual conditions of materials, environment and site conditions. Careful attention shall be paid to the detailing of connections and functions. All the materials used for shuttering, formwork & falsework shall conform to the specified quality consistent with the intended purpose and actual site condition as applicable. All shuttering, form work, falsework, etc., shall be got approved by the Engineer before it is put into use.

2.2.25.2 Forms shall not be struck until the concrete has reached strength at least twice the stress to which the concrete may be subjected at the time of removal of formwork or as approved by the Engineer. In normal circumstances and where Ordinary Portland Cement is used, forms may generally be removed after the expiry of the following periods: -

Stripping Time	
a) Walls, columns and vertical faces of all structural members	24 to 48 hours as may be decided by the Engineer
b) Slabs (props left under)	3 days
c) Beam soffits (props left under)	7 days
d) Removal of props under slabs	
1) Spanning up to 4.5 m	7 days
2) Spanning over 4.5 m	14 days
e) Removal of props under beams	
1) Spanning up to 6 m	14 days
2) Spanning over 6 m	21 days

Where the shape of the element is such that the formwork has re-entrant angles, the formwork shall be removed as soon as possible after the concrete has set, to avoid shrinkage crack occurring due to the restraint imposed.

2.2.26 Defective Concrete and Measurement of concrete:

2.2.26.1 Should any concrete be found honeycombed or in any way defective which may be, at the discretion of the Engineer suspected to affect the performance of the structure, shall be rejected outright. Contractor shall have no claim in this regard and the decision of the Engineer shall be final. The member, structurally independent, in which the concrete is found to be defective, shall be replaced by the contractor at his cost fully. The damages arising on account of such defective concreting shall also be recoverable from the dues of the contractor, including penalties if any. DFCCIL reserves the right to get the member replaced by any means at the cost of the contractor at any cost if the contractor delays reproduction.

2.2.26.2 However, some surface defects, not affecting the structural properties shall, on the instruction of the Engineer, be repaired as per the approved procedures. The complete cost of such repairs shall be borne by the contractor and no compensation shall be payable. Records of such repairs done shall be maintained by the contractor.

Tolerances for Finished Concrete Bridge Structure		
S N	Description of defects in any part or full member or the structure at the decision of the Engineer.	Permissible limits (unless otherwise specified in designs/drawings)
1	Shift from alignment	1) + 25 mm in member.
2	Deviation from plumb in piers or variation from specified batter.	1 in 250 subjected to a maximum value of 0.5 times the least lateral

		dimension of pier.
3	Deviation from plumb in abutments or variation from specified batter.	1 in 125
4	Cross sectional dimensions of piers, abutments and girders	+20mm/-5mm
5	Thickness of deck slab of bridges	+ 6 mm / - 3 mm
6	Size and location of openings	+ 12 mm
7	Plan dimensions of footings (formed excavation)	+ 50 mm / - 25 mm
8	Plan dimensions of footings (unformed excavation)	+ 75 mm / - 00 mm
9	Thickness of footings	-5%, + No limit
10	Footing eccentricity	0.02 times the width of the footing in the direction of deviation, but not more than 50 mm
11	Reduced level of top of footing / pier / bed block	± 5 mm
12	Centre to centre distance of pier and abutments at pier top	± 30 mm
13	Centre to centre distance of bearings along span	± 5 mm
14	Centre to centre distance of pier bearings across span	± 5 mm

2.2.26.3 The tolerances for finished concrete bridge structures shall be governed by IRS Concrete Bridge Code and shall be followed; deviations beyond the permissible limits shown are liable to be rejected. These tolerances apply to other structures also appropriately.

2.2.27 Sampling and Strength Testing of Concrete:

2.2.27.1 General: Samples from fresh concrete shall be taken as per IS: 1199 (method of sampling and analysis of concrete). Concrete for making 3 test cubes shall be taken from a batch of concrete at point of delivery into construction according to procedure laid down in IS: 1199- and 150-mm cubes shall be made, cured and tested at the age of 28 days for compressive strength in accordance with IS:516. The 28 days test strength result for each cube shall form an item of sample.

Concrete shall conform to the surface finish and tolerance as prescribed in Unified specifications. Random sampling and lot by lot of acceptance / inspection shall be made for the 28 days cube strength of concrete.

Concrete under acceptance shall be notionally divided into lots for the purpose of sampling, before commencement of work. The delimitation of lots shall be determined by the following:

- (i) No individual lot shall be more than 30 cum in volume.
- (ii) At least one cube forming an item of the sample representing the lot shall be taken from concrete of the same grade and mix proportions cast on any day.
- (iii) Different grades of mixes of concrete shall be divided into separate lots.
- (iv) Concrete of a lot shall be used in the same identifiable component of the bridge.

2.2.27.2 Sampling .

2.2.27.2.1 Frequency of Sampling

Sampling procedure: A random sampling procedure shall be adopted to ensure that each concrete batch forming the lot under acceptance /inspection shall have a reasonable chance of being tested that is, sampling should be spread over the entire period of concreting and cover all mixing units.

Frequency: The minimum frequency of sampling of concrete of each grade shall be in accordance with table below. At least one sample shall be taken from each shift of work.

Minimum Frequency of Sample	
Quantity of concrete in work, (M3)	No. of samples
1-5	1
6-15	2
16-30	3
31-50	4
51 and above	4 plus one additional sample for each additional 50 M3 or part thereof

2.2.27.2.2 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.

2.2.28 Test Results of Sample: The test results of the sample shall be the average of the strength of

3 specimens. The individual variation should not be more than ± 15 percent of average. If more, test results of the sample are invalid.

2.2.29 Acceptance Criteria of Concrete: Acceptance criteria shall be acceptance of concrete as per relevant Clause and Annexure of Indian Railways Unified Standard Specifications (Works and Material) -2010 / 2020. Also refer criteria of concrete relevant Clause of Indian Railway Unified specifications. The 28 days compressive strength shall be the criterion for acceptance or rejection of the concrete.

The followings shall also be strictly followed.

- (i) Whenever a mix is redesigned due to a change in the quality of aggregate or cement or for any other reason, it shall be considered a new mix and initially subject to the acceptability criteria above.
- (i) If the concrete produced at site does not satisfy the above strength requirements, the Engineer shall reserve the right to require the contractor to improve the methods of batching, the quality of the ingredients and redesign the mix with increased cement content, if necessary. The Contractor shall not be entitled to claim any extra cost for the extra cement used for the modifications stipulated by the Engineer for fulfilling the strength requirement specified.
- (ii) It is the complete responsibility of the contractor to redesign the concrete mixes by approved standard methods and to produce the reinforced concrete conforming to the specification and the strength requirements approved by the Engineer. It is expected that the Contractor will have competent staff to carry out this work.

2.2.30 Setting of field laboratory by the Contractor:

2.2.30.1 For all works, the Contractor shall set up a field laboratory of his own for testing of cement/water/concrete at work site, which should be open for use and inspection by the DFCCIL officials at any time and carry out the tests with his own equipment's, gauges, machinery, consumables and operators, at his own cost. The laboratory shall be equipped with necessary equipment to carry out various tests such as property tests, sieve analysis, setting time of cement, compression tests on cubes, slump test, workability test etc., on aggregate, cement, water and concrete required for ensuring the required quality. For steel however, test reports of reputed institutes/laboratories are acceptable.

2.2.30.2 The cost of setting up the laboratory, equipping the same, maintaining conducting all tests on materials and cubes shall be borne by the contractor, within his quoted rates for works and no extra payment is eligible for the same.

2.2.30.3 All gauges, machines, equipment's and other measuring and testing equipment's of the laboratory shall be got checked / calibrated regularly and the necessary certificates furnished to the Engineer by the Contractor.

2.2.30.4 All the equipment, machinery etc., shall be kept in good working condition. Contractor shall also maintain the required qualified / experienced staff at the laboratory.

- (i) The following is the minimum laboratory facilities at the site which are to be provided and operated by the contractor at his cost. Testing of fine and coarse aggregates as per IS:383 and IS:2386.
- (ii) Testing of cement concrete as per IS: 8142 and IS:516.
- (iii) Testing of water as per IS: 456 and IS: 3025.
- (iv) Certain non-routine testing such as (a) Testing of admixtures, (b) Chemical testing of fine and coarse aggregates (c) Permeability of concrete (permeability test on concrete shall be got done when the mix design is approved / changed of the reputed laboratories as approved by Engineer). The frequency and need for these tests shall be decided by the Engineer, based on stipulations contained in conditions of contract or on the basis of accepted Engineering practice (e.g. whenever source of admixture is changed, tests stipulated in the codes will have to be carried out afresh, etc).

2.2.30.5As frequently as the Engineer may require, testing shall be carried out in thefield for:

- (a) Moisture content and absorption and density of sand and aggregate.
- (b) Silt content of sand.
- (c) Grading of sand and aggregates.
- (d) Slump test of concrete.
- (e) Concrete cube test.
- (f) Permeability test for concrete
- (g) Density of Plasticizer.
- (h) PH Value of water

2.2.31 Ladders for inspections: Steel ladders are to be provided at the abutments and all pier locations on both sides of girder bridges to enable inspecting officials to get down from the track level to the top of the piers / abutments.

2.2.32 Expansion joints: Expansion joints – strip seal elastomeric type expansion joint shall be for 80mm expansion gap in RCC deck slab as per drawings.

2.2.33 Seating of foundations:

As far as possible, open foundations should be located on the firm ground having stable strata. The strata shall be well compacted before levelling course and foundations are laid on the levelling.

In case foundations resting on rock, no foundation shall be laid on sloping rock. The rock shall be made level for the width of the foundation before levelling course is laid. Before seating on the rock, capacity of the rock shall be assessed properly and safe bearing capacity assessed in the designs is to be confirmed.

The seating of the rock shall be achieved by cutting into the rock at least by 0.50m depth to ensure removal of all weak layers and for obtaining adequate anchorage in case of open foundations. After level surface is made on the rock, a rich mix layer of 150mm thick shall be laid to even the bedding surface.

If the rock is encountered while piling, pile shall be anchored into rock to the depth as per codal provision.

2.2.34 Drainage outlets: 50mm galvanized GI pipes in case of deck slab in bridges will serve as drainage spouts.

- b) All necessary labour, materials, cement equipment, etc., for sampling, preparing test cubes, curing etc., shall be provided by the Contractor. Testing of the materials and concrete may be arranged by the Engineer-in-charge in an approved laboratory at the cost of the contractor.
- c) The payment shall be made on cum. basis of the finished work. The unit rate of concrete shall include the cost of all materials, cement, labour, tools and plant required for mixing, placing in position, vibrating and compacting finishing etc. complete.
- d) The payment for steel will be paid separately under relevant item.

PART VII

SCHEDULE OF ITEMS

SCHEDULE OF ITEMS

Name of work: - Construction of parallel Bituminous Service Road from OC building Niyol side DFC Ch. 10+970 A to 10+720 B (750mt length), at DFC Ch 23+773 KM to 26+947KM R.H.S (Village-Abrama & Gothangam) & DFC Ch 24+501 KM to 26+196 KM L.H.S (Village-Abrama) in the jurisdiction of CGM/Vadodara.

Item of Schedule - SCHEDULE A						
S. N	Item No	Description of work	Unit	Rate	Quantity	Amount
1	NS/01/A (26117C SOR R&B, Surat)	Clearing and grubbing site /road/land including uprooting all vegetation grass, bush shrubs sapling and tress with girth removal of stumps of trees of girth of all size including removing stumps of trees cut earlier and disposal of unserviceable materials and stacking of serviceable materials as directed by Engineer with all leads and lifts etc. complete as per specification before commencement and after completion of work.	Sqm	4.06	39000.00	158340.00
2	NS/02/A (26B004B SOR R&B, Surat)	Earth work for Embankment with soil having CBR -7 including breaking clods dressing with all lead and lift and including watering, rolling and consolidation of subgrade at OMC to required dry density including filling depression which occur during process using vibratory roller 8T to 10T (from Borrow area within 5km lead)	Cum	323.54	15195.69	4916413.54
3	NS/03/A (26161 SOR R&B, Surat)	Road marking with hot applied thermoplastic compound with reflectorizing glass beads on road surface providing and laying hot applied thermoplastic compound 2.5 CM thick including reflectorizing glass bends @ 250 gms /163qm t area thickness of surface applied glass bend as	Sqm	651.08	4227.90	2752701.13

Tender No.: BRC-EN-TEND-SR-22-23-115

		per IRC 35 the finished surface to be level uniform and free from streaks and holes.				
4	NS/04/A (26092B SOR R&B, Surat)	Cautionary warning sign: - Providing and fixing sign boards made out of 2 mm aluminium sheet; size 90 x 90 x 90 cms. Equilateral triangle as per design of IRC 67-1977. Pre-treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorized with retroreflective sheeting as per latest M.O.S.T. Specifications; 3.1 m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm as required; painted with best quality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing as site shall be in 1:2:4 CC block of size 45 x 45 x 60 Cms. For each leg. Including excavation, curing etc. complete under the supervision of engineer in charge. (B) High Intensity Grade.	No	4986.92	4.00	19947.68
5	NS/05/A (26103B SOR R&B, Surat)	Informatory Signs:- Providing and fixing sign boards made out of 2 mm aluminium sheet; size 80 x 60 cms. Rectangle as per design of IRC 67-1977. Pre-treated with phosphating process & acid etching; coated with one coat of epoxy primer and two coats of best quality epoxy paint; reflectorized with retro reflective sheeting as per latest M.O.S.T. Specifications; 3.1 m long stand post and frame fabricated from suitable size iron angle of 35 x 35 x 3 mm, 75 x 75 x 6 mm as required; painted with best quality epoxy coatings in black and white bends. The details of symbol for each board shall be as per the instruction of engineer in charge. The fixing at site shall be in 1:2:4 CC block of size 45 x 45 x 60 Cms. For each leg. Including excavation, curing etc. complete under the supervision of engineer in charge. (B) High Intensity Grade.	No	6179.20	6.00	37075.2

Tender No.: BRC-EN-TEND-SR-22-23-115

6	NS/06/A (27007A SOR R&B, Surat)	Excavation for foundation in sand, gravel, clay soft soil and murrum etc including shoring strutting dewatering as necessary and disposing of the excavated stuff as directed. Depth up to 3m and lead up to 100 for 10 cum (Rate 285.86 per cum item No 270071 SOR)	Cum	367.90	16.88	6210.15
7	NS/07/A	Supply and fixing Reinforced concrete heavy duty non pressure pipes with collars for culverts carrying heavy duty traffic as per IS 458-1991 specifications including setting the pipe in C.M. 1:2 watering and laying (to level slope OF CLASS NP3 OF INTERNAL 600MM dia	Per Meter	1546.74	150.00	232011
8	NS/08/A (26008 SOR R&B, Surat)	Box cutting the road surface to proper slope and camber for making a base for work including removing the excavated stuff and disposing on the road side slope as directed up to 50mt lead.	Cum	133.53	212.80	28415.18
Total of Schedule A						8151113.88
ADD 18% GST						1467200.50

Grand total of Schedule A 9618314.38

Tender No.: BRC-EN-TEND-SR-22-23-115

Item of Schedule – SCHEDULE B						
1	NS/01/B	Construction of 300mm thick compacted coursed granular subbase (Grade I crushed B.T. materials of 53 mm to 26.5 mm@35%, 26.5mm to 4.75mm @45%. Below 2.36mm @20 %) by providing close graded material mixing in mechanical mix plant at OMC, carriage of mix material to work site, spreading uniform layers with motor grader on prepared surface and compacting with vibratory power roller to achieve desired density complete clause as per 401.	Cum	1159.00	8647.00	10021873
2	NS/02/B	Providing and laying wet mix base course macadam 250 mm in Two layer using machine crushed chips as per required gradation mixing with required optimum quantity of water conveying mix to site and spreading to grade and camber with mechanical paver consolidation by vibratory roller including material labour, plant and machinery and equipment all complete.	Cum	1286.64	6092.00	7838210.88
3	NS/03/B	Supplying and applying RS-I bitumen emulsion conforming to IS 8887 for application of Tack coat before application of binder course at the rate of 0.75 kg per sq. meter area.	Sqm	14.92	24004.00	358139.68
4	NS/04/B	Providing and applying priming coat using medium setting emulsion bitumen as the rate of 7.5 kg/10 sq.m on WMM surface including cleaning the surface etc complete.	Sqm	34.23	24004.00	821656.92
5	NS/05/B	Providing and laying 50mm to 100mm thick DBM in two layers using crushed stone aggregate BT chips as per required gradation and using emulsion asphalt a tack coat @2.5 kg/10sqm and VG30 grade asphalt at 45kg/MT by total weight of mix hot laid process using drum mix process transporting mix and laying by paver finisher including consolidation with vibratory roller including cost of material labour	MT	5627.81	4818.40	27117039.7

Tender No.: BRC-EN-TEND-SR-22-23-115

		machinery equipment and fuel oil lubricant for plant and machinery using contractor's own plant and Machine etc complete.				
6	NS/06/B	Providing and laying 40 mm bitumen concrete using crushed stone aggregate BT chips as per required gradation and using emulsion asphalt as a tack coat @ 2.5 kg/10sqmt and VG 30 grade asphalt at 55 kg/MT) by total weight of mix hot laid process using drum mix process transporting mix and laying by paver finisher including consolidation with vibratory roller including cost of material, labour, machinery equipment and fuel, oil, lubricant for plant and machinery using contractor's own machines etc complete	MT	6559.68	2133.68	13996258.02
7	NS/07/B	Providing and filling in foundation with ordinary cement concrete M15 mix and providing necessary vertical pin headers including formwork vibrating ramming and curing complete.	Cum	4054.72	237.85	964415.15
8	NS/08/B	Providing and casting in situ controlled cement concrete of M30 grade reinforcement cement concrete with 20mm downgraded crushed stone aggregate of required size for approach slab , wearing coat railing slabs etc including required formwork, shuttering and supporting arrangement and transporting concrete from batching plant by transit mixture placing it in position ,compacting with needle vibrator including curing with all labour materials machinery all lead and lift etc complete as per drawing and technical specification of MORTH and directed by Engineer In charge.	Cum	6461.32	249.00	1608868.68
				Total of Schedule B		62726462.04
					ADD 18% GST	11290763.17
				Grand total of Schedule B		74017225.21

Item of Schedule – SCHEDULE C

DSR 2018 (Name of Sub Head Vol. I (B) 2, 3,4,5,6,10 & Vol. II-15,16,17,19 & 23)	10,00,000.00
ADD 18% GST	1,80,000.00
Grand Total (Schedule A+ Schedule B+ Schedule C)	7,18,77,575.92
Grand Total Including GST (Schedule A+ Schedule B+ Schedule C)	8,48,15,539.59

Sl. No	Description of Works	Cost as per schedules excluding GST (Rs.)	Rates to be quoted in figures & words (Clearly mention above / below / at par on Schedules / cost given in column 3)
1	2	3	4
1	Execution of all works as per Schedule "A"	81,51,113.88	
2	Execution of all works as per Schedule "B"	6,27,26,462.04	
3	Execution of works as per Schedule "C"	10,00,000.00	
	Grand Total	7,18,77,575.92	

1. The rates shall also be inclusive of all taxes legally leviable and / or any other taxes, license fee and royalty charges etc. if any except GST.
 - a. GST as applicable from time to time on taxable value of each running account bill shall be paid by DFCCIL.
 - b. The contractor should adhere to anti profiteering provisions as per section 171 of the CGST Act. Where due to change in the rates of GST / Change in law, the contractor gets any credits / benefits, the same shall be passed on to DFCCIL by way of reduction in prices.
2. The tenderer should quote single percentage above / par / below for each schedule.
3. If the uniform percentage quoted by the Tenderer does not clearly indicate whether the rates are above/at par/below the estimated rates then through sign convention it will be considered to be on plus side and evaluated accordingly.
4. Rate of item payable to contractor shall be as per above/below/at par on rates of schedule.
5. The above quantity is approximate: -The DFCCIL reserve the right to increase / decrease the same.

PART- VIII TENDER FORMS

FORM No.

SUBJECT

Form No.2	Standing indemnity bond for on account payment.
Form No.3	Format of Integrity Pact
Form No.4	Anti-profiteering

SAMPLE

STANDING INDEMNITY BOND FOR "ON ACCOUNT" PAYMENTS

(On paper of requisite stamp value)

We, M/s _____ hereby undertake that we hold at our stores Depot/s at _____ for and on behalf of the Managing Director/ DFCCIL acting in the premises through _____ the Chief General Manager/Co / DFCCIL/Vadodara or his successor (hereinafter referred to as "The Employer") all materials for which "On Account" payments have been made to us against the Contract for (_____) on the section _____ DFCCIL also referred to as Group/s _____ vide letter of Acceptance of Tender dated _____ and material handed over to us by the employer for the purpose of execution of the said contract, until such time the materials are duly erected or otherwise handed over to him.

We shall be entirely responsible for the safe custody and protection of the said materials against all risk till they are duly delivered as erected equipment to the employer or as he may direct otherwise and shall indemnify the employer against any loss /damage or deterioration whatsoever in respect of the said material while in our possession and against disposal of surplus materials. The said materials shall at all times be open to inspection by any officer authorized by the CGM,DFCCIL/Vadodara in charge of Dedicated Freight Corridor Corporation of India Limited (Whose address will be intimated in due course).

Should any loss, damage or deterioration of materials occur or surplus material disposed off and refund becomes due, the Employer shall be entitled to recover from us the 85% of supply portion of the Contract (as applicable) and also compensation for such loss or damage if any long with the amount to be refunded without prejudice to any other remedies available to him by deduction from any sum due or any sum which at any time hereafter becomes due to us under the said or any other Contract.

Dated this day _____ day of _____ 202 For and on behalf of
M/s _____ (Contractor) Signature of witness
Name of witness in Block letter. Address.

PRE CONTRACT INTEGRITY PACT

General

This pre-bid pre-contract Agreement (herein after called the Integrity Pact) is made on-----
-----day of the month of----- , between, on one hand, the DFCCIL
acting through Shri ----- Designation of the officer, (hereinafter called the CLIENT,
which expression shall mean and include, unless the context otherwise requires, his successors in office
and assigns) of the First Part and M/s-----represented by Shri---
-----Chief Executive Officer (hereinafter called the "BIDDER/SELLER" which expression shall
mean and include, unless the context otherwise requires, his successors and permitted assigns) of the
Second part.

WHEREAS the CLIENT proposes to procure (Name of the Stores/Equipment/Item, Name of the
Consultancy Service, Name of Works Contract, Name of Services) and the BIDDER is willing to Offer/has
offered for stores or works.

WHEREAS the BIDDER is a private company/ public company/ Government undertaking/ partnership/
registered export agency, constituted in accordance with the relevant law in the matter and the CLIENT
is a PSU performing its functions or behalf of the President of India.

NOW, THEREFOR,

To avoid all forms of corruption by following a system that is fair, transparent and free from any
influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered
into with a view to:-

Enabling the CLIENT to obtain the desired said (Name of the Stores/Equipment/Item, Name of the
Consultancy Service, Name of Works Contract, Name of Services) at a competitive price in conformity with
the defined specifications by avoiding the high cost and the distortionary impact of corruption on
public procurement, and

Enabling BIDDERS to abstain from bribing or indulging in any corrupt practice in order to secure
Contract by providing assurance to them that their competitors will also abstain from bribing and other
corrupt practices and the CLIENT will commit to prevent corruption, in any form, by its Officials by
following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows: **Commitments of**

the CLIENT

1.0 The CLIENT undertakes that no official of the CLIENT, connected directly or indirectly with the
Contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe,
consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from

Tender No.: BRC-EN-TEND-SR-22-23-115

the BIDDER either for themselves or for any person, organization or third party related to the Contract, in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the Contract.

- 1.1 The CLIENT will, during the pre-contract stage, treat all BIDDERS alike, and will provide to all BIDDERS the same information and will not provide any such information to any particular BIDDER which could afford an advantage to that particular BIDDER in comparison to other BIDDERS.
- 1.2 All the officials of the CLIENT will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.
2. In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER to the CLIENT with full, and verifiable facts and the same is prima facie found to be correct by the CLIENT, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the CLIENT and such a person shall be debarred from further dealings related to the Contract process. In such a case while an enquiry is being conducted by the CLIENT the proceedings under the Contract would not be stalled.

Commitments of BIDDERS

3. The BIDDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage) in order to secure the Contract or in furtherance to secure it and in particular commit itself to the following:-
 - 3.1 The BIDDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission fees, brokerage or inducement to any official of the CLIENT, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the (B) in exchange for any advantage in the bidding, evaluation, contracting and implementation of the Contract.
 - 3.2 The BIDDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any Material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the CLIENT or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the Contractor any other Contract with the Government for showing or forbearing to show favour or disfavour to any person in relation to the Contract or any other Contract with the Government.
 - 3.3 *BIDDER shall disclose the name and address of agents and representatives and Indian BIDDER shall disclose their foreign principals or associates.
 - 3.4 * BIDDER shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.
 - 3.5 The BIDDER further confirms and declares to the CLIENT that the BIDDER is the original manufacturer/ integrator/ authorized government sponsored export entity of the defense stores and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate

Tender No.: BRC-EN-TEND-SR-22-23-115

or in any way to recommend to the CLIENT or any of its functionaries, whether officially or unofficially to the award of the Contract to the BIDDER nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

- 3.6 The BIDDER either while presenting the bid or during pre-contract negotiations or before signing the Contract shall disclose any payments he has made, is committed to or intends to make to officials of the CLIENT or their family members, agents, brokers or any other intermediaries in connection with the Contract and the details of services agreed upon for such payments.
- 3.7 The BIDDER will not collude with other parties interested in the Contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the Contract.
- 3.8 The BIDDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.
- 3.9 The BIDDER shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the CLIENT as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The BIDDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 3.10 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 3.11 The BIDDER shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.
- 3.12 If the BIDDER or any employee of the BIDDER or any person acting on behalf of the BIDDER, either directly or indirectly, is a relative of any of the officers of the CLIENT, or alternatively, if any relative of an officer of the CLIENT has financial Interest/stake in the Bidder's firm, the same shall be disclosed by the BIDDER at the time of filling of tender. The term 'relative' for this purpose would be as defined in section 6 of the companies' act 1956.
- 3.13 The BIDDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the CLIENT.

4. Previous Transaction

- 4.1 The BIDDER declares that no previous transgression occurred in the last three years immediately before signing of this integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any public sector enterprise in India or any Government department in India that could justify BIDDER's from the tender process.
- 4.2 The BIDDER agrees that if it makes incorrect statement on this subject, BIDDER can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

5. Earnest Money (Security Deposit)

- 5.1 While submitting commercial bid, the BIDDER shall deposit an amount_____ (to be specified in RFP) as Earnest Money/Security Deposit, with the CLIENT through any of the following instruments: -
- i. Bank draft or a pay order in favour of_____.
 - ii. A confirmed guarantee by an Indian nationalized bank, promising payment of the guaranteed sum to the CLIENT on demand within three working days without any demur whatsoever and without seeking any reasons whatsoever. The demand for payment by the CLIENT shall be treated as conclusive proof or payment.
 - iii. Any other mode or through any other instrument (to be specified in the RFP).
- 5.2 The earnest money/Security deposit shall be valid up to a period of five years or the contractual obligations to the complete satisfaction of both the BIDDER and the CLIENT, including warranty period, whichever is later.
- 5.3 In case of the successful BIDDER a clause would also be incorporated in the article pertaining to performance Guarantee in the Contract that the provisions of sanctions for violation shall be applicable for forfeiture of performance bond in case of a decision by client to forfeit the same without assigning any reason for imposing sanction for violation of this pact.
- 5.4 No interest shall be payable by CLIENT to the BIDDER on earnest Money/Security Deposit for the period of its currency.

6. Sanctions for Violations

- 6.1 Any breach of the aforesaid provisions by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER shall entitle the CLIENT to take all or any one of the following actions, wherever required: -
- (i) To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the [A]. However, the proceedings with the other BIDDER(s) would continue.
 - (ii) The earnest money deposit (in pre-contract stage) and/or security Deposit/performance Bond (after the Contract is signed) shall stand forfeited fully and the CLIENT shall not be required to assign any reason therefore.
 - (iii) To immediately cancel the Contract, if already signed, without giving any compensation to the[A].
 - (iv) To recover all sums already paid by the CLIENT, and in case of an Indian [A] with interest thereon at 2% higher than the prevailing prime lending rate of state bank of India, while in case of a BIDDER from the country other than India with interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to BIDDER from the CLIENT in connection with any other Contract, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
 - (v) To encash the advance bank guarantee and performance bond, if furnished by the [A], in order to recover the payments, already made by CLIENT, along with interest.
 - (vi) To cancel all or any other contracts with the BIDDER. The BIDDER shall be liable to pay compensation

Tender No.: BRC-EN-TEND-SR-22-23-115

for any loss or damage to the Client resulting from such cancellation/rescission and the client shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER.

- (vii) To debar the BIDDER from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the CLIENT.
- (viii) To recover all sums paid in violation of this pact by BIDDER to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable letters of credit have been received in respect of any Contract signed by the client with the BIDDER, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the client to forfeit the same without assigning any reason for imposing sanction for violation of this pact.

6.2 The client will be entitled to take all or any of the actions mentioned at para 6.1 (i) to (x) of this pact also on the commission by the BIDDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the [A], of an offence as defined in chapter IX of the Indian penal code, 1860 or prevention of Corruption Act, 1988 or any other statutes acted for prevention of corruption.

6.3 The decision of the CLIENT to the effect that a breach of the provisions of this pact has been committed by the BIDDER shall be final and conclusive on the [A]. However, the BIDDER can approach the Independent Monitor(s) appointed for the purposes of this Pact.

7. Fall Clause

7.1 The BIDDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/system or sub system was supplied by BIDDER to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER to the CLIENT, if the Contract has already been concluded.

8. Independent Monitors

8.1 The CLIENT has appointed Independent Monitors (hereinafter referred to as Monitors) for this pact in consultant with the central vigilance commission (Names and addresses of the Monitors to be given)

8.2 The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this pact.

8.3 The monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

8.4 Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.

8.5 As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the CLIENT

[A] The BIDDER(s) accepts that the Monitor has the right to access without restriction to all Project

Tender No.: BRC-EN-TEND-SR-22-23-115

- documentation of the CLIENT including that provided by the BIDOER. The BIDDER will also grant the Monitor, upon his request and demonstration of a valid Interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor shall be und 'contractual obligation to treat the information and documents of the with confidentiality.
- 8.6 The client will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- 8.7 The monitor will submit a written report to the MD/DFCCIL within 8 to 10 weeks from the date of reference or intimation to him by the CLIENT/BIDDER and, should the occasion arise, submit proposal for correcting problematic situations.
9. Facilitation of Investigation In case of any allegation of violation of any provisions of this Pact or payment of commission, the CLIENT or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER and the BIDDER shall provide necessary information and documents in English and shall exte4nd all possible help for the purpose of such examination.
10. Law and Place of Jurisdiction
This pact is subject to Indian law. The place of performance and jurisdiction is the seat of the CLIENT.
11. Other Legal Actions
The actions stipulated in this integrity pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.
12. Validity
- 12.1 The validity of this integrity pact shall be from date of its signing and extend up to 5 years or the complete execution of the Contract to the satisfaction of both the CLIENT and the BIDDER including warranty period, whichever is later. In case BIDDER is unsuccessful, this integrity pact shall expire after six months from the date of the signing of the Contract.
- 12.2 Should one or several provisions of this pact turn out to be invalid; the remainder of this pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.
13. The parties hereby sign this integrity pact at.....On.....

CLIENT
Name of the Officer
Designation
Deptt./Ministry/PSU
Witness

BIDDER

1._

1. -----

2._

2._

ANTI-PROFITEERING DECLARATION

TO WHOMSOEVER IT MAY CONCERN

I....., age.....,years, Son/Daughter of....., resident of
..... Do solemnly affirm and state as under:

- 1) That I am the _____ <Designation of the authorized signatory> of
And I am duly authorized to furnish this undertaking/declaration on behalf of
..... (Name of the company).
- 2) That (Name of the company) has been awarded the work
..... (Name of Work) vide Letter of Award number Dated
..... by M/s Dedicated Freight Corridor Corporation of India Limited.
- 3) That the Company is fully aware of the anti-profiteering provision under the Goods & Services Tax ("GST") Law(s),
- 4) That the Company Has passed the benefit of input tax credit available on the.....(good/services)having HSN.....
supplied to M/s Dedicated Freight Corridor Corporation of India Limited which it is getting on account of reduced tax liability and input tax credit because of enactment of GST Laws after introduction of Goods and Service Tax w.e.f. 1st July, 2017. The details and amounts being passed on to DFCCIL are provided in Annexure.....Of this document and areas per applicable GST Laws. These are true and correct to the best of my knowledge, information and belief.
- 5) Further, it is to confirm also that in case (name of the organization) will receive any further benefit in future after 1st July, 2017 by way of a ailment of input tax credit which were not allowed to be availed before 1st July, 2017 or reduction in tax rates

Tender No.: BRC-EN-TEND-SR-22-23-115

or in any other manner which results in reduction of cost of the goods/services supplied to M/s Dedicated Freight Corridor Corporation of India Limited, then Company will pass that benefit to M/s Dedicated Freight Corridor Corporation of India Limited also.

- 6) That I declare that the foregoing is true and correct and the same is a legal obligation and failure to fulfil it could result in penalties under the law.
- 7) I confirm that I am aware of the implication of the above undertaking and our liability on account of incorrect/misleading declaration under the GST Laws.

Signature of the Authorized signatory/ person

Name and Designation of the Auth. Sign/person of the person

Name of the Organization and Seal

Executed on a non-judicial stamp paper of Rs.100/- duly notarized by notary public

ANNEXURE-I**(Para 16.1(a) of General Instructions) & clause No. 14 (i), (ii) Part-I of
GCC APRIL-2022, with up to date correction slip**

1.	Full name of the firm	:
2.	Registered Head Office Address	:
3.	Branch Office in India (If any)	:
4.	Constitution of firm (whether Sole proprietorship firm/Partnership firm/ Limited Company/Joint Venture (JV)/Registered Society/ Registered Trust /LLP/HUF etc.)	:
5.	Bank account details of the firm i.e. Account No., name of bank and bank specific code number (MICR &IFSC) to facilitate electronic payment	
6.	Detail of PAN of the firm	
7	E Mail ID	

I/we declare that the is not blacklisted or debarred by Railway/DFCCIL 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. I/ We are aware that concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.

Note:- 1. Please enclosed-

- (i) Attested copy/copies of the constitution of their firm
- (ii) Copy of PAN CARD.

2. Tender document has to be signed by such persons as may be legally competent to sign on behalf of the firm, company, association, HUF, LLP, trust or society as the case m

Date:

Signature of Tenderer/s

With Seal

ANNEXURE-II

(Para 16.1(b) of General Instructions) & clause No. 6.1 & 11(iv) Part-I of
GCC APRIL-2022, with up to date correction slip

**FORMAT FOR CERTIFICATE TO BE SUBMITTED / UPLOADED BY TENDERER ALONG
WITH THE TENDER DOCUMENTS**

I..... (Name and designation) ** appointed as the attorney/ authorized
signatory of the tenderer (including its constituents), M/s.....
(Hereinafter called the tenderer) for the purpose of the Tender documents for the work
of..... As per the tender
No..... of (DFCCIL), do hereby solemnly affirm and state on the behalf of the
tenderer including its constituents as under:

1. I/we the tenderer (s), am/are signing this document after carefully reading the contents.
2. I/We the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
3. I/we hereby declare that I/we have downloaded the tender documents from Indian Railway Electronic procurement System website www.ireps.gov.in. I/we have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenders, execution of work or final payment of the contract, the master copy available with the DFCCIL Administration shall be final and binding upon me/us.
4. I/we declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
5. **I/we also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.**
6. **I/we declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents, submitted by us.**
7. I/we 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 five 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 certificate submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance guarantee besides any other action provided in the contract including banning of business for a period of up to five years.
9. I/We have read the clause regarding restriction on procurement from a bidder of a country which shares a land border with India and certify that I am/We are not from such a country or,

Tender No.: BRC-EN-TEND-SR-22-23-115

if from such a country, have been registered with the competent Authority. I/We hereby certify that I/we fulfil all the requirements in this regard and am/are eligible to be considered (Evidence of valid registration by the competent authority is enclosed)

SEAL AND SIGNATURE
OF THE TENDERER

Place:

Dated:

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

THIS AFFIDAVIT IS TO BE GIVEN BY EACH MEMBER OF JV

"ANNEXURE -III"

(Para 16.0(c) and Note to para 15 Note No.(iii) cof General Instructions) &
 Clause No. 10.1(a) and explanation to clause 10 -part I of GCC APRIL-2022

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 .

SN	Name of work	Name of organization for whom work physically completed	Type of organization for whom work executed	Contract Agreement No. & Date	Original value of contract agreement	Final value of contract as completed	Payment received till opening of present tender (On account/final bill)	Time taken for completion of work		Principal feature of the work in brief
								Date of award of contract	Date of actual completion	
1	2	3	4	5	6	7	8	9	10	11
1.										
2.										

Date:

Signature of Tenderer/s
 With Seal

Note:-

- (i) Above detail should be given only for works which have been physically completed in all respects, for the similar nature work defined in clause 15.5 above. Part completed work shall not be considered.
- (ii) Certificate from Private individual for whom such works are executed shall not be considered for eligibility of tenderers.
- (iii) The tenderers should attach self-attested copy of certificate issued by the organizations for whom the work was carried out in the proforma as per Annexure-IV-A, IV-B, IV-C as applicable.

Tender No.: BRC-EN-TEND-SR-22-23-115

- (iv) In column 4 type of organization is to be mentioned viz. Central/ State Governments /Public Sector Undertaking/Public Funded Institutions/Municipal Bodies /DFCCIL Siding owners /Concessionaire/ Public listed company.
- (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
- (vi) No technical and financial credentials are required for tenders having value up to Rs.50 lakhs.
- (vii) 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.
- (viii) 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.
- (ix) 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.
- (x) 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.
- (xi) For col no 7, 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.
- (xii) In case, the Secondary Component(s) has/ have been defined in clause 15.5 above, the details of successfully completed works of similar nature (that defined for the Secondary Component), executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above performa.

Attested copy of Completion Certificate of works mentioned in para (c) above from (xiii) the Organizations with whom they worked as per performa given in **Annexure-IVA or IV-B or IV-C** as applicable.

ANNEXURE-IV(A)

(Para 16.1 (d) and Note to para 15 Note No.(iii) b of General Instructions)
 Clause No. 11(i), and explanation to clause 10 of part I of GCC APRIL-2022

COMPLETION CERTIFICATE

Name of Organization

Postal address, Phone No., Email ID, Fax No

Letter **No.** Date:-.....

1	Name of work	
2	Contract Agreement (C/A) No. and date	
3	Name of Firm with address	
4	Nature of entity (Sole Prop. /Partnership firm/company/Joint Venture firm/Registered Society /registered Trust etc.)	
5. (i)	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(ii)	In case of Sole Proprietorship, the name of sole proprietor	
6.	Original value of contract agreement.	
7	Completion Cost of Work	
7.1	in case final payments have been made- Contract Cost in last approved variation statement plus PVC amount paid	
7.2	in case final bill is pending -	
(i)	the contract cost in last approved variation statement plus PVC amount paid	
(ii)	cumulative amount paid up to last on-account bill including PVC amount and statutory deductions	
8.	Date of award of contract	
9.	Has the work physically been completed in all respect as per contract agreement?	(Yes / No)
10.(i)	If yes, then actual date of physical completion.	
(ii)	Whether extension to DOC given with penalty or without penalty	
11	Total payment made in above contract till the date of inviting of present tender along with financial year –wise break-up	
12	In case of composite work: (See note (vii) below) Payment made for relevant distinct component of the work, out of total payment made under Sr. No. 7 above.	

12.1	In case final payments for the component have been made- Cost of component in contract in last approved variation statement plus PVC amount paid	
12.2	In case final bill is pending -	
(i)	The Cost of component in contract in last approved variation statement plus PVC amount paid	
(ii)	Cumulative amount paid for the component up to last on account bill including PVC amount and statutory deductions	
13	Performance of Contractor (Satisfactory/Unsatisfactory)	

I hereby certify that above mentioned work has been physically completed in all respect as per contract agreement. Performance of the contractor while executing the work had been satisfactory.

Date-

(Signature)
 Name and Designation of officer
 Mobile No. of officer
 Seal of officer

Note:-

- (i) Submission of false certificates by tenderer shall lead to, forfeiture of EMD and other action including penal action (Annexure-II).
- (ii) Copy of certificate duly self-attested shall be submitted along with tender document.
- (iii) Payment made as indicated in above certificate (At Sr. No. 11/ Sr. No. 12) will be considered as value of completed work for the purpose of eligibility under special technical criteria.
- (iv) Above format is for guidance only. Any certificate containing information asked for shall be considered.
- (v) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
- (vi) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
- (vii) Only those works will be treated as composite works which consist of more than one distinct component of work such as Civil Engg. Works, S&T work, Electrical work, OHE work etc. and there is separate schedule for each such distinct components in the tender documents.
- (viii) No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs.
- (viii) 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

Tender No.: BRC-EN-TEND-SR-22-23-115

fulfilment of credentials.

- (ix) 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 fulfilment of credentials.
- (x) 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 fulfilment of technical credentials even if the cost of part completed work/component is more than required for fulfilment of credentials.
- (xi) In case a work is considered similar in nature for fulfilment 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.
- (xii) For col 7 & 12 -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/ component.
- (xiii) In case, the Secondary Component(s) has/ have been defined in clause 15.5 above, the Attested copy of Completion Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above Performa.

ANNEXURE-IV-(B)

(Para 16.1(d) and Note to para 15 Note No.(iii) b of General Instructions)
 Clause No. 11.(i), and explanation to clause 10 of part I of GCC APRIL-2022

COMPLETION CERTIFICATE

(If the work is awarded by Concessionaire)

Name of Concessionaire
 Address and Contract details i.e.
 Phone No.FAX, e-mail.
 Letter No. Date:-.....

1.1	Name of work /Project executed by the Concessionaire	
1.2	Name and Address of Authority which awarded work to the Concessionaire.	
1.3	Name of work awarded by the Concessionaire to the firm.	
2.	Contract Agreement (C/A) No. and date	
3.	Name of Firm with address	
4.	Nature of entity (Sole Prop./Partnership firm/company/Joint Venture firm/Registered Society /registered Trust etc.)	
5. (i)	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(ii)	In case of Sole Proprietorship, the name of sole proprietor	
6.	Original value of contract agreement.	
7	Completion Cost of Work	
7.1	in case final payments have been made- Contract Cost in last approved variation statement plus PVC amount paid	
7.2	in case final bill is pending -	
(i)	the contract cost in last approved variation statement plus PVC amount paid	
(ii)	cumulative amount paid up to last on-account bill including PVC amount and statutory deductions	
8.	Date of award of contract	
9.	Has the work physically been completed in all respect as per contract agreement?	(Yes / No)
10. (i)	If yes, then actual date of physical completion.	
(ii)	Whether extension to DOC given with penalty or without penalty	
11.	Total payment made in above contract till the date of opening of present tender along with financial year –wise break-up	

12	In case of composite work: (See note (vii) below) Payment made for relevant distinct component of the work, out of total payment made under Sr. No. 7 above.	
12.1	in case final payments for the component have been made- Cost of component in contract in last approved variation statement plus PVC amount paid	
12.2	in case final bill is pending -	
(i)	the Cost of component in contract in last approved variation statement plus PVC amount paid	
(ii)	cumulative amount paid for the component up to last on account bill including PVC amount and statutory deductions	
13.	Performance of Contractor (Satisfactory/Unsatisfactory)	

I hereby certify that above mentioned work has been physically completed in all respect as per contract agreement. Performance of the contractor while executing the work had been satisfactory.

Signature & Name of Authorized Person

of the Concessionaire with Seal and

Mobile No. of Issuing Person.

Note:-

- (i) Submission of false certificates by tenderer shall lead to, forfeiture of EMD and other action including penal action (Annexure-II).
- (ii) Copy of certificate duly self-attested shall be submitted along with tender document.
- (iii) Payment made as indicated in above certificate (At Sr. No. 9/ Sr. No. 10) will be considered as value of completed work for the purpose of eligibility under special technical criteria.
- (iv) Above format is for guidance only. Any certificate containing information asked for shall be considered
- (v) A self-attested copy of LOA and concessionaire agreement executed between concessionaire & Authority at Sr. No 1 above shall be submitted along with this completion certificate.
- (vi) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
- (vii) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
- (viii) Only those works will be treated as composite works which consist of more than one distinct component such as Civil Engg. Works, S&T work, Electrical work, OHE work etc.

and there is separate schedule for each such distinct components in the tender documents

- (ix) No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs
- (x) 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.
- (xi) 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.
- (xii) 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.
- (xiii) 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.
- (xiv) For col 7 & 12 -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/ component.
- (xv) In case, the Secondary Component(s) has/ have been defined in clause 15.5 above, the Attested copy of Completion Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above performa.

ANNEXURE-IV-(C)

(Para 16.1 (d) and Note to para 15 Note No.(iii) b of General Instructions)
 Clause No. 11(i), and explanation to clause 10 of part I of GCC APRIL-2022

COMPLETION CERTIFICATE

(If the work is awarded by Public listed company)

Name of the public listed company

Address and Contract details i.e. Phone No. FAX, e-mail.

Letter No.Date:-.....

1.1	Name of work /Project	
1.2	Name and Address of the public listed company	
1.3	Number as incorporated/ registered in the National stock exchange or Bombay stock exchange	
1.4	Date of getting listed in NSE/BSE (document to be attached as per note (vi) below).	
1.5	Average Annual turnover of the public listed company in last three financial years excluding current financial year. (details to be attached as per proforma in annexure VIII as per note (vii) below)	
2.	Contract Agreement (C/A) No. and date	
3.	Name of Firm with address	
4.	Nature of entity (Sole Prop./Partnership firm/company/Joint Venture firm/Registered Society /registered Trust etc.)	
5. (i)	In case of Partnership firm/JV/..... Name and % share of individual partners/members.	
(ii)	In case of Sole Proprietorship, the name of sole proprietor	
6.	Original value of contract agreement.	
7	Completion Cost of Work	
7.1	in case final payments have been made- Contract Cost in last approved variation statement plus PVC amount paid	
7.2	in case final bill is pending -	
(i)	the contract cost in last approved variation statement plus PVC amount paid	
(ii)	cumulative amount paid up to last on-account bill including PVC amount and statutory deductions	
8.	Date of award of contract	
9.	Has the work physically been completed in all respect as per contract agreement?	(Yes / No)
10. (i)	If yes, then actual date of physical completion.	
(ii)	Whether extension to DOC given with penalty or without penalty	
11.	Total payment made in above contract till the date of opening of present tender along with financial year –wise break-up	

Tender No.: BRC-EN-TEND-SR-22-23-115

12	In case of composite work: (See note (vii) below) Payment made for relevant distinct component of the work, out of total payment made under Sr. No. 7 above.	
12.1	in case final payments for the component have been made- Cost of component in contract in last approved variation statement plus PVC amount paid	
12.2	in case final bill is pending -	
(i)	the Cost of component in contract in last approved variation statement plus PVC amount paid	
(ii)	cumulative amount paid for the component up to last on account bill including PVC amount and statutory deductions	
13	Performance of Contractor (Satisfactory/Unsatisfactory)	

I hereby certify that above mentioned work has been physically completed in all respect as per contract agreement. Performance of the contractor while executing the work had been satisfactory.

Date
Authorized

Signature & Name of Person

By the Public listed Company
with Seal and Mobile No. of
Issuing Person.

Note:-

Following documents regarding the Public listed company are required to be submitted along with the certificate (Mandatory)

1. Details of Average Annual turnover of the public listed company in last three financial years excluding current financial year (should be 500 Cr and above) issued by Chartered Accountant. These details need to be submitted as per the proforma of Annexure VIII.
2. The copy of the documents regarding listing in the National stock exchange or Bombay stock exchange with details of status of listing as on date of opening of tender, duly self-attested.
3. The copy of the document of incorporation/ registration of the Public listed company (should be at least 5 years prior to date of opening of tender), duly self-attested.
4. The copy of document regarding Person Authorized by the Public listed Company to issue such certificate, duly self-attested.

Tender No.: BRC-EN-TEND-SR-22-23-115

5. 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 a copy of final/last bill paid by the public listed company in support of above work experience certificate duly self-attested.
- (i) The certificate shall not be taken into consideration if any of the above conditions, prerequisites is not fulfilled or required supporting mandatory documents are found deficient. Submission of false certificates by tenderer shall lead to, forfeiture of EMD and other action including penal action (Annexure-II).
 - (ii) Above format is for guidance only. Any certificate containing required information asked for shall be considered
 - (iii) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of advertised value of the tender (for works without composite components).
 - (iv) In case of JV firm, these details are also required for all the members of the JV firm for one similar single work for a minimum of 10 % of cost of any component of work in separate sheet (for work with composite components).
 - (v) Only those works will be treated as composite works which consist of more than one distinct component such as Civil Engg, Works, S&T work, Electrical work, OHE work etc. and there is separate schedule for each such distinct components in the tender document
 - (vi) 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.
 - (vii) 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.
 - (viii) 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.
 - (ix) 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.
 - (x) For col 7 & 12 -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

Tender No.: BRC-EN-TEND-SR-22-23-115

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/ component.

- (xi) In case, the Secondary Component(s) has/ have been defined in clause 15.5 above, the Attested copy of Completion Certificate of works executed by tenderer himself / the subcontractor (fully by any one or jointly i.e. partly by tenderer and remaining through subcontractor) during last five years, shall also be submitted in above performa.

ANNEXURE-V

Para 16.1 (f) of General Instructions) (Clause No.10.3 and explanation to clause 10 of Part-I of GCC APRIL-2022, with up to (date correction slip)

LIST OF AWARDED WORKS UNDER EXECUTIONAND/OR WORK AWARDED BUT NOT YET STARTED TILL DATE OF OPENING OF TENDER

(Mandatory for tenders more than Rs. 20 Cr value wherein eligibility criteria includes Bid Capacity also, to evaluate Bid Capacity of tenderer)

Sr. No	Name & place of work	Organization for whom work is being carried out	Date of award of contract, Contract Agreement No. & Date	Original cost of work /Revised Cost (up to latest corrigendum)	Date of Completion (Original Extended)	Payment Received Till Date of opening of present tender	Balance amount of the work to be executed	Balance period of work to be executed	' B' Value of work to be done in ' N' years (See notebelow)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) (5)-(7)	(9)	(10)
1									
2									
3									
4									
								Total	

Date

Signature of Chartered Accountant

Signature of Tenderer/s with seal

NOTE :-

- (a) This statement should be submitted duly verified by Chartered Accountant.
- (b) In case of no works in hand, a 'NIL' statement should be furnished duly verified by chartered Accountant.
- (c) In case of JV firm, the details of works with each member of JV is required to be submitted duly verified by Chartered Accountant.
- (d) In case, the tenderer/s failed to submit the above statement along with offer, their/his offer shall be considered as incomplete and will be rejected summarily.
- (e) N for column 10 –Number of years prescribed for completion of work for which bids has been invited.

Tender No.: BRC-EN-TEND-SR-22-23-115

- (f) 'B' is the value of existing commitments and balance amount of ongoing works with the tenderer to be completed in next 'N' years.
- (g) For N equal or more than column (9) , Value of 'B' will be same as column (8)
- (h) For contracts not having any defined part financial /physical completion stages /milestones, and $N < \text{column (9)}$ then the value of 'B' will be as per formula $B = (8) * N / (9)$
- (i) In case part financial / physical completion stages / milestone is defined in the contract's value of 'B' shall be calculated accordingly.
- (j) No technical and financial credentials are required for tenders having value upto Rs. 50 lakhs

ANNEXURE-VI

(Para 16.1 (h) of General Instructions)

Clause No.11(iii) Annex. I of Part-I of GCC APRIL-2022, with up-to-date correction slip.

LIST OF PLANTS & MACHINERY AVAILABLE ON HAND AND PROPOSED TO BE INDUCTED (OWN AND HIRED TO BE GIVEN SEPARATELY) FOR SUBJECT WORK.

Sr. No.	Particulars of Plants/Machinery	No. of Unit	Kind and make	Capacity	Age & Conditions	Owned by firm	Proposed to be purchased	
							Date placing of order	Likely date of receipt
1	2	3	4	5	6	7	8	9
1								
2								
3								
4								
5								
6								
7								

Note:

- (a) Indicate clearly, whether (i) Owned by firm, or (ii) To be purchased by firm giving date of placing order and likely date of receipt.
- (b) Optimum Plants and Machineries required to be deployed during execution of work.
 - (i) Earthwork in formation of New Line / Doubling/ Gauge Conversion Project: Poclairn, JCB, Vibratory Roller, Grader, Dumpers, Tractors, Water tank etc.
 - (ii) Concreting work for bridge work: Concrete pump, Transit mixer as per requirement, Batching plant of suitable capacity, JCB, Needle vibrator 60/40mm etc.

Signature of Tenderer/s

Dated: -----

ANNEXURE-VII

(Para 16.1 (i) of General Instructions) Clause No.11 (iii) Annex. I of Part-I of
GCC APRIL-2022, with up-to-date correction slip.

LIST OF PERSONNEL ORGANIZATION AVAILABLE ON HAND AND PROPOSED TO
BE ENGAGED FOR THE SUBJECT WORK.

Sr. No.	Name & Designation	Qualification	Professional experience	Remarks
1.	2	3	4	5
1				
2				
3				
4				
5				
6				
7				
8				

Signature of Tenderer/s

Dated:-----

ANNEXURE-VIII

(Para 16.1 (k) of General Instructions)

Clause No.10.2 and 11(ii) Annex. I of Part-I of GCC APRIL-2022, with up to date correction slip

(ON THE LETTER HEAD OF CHARTERED ACCOUNTANT)

To,
CPM
DFCCIL, Vadodara.

Sub: - Contractual receipts of M/s (Name of firm).....

.....

It is to certify that contractual receipts of M/s (Name of firm).....during current financial year and preceding three financial years as extracted from audited balance sheets are as under :-

Sr. No.	Financial year	Contractual Receipts	*Extracted from Source document (Audited balance sheet/certificate issued by the employer/ client / Tax deduction at source certificate)
1.	Current year (Say A)		
2.	A-1		
3.	A-2		
4.	A-3		

*In case the Audited balance sheet is not available for the current financial year and/or immediate preceding financial year then the contractual receipts extracted from certificate issued by the employer/ client/ Tax deduction at source certificate, shall be considered for evaluation of the financial capacity of the tenderer.

Yours sincerely,

Date: ...

(Name & Sign. Of Authorized Signatory)

Seal of firm

Registration No:-

E-Mail:-

Phone:-

FAX:-

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.

(Para 16.2.1(a)& 16.2.7(a) of General Instructions&
Para 9.0 (ii) of General Instructions)

CERTIFICATE

(For sole proprietorship firm / Sole proprietorship firm participating as member of JV)

I..... (Indicate Name of Sole prop) S/o(Full address of
Sole prop) Proprietor of M/s..... (Indicate Name of Proprietary firm) situated at
.....(Full address of Sole prop firm) do hereby solemnly affirm & declare as under:-

1. That I, who is submitting the tender on behalf of the SOLE PROPRIETOR is the Proprietor of
the firm working in the name & style of M/s.....

(Indicate Name – Proprietary firm) at

Deponent

Signature and Seal

VERIFICATION

I, the above-named deponent do hereby solemnly affirm & verify that the contents of my above
affidavit are true & correct. Nothing has been concealed and no part of it is false.

Deponent

Signature and Seal

Place:-

Date:-

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in Force in that
State at the time when such AFFIDAVIT is being executed. Affidavit shall be affirmed before the
Notary Public.

ANNEXURE-X

(Para 16.2.7 (a) of General Instructions)
Clause No. 17.6 of Annex. I Part-I of GCC APRIL-2022, with up to date correction slip)

MEMORANDUM OF UNDERSTANDING FOR JV

(The Memorandum of Understanding shall be submitted in following format on the nonjudicial stamp of Rs.500/- duly notarized by Notary Public)

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 heir's 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 (DFCCIL) 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 the DFCCIL 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 Mr./Ms.....
.....one 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. In case the offer is submitted by the person other than those who is appointed as above and there is difference between the name of the person authorized as above and the person who digitally submitted the offer then our offer shall be deemed to be summarily rejected.
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 (DFCCIL) 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 DFCCIL 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.. I/ We are aware that concealment / wrong information in regard to above shall make the contract liable for determination under Clause 62 of the General Conditions of Contract.
10. That this Joint Venture MOU shall in all respect be governed by and interpreted in accordance with Indian Laws.

Tender No.: BRC-EN-TEND-SR-22-23-115

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 & full address:-

1.....

2.....

Date.....

Place.....

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

(Para 16.2.7.3(b) of General Instructions)
Clause No. 17.14.1 of Annex. I Part-I GCC APRIL-2022)

"LETTER OF CONSENT"

(To be submitted by Partnership Firm participating as member of JV)

We the following partners of M/s..... (Indicate name of firm)

(1).....(2).....

(3).....(4).....

(5).....(6).....having its office athereby give our consent on behalf of M/s.....

.....(Indicate name of firm) in favour of Mr..... (Indicate name of Partner), whose specimen signature are appended below, for entering into Joint Venture Agreement with

M/s..... (Indicate name of other firm's)..... having office at in connection with T. No.....Name of work to sign & execute the MOU, JV agreement and all other required documents pertaining to above said tender on behalf of firm.

We have read the contents of this letter of consent & accept the same and we hereby agree to and ratify all acts, deeds & things of them or any documents executed by the said partner in the scope of this letter of consent on behalf of firm.

This letter of consent is made at on

Name & Signature of Partner/s
(Signature of Sh.....)

DATE.....

Place.....

- 1.
- 2.
- 3.
- 4.
- 5.

Seal of the Firm

Note:- The stamp duty of Rs. 500/- or shall be governed by the provision of the Law relating to stamp in force in that State at the time.

Annexure-XII

(Para 16.2.7.1 of General Instructions) & clause No. 17.14.2, 17.14.3 © and cl.15 of Annex I Part-I of GCC APRIL-2022, with up-to-date correction slip

SPECIAL POWER OF ATTORNEY

(To be submitted by Private/Limited Companies, Sole Proprietor or HUF participating as member of JV)

BE IT KNOWN to all that I (Indicate name of Director/Sole Prop.)..... at the Company/Proprietary firm/HUF (Indicate Name of Company / Sole Proprietary firm/ HUF) having its office at do hereby for and on behalf of the said Company/Proprietary firm/HUF appoint Sh.....S/o Shriage..... (Indicate Name of Nominee with full address) of the Company/Prop. Firm/HUF as our Attorney, whose specimen signature are appended below to execute the MOU/ JV Agreement & all other required documents with M/s (Indicate Name of other Co. /Prop. firm)..... Situated atin connection with the following tender invited by DFCCIL: -

"T.No.....Name of work"

We/ I have read the content of this Special Power of Attorney & accept the same, and we/ I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

In witness where of I..... (Indicate name of Director/ Sole Prop/ Karta.) of M/s..... (Indicate name of Co. / Prop. Firm/HUF) the above-named Director / Proprietor has executed this Power of Attorney.

For M/s.....(Sign. of Shri.....)

(Sign & Seal)

Place...

Date:-.....

The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(For private/ limited company as member of JV- the annexure XII is required even if MOU/JV agreement is signed by the authorized/ Power of attorney holder himself as per the Copy of Resolution)

(For sole proprietor firm/HUF as member of JV- Not required if MOU/JV agreement is signed by the proprietor of the sole proprietor firm/ karta of HUF himself)

(Para 16.2.3 (b) of General Instructions)& clause No. 14 (a)(ii),
15 Annex I Part-I of GCC APRIL-2022, with up to date correction slip

SPECIAL POWER OF ATTORNEY

(For Partnership Firms only)

BE IT KNOWN to all that we (1) (2).....
(3).....(4).....(5)..... all the partners of the
firm..... having its registered office at do hereby, for and
on behalf of the said firm appoint Shri..... (Name& designation) Special Attorney
of the said firm and authorize the said Shri..... (name), whose specimen
signature are appended below, to do all or any of the following acts deeds and/or things on behalf
of the said firm and to represent the firm in respect for the tender No..... (Name
of work)..... invited by DFCCIL.

1. To appear before office of DFCCIL related to the process of tendering for the above said tender.
2. To procure/download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender. In case the offer is submitted by the person other than those who is appointed as above and there is difference between the name of the person authorized as above and the person who digitally submitted the offer then our offer shall be deemed to be summarily rejected.
4. To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
5. To sign the agreement and other relevant documents & receive payment on behalf of firm,
6. To co-ordinate measurement through contractor's authorized engineer, witness measurement, sign measurement books on behalf of firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

We/ I have read the content of this Special Power of Attorney & accept the same and We/I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

Executants Partner (Signature of Sri.....)

(Name & signature) Seal of Firm

DATE

1.....

Place :-

2.....

3.....

4.....

Seal of Firm

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(Required even if one or more Partners are authorized in the Partnership Firm to sign on behalf of the Firm)

(Para 16.2.1 (b) of General Instructions) & clause No. 15 Annex I Part-I of
GCC APRIL-2022, with up to date correction slip

SPECIAL POWER OF ATTORNEY

(For Sole Proprietor Firm only) BE IT KNOWN

to all that I Sole Proprietor of the firm having its registered office at do hereby, for and on behalf of the said firm appoint Shri..... (Name& designation with full address) Special Attorney of the said firm and authorize the said Shri..... (name) whose specimen signature are appended below, to do all or any of the following acts deeds and/or things on behalf of the said firm and to represent the firm in respect for the tender

No..... (Name of work)..... invited by DFCCIL.

1. To appear before office of DFCCIL related to the process of tendering for the above said tender.
2. To procure/download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.infor the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
5. To sign the agreement and other relevant documents & receive payment on behalf of firm,
6. To co-ordinate measurement through contractor's authorized engineer, witness measurement, sign measurement books on behalf of firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to Arbitration Tribunal. I have read the content of this Special Power of Attorney & accept the same and I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

(Signature with name of Power attorney Holder)

(Name & signature of sole proprietor)

Dated

Place

(Seal of Firm)

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(Not required if tender is uploaded by Proprietor himself)

(Para 16.2.4 (D) of General Instructions)
& clause No. 14(c) (ii) and 15 of Part-I of GCC APRIL-2022, with up to date correction slip

SPECIAL POWER OF ATTORNEY
(For Private/Limited companies only)

BE IT KNOWN To all that (Name of firm) having its registered office at do hereby, for and on behalf of the firm appoint Shri..... (Name& designation) Special Attorney of the said firm and authorize the said Shri..... (name) whose specimen signatures are appended below, to do all or any of the following acts deeds and/or things on behalf of the said firm and to represent the firm in respect for the tender No..... (Name of work)..... invited by DFCCIL.

1. To appear before office of DFCCIL related to the process of tendering for the above said tender.
2. To download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.infor the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
5. To sign the agreement and other relevant documents & receive payment on behalf of Company,
6. To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of Company.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration.

We have read the content of this Special Power of Attorney & accept the same and we hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

(Signature of Shri.....)
Authorized signatory of the firm

Dated.....

Place

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per resolution passed by Board of Directors

.

MODEL FORM OF BANK GUARANTEE BOND FOR PG

To
CPM
DFCCIL, Vadodara

1. In consideration of the President of India acting through (indicate designation of concerned
2. CPM (hereinafter called "the Government") having agreed to exempt – (Name & address)-
----- (hereinafter called "the said Contractor(s)" from the demand, under the terms and conditions of an Agreement dated ----- made between ----- and ----- for ----- (hereinafter called "the said Agreement"), of Performance Guarantee for the due fulfillment by the said Contractor(s) of the terms and conditions contained in the said Agreement, on production of a bank Guarantee for Rs.----- (Rupees-----only) we, ----- (hereinafter referred to as "the Bank" at the request of ----- (contractor(s) do hereby undertake to pay to the Government an amount not exceeding Rs. ----- --against any loss or damage caused to or suffered or would be caused to or suffered by the Government by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.
3. We----- (indicate the name of the bank) i.e. ----- (name, address and branch code) do hereby undertake 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 to or suffered by the Government by reason of breach by the said contractor(s) of any of the terms of conditions contained in the said Agreement or by reason of the contractor(s) 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. -----
4. We under-take to pay to the Government any money so demanded notwithstanding any dispute or disputes raised by the contractor(s)/supplier (s) in any suite or proceeding pending before any court or Tribunal relating thereto our liability under this present being absolute and unequivocal .

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)/supplier(s) shall have no claim against us for making such payment.

5. We..... (Indicate the name of bank) i.e. (name, address and branch code) further agreed with 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 or till ----- (office/Department) Ministry of ----- certifies 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. Unless a demand or claim under this guarantee is made on in writing on or before the ----- we shall be discharged from all liability under this guarantee thereafter.

6. We..... (Indicate the name of bank) i.e. (name, address and branch) further agree with the government that the Government shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said contractor(s) from time to time or to post opens for any time or from time to time any of the powers exercisable by the Government against the said, Contractor(s) and to further or enforce any of the terms and conditions relating to 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 forbearance, act or commission on the part of the Government or any indulgence by the Government to the said Contractor(s) or any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

7. This guarantee will not be discharged due to the change in the constitution of the bank or the contractor(s)/Supplier(s).

8. We ----- (indicate the name of bank) i.e. (Name, address and branch code) lastly undertake not to revoke this guarantee during its currency except with the previous consent of the Government in writing.

Dated the----- day of -----2020

For _____(indicate the name of bank)
i.e. (Name, address and branch code)

(Para 16.2.7.4 (c) of General Instructions &
Clause No. 17.14.3 (a) of Annex. I Part-I of GCC APRIL-2022, with up to date correction slip)

SPECIMEN BOARD'S RESOLUTION OF A PRIVATE/LIMITED COMPANY FORENTERING INTO JV WITH OTHER ENTITIES

Extract from the minutes of meeting of Board of Directors of the company held on
..... (Date) at the office of the company situated at

.....
(Address of the company).

RESOLVED THAT (Name of the company) have decided to participate for the said tender for the work of
..... (Name of the work) in joint venture with M/s..... (Name of the other Firm/Firms or company/companies with addresses) in name and style of the JV firm..... (Name of the Joint Venture firm).

FURTHER RESOLVED THAT Shri (Name and designation of authorized person of the company) is hereby authorized to execute & sign all necessary documents for submission of tender documents, JV Agreement and any documents in connection with present tender on behalf of company etc. For the above mentioned work on behalf of the company.

Signed by Managing Director/
Director/ Company Secretary Of the Company

Note:-

1. Stipulations in the above specimen Board's Resolution are for guidance only. Companies can incorporate other stipulation /stipulations relevant with the tender and formation of JV, if required.
2. The above Annexure should be executed on the Letter Head of the company.

Clause No. 16.2.7.3(c) of General Instructions &
Clause No. 17.14.1 (c) and 15 of Annex.I Part-I of
GCC APRIL-2022, with up to date correction slip

SPECIAL POWER OF ATTORNEY

(For Partnership Firms participating as a member of JV only)

We the following partners of M/s..... (Indicate name of firm)

(1).....2.....

3.....4.....

5.....6.....having its office athereby
give our consent on behalf of M/s.....(Indicate name of firm) in favour of
Mr..... (Indicate name of Partner), whose specimen signature are appended
below, for entering into Joint Venture Agreement with M/s..... (Indicate name of
other firm's)..... having office at in connection with T.
No.....Name of work to sign & execute the MOU, JV agreement and all other
required documents pertaining to above said tender.

We have read the content of this Special Power of Attorney & accept the same and we hereby agree
to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be
done by our said Attorney.

Executants Partner (Signature of Sri.....)

(Name & signature)

DATE

1.....

2.....

Place

3.....

4.....

Seal of Firm

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in
that State at the time when such Power of Attorney is being executed. The Power of Attorney
shall duly register with registrar or notarized. Required even if MOU/JV agreement is signed by
one or more partners authorized in the Partnership Firm as per the Partnership deed, letter of
consent.

ANNEXURE-XIX

Clause No. 16.1(g) of General Instructions &
Clause No. 10.3 Annex. I Part-I of GCC APRIL-2022, with
up to date correction slip

(ON THE LETTER HEAD OF CHARTERED ACCOUNTANT)

(Mandatory and applicable for tenders valuing more than Rs 20 Cr to calculate Bid Capacity of tenderer- For value of A)

To

CPM

DFCCIL, Vadodara.

Sub: -Construction works executed and payment received

It is to certify that construction works executed and payment received through construction works of M/s (Name of firm).....during the previous three financial years and the current financial year (up to date of inviting tender), as extracted from, Balance sheet/ certificate issued by the employer/ client, Form 16 , Form 26AS etc. are as under :-

Sr. No.	Financial year	Work executed And Payment received through construction works
1.	Current year (Say A)	
2.	A-1	
3.	A-2	
4.	A-3	

Yours sincerely,

Date: ...

(Name & Sign. Of Authorized Signatory)

Seal of firm

Registration No:-

E-Mail:-

Note :

- (a) In case of JV firm details of construction works executed by each member of JV is required to be submitted
- (b) In case, the tenderer/s failed to submit the above statement (for tenders valuing more than 20 Cr) along with offer, their/his offer shall be considered as incomplete and will be rejected summarily.

Clause No. 16.2.7.5(d) of General Instructions &
Clause No. 14(f)(iii) and 15 of Annex.-I Part-I of
GCC APRIL-2022, with up to date correction slip

SPECIAL POWER-OF-ATTORNEY

(For LLP Firm incorporated under LLP Act)

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 (LLP name) have decided to participate in the tender
No. invited by DFCCIL for the work
namely ""

I.....(name and designation) the authorized 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 respect of the aforesaid tender Invited by the DFCCIL :

1. To appear before office of DFCCIL related to the process of tendering for the above said tender.
2. To download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
5. To sign the agreement and other relevant documents & receive payment on behalf of firm,
6. To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of firm.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration

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

Tender No.: BRC-EN-TEND-SR-22-23-115

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

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 WITNESSES:

Signature Name:

Address

Name of (Executants):

Designation:

Signatures of authorized representative & Seal
of LLP: authorized representative

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)

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per resolution passed by Partners of the LLP

Clause No. 16.2.5(c) of General Instructions &

Clause No. 14(f)(iii) Annex. I Part-I of GCC APRIL-2022 ,with up to date correction slip

Partner's Resolution of LLP Firm incorporated under LLP Act for submitting Tender by LLP firm
(To be printed on 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 Board has been described about NIT No. _____ issued by DFCCIL for the work name" _____

_. Partners discussed the matter and after discussion following resolution was passed: RESOLVED THAT the LLP (LLP name) shall participate in the above tender

Resolved further that the LLP/Partners authorize(s), Mr./ Ms. _____ & Mr./ Ms. _____ (name and designation) of the LLP, 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 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)

Tender No.: BRC-EN-TEND-SR-22-23-115

Note:-

1. Stipulations in the above specimen Resolution are for guidance only. LLP firm can incorporate other stipulation /stipulations relevant with the tender and formation of JV, if required.
2. The above Annexure should be executed on the Letter Head of LLP firm.
Required even if tender documents are submitted by the authorized/ power of attorney holder himself as per resolution passed by Partners of LLP firm.

Clause No. 16.2.6(c) of General Instructions &
Clause No. 14(e)(iii) and 15 of Annex.I Part-I of GCC APRIL-2022 ,with up to date correction slip
SPECIAL POWER-OF-ATTORNEY
(For Registered Society & Registered Trust)

KNOW ALL MEN BY THESE PRESENTS: WHEREAS M/S

.....

..... (Name of Registered Society / Registered Trust) is a Registered Society / Registered Trust registered under the Act (Name of the act vide which registered), and having its registered office at..... (hereinafter called the 'Registered Society / Registered Trust').

AND WHEREAS by its resolution No..... passed in the meeting held on..... of the Executive Member of the Registered Society / Registered Trust the Registered Society / Registered Trust (Registered Society / Registered Trust name) have decided to participate in the tender No. invited by DFCCIL for the work namely “

I.....(name and designation) the authorized representative of M/S(name of Registered Society / Registered Trust) 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 Registered Society / Registered Trust as our true and lawful attorney (hereinafter referred to as “Attorney”) of the Registered Society / Registered Trust to jointly or severally exercise all or any of the following powers for and on behalf of M/S (name of Registered Society / Registered Trust) in respect of the aforesaid tender Invited by DFCCIL :

1. To appear before office of DFCCIL related to the process of tendering for the above said tender.
2. To download the tender documents for the above said tender.
3. To digitally sign the above said tender document and for uploading the offer on www.ireps.gov.in for the said Tender.
4. To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
5. To sign the agreement and all other required documents & receive payment.
6. To co-ordinate measurement through contractor authorized engineer, witness measurement, sign measurement books on behalf of Registered Trust/Society.
7. To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate and refer all or any disputes to arbitration

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

Tender No.: BRC-EN-TEND-SR-22-23-115

The Registered Society / Registered Trust undertakes that it shall not cancel or amend this power of Attorney without obtaining previous written consent of DFCCIL.

AND the Registered Society / Registered Trust 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 Registered Society / Registered Trust and the Registered Society / Registered Trust 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 Shri.....(name and designation), on this..... day of..... 20.... , in presence of:

WITNESSES:

Signature Name: Signatures of authorized representative
Address: & Seal of Registered Society /
Registered Trust

Name of authorized (Executants):rep
Designation:
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:-

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(Required even if tender documents are submitted by the authorized/ power of attorney holder himself)

Annexure-XXIII

Clause No. 16.1(n) of General Instructions Information and particulars in terms of Para 11(a) and 11(b) of General Instructions and Clause No. 16 of Annexure-I Part-I of GCC APRIL-2022, with up to date correction slip.

(i) Information and particulars regarding employed retired Railway/DFCCIL Engineer (s)/ Officer(s) of the Gazetted rank.

Sr. No.	Name of retired gazette Officer/ Engineer with Designation	Date of Retirement	Details of permission obtained (wherever applicable)
1.			
2.			
3.			
4.			

(ii) Information and particulars regarding retired Railway/DFCCIL Engineer (s)/ Officer(s) of the Gazetted rank being one of the partner in the partnership Firm/ Joint venture/registered Society/ registered firm/ LLP etc

Sr.No.	Name of retired gazette Officer/ Engineer with Designation	Date of Retirement	Details of permission obtained (wherever applicable)
1.			
2.			
3.			
4.			

(iii) Information and particulars regarding retired Railway/DFCCIL Engineer (s)/ Officer(s) of the Gazetted rank being director in the company

Sr.No.	Name of retired gazette Officer/ Engineer with Designation	Date of Retirement	Details of permission obtained (wherever applicable)
1.			
2.			
3.			
4.			

Note:-

Tender No. : BRC-EN-TEND-SR-22-23-115

1. Details as per the above format shall be furnished by the tenderer. The format should not be left blank. In case of there being no such retired Gazetted Railway/DFCCIL Officer/ Engineer, Nil to be furnished in the format.

2 In case details are not submitted in terms of Para 11(a) by the tenderer, their offer shall be summarily rejected.

3 Also submit the document of permission from the President of India or any officer, duly authorized by him in this behalf, in case (i) where such Engineer or officer had not retired from government service at least 1 year prior to the date of submission of the tender (ii) where such Engineer or officer is a partner or director as the case, in partnership firm or an incorporated company,.

(iv)Information and particulars in terms of Para 11(b) of General instructions regarding Relative(s) employed in gazette capacity on Railway/DFCCIL

Sr. No.	Name of the relative who is employed in gazette capacity on Railway/DFCCIL with Designation	Relation
1.		
2.		
3.		
4.		

Note :-

1. Details as per the above format shall be furnished by the tenderer. The format should not be left blank. In case of there being no such relative, Nil to be furnished in the format.

2. In case details are not submitted in terms of Para 11(b) of General Instructions by the tenderer, their offer shall be summarily rejected.

Signature of the tenderer.....

Name.....

Clause No. 16.2.7.5(c) of General Instructions 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 LLPINof 20.....) (hereinafter referred to as LLP) HELD ON (Date) _____ AT (Address)

Whereas the Partners have been described about NIT No. _____ issued by DFCCIL 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)

Clause No. 16.2.5(d) of General Instructions

POWER-OF-ATTORNEY BY A 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 DFCCIL 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 the DFCCIL 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.

Tender No.: BRC-EN-TEND-SR-22-23-115

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 DFCCIL.

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:

Signature Name:
Address:

Signatures of authorized representative & Seal of LLP:

Name of authorized representative:
Designation:

Signature Name: Address:

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)

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized. Required even if tender documents are submitted by the authorized/ power of attorney holder of the LLP firm himself

(Para 16.2.7.6 (c) of General Instructions)

SPECIMEN RESOLUTION OF EXECUTIVE COMMITTEE OF REGISTERED
SOCIETY/TRUST (To be printed on registered society/ trust's letter head)
FOR ENTERING INTO JV WITH OTHER ENTITIES

Extract from the minutes of meeting of Executive Committee of Registered Society/Trust held on
..... (Date) at the office of the Registered Society/Trust situated at
..... (Address of the Registered Society/Trust).

RESOLVED THAT (Name of the Registered Society/Trust) have
decided to participate for the said tender for the work of
..... (Name of the work) in joint venture with
M/s..... (Name of the other Firm/Firms or company/companies/ Registered
Society/Trust with addresses) in name and style of the JV firm..... (Name of
the Joint Venture firm).

FURTHER RESOLVED THAT Shri (Name and designation of authorized
person of the Registered Society/Trust) is hereby authorized to execute & sign all necessary
documents for submission of tender documents, JV Agreement and any documents in connection
with present tender on behalf of Registered Society/Trust etc. For the above mentioned work on
behalf of the Registered Society/Trust.

Name and Signed by authorized
Executants/s of Registered Society/Trust

Note:-

1. Stipulations in the above specimen Resolution are for guidance only. Registered Society/Trust can incorporate other stipulation /stipulations relevant with the tender and formation of JV, if required.
2. The above Annexure should be executed on the Letter Head of Registered Society/Trust.

(Para 16.2.7.6 (c) of General Instructions)

SPECIAL POWER OF ATTORNEY

(To be submitted by Registered Society/Trust participating as member of JV) BE IT KNOWN to all that I (Indicate name of Authorised signature of the Registered Society/Trust)..... at the Registered Society/Trust (Indicate Name of Registered Society/Trust) having its office at do hereby for and on behalf of the said Registered Society/Trust appoint Sh.....S/o Shriage..... (Indicate Name of Nominee with full address) of the Registered Society/Trust as our Attorney, whose specimen signature are appended below to execute the MOU/ JV Agreement & all other required documents with M/s (Indicate Name of other Co. /Prop. firm/ Registered Society/Trust)..... Situated at in connection with the following tender invited by DFCCIL:-

"T.No.....Name of work.....

....."

We/ I have read the content of this Special Power of Attorney & accept the same, and we/ I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully done or caused to be done by our said Attorney.

In witness where of I..... (Indicate name of Authorised signatory of the Registered Society/Trust) Of (Indicate name of Registered Society/Trust) the above named Authorised signatory has executed this Power of Attorney.

For (Name of Executants/s of Registered Society/Trust)

(Name, address and Sign. of Power of Attorney holder Shri.....)

(Sign& Seal) Place...

Date:-.....

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

Required even if tender documents are submitted by the authorized/ power of attorney holder of Registered Society/ firm himself

DFCCIL CONTRACT AGREEMENT OF WORKS
(charged to EBR(IF) CONTRACT

AGREEMENT NO. -----DATED-----

ARTICLE OF AGREEMENT made on this day _____ in the year Two Thousand and between the President of India, acting through the _____(DFCCIL) Administration having its office at Vadodara hereinafter called the 'DFCCIL' of the first and part and ----- Name of Contractor ----- hereinafter called the 'Contractor' of the second part and Indian Railway Finance Corporation Limited hereinafter called the 'IRFC' of the third part having its office at ----- with GSTIN ----- (GSTIN of billing unit, IRFC).

First part, second part and third part collectively hereinafter called the 'Parties'.

WHEREAS the contractor has agreed with the DFCCIL for performance of the works----- - set forth in the schedule hereto annexed upon the Standard General Condition of Contract corrected up to latest correction slips and the Specifications of the -----DFCCIL corrected up to latest correction slips and the Specifications of the ----- DFCCIL, corrected up to latest correction slips and the Special Condition and Specifications, if any, and in conformity with the Drawings here-into annexed AND WHEREAS the performance of the said works is an act in which the public are interested.

NOW THIS INDENTURE WITNESSETH that in consideration to payments to be made by the DFCCIL, the Contractor will duly perform the said works in the said schedule set forth and shall execute the same with great promptness, care and accuracy in a workman like manner to the satisfaction of the DFCCIL and will complete the same in accordance with the said specifications and said drawings and said conditions of contracts on or before the ----- day of ----- ---20--- and will maintain the said work for a period of ----- calendar months from the certified date of their completion and will observe, fulfill and keep all the conditions there is mentioned (which shall be deemed and taken to be part of this contract as if the same have been fully set forth herein) AND the DFCCIL both hereby agree that if the Contractor shall duly perform the said works in the manner aforesaid and observe and keep the said terms and conditions, the DFCCIL will pay or cause to be paid to the contractor for the said works on the final completion thereof the amount due in respect thereof at the rates specified in the Schedule hereto annexed.

It is agreed by and between the parties that DFCCIL shall continue to be held responsible for all obligations, risk and liabilities, whatsoever, arising out of or in connection with the Contract Agreement and this Novation Agreement, whether during the progress of the work or after its completion.

It is further agreed and understood by and between the parties that IRFC shall be the owner of assets, if any, arising out of execution of works as defined in the Contract Agreement, except the land whose ownership shall continue with DFCCIL. Accordingly, the invoices shall be issued by capturing GSTIN of contractor (as the supplier) and GSTIN of IRFC (as the bill-to party). Also, the contractor shall submit the invoice, issued in the name of IRFC, to DFCCIL for processing

Tender No.: BRC-EN-TEND-SR-22-23-115

payment by DFCCIL to Contractor subject to applicable TDS under the Income Tax, GST or any other applicable laws.

It is further agreed by and between the parties that IRFC shall be responsible to comply with Income Tax and GST laws in relation to filling of returns.

All the communication in relation to the Contract Agreement would only be between Party hereto of first part and second part.

For and on behalf of the President of India

Witness of the Signature

- 1.
- 2.

Address :-----

Signature of Contractor

Name of Authorized Signatory

Witnesses of the Signature

1.....

2.....

Address:.....

For and on behalf of the
Indian Railway Finance Corporation

Witness of the Signature

- 1.
- 2.

Address:-----

ANNEXURE-XXIX

((Para 16.2.2 (a) of General Instructions)
clause 14(ii) (b)of the GCC APRIL-2022)

CERTIFICATE

(For HUF (Hindu Undivided Family / for JV having HUF as member)

I..... (Indicate Name of Karta) S/o (Full address of HUF) Karta of
M/s..... (Indicate Name of HUF) situated at (Full address of HUF) do
hereby solemnly affirm & declare as under:-

1. That I, who is submitting the tender on behalf of the HUF is in the position of Karta of the
HUF, working in the name & style of (Indicate Name – HUF) at
.....

2. That, I.....(Indicate Name of Karta) has the authority, power and consent given by
other members to act on behalf of(name of HUF)

Deponent

Signature and Seal

VERIFICATION

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

Deponent

Signature and Seal

Place:-

Date:-

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in Force in
that State at the time when such AFFIDAVIT is being executed. Affidavit shall be affirmed before the
Notary Public.

Annexure XXX

(Para 16.2..2 (b) of General Instructions)
(Clause14 (ii) (b) and clause 15 of the GCC APRIL-2022)

SPECIAL POWER OF ATTORNEY
(For HUF (Hindu Undivided Family))

BE IT KNOWN to all that we (1) (2).....
(3).....(4).....(5)..... all the members of the
HUF..... having its registered office at do hereby, for and
on behalf of the said firm appoint Shri..... (Name& designation) Special Attorney
of the said HUF and authorize the said Shri..... (name), whose specimen
signature are appended below, to do all or any of the following acts deeds and/or things on behalf
of the said firm and to represent the firm in respect for the tender No..... (Name
of work)..... invited by DFCCIL.

- 1.To appear before office of DFCCIL related to the process of tendering for the above said tender.
- 2.To procure/download the tender documents for the above said tender.
- 3.To digitally sign the above said tender document and for uploading the offer on
www.ireps.gov.infor the said Tender. In case the offer is submitted by the person other than those
who is appointed as above and there is difference between the name of the person authorized as
above and the person who digitally submitted the offer then our offer shall be deemed to be
summarily rejected.
- 4.To attend meetings and submit clarifications including negotiations, if any, called by DFCCIL.
- 5.To sign the agreement and other relevant documents & receive payment on behalf of firm,
- 6.To co-ordinate measurement through contractor's authorized engineer, witness measurement,
sign measurement books on behalf of firm.
- 7.To compromise, settle, relinquish any claim(s) preferred by the firm, sign no claim certificate
and refer all or any disputes to arbitration.

We/ I have read the content of this Special Power of Attorney & accept the same and
We/I hereby agree to ratify & confirm & do hereby ratify & confirm all acts, deeds & things lawfully
done or caused to be done by our said Attorney.

Members of the HUF (Signature of Sri.....)
(Name & signature) Seal of Firm

DATE

1.....

2.....

Place

3.....

4.....

Seal of Firm

Note:- The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Power of Attorney is being executed. The Power of Attorney shall duly registered with registrar or notarized.

(Not required if tender documents are uploaded by Karta himself).

Annexure XXXI

((Para 16.2.3 (c) of General Instructions)

Explanation for clause 10 – eligibility criteria, of the GCC APRIL-2022)

DECLARATION BY NEWLY FORMED PARTNERSHIP FIRM/ LLP Firm

(Mandatory if tenderer is Newly Formed Partnership Firm/ LLP Firm)

I..... S/o Shri....., the authorized signatory of partnership firm/ LLP Firm M/s do hereby solemnly affirm and declare as under :

1. That, we are the newly formed partnership firm/ LLP Firm in the name and style of M/s Registered with registrar of firm vide Registration No..... dated.....

2. In this newly formed Partnership Firm/ LLP Firm, we are No. of partners. The details of the previous proprietary firm or previous dissolved partnership firm/ LLP Firm or previous splitted partnership firm (s) / LLP Firm wherein any of the partners of the present firm was a proprietor / Partner and proposed to use credentials obtained in such previous propriety firm (s)/Partnership firm(s) / LLP Firm is as under :-

S.N.	Name of person in the newly formed partnership firm	Details of Previous proprietary/ Partnership Firm/ LLP Firm	Share in newly formed partnership firm	Share in previous partnership firm/ LLP Firm	Remarks
1.					
2.					
3.					

3. That, following relevant documents are Annexed with bid –

- (1) Details of previous Propriety firm / Partnership Firm/ LLP firm as per annexure I
- (2) A copy of previous partnership Firm (Notarized or duly registered with the Registrar) (3) Affidavit as per proforma given of Annexure –IX for previous Propriety firm (duly executed on stamp paper and notarized).
- (4) Copy of previous LLP agreement and certificate of incorporation.
- (5) Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)
- (6) Proof of surrender of previous PAN no (in case of dissolution of previous partnership firm, LLP firm or propriety firm)

Tender No.: BRC-EN-TEND-SR-22-23-115

(7) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para 16.1 (c), (d), (f),(g), (k) above.

Declaration by the Tenderer:-

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our partnership firm/ LLP firm and have/ has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

Name and Signature of Tenderer
along with Seal

Notes-

1. In case of newly formed partnership firm, the credentials of individual partners from previous propriety firm(s) or dissolved previous partnership firm(s) or split previous partnership firm(s), shall be considered only to the extent of their share in previous entity on the date of dissolution / split and their share in newly formed partnership firm. For example, a partner A had 30% share in previous entity and his share in present partnership firm is 20%. In the present tender under consideration, the credentials of partner A will be considered to the extent of 0.3×0.2 value of the work done in the previous entity. For this purpose, the tenderer shall submit along with his bid all the relevant documents which include copy of previous partnership deed(s), dissolution deed(s) and proof of surrender of PAN No.(s) in case of dissolution of partnership firm(s) etc.
2. 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.
3. 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.
4. 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.
5. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.

Annexure XXXII

(Para 16.2.3 (d) of General Instructions)

(Explanation for clause 10 – eligibility criteria, of the GCC APRIL-2022)

DECLARATION BY AN EXISTING PARTNERSHIP FIRM/ LLP FIRM

(Mandatory if tenderer is an Existing Partnership Firm/ LLP Firm)

(Fill the relevant para (1.1, 1.2 & 1.3) and strike off the para which is not relevant under Partnership Firm)

1.0 I S/o Shri, the authorized signatory of Partnership Firm/ LLP Firm M/s do hereby solemnly affirm and declare as under :

1.1 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., since..... (MM/YY), having GST Registration No....., PAN/TAN No..... There has been no change in the Partner(s) of our firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited.

OR

1.2 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., Since..... (MM/YY), having GST Registration No....., PAN / TAN No. Following of our partner(s) has/have quit the Partnership firm/ LLP Firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under :

S.No.	Name of quitting Partner(s)	Share of Partner(s) who has/have quitted.	Date of quitting (MM/YY)

AND / OR

1.3 That, we are an existing Partnership Firm/ LLP Firm in the name and style of M/s....., since..... (MM/YY), having GST Registration No....., PAN/TAN No..... Following partner(s) has/have joined our Partnership Firm/ LLP Firm during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under: -

S.No.	Name of Joining Partner(s)	Share of joining Partner(s)	
		In the present firm	In the previous firm from where he/they has/have quit and joined the present firm

1.4 In case of Para 1.2 and 1.3, following documents as applicable are required to be submitted along with bid:-

Tender No.: BRC-EN-TEND-SR-22-23-115

- (1) Details of previous Propriety firm / Partnership Firm/ LLP firm as per annexure I.
- (2) A copy of previous partnership Firm (Notarized or duly registered with the Registrar) (3) Affidavit as per proforma given of Annexure –IX for previous Propriety firm (duly executed on stamp paper and notarized).
- (4) Copy of previous LLP agreement and certificate of incorporation.
- (5) Dissolution deed/ splitting deed of the previous partnership deed or LLP agreement (in case of dissolution of previous partnership firm/ LLP firm)
- (6) Proof of surrender of previous PAN no (in case of dissolution of previous partnership firm, LLP firm or propriety firm)
- (7) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such partner(s) joining the new/ existing partnership firm, as per para16.1 (c), (d), (f),(g), (k) above.

Declaration by the Tenderer: -

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our partnership firm/ LLP firm and have/ has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

Name and Signature of Tenderer With Seal

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

Tender No.: BRC-EN-TEND-SR-22-23-115

5. 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.
6. 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.
7. In case a tenderer is LLP, the credentials of tenderer shall be worked out on above lines similar to a partnership firm.

Annexure XXXIII

(Para 16.2.4 (e) of General Instructions)
 (Explanation for clause 10 – eligibility criteria, of the GCC APRIL-2022)

DECLARATION REGARDING CONSTITUTION OF EXISTING/ NEW COMPANY

(Mandatory if tenderer is an Existing / New Company)

(Fill the relevant para (1.1, 1.2 & 1.3) and strike off the para which is not relevant under Partnership Firm)

1.0 I S/o Shri, the authorized signatory of the Company M/s do hereby solemnly affirm and declare as under:

1.1 That, we are an existing Company working in the name and style of Registration No....., PAN/TAN No..... There has been no change in the constitution of our Company during last 07 (seven) years ending last day of the month previous to the one in which tender is invited.

OR

1.2 That, we are an existing Company working in the name and style of Registration No....., PAN / TAN No. Following Company (ies) merged in the Company during last 07 (seven) years ending last day of the month previous to the one in which tender is invited, with details as under:

S. No.	Name Partner(s) quitting	Share of Partner(s) who has/have quitted.	Date of (MM/YY) quitting

1.3 In case of Para 1.2, following documents as applicable are required to be submitted along with bid:-

- (1) Details of company getting merged as per annexure I
- (2) Copy of Memorandum of Association/ Articles of Association of the Company getting merged
- (3) Copy of certificate of incorporation of previous company getting Merged.
- (4) Resolution by the Board of Directors for the Merger of the company(s) with the tenderer
- (5) Proof of surrender of previous PAN no
- (6) Documents for the technical, financial criteria, bid capacity as claimed w.r.t. such Company(s) joining the new/ existing Company, as per para 16.1 (c), (d), (f), (g), (k) above.

Declaration by the Tenderer :-

We/ I have read the content of this declaration & respective conditions of the GCC regarding assessment of the eligibility of our partnership firm/ LLP firm and have/ has enclosed all the required mandatory documents accordingly. We/I hereby declare that the information given

Tender No.: BRC-EN-TEND-SR-22-23-115

above are true. If any of the above information is found to be wrong at any time, my tender will liable to be rejected.

Name and Signature of Tenderer

Along with seal.

Notes- In case company A is merged with company B, then company B would get the credentials of company A also.

clause 10.1 (b) (iii) of part I and clause 7 of part II of the GCC APRIL-2022)

DFCCIL

CONTRACT AGREEMENT OF SECONDARY COMPONENT OF THE WORKS

CONTRACT AGREEMENT NO. -----DATED-----

ARTICLE OF AGREEMENT made on this day _____ in the year Two Thousand and between the(the tenderer), having its office at ----- -- submitting offer for the tender no.....for the work..... hereinafter called the 'Main Contractor' of the first and part and ----- Name of Sub Contractor ----- hereinafter called the 'Sub Contractor' of the second part having its office at ----- with GSTIN -----

First part, second part collectively hereinafter called the 'Parties'.

WHEREAS the contractor has agreed with the DFCCIL for performance of the works----- setforth in for the componentdetailed in schedulefor the total cost of Rs.....of the tender schedule of the tender no.....The Standard General Condition of Contract corrected up to latest correction slips and the Specifications of the -----DFCCIL corrected up to latest correction slips and the Specifications of the ----- DFCCIL, corrected up to latest correction slips and the Special Condition and Specifications, if any, and in conformity with the Drawings here-into annexed and whereas the performance of the said works is an act in which the public are interested.

NOW THIS INDENTURE WITNESSETH that in consideration to payments to be made by the DFCCIL, the Contractor will duly perform the said works in the said schedule set forth and shall execute the same with great promptness, care and accuracy in a workman like manner to the satisfaction of the DFCCIL and will complete the same in accordance with the said specifications and said drawings and said conditions of contracts on or before the ----- day of ----- ---20--- and will maintain the said work for a period of ----- calendar months from the certified date of their completion and will observe, fulfill and keep all the conditions there is mentioned (which shall be deemed and taken to be part of this contract as if the same have been fully set forth herein) AND the DFCCIL both hereby agree that if the Contractor shall duly perform the said works in the manner aforesaid and observe and keep the said terms and conditions, the DFCCIL will pay or cause to be paid to the contractor for the said works on the final completion thereof the amount due in respect thereof at the rates specified in the Schedule hereto annexed.

All the communication in relation to the Contract Agreement would only be between Party hereto of first part and second part. No claim of Contractor, whatsoever on this account shall be entertained by the DFCCIL and this shall be deemed as 'excepted matter' (matter not arbitrable).The permitted subcontracting of work by the Contractor shall not establish any contractual relationship between the sub-contractor and the DFCCIL and shall not relieve the Contractor of any responsibility under the Contract. The Contractor shall indemnify DFCCIL against any claim of subcontractor. The Contractor shall endeavor to resolve all matters and payments amicably and speedily with the subcontractor.

Tender No.: BRC-EN-TEND-SR-22-23-115

On receipt of approval from CPM/CGM, Contractor shall enter into a formal agreement legally enforceable in Court of Law with subcontractor and submit a copy of the same to the Engineer.

In addition to issuance of work experience certificate to Contractor, the Engineer, when, based on documents, is satisfied that subcontracted work has been carried out by subcontractor, shall issue work experience certificate to the subcontractor also for the portion of work subcontracted and successfully completed by the sub-contractor

The responsibility of successful completion of work by subcontractor shall lie with Contractor. Subcontracting will in no way relieve the Contractor to execute the work as per terms of the Contract Further, in case Engineer is of the view that subcontractor's performance is not satisfactory, he may instruct the Contractor to remove the subcontractor from the work and Contractor has to comply with the above instructions with due promptness. Contractor shall intimate the actual date of discontinuation of subcontract to Engineer. Once having entered into above arrangement, Contractor shall discontinue such arrangement, if he intends to do so at his own or on the instructions of DFCCIL, with prior intimation to CPM/CGM.

For and on behalf of the Contractor
Name of Authorized Signatory

Witness of the Signature

- 1.
- 2.

Address :-----

Signature of Sub Contractor

Name of Authorized Signatory

Witnesses of the Signature

1.....

2.....

Address:.....

(Seal and signature of Notary Public)

Note: - The stamp duty shall be governed by the provision of the Law relating to stamp in force in that State at the time when such Agreement is being executed. The Power of Attorney shall duly registered with registrar or notarized.

END OF DOCUMENT